



Use Arduino for Projects

Arduino Project Lists

1.

[Adaptable Sun Visor Cap](#) The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program. The sun blinds you and you have no hand free? No problem anymore... Here you can find all the important information to build your own adaptable sun visor cap..... Listed under: [Other Projects](#)
2.

[A Complete Beginner's Guide to SMD Soldering](#) <https://youtu.be/tERQQ0S8aJI> Alright so soldering is pretty straightforward for through-hole components, but then there are times when you need to go tiny *insert ant-man reference here*, and the skills you learnt for TH soldering just dont apply anymore.Welcome to the world of Surface Mount Device (SMD)..... Listed under: [Other Projects](#)
3.

[PKE Meter Geiger Counter](#) <https://youtu.be/VS8lQ5SYb7U> I have been wanting to build a Geiger counter for a long time to complement my Peltier Cooled Cloud Chamber. There is (hopefully) not really much useful purpose in owning a Geiger counter but I just love the old Russian tubes and thought it would..... Listed under: [Other Projects](#)
4.

[Tabletop Pinball Machine Using Evive- Arduino Based Embedded Plaform](#) Another weekend, another exciting game! And this time, it's none other than everybody's favorite arcade game - Pinball! This project will show you how to make your very own Pinball machine easily at home. All you'd need are components from the evive Starter Kit, some..... Listed under: [Game – Entertainment Projects](#)
5.

[Body-ultrasound Sonography With Arduino](#) My hobby and passion is to realize physics projects. One of my last work is about ultrasonic sonography. As always I tried to make it as simple as possible with parts you can get on ebay or aliexpress. So let's take a look how far..... Listed under: [Sound – Audio Projects](#)
6.

[The "Flute" of Imitation](#) <https://youtu.be/Cy4meKH5UAY> <https://youtu.be/Xb691A9sYRc> As one of the top ten common instruments played worldwide, the amount of beginners studying the flute comes in quite a quantity. While The "Flute" of Imitation does not train one's breath control, the "instrument" concentrates on the fundamental fingerings, crucial to familiarize..... Listed under: [Other Projects](#)
7.

[IOT Lunar Rover Raspberrypi+Arduino](#) <https://youtu.be/mcdEGQTxE88> This project is inspired by the Indian moon mission Chandryaan-2 Which will take place in September 2019.This is a special mission because they are going to land on the spot where no one has every landed before.So to show my support i decided to..... Listed under: [Solar energy project Ideas](#)
8.

[IoT Mouse-Friendly Live Trap](#) <https://youtu.be/LA21193Wel4> This is a trap to capture the mice without hurting them, so you can release them outside. If the proximity sensor detects the mouse, the Servo motor will close the door. You will receive an instant message and/or an Email, to inform you that..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
9.

[HAVE FUN WITH BICOLOR MATRIX 32x32](#) Today I will share following topics base on a bicolor matrix led 32x32: D.I.Y a bicolor led matrix 32x32.How to control led board above with NodeMCU ESP8266 via B.A.M method.Introduce and share my code for some cool real time clock projects with this bicolor led..... Listed under: [Other Projects](#)
10.

[Making Your First Printed Circuit Board – Getting Started With PCBWAY \[PART 1\]](#) If you are into electronics, PCBs (Printed Circuit Board) are some of the most common things you will see. These boards make our lives easier by eliminating all those connecting wires and breadboards. If properly designed, it will reduce the size of your device and..... Listed under: [Electronics News Updates](#), [Medical – Health based Project Ideas](#)
11.


[CloudyData – ESP8266 to Google Sheets Made Simple](#) I've been looking for cloud data storing for a long time during last years: it is interesting to monitor data from any kind of sensor, but it is more interesting if these data are available everywhere without any storage difficulty such as using SD cards..... Listed under: [Other Projects](#)
12.

[Weather-station With Arduino, BME280 & Display for Seeing the Trend Within the Last 1-2 Days](#) Here on instructables weather stations have already been introduced. They show the current air pressure, temperature and humidity. What they lacked so far was a presentation of the course within the last 1-2 days. This process would have the advantage that you can not only..... Listed under: [Other Project Ideas](#)
13.

[VFD Alarm Clock](#) IV-27M Alarm Clock Project date: March 2019 – May 2019 Overview After the successful complet Direct/Static Driven, I was keen to start work on a new clock which was based on the Multiplexing(Dynamic) or "M [Clock – Timer Projects](#)
14.

[Totally Lit – Programmable RGB LED Acrylic Sign](#) <https://youtu.be/AcvpgUQGPn4> Been playing around with the laser cutter/engraver, and really fell in lo engraving in to clear acrylic and shining a light source from the edge. The thickness of the acrylic being used is a .25" sheet, which cuts really cleanly by the laser..... Listed under: [LED Projects](#)
15.


[Portable Luxmeter](#) This project is about making portable luxmeter. It can be used in schools, where children can measure different kinds of light sources.Functions: 1. measure intensity of light in lux. 2. calculate solar irradiation from lux to watts/m2 (factor 112) 3. charging battery using USB port..... Listed

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under: [Battery Projects](#)

16. [DIY Arduino Starter Kit Shield](#) In this guide I will show you how to make your own Arduino learning shield. This learning shield can be useful at schools, universities and to everyone that want to start dealing with the Arduino. With this shield you will learn how to read the..... Listed under: [Other Projects](#)
17. [Dev Board Breadboard](#) This Instructables show how to create a tailor-made breadboard for dev board. Step 1: Current Breadboard Breadboard (solderless breadboards) is a very import component for prototyping of electronics. It can help you test the circuit before soldering it. Since the connection not require soldering, after..... Listed under: [Other Projects](#)
18. [Portable Arduino Bot](#) Over the years, I have built many robotic projects and most of it run by an Arduino so let me explain a little bit about this amazing technology. Arduino is a microcontroller board, has up to 14 digital input/output pins (of which 6 can be..... Listed under: [Robotics – Automation Projects](#)
19. [The E.M.F.Meter](#) Hello, fellow Makers! In this instructable, I will be discussing my newest and most versatile tool for edcuation: the E.M.F. Meter. This instructable will be covering a lot of steps involving Arduino and Raspberry Pi software. Although resources will be provided, please make sure you..... Listed under: [Metering – Instrument Projects](#)
20. [Cyclone\(Arduino LED Game\)](#) In this tutorial, I will teach you how to create an LED game with very little code or experience! I had this idea for a while and finally got around to creating it. It's a fun game that reminds us all of the arcade games..... Listed under: [Game – Entertainment Projects](#)
21. [DIY Smart Dustbin With Arduino](#) Here we will make a Smart Dustbin by using arduino and ultrasonic sensor.I hope you guys enjoy learning this project. Supplies: Arduino UnoUltrasonic SensorServo MotorDustbin Step 1: Preparing the Opening Take a plastic sheet and cut fraw a circle with the help of dustbin and..... Listed under: [Home Automation Projects](#)
22. [DIY Givi V56 Motorcycle Topbox Light Kit With Integrated Signals](#) <https://youtu.be/xtSzXwfG3HA> As a motorcycle rider, I'm all too familiar with being treated like I'm invisible on the road. One thing I always add to my bikes is a top box which usually has an integrated light. I recently upgraded to a new bike and bought..... Listed under: [Wireless Projects](#)
23. [Color Instrument](#) This a simple Arduino/3D printing project about colors and sounds. I made this device or as I call it ‘color instrument’ for activity for kids. It’s fun and it’s a good conversation starter about physics of colors and sound. The most interesting fact about colors,..... Listed under: [Other Projects](#)
24. [Air Quality Sensor: Concept to Production](#) This is the full documentation of the Autodesk University Air Quality Sensor project. Attendees at several events have participated in assembling their own air quality sensor over the past several months. The Concept to Production page will give you more information on how you can use Fusion..... Listed under: [Sensor – Transducer – Detector Projects](#)
25. [TTGO T-Watch](#) <https://youtu.be/gSs7gNcs25Q> This instructables show how to start playing with TTGO T-Watch. Step 1: What Is TTGO T-Watch? TTGO T-Watch is watch shape ESP32 based development kit. 16 MB flash and 8 MB PSRAM both are top specification. It also built-in a 240x240 IPS LCD, touch..... Listed under: [Clock – Timer Projects](#)
26. [FM Radio](#) <https://youtu.be/oNqWfiP2yg0> Recently, I came across RDA5807 module which is an FM Radio Tuner in a very tiny package. It is very cheap and uses I2C protocol for communication which means that only two wires will be required to talk to the IC. Less wiring! My mom used..... Listed under: [Radio Projects](#)
27. [Cowboy Toy – Arduino Laser Target](#) In the lesson I will show you how I made a toy on arduino that will suit beginners. If you start working with sensors, then this toy will suit you as a homemade product. Step 1: Watch the Video <https://youtu.be/WQGvIEtyMRw> Step 2: Material: - plywood..... Listed under: [Other Projects](#)
28. [Bicycle Speedometer Display](#) What Is It? As the name suggests, in this project you will learn how to create a display for your bike that consists of both a speedometer and an odometer. Indicating real time speed and distance travelled. The total cost of this project comes to around 15 USD (not including the..... Listed under: [LCD Projects](#)
29. [Escape Room Decoder Box](#) Escape Rooms are awesomely fun activities which are highly engaging and great for teamwork. Have you ever thought about creating your own Escape Room? Well with this decoder box you can be well on your way! Even better have you thought about using escape rooms..... Listed under: [Other Projects](#)
30. [Weather Based Music Generator \(ESP8266 Based Midi Generator\)](#) Hi, today I'll explain how to make your own little Weather based Music generator. It's based on an ESP8266, which is kind of like an Arduino, and it responds to temperature, rain and light intensity. Don't expect it to make entire songs or chord progressions..... Listed under: [Sound – Audio Projects](#)
31. [MAX7219 LED Dot Matrix Assembly and Testing](#) <https://youtu.be/DLC6FyxNayo> A Dot-Matrix Display is a display device which contains light emitting diodes aligned in the form of matrix.This Dot matrix displays are used in applications where Symbol, Graphic, Characters, Alphabets, Numerals are need to be displayed together in static as well as Scrolling motion.Dot Matrix Display..... Listed under: [LED Projects](#)
32. [Popsicle Stick Robotic Arm](#) <https://youtu.be/bP358pV-vVY> Here's how to build a simple robotic arm with a gripper using popsicle sticks, an Arduino, and a few servos. Supplies: Feel free to use similar materials or whatever you already have. (e.g. cardboard instead of popsicle sticks) Materials: 14 Popsicle Sticks, 4 Micro..... Listed under: [Robotics – Automation Projects](#)
33. [B-Safe, the Portable Safe](#) <https://youtu.be/7b1sMp4J7ck> The problem Imagine this: You wake up one morning and the weather is real good. You want to go to the beach.Because you don't live too close to the beach, you take your car. To pay for the parkingat the beach, you use your..... Listed under: [Security – Safety Projects](#)
34. [Arduino MIDI Chiptune Synthesizer](#) Relive the fun of early computer game music with an authentic 8-bit chiptune synthesizer, which you can control over MIDI from the comfort of any modern DAW software. This simple circuit uses an Arduino to drive an AY-3-8910 programmable sound generator chip (or one of its many..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)

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35. [WIFI JOYSTICK](#) Today I will share how to make a WIFI JOYSTICK from an ESP8266 and 4 ways industrial joystick. It can be integrated into the factory's automation system or be used for smart home control. The mentioned control systems are PLCs and the specific case that..... Listed under: [Wifi - Wlan Projects](#)
36. [Save Water & Money With the Shower Water Monitor](#) Which uses more water - a bath or a shower? I was recently thinking about this question, and I realized that I don't actually know how much water is used when I shower. I know when I'm in the shower sometimes my mind wanders, thinking..... Listed under: [Other Projects](#)
37. [Arduino Magnetometer](#) What are we building? Humans can't detect magnetic fields, but we use devices that rely on magnets all the time. Motors, compasses, rotation sensors, and wind turbines, for example, all require magnets for operation. This tutorial describes how to build an Arduino based magnetometer that..... Listed under: [Other Projects](#)
38. [Arduino Watch Core](#) <https://youtu.be/IFRq-LM5fIQ> This instructables show how to use a square color display and Arduino dev board build a watch core. This will cover the topics of dev board selection, display selection, extra modules selection, UI design, performance tuning and power saving. Note: I have prototyped some..... Listed under: [Clock – Timer Projects](#)
39. [RS485 – ARDUINO AND INDUSTRIAL DISTANCE SENSOR](#) I have in my hand a distance laser sensor with high precision and speed. It is used in industrial environments for object positioning or detection applications. According to technical documents, I found it can communicate with other devices via RS485. I spent the weekend to..... Listed under: [Sensor – Transducer – Detector Projects](#)
40. [Flip-It! – the World’s Dumbest Game?](#) <https://youtu.be/1QCvQLj2JA> Origins: This is a game I developed over a couple of years 2018-2019 It was originally called "Stupid Flip" and came out of my interest in creating simple and fun interactive games that could also be used for teaching coding. This is about the..... Listed under: [Game – Entertainment Projects](#)
41. [Alaska Datalogger](#) Alaska is on the edge of advancing climate change. Its unique position of having a fairly untouched landscape populated with a variety of coal mine canaries enables a lot of research possibilities. Our friend Monty is an Archaeologist who helps with camps for kids in..... Listed under: [Arduino Programmer Projects](#)
42. [Arduino Watch](#) This Instructables show how to make a Arduino Watch from Arduino Watch Core. Step 1: Preparation Arduino Dev Board This time I am using Sparkfun Pro Micro 3.3 V 8 MHz dev board. Watch Display This time I am using a ST7789 1.3" IPS LCD. Lipo..... Listed under: [Clock – Timer Projects](#)
43. [Motion Controlled Pong Video Game](#) i'm MrWaffelXD and today I want you to show how to make a motion controlled Pong game. In this guide you learn, how to programm your own Pong and how to make a distance-controller, which you can use by moving your hand. But first: What is..... Listed under: [Game – Entertainment Projects](#)
44. [E-dice – Arduino Die/dice 1 to 6 Dice + D4, D5, D8, D10, D12, D20, D24 and D30](#) <https://youtu.be/B-dnzLoZDIw> This is a simple arduino project to make a electronic die. It is possible to choose for 1 to 6 dice or 1 out of 8 special dice. Choice is made by simply turning a rotary encoder. These are the features: 1 die: showing..... Listed under: [Other Projects](#)
45. [Simple Automated Point to Point Model Railroad Running Two Trains](#) Arduino microcontrollers are a great way of automating model railroad layouts due to their low-cost availability, open-source hardware and software and a large community to help you. For model railroads, Arduino microcontrollers can prove to be a great resource for automating their layouts in a..... Listed under: [Home Automation Projects](#)
46. [Playing Chess Against Arduino](#) This project has been developed with the “Games” contest in my mind, I hope you'll like it and give your vote 😊 The idea of this project is quite simple. I want to simulate as many board games as possible using a simple electronic assembly..... Listed under: [Game – Entertainment Projects](#)
47. [Toast Talker](#) https://youtu.be/9jhreDmp_GM This Instructable started as my great interest in the TV show Toast of London. The British Matt Berry comedy that can now be found on Netflix has some superb voice overs that I wanted to accommodate in my morning toaster routine. In a running joke, he..... Listed under: [Sound – Audio Project Ideas](#)
48. [DIY Low Cost Air Hockey Table](#) <https://youtu.be/nLU8pFqxcTU> A professional air hockey setup is usually available only in arcades due to the sophisticated systems that are required to operate it. Our goal was to build a DIY air hockey table, bringing this gaming experience at home. By using commonly available materials we..... Listed under: [Game – Entertainment Projects](#)
49. [The ‘Do More’ Timer, Inspired by Casey Neistat](#) https://youtu.be/anUKywfO_l8 Summer, the lovely season when things happen. But sometimes we tend to forget the time. So to remind us the time left , I designed this Casey Neistat's 'Do More' DIY arduino driven timer which can be programmed to display the time left from..... Listed under: [Clock – Timer Projects](#)
50. [Creating a Physical Game Controller](#) When the Nintendo Wii was launched players were encouraged, nay required, to leave the sofa and jump, dance, and jiggle in order to score points in their game of choice. While there is a steep learning curve in building for the Wii, it is easy..... Listed under: [Game – Entertainment Projects](#)
51. [3D Printed Arduino RC Airboat With Controller](#) This is a project that combines the knowledge of 3D printing and Arduino. It is a good beginner project for anyone interested in making their own RC boat or just interested in using 3D printing and Arduino for their own c Click here to get AI-based help ✕ under: [Other Projects](#)
52. [Magic Button 4k: the 20USD BMPCC4k Wireless Remote Control](#) https://youtu.be/_3tlmJh9MJA Many people have asked me to share some details about my wireless controller for the BMPCC4k. Most questions were about the bluetooth control, so I'll mention a few details about that. I am assuming you are familiar with the ESP32 Arduino environment. This version..... Listed under: [Wireless Projects](#)
53. [Smart Power Strip With Cayenne Cloud](#) <https://youtu.be/uXSMAoU3B6Y> This instructable shows how you can build your own easy or simple DIY Internet-connected Smart Power Strip to control Electrical Appliances from remotely.You can also automate the daily repetitive task with scheduling feature, so the appliance will automatically be turned on and off on..... Listed under: [Other Projects](#)

54. [SteamPunk Radio](#) This project is without doubt the most complex I have undertaken, with sixteen IV-11 VFD tubes, two Arduino Mega cards, ten LED Neon light circuits, a servo, an electromagnet, two MAX6921AWI IC Chips, five DC power supplies, a HV power supply, two DC Volt meters,..... Listed under: [Radio Projects](#)

55. [FS-Touch Bed Levelling Tool](#) <https://youtu.be/RZ0BV73TAOc> Tired of trying to get the perfect levelled 3D printer bed? Frustrated with guessimating the proper resistance between nozzle and paper? Well, FS-Touch will help you measure this pinching force quantitatively and achieve quick and accurate bed levelling in no time. Features of this bed levelling(proper..... Listed under: [CNC Machines Projects](#)

56. [How to Setup Cheapduino Board \(smallest Arduino\)](#) When it comes to electronics projects, Arduino is definitely one of the most favorite choices of every enthusiast, and if you are Arduino fan like me, you too build all your projects on Arduino, so what if you have limited boards available to use? And..... Listed under: [Other Projects](#)

57. [\[DEPRECATED\] Arduino-Based Smart Glasses by a 13-year-old – Jordan Fung's Pedosa Glass](#) We have developed into Pedosa Innovation, a tech start-up founded by the developer of Pedosa Glass. We have continued to develop wearable technology, in addition to cloud infrastructure and STEM education programmes for kids in Hong Kong. Learn more at www.pedosa.org, or contact us at hello@pedosa.org..... Listed under: [Other Projects](#)

58. [Infrared Fighting Tank](#) <https://youtu.be/XMgdvILuDaU> This project is to make two infrared fighting tanks with Starter Robot Kits, some mechanical parts and electric modules. They are controlled with 2.4G wireless joystick. So, how to make it? Step 1: Parts Required 2 x Starter Robot Kit(Bluetooth or IR version) 4 x Beam0808-136-Blue 2..... Listed under: [Other Projects](#)

59. [Ultrasonic Mapmaker Using Arduino and MatLab](#) Vision is one of the most exciting senses you can endow on your robot. The ability to perceive obstacles allows a robot to make an educated decision regarding further movements. However, it is also not the easiest senses to implement for a few reasons. Firstly,..... Listed under: [Other Projects](#)

60. [Solar Power Data Logger](#) Ever wanted to know how much solar power you could yield by putting PV cells in a specific place on or around your house? This Instructable shows you how to build a data logger based on an Arduino (or Genuino) Uno with data-logger-shield and a..... Listed under: [Solar energy projects](#)

61. [Arduino Based Smart Home IOT System](#) Hello, I am Michalis Vasilakis from Ardumotive.com and in this Instructables guide I will show you how you can easily make your own smart home system based on Arduino uno and an Ethernet module (or shield). You will be able to use this system from any device..... Listed under: [Home Automation Projects](#)

62. [Arduino 101 Fundamentals](#) The purpose of this instructable is to introduce the sketch writing fundamentals to all new comers to the Arduino world. It is meant to be a beginners guide that includes detailed explanation about the basic statements and functions. Most of the sketches I use are..... Listed under: [LED Projects](#)

63. [Arduino – LCD 1602A I2C – PASSWORD PROTECTED DOOR ACCESS With Relay – KY-019](#) <https://youtu.be/GnYi9Y2Eloc> Hello world! Today i made a simple code to control a electric strike lock with a Password/ Access Code using a 1 channel relay. I don't have such a lock but i demonstrated it with a lamp attached to the relay. Check the next..... Listed under: [Other Projects](#)

64. [How to Make the Knock Lock for Arduino Starter Kit](#) In this instructable i will be showing you a video on how I made a knock lock using the arduino uno starter kit. I did run into a few problems along the way but figured out a solution after thinking it over. this is the..... Listed under: [Security – Safety Projects](#)

65. [A Beginner's Guide to Arduino](#) After some years of experimenting with Arduino, I decided that the time has come to share the knowledge I've acquired. So I here it goes, a guide to Arduino, with the bare basics for beginners and some more advanced explanations for people who are somewhat..... Listed under: [Other Projects](#)

66. [DIY | Easy Arduino Laser Tripwire Security System!](#) <https://youtu.be/X18CfOKtyTQ> In this tutorial I will be teaching you how you can build your own Laser Tripwire Security System at home! You will need the following components and materials: LED lightLaser ModuleLaser Sensor ModuleSpeaker or Piezo Buzzer2 Small Breadboards with sticky tape on the backArduinoBreadboard..... Listed under: [Security – Safety Projects](#)

67. [Sound Detection RGB Lamp Using Arduino](#) Hello, In this project I am making a lamp with multiple colors using RGB leds. My idea is to try to let the lamp change color if it detects a sound in the area. If you get annoyed from the changing colors every time you..... Listed under: [Sound – Audio Projects](#)

68. [Joystick Controlled Robot Arm Using an Arduino](#) Purpose and description of this guide This instructable is a hand-in for a school project that we made. The purpose of this project was to create a robot arm control using thumbsticks. We had to use an Arduino Uno for the control and in addition,..... Listed under: [Robotics – Automation Projects](#)

69. [Handmade Claw](#) These 6 easy steps will tell you how to make a wooden claw machine controlled with Arduino. Step 1: Print All of Your Pieces Either handcut or laser cut all of your pieces Step 2: Aquire Your Parts You will need 4 SG90 servos, 4..... Listed under: [Other Projects](#)

70. [Arduino Countdown Timer With Setup Buttons](#) In this Instructables guide I will show you how to make your own Arduino two digit countdown timer. I made my own circuit by using the ATmega328 micro controller but this is an optional step. In this guide I will help you to make it..... Listed under: [Other Projects](#)

71. [Easy Arduino LED Dice](#) This instrcutable will show you how to hook up LEDs to show a face of a dice when a push button is pressed. For this project you will need to following: 11 long jumper wires 7 short jumper wires 7 LEDs 1 breadboard..... Listed unde. Click here to get AI-based help ✕

72. [Arduino Robot Catapult](#) <https://youtu.be/6cXrxevZAPs> <https://youtu.be/K3U2OlnTnME> Hello there fellow makers, This instructable is my attempt to make a robot for the 'ROBOTICS CONTEST' competition in instructables. So here it is 😊 I'll start this instructable with a joke 😊 Q: what's the difference between men and boys?A : the..... Listed under: [Robotics – Automation Projects](#)

73. [Temp & Humidity Sensor With LCD Disp & LED Indicator](#) In this instructable, I have used the DHT11 Temperature & Humidity sensor & Arduino UNO to display the current temperature & humidity readings into a 16 x 2 LCD Display. Alongside, I have also created a 3-LED setup which indicates 3 sets of temperature readings (cold, hot, extreme). The DHT11 is a..... Listed under: [LED Projects](#)

74. [Automated Greenhouse](#) We decided to design a greenhouse as subject for our electronic project. The goal was to regulate the temperature inside the greenhouse thanks a lamp, a servomotor to open a window and a PC fan. We wanted to maintain a quite constant level of soil..... Listed under: [Home Automation Projects](#)

75. [Control LED Using IR Remote : Simple](#) Hello everyone, In this instructables we will control LED using IR remote. Step 1: Gather the Parts A breadboardA LEDA 220ohm resistorAn Arduino UNOA TSOP382 IR receiverSome jumper or hookup wires Step 2: Wiring Hookup all the components according to the circuit diagram shown above. Step..... Listed under: [LED Projects](#)

76. [Sunlight Detection Alarm](#) Most technology Instructables are fun to construct, and often easy to build. This is one that shares those features, but also solves a practical problem we had. To prevent fading of furniture, carpet, and the wood flooring in our foyer, my spouse and I installed..... Listed under: [Sensor – Transducer – Detector Projects](#)

77. [Arduino Motion Detection Simple Project](#) <https://youtu.be/zs6RBEWrAcI> This is a very basic tutorial for Arduino beginners , we tried to keep it simple and to the point, how to use PIR motion detection sensors and how to control LED based on the sensor outpu. and so simply put,The main idea of..... Listed under: [LED Projects](#)

78. [Arduino: How to Build an Obstacle Avoiding Robot](#) This instructable is the written version of my "Arduino: How To Build An Obstacle Avoiding Robot" Youtube video that I've uploaded recently. I strongly recommend you to check it out. My YouTube Channel. Please Subscribe for Support So, without further ado, Let's get started !..... Listed under: [Robotics – Automation Projects](#)

79. [Using ESP-01 and Arduino UNO](#) In our previous tutorial, we learned how to set up the ESP8266 ESP-01 and establish communication with other devices. In this tutorial we are going to show how to use the ESP-01 module to give the Arduino UNO access to a Wi-Fi network and interact with inputs and outputs. Step 1: Materials The materials..... Listed under: [LED Projects](#)

80. [THIRD EYE FOR THE BLIND – an Innovative Wearable Technology for Blinds.](#) - The first wearable technology for blinds - Using ultrasonic waves to detect the obstacles - Notifying the user through vibrations/buzzer sound Third eye for blinds is an innovation which helps the blinds people to navigate with speed and confidence by detecting the nearby obstacles..... Listed under: [Other Projects](#)

81. [Sending Data From Arduino to Python Via USB](#) For several projects you might want to acquire some data from an Arduino board. There are several options and the one that I chose here uses the USB connection. I will explain how to store your data in a text file in order to plot..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)

82. [Read a Potentiometer With Arduino's Analog Input](#) <https://youtu.be/-EDYMQ9IczA> Let's learn how to read a potentiometer, a type of rotating variable resistor, using Arduino's analog input! We'll connect up a simple circuit using a solderless breadboard and use some simple Arduino code to control a single LED. So far you've learned to control LEDs..... Listed under: [Other Projects](#)

83. [DIY – Automated Garden Irrigation – \(Arduino / IOT\)](#) This project will show you how to build an irrigation controller for a home garden. Capable of measuring soil moisture readings and activating irrigation from a garden tap if the soil becomes too dry. The controller also includes a temperature and humidity sensor. The controller..... Listed under: [Home Automation Projects](#)

84. [How to Connect the ESP8266 NodeMCU to the IoT Cloud](#) This instructable shows you a simple Internet of Things demo using the ESP8266 NodeMCU and an online IoT service called AskSensors. We demonstrate you how to quickly get data from the ESP8266 HTTPS client and plot it in graph into the AskSensors IoT Platform. Step 1:..... Listed under: [Internet – Ethernet – LAN Projects](#)

85. [Fish Feeder 2](#) Introduction / Why this project In 2016 I build my first fish feeder, see Fish Feeder 1. The feeder worked fine for more then half a year. After that period the servos were worn out, causing the program to halt, without sending an error-mail. Oops. I didn't..... Listed under: [Other Projects](#)

86. [Peggy – Arduino Portable RF Rain Tracker](#) My country mild climate lets the sun to shine for the greatest part of the year, then tumble driers are not widely used and so we often use to drain clothes in the sun. What to do when a sudden rainfall comes? This project has..... Listed under: [Wifi - Wlan Projects](#)

87. [Home Automation Using Arduino With Wifi, Bluetooth and IR Remote Control](#) This is a tutorial to show how to build a home automation system using arduino with Wifi [ESP8266-01], bluetooth (HC-05) and IR remote control. Home automation results in a smarter home and is used to provide a higher and healthier standard of living. The beauty..... Listed under: [Home Automation Projects](#)

88. [DIY | Ambilight Using Arduino Nano](#) In this Instructable I will be teaching you how you can create your own (b)ambilight for under \$40!Keep in mind that the Ambilight will only work on a PC running the Bambilight software. You will need the following components: Individually addressable RGB LED strip - Available on AliexpressArduino..... Listed under: [LED Projects](#)

89. [How to Use Water Flow Sensor – Arduino Tutorial](#) In this tutorial you will learn how to use one water flow sensor with an Arduino board. The water flow sensor consists of a plastic valve body, a water rotor and a hall-effect sensor. When the water flows through the rotor, rotor rolls and the..... Listed under: [Sensor – Transducer – Detector Projects](#)

90. [Arduino Password Unlock Door Security System](#) Hello! In this Instructables guide I will show you how to make you the Arduino uno board. I made my own circuit by using the ATmega328 micro controller but this is an optional ste, [Safety Projects](#)

91. [Long Range, 1.8km, Arduino to Arduino Wireless Communication With the HC-12.](#) <https://youtu.be/DGRPqeacJns> In this instructable you will learn how to communicate between Arduinos over a long distance up to 1.8km in open air. The HC-12 is a wireless serial port communication module that is very useful, extremely powerful and easy to use. First you will learn..... Listed under: [Wireless Projects](#)

92. [Arduino : How to Control Stepper Motor Via Bluetooth \(with Smartphone\)](#) This instructable is the written version of my "Arduino : How To Control Stepper Motor via Bluetooth (with Smartphone)" In this project we will control a Stepper motor with a smartphone via bluetooth. My YouTube Channel First, you should
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19

-
- https://duino4projects.com/arduino-project-lists/?page31074=2

5/120

see the following Instructable: How to..... Listed under: [Phone Projects](#)

93. [Head Mouse With MPU6050 and Arduino Micro](#) <https://youtu.be/zsUDoa4-fQg> Hi everyone, here it is my new project, a mouse controlled with the movement of the head!! decided to make this project once I received my accelerometer/gyroscope MPU6050 from IC Station, and I wanted to do something useful with this.Then I found out that..... Listed under: [Other Projects](#)
94. [Arduino – Sound Sensor \(with LED\)](#) This instructable is the written version of my "Arduino - Sound Sensor (with LED)" YouTube video that I've uploaded recently. I strongly recommend you to check it out. My YouTube Channel Step 1: Tutorial https://youtu.be/setjiVH0_IY Sound sensors can be used for a variety of things,..... Listed under: [Sound – Audio Projects](#)
95. [Gesture Controlled Robotic Arm Using Kinect & Arduino](#) This is a Simulink Model to Control a Robotic Arm By Gestures that are captured using Kinect. A Robotic Arm is developed using Servo Motors. Step 1: Things Used in This Project <https://youtu.be/Z4z3K5SwySE> Hardware components: Arduino Mega 2560Microsoft Kinect for Xbox 360Microsoft Xbox Kinect AdapterAdafruit..... Listed under: [Robotics – Automation Projects](#)
96. [Sparrow – My Assistant](#) <https://youtu.be/wYEzNOMNGLA> <https://youtu.be/RWchc7x-J1s> Hello everyone. I am a graphic designer with a restless soul (my site www.inoace.com). I loved doing electronics years ago and then got busy with life and job. I am now blessed with some time (rare now a days 😊). This is..... Listed under: [Other Projects](#)
97. [The Interactive Donation Box](#) Donation boxes can be much more interesting and attractive when you combine them with electronics and a little bit of programming. This instructable will show you how to. As the name explains, making donation boxes interactive can help you gain much more attention and make..... Listed under: [Other Projects](#)
98. [Distinguish Walking and Running Using Machine Learning](#) Electronic market is full of devices called pedometer and fitness tracker. They count the number of steps you have taken, distance you have covered, whether you are walking or running and bunch of other stuff. Ever wondered, how these devices perform such measurements. I decided..... Listed under: [Other Projects](#)
99. [Tracked Robot Bluetooth Controlled by Arduino Via Android Application](#) <https://youtu.be/J3DwgZvD2js> After trying to remote track a robot by IR remote control.I have proceeded to control the same robot platform by Bluetooth Arduino controller via Android application.This method is more reliable,longer distance,pretty Android application enhancement. Same principle,low cost play and home level technical skill.Programming knowledge is not..... Listed under: [Bluetooth Projects](#)
100. [Connecting “stuff” Via Bluetooth / Android / Arduino](#) A very good wireless local area network (and personal) is undoubtedly the Bluetooth (BT). Today in our day-to-day is common to find us using cell phones, stereos, cameras, etc., interconnected with the help of the famous "blue little light". In the world of IoT and..... Listed under: [Bluetooth Projects](#)
101. [Voice to Arduino: Control LEDs Using MIT Speech Recognizer](#) Hello, everybody!!! It has been some time I had not updated my post here. Today I would like to share with you guys an experiment I made. I am going to control LEDs using MIT app inventor speech recognizer. Oh before I forget, I had..... Listed under: [LED Projects](#)
102. [SparkRover – 3D Printed Smartphone Controlled Robot](#) Over the years, I have built several large robots using a custom-made robotics driver that I created called the SmartRover system. This driver was initially used for my SmartRover robot that I built which ran at a peak current of 60 amps at 24 volts..... Listed under: [Robotics – Automation Projects](#)
103. [Phone Controlled Computer Starter](#) <https://youtu.be/QhhOxle02Ok> Have you ever wanted to start your computer while you are away from home to access some files? Or maybe you wanted to start a download of a new game, so that it would be done when you got home. This project will show..... Listed under: [Phone Projects](#)
104. [Arduino Basics: Emulate Your Arduino Circuits Online](#) Want to make your Arduino circuits online? want to test components with your code before buying? Then this is the right instructable for you. Let's start! Step 1: Open and Sign Up for 123D Circuits 1) Log on to 123D circuits and then make your..... Listed under: [Other Projects](#)
105. [DIY Muscle Sensor / EMG Circuit for a Microcontroller](#) Measuring muscle activation via electric potential, referred to as electromyography (EMG) , has traditionally been used for medical research and diagnosis of neuromuscular disorders. However, with the advent of ever shrinking yet more powerful microcontrollers and integrated circuits, EMG circuits and sensors have found their..... Listed under: [Sensor – Transducer – Detector Projects](#)
106. [3W 4'x4' Arduino Laser Cutter/Engraver](#) <https://youtu.be/CbzY5ECsFuQ> <https://youtu.be/4ybdqgmePDs> In this tutorial you will learn how to make your own 4 ft by 4 ft, Arduino controlled, 3 watt laser engraver / cutter (for thin materials) for around 300\$. The main thing that separates this tutorial from other laser engraver tutorials on..... Listed under: [Other Projects](#)
107. [Color Recognition Lock](#) There are a lot of ways that you can activate an electronic lock. You can use passwords, radio signals, or even voice commands. In this project, I am going to show you how to make a lock box that opens and closes based on color..... Listed under: [Security – Safety Projects](#)
108. [3D Printed Robot](#) <https://youtu.be/AJ1TfieZ6Dg> The nice thing about 3D printing is that it makes building robots easier. You can create custom parts that you can dream up and have them in your hand virtually right away. This allows for rapid prototyping and..... Listed under: [Robotics – Automation Projects](#)
109. [Drawing Robot](#) <https://youtu.be/bkCg6-8Zuf0> https://youtu.be/Laz_4UWLW6Q Please vote for Drawing Robot on this link. Thank in advance Fixing my drawing incapability with my robotics skills and to me results were not that bad. Now I can at least save myself from humiliation in my drawing class. This project..... Listed under: [Robotics – Automation Projects](#)
110. [Motor Controllers for Cheap Robots](#) Hey! This I'ble is now out of date! I made an updated version which you can read here! Hope you find it fun and useful! ~~~~~ Thus far, I've shown you how to create wheels out of household items, several motorized chassis out of cardboard, and a..... Listed under: [Motor Projects](#)

111.

[Dark Sensor With LDR, Transistor and a LED](#)

You wan't do a dark sensor with a LDR, one transistor and one LED and you don't know how to do it? In this small tutorial I will explain to you how you can do that even if you know only the basics of electronic..... Listed under: [LED Projects](#)
112.

[How to Make a Remote Controlled Robotic Hand With Arduino](#)

<https://youtu.be/efO-ooYS-mo> This is my school project for the 5th year of high school (I'm Italian, we have 5 years of high school). It consists in an artificial hand controlled by a glove with flex sensors. The artificial hand reproduces the movements of the hand with..... Listed under: [Robotics – Automation Projects](#)
113.

[DIY Tilt Switch](#)

In this instructable I'll show you how to make a simple tilt switch, this tilt switch works best with microcontrollers that can debounce the signal and overcome interferences produced by vibrations. There are many ways to make a tilt switch, this one is a cheap..... Listed under: [Other Projects](#)
114.

[Nexus 7 and the Arduino.](#)

Will show several ways to show how to use an Arduino as a sensor using The Nexus 7 for a terminal and to do development. This can be very important for protecting your electronic equipment especially servers.Note 1: All connections are to a standard Arduino..... Listed under: [Other Projects](#)
115.

[Remote Controlled Robot](#)

The purpose of this final project was to create a small mobile robot and control it via a wireless controller. To accomplish our goal, we decided to use the Arduino Uno microcontroller as the base for both the controller and robot. For the wireless functionality..... Listed under: [Robotics – Automation Projects](#)
116.

[Das Blinken Bonken! an Arduino Ball Throwing Game Platform.](#)

<https://youtu.be/UPtVqJkY8N8> This is a fun and pretty easy project that I built as a Christmas present for my kid who loves throwing things. Watch the video to see what it can do. It's built out of a regular Arduino UNO, pressure sensors made from velostat,..... Listed under: [Game – Entertainment Projects](#)
117.

[Arduino Assisted RC Truck/Car](#)

Recently I dusted off my 7 year old Stampede 2wd, designed in 1996. I got it for my 8th birthday. The truck was great, but it had a few caveats. For example, if the truck ran out of range, battery was low, or the transmitter batteries..... Listed under: [Car Projects](#)
118.

[KeySampler](#)

This instrument was build by Lieven Menschaert and Danny Leen using an Arduino Uno and some hardware components (rotary encoder, potentiometer and simple iron bolts). The software running the actual audio and video is a Pure Data / GEM patch. Additionally Echonest API was..... Listed under: [Other Projects](#)
119.

[Tidal Clock](#)

This is a tutorial for making the Tidal Clock. The clock shows the ebb and flow between high and low tide by a rising and falling water level. It consists of an airtight acrylic container that has a front visible chamber and a back hidden..... Listed under: [Clock – Timer Projects](#)
120.

[Pocket Laser Engraver.](#)

I have been trying to get my hands on a laser cutter for some time but they always seem out of reach. All the great things that can be done with a real laser cutter tickle the imagination. I feel it's time to share my..... Listed under: [Other Projects](#)
121.

[Arduino Uno Xylophone](#)

This xylophone uses the Arduino Uno and a multiplexer to identify when one of eight keys are struck, and play that sound via midi sound on a computer. An optional part of the instructions also allows each key to light up with two LED lights..... Listed under: [Phone Projects](#)
122.

[How to Make a Cheap Attiny Arduino Board](#)

Well most of time i get troubled when i need Arduino in some projects where i need few I/O pinsWell thanks to Arduino-Tiny platformArduino program can be burned into the Avr-tiny Series like Attiny 85/45 Arduino-Tiny is an open source set of ATtiny "cores" for..... Listed under: [Other Projects](#)
123.

[Edge 3D Printer 1.0 – an Affordable Open Source 3D Printer!](#)

Hello everyone! In this instructable I will show you how to make a low cost 3d printer that I designed! It should cost around \$150 US dollars or \$175 Canadian dollars, if you buy from the links provided in this project (parts are from Aliexpress)..... Listed under: [CNC Machines Projects](#)
124.

[How to Control a Nixie Tube With an Arduino](#)

A Nixie Tube is a Neon gas-filled tube, that has a wiremesh anode with various cathodes shaped like numbers or symbols. Back in the 1950s they were used in computers, calculators, and laboratory equipment. Nixie tubes were replaced by LEDs and VFDs(vacuum fluorescent displays)in the..... Listed under: [Other Projects](#)
125.

[WiFi Enabled Arduino – Interfacing With Web APIs](#)

Are you familiar with Arduino, but are looking for a little more connectivity in your projects? This Instructable goes over a new (and cheap) wireless module that has hit the embedded world hard - the ESP8266. This little module is a perfect way to hook..... Listed under: [Wifi - Wlan Projects](#)
126.

[Recycled Motherboard RC Quadcopter](#)

My university had a bunch of old server motherboards that were headed to the dumpster. I decided to see the feasibility of turning them into something useful! Go ahead and grab the attached pdf plans, print them out full size, and build your own! Step..... Listed under: [Other Projects](#)
127.

[How to Make an Entire Drone/Multirotor and Camera Gimbal Using Laser Cut Parts](#)

the photo you see was taken from my first ever copter which i built in 2 hours, what i had not mentioned was my first copter used a laser cut frame i designed and produced whilst in school.This difference between this post and my other..... Listed under: [Video – Camera – Imaging Projects](#)
128.

[Low-Cost, Arduino-Compatible Drawing Robot](#)

<https://youtu.be/Uo2aUUNhdKs> I designed this project for a 10-hour workshop for GirlTech and where goal is to introduce teenage women to STEM topics. The goals for this project were: Easy to build.Easy to program.Did so Click here to get AI-based help ✖ is could take it home and continue to learn. With..... Listed under: [Robotics – Automation Projects](#)
129.

[Arduino Watch Sport](#)

I apologize if you find spelling errors or nonsensical text, my language is Spanish and has not been easy to translate, I will improve my English to continue composing instructables. In today's technology, especially electronics have come a long way, to the point that today..... Listed under: [Other Projects](#)
130.

[Simple LiDAR Using the Laser Rangefinder Uni-T UT390b, Arduino and Turbo Pascal](#)

Some days ago I bought a laser rangefinder (Uni-T UT390b, f.e. <http://www.dx.com/de/p/uni-t-ut390b-45m-laser-dist..>) to realise a simple LiDAR. The rangefinder has an accuracy of +/- 2mm and is able to measure distances up to 45m. This will be enough for my living room 😊 You'll also..... Listed under: [Home Automation Projects](#)

131.

[Lie Detector and Biofeedback Arduino Based](#) This tutorial will explain how to build a machine for biofeedback. But first a bit of theory. What is biofeedback? [Font: Wikipedia | <https://en.wikipedia.org/wiki/Biofeedback>] Biofeedback is the process of gaining greater awareness of many physiological functions primarily using instruments that provide information on the activity of..... Listed under: [Other Projects](#)
132.

[The Dream Machine Or, How to Be More Awake While You Sleep](#) This is an inexpensive, DIY, Arduino-powered oneironautics device that allows users to alert themselves when they are in a deep dreamstate, without waking up. In other words, this machine will tell you when you are dreaming, while you are dreaming. Why is this such a big..... Listed under: [Other Projects](#)
133.

[DIY Arduino 3D Laser Scanner](#) FabScan is an open-source, do-it-yourself 3D laser scanner.It started out as a Bachelor's thesis by Francis Engelmann, supervised by René Bohne. You can find official project here. I made my own box from MDF hood sheets and use different hardware parts.I decided to make this guide..... Listed under: [Other Projects](#)
134.

[Control TV With Any Phone \(Even Phones Without IR Blaster\)](#) Do you want to control your TV and several other gadgets that are IR controlled? Ya but my phone doesn't support it because it doesn't have an IR blaster.Don't worry here a gadget that gives IR control to any phone and the thing it needs..... Listed under: [Phone Projects](#)
135.

[Course on MIT App Inventor and Arduino](#) I have made many tutorials for creating apps using MIT app inventor and connected the app with arduino to make things work, I often get email stating something went missing when they follow my tutorial, Here's a step by step tutorial on getting started with..... Listed under: [Motor Projects](#)
136.

[Use the Force... or Your Brainwaves? \(multifunctional Thought Controlled System\)](#) As a kid I always wanted to have a special ability, like moving objects with thoughts or flying. I tried to move objects with “the power of my mind” of course with no success. Well, yes, I was and I am a huge Star Wars..... Listed under: [Home Automation Projects](#)
137.

[Arduino Bluetooth Basic Tutorial](#) Ever thought of controlling any electronic devices with your smart phone ?Controlling your robot or any other devices with your smartphone will be really cool. Here is is a simple and basic tutorial for interfacing Bluetooth with arduino Step 1: Things You Need Hardware Bluetooth Module HC 05/06ArduinoLED220Ω ResistorAndroid device..... Listed under: [Bluetooth Projects](#)
138.

[A Levitating Sphere Rotates Glows and Blinks With Arduino](#) A levitating little Death Star in Instructables invited me to the new project with Arduino. Three policies were decided and kept to differentiate it from the forerunner. Do it myself with no (or less) ready-made.Keep rotating.Make glow and blink without battery.VIDEO(1): A Levitating Sphere Rotates Glows..... Listed under: [Other Projects](#)
139.

[Car Dash Tablet](#) Putting a tablet in car dash.This project was on my mind for a long time.Somewhat I couldn't find any free time to build this project. But now I have done it and I'll tell you how. My car is a VW Polo (2014) and..... Listed under: [Car Projects](#)
140.

[Using NXT Components With a Micro Controller](#) This is a guide to using the motors and sensors from the LEGO NXT set with a Parallax Basic Stamp II or BS2. However, rather than just providing schematics and sample code for the BS2, I'll be providing some theory on how the sensors work..... Listed under: [Other Projects](#)
141.

[Program Your Arduino With an Android Device Over Bluetooth](#) Hello world, in this Instructable I want to show you, how to program your Arduino Uno with your Android device over Bluetooth. It is very simple and so cheap. Also it allows us to program our Arduino where ever we want over wireless bluetooth... So..... Listed under: [Bluetooth Projects](#)
142.

[DIY Standalone Weather Station Powered by Arduino](#) Hello Makers out there Again this is not a Step by step Instructable . Like always i forgot to take take snaps since the inception of this project.The idea of Building a community weather station using Open hardware Kicked a long back. We people from..... Listed under: [Sensor – Transducer – Detector Projects](#)
143.

[SmartPhone Controlled RGB MOOD Light](#) Mood lamps are always fascinating for me and is a very good project for starters to start with Arduino. What is a Mood Lamp ? Mood lamps are lighting devices that are used to establish a particular feeling or mood within a room. In some..... Listed under: [Phone Projects](#)
144.

[DIY CNC for 60\\$ \(Large Work Area\)](#) Hi there I've been here after a long time, and this time I've made a huge project as compared to my earlier ones. This is a full-sized 250 mm X 300 mm work area CNC machine and more interesting things is that it was made..... Listed under: [CNC Machines Projects](#)
145.

[Make an Optical Disk Display](#) Every curious how DVDs work? Interested in learning some simple analog electronics? This Instructables will show you how to make an optical disk display project in only a few hours. What is an optical disk? An optical disk stores data/information and can be read or..... Listed under: [LED Projects](#)
146.

[How to Work With Conductive Fabric](#) Working with conductive fabric is fun and it's ideal for wearables, soft circuitry, e-textiles and other projects that take advantage of it's properties. Learning the basics will help you make design and material choices tailored to your application. This Instructable is jam-packed with insights from..... Listed under: [LED Projects](#)
147.

[The MicroSlice V1 | a Tiny Arduino Laser Cutter](#) A few years ago I saw an Instructable where Groover had used a pair of DVD RW drives to make a pocket laser engraver. Inspired by the idea, driven by the recent purchase of a full-sized 50 watt CO2 laser cutter, and roused by

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 I took..... Listed under: [Other Projects](#)
148.

[The Nerd Watch](#) Hello! Welcome to another Other Machine project tutorial! I'm Sam DeRose, a former Other Machine Co. Summer Intern. I created the Nerd Watch last summer while working at OMC. The Nerd Watch displays the time in binary when the button is pushed. The watch shows the..... Listed under: [Clock – Timer Projects](#)
149.

[Intro to LED Strips](#) <https://youtu.be/lbkUL7U1qiA> LED strips are a very fun and effective way to give lots of glow and color to a project. In this Instructable you will learn about the basic kinds of strips and how to hook them up to the Intel Edison with Arduino breakout..... Listed under: [LED Projects](#)

150. [Arduino: CNC Machine / Part 2](#) Hey guys this is part 2 of my Arduino CNC machine! Thanks to you guys you motivated me to make my next part into building this! This is me building the y-axis on the CNC machine. Hope you guys enjoy! Step 1: Patreon As you..... Listed under: [CNC Machines Projects](#)
151. [Smartphone Controlled Cat Laser](#) <https://youtu.be/Q05TAoPIHtQ> I've been wanting to start exploring the world of microcontrollers and programming for some time now, so I came up with this simple project which uses an app called "Blynk" to allow you to wirelessly control an Arduino board through your wifi. Now obviously..... Listed under: [Phone Projects](#)
152. [How to Make a Cheap Arduino MIDI Controller](#) I'm a huge fan of technology and music, but when I decided to start making my own electronic music, I was discouraged by the high price of MIDI keyboards and controllers. After a lot of tinkering, I saw the opportunity to create my own MIDI..... Listed under: [Sound – Audio Projects](#)
153. ["With U Smart Sole" DIY GPS Embedded Smart Shoe Sole #MITBetterWorld](#) What do you do when someone is chasing you or you are lost? Cross your fingers? Don't. When you are in trouble, just cross your feet [in a special way] and your location is sent to your family members. Wait there's more! Even the family can get your location just..... Listed under: [GPS Based Projects](#)
154. [DIY Multi Featured Robot With Arduino](#) This robot was mainly built for understanding Arduino and combining various projects of Arduino to form a Multi Featured Arduino Robot. And further, who doesn't want to have a pet robot? So I named it BLUE ROVER 316. I could have bought a beautiful tracked..... Listed under: [Robotics – Automation Projects](#)
155. [Arduino XMAS Hitcounter](#) Christmas is coming closer, so here is my contribution to put you in the right mood. It is a blog hitcounter, that rings a bell. Literally. It puts a smile on your face, every time someone hits your blog. It consists of an Arduino board,..... Listed under: [Motor Projects](#)
156. [Arduino Charliplexed Heart, Just in Time for Valentines Day](#) Here is an Arduino controlled Charliplexed LED heart just in time for Valentine's Day. It uses a total of 6 wires to controll the 27 LEDs. A PIC or AVR could easily be used for this, but I have Arduinos lying around and they are..... Listed under: [LED Projects](#)
157. [Drumming MIDI Glove Using Arduino and Light Sensors](#) I will describe a fun and easy way to build your own sound expression MIDI enabled glove without expending lot's of money on MIDI Interfaces or expensive sensors. Feel free to contact me directly by mail if you like it or have suggestions. This project..... Listed under: [Sensor – Transducer – Detector Projects](#)
158. [DIY Bare Minimum Arduino Mega 2560](#) [2017 Update] Eagle files please click here. The objective of this project is to create a version of Arduino Mega 2560 board that has lower component count and smaller board size. Personally to be used for robotics projects that require ATmega2560's 256 KB flash and digital/analog..... Listed under: [LED Projects](#)
159. [How to Make Your Own Professional Arduino Shield](#) In this instructable I will show you how to make your own professional looking arduino shield. In the proses of designing the arduino shield I will use eagle.cad, arduino software & viewplot. First step in making a arduino shield is thinking of what you want..... Listed under: [Arduino Programmer Projects](#)
160. [Arduino Radio](#) <https://youtu.be/3WbK-S2WDLQ> Update 16.04.2015 just thought how would a "cool" kit look a like, so I get an altoids tin box eat all the thinks inside and put all necassary parts inside. 🤪 a new project from good old Germany. I got some of those very..... Listed under: [Radio Projects](#)
161. [Serial Communication – Arduino and Linkit One](#) In this instructable I'm going show you how to establish serial communication between the arduino and the Linkit One. This would help you make a more complex project with these two boards. Step 1: Components Here is a list of all the components required to..... Listed under: [Arduino Programmer Projects](#)
162. [Salvaging Liquid Crystal Displays \(LCDs\)](#) Almost all electronics have some sort of human interface, from blinking lights and beeping speakers to seven segment alphanumeric and Liquid Crystal Displays. This Instructable is about salvaging and testing Liquid Crystal Displays, and a couple tricks I know to make salvaging them more successful..... Listed under: [LCD Projects](#)
163. [Datalogger With Temperature Sensor and Photoresistor](#) In this project I'm going to create a simple Datalogger with my Arduino and an Ethernet shield.I'll be using a photoresistor and a temperature sensor and all the information will be stored in a micro SD card.The idea is that you can apply this to..... Listed under: [Sensor – Transducer – Detector Projects](#)
164. [Arduino Sprinkler Valves + Wifi + Twitter](#) This is my first post so... be brutal ! I have a small yard with a very odd shape, well... L-shaped really and not enough pressure at the tap to be able to water it in one go. So I had to create 3 sprinkler..... Listed under: [Wifi - Wlan Projects](#)
165. [Simple Audio Amplifier](#) In most cases first project in electronics for beginners is building simple audio amplifier. That is because it requires small number of elements and not a lot of knowledge to build one. For low power amplifiers we could use integrated circuits like TDA family. But..... Listed under: [Sound – Audio Projects](#)
166. [Use Arduino Code on a TI Launchpad MSP430](#) You can now use Arduino sketches to program your TI Launchpad MSP430. The video show me programming an Arduino Mega 2560 and a TI Launchpad MSP430 with the same Arduino sketch. <https://youtu.be/-KKmkwHapSw> The TI Launchpad MSP430 is a microprocessor development board from Texas Instruments. It's..... Listed under: [Arduino Programmer Projects](#)
167. [Arduino Lock Bar...sorta](#) This project was tough but nothing worth doing is easy and i am ver proud that i was able to show that my skills are further than they once were is a reward on their own.....but how did i get..... Listed under: [Security – Safety Projects](#)
168. [Panner With Arduino](#) This project it's a new time-lapse tripod or panning with two axis that works with an arduino protoboard. Everyone will be able to create their own time-lapse trajectory without need to check it. With the arduino code we'll can change the value for the movement..... Listed under: [Motor Projects](#)
169. [Arduino Self Balancing Robot](#) In this project I will describe the construction of robots standing in equilibrium with Arduino.We explained in our previous version of the android controlled project. In this project we will move to our control. Let's go let's get to our building project. Step 1: Materials:..... Listed under: [Robotics – Automation Projects](#)

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170. [Arduino Insight -Beginner LED'S and \(Binary Counter 16 Bit\)](#) Hello friends...!!! This is my first tutorial on Instructables, in this tutorial I'm going to show you* Write a simple program for glowing LED* Group of LED program* Explain analog output (PWM)* Create a simple project of (4 bit binary counter).Small BIO:Friends we know that..... Listed under: [LED Projects](#)

171. [Arduino Project in 5 Minutes](#) <https://youtu.be/qdnoPGi0sR8> In the following Instructable, we'll show you how you can make your next Arduino project in just 5 minutes. It's simple, easy and fun. Step 1: Plan It! 1. Go to Circuito.io 2. Select the components in the screenshot, add a description and your..... Listed under: [Arduino Programmer Projects](#)

172. [Controlling a MIDI CC in Ableton Live With an Arduino Uno](#) <https://youtu.be/rx75N4OZCsk> In this instructable we will use a potentiometer on an Arduino Uno to control a MIDI CC in Ableton Live. A MIDI CC stands for Continuous Controller, i.e. a number in the range from 0 to 127 inclusive to modulate something with. In the youtube I..... Listed under: [Internet – Ethernet – LAN Project Ideas](#)

173. [Giant Arduino GEMMA Side Table](#) They're always serving up something hot at Adafruit. Make this giant Arduino GEMMA side table to use as a platform for various purposes. I needed a small utility table next to my BBQ grill so I made this. Enjoy afternoon tea or cappuccino outdoors in..... Listed under: [Home Automation Projects](#)

174. [Arduino Ethernet Camera](#) I will introduce a Arduino ethernet Camera. You can take a picture inside of house which have a this arduino ethernet camera by just opening the web site if you follow this contents. It is very easy and simple way which don't need any app..... Listed under: [Video – Camera – Imaging Projects](#)

175. [Arduino Controlled CNC / 3D Printer Hybrid](#) The objective of this instructable is to guide your way throw the entire making process of building a BuildersBot machine. An open design Arduino Controlled CNC Router that can also perform 3D printing. The instructions will cover all areas such as design, mechanics, electronics and..... Listed under: [CNC Machines Projects](#)

176. [Arduino Robot](#) first of all, i am sorry if i have grammar mistakes, i am asian and i am 13 years old, i study arduino by my self (mostly my self) and this is my first project and also my first instructables. this is the robot that..... Listed under: [Robotics – Automation Projects](#)

177. [Arduino-Using Shift Registers With Ultrasonic Sensors](#) The HC-SR04 Ultrasonic range sensing module is great for sensing distances that can be used as an input for your Arduino projects, but using multiple (more than two) can quickly cost you a lot of pins. This basic Instructable gives you the code and basic..... Listed under: [Sensor – Transducer – Detector Projects](#)

178. [Turn Signal Biking Jacket](#) This tutorial will show you how to build a jacket with turn signals that will let people know where you're headed when you're on your bike. We'll use conductive thread and sewable electronics so your jacket will be soft and wearable and washable when you're..... Listed under: [Internet – Ethernet – LAN Projects](#)

179. [Control Your Home Appliances Using Arduino and Relay](#) Hello everyone, In this instructable we will be using Arduino And Relay module to control home appliances. This instructable covers: Basics of Relays.Connecting Relays with Arduino.Controlling AC appliances using Relays. How it works: The relay uses an electromagnet to mechanically switch electric appliances.A relay can..... Listed under: [Home Automation Projects](#)

180. [Automated Plant Watering System](#) House Plant Babysitter Going away from a while? Need something to babysit your house plants?This box will automatically deliver an adjustable volume of water to four plants (or less) every day, or once every "x" day (up to seven days). A micro controller handles the..... Listed under: [Home Automation Projects](#)

181. [The Maven Box: an Arduino Controller for Software Developers](#) Every job has it's routine. I am a software developer who works with a Git/Maven based workspace everyday. So when I start working, my daily routine is to update and build my local workspace, pulling changes from GitHub, execute a maven build and execute the..... Listed under: [Development Board – Kits Projects](#)

182. [Arduino Type K Temperature Indicator](#) There are lots of Arduino projects to read temperature with different devices, this is an easy one to measure high temperatures with type K thermocouples (1300°C).Skills necessary for this project are basic (buying max IC already mounted) but I have mount an MAX31855 in a..... Listed under: [Temperature Measurement Projects](#)

183. [Synesthesia Mask](#) <https://youtu.be/9vLSuLL9xLA> Inspiration What if I told you that 2+2=Red!?!? What!?! I know this sounds crazy but for people with synesthesia this might be their reality. Synesthesia is defined as "the production of a sense impression relating to one sense or part of the body by..... Listed under: [Sensor – Transducer – Detector Projects](#)

184. [Environmental Alert System](#) <https://youtu.be/gWZ6Z1ptUis> What's that smell? It's noxious gas of course! If you're in an environment where there's a possibility of gaseous release of which you'd rather not breathe, why not build an automatic system for sensing and alerting you? The design for the Environmental Alert System..... Listed under: [Security – Safety Projects](#)

185. [Intro to GPS With Microcontrollers](#) https://youtu.be/_Qog6ofGD5Y Once the purview of strictly military operations, GPS has become a regular part of modern living and in relatively short time! Who wouldn't want want to know when and where they are anywhere on the planet? It's a science fiction dream brought into reality,..... Listed under: [GPS Based Projects](#)

186. [Arduino Ping Pong Ball Cannon](#) <https://youtu.be/XOybUHFUD8o> Overview: This instructable uses a Trossen Robot controlled ping pong ball cannon. The project also uses several other components from Trossen Robotics including_ from one of their Robotics Grab Bags. A joystick controls the..... Listed under: [Sound – Audio Projects](#)

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187. [Simple Arduino-based Thermometer](#) Building an Arduino project isn't just about making all the components talk to one another. It's about creating an actual object or prototype out of your small creation, and giving it that extra touch that makes it unique. For this next project, we took some..... Listed under: [Temperature Measurement Projects](#)

188. [LED Matrix Controller Using 4Duino](#) In this project, we will use the digital pins and screen of the 4Duino to create a 5×7 LED matrix controller with a user graphical interface. <https://youtu.be/fSCNCFmbSJc> An LED matrix is essentially many LEDs packaged in a dot grid format in order to produce pictures..... Listed

under: [LED Projects](#)

189. [Arduino Sunflower – an Electronic Sundancer](#) Maker is always sensitive to the new and funny things. One day, I watched a video, in which the sunflower moves along with the sun. I had a sudden insight then. Why can't I make a electronic device inmitating this biomechanism. In the following days,..... Listed under: [Solar energy projects](#)
190. [B-SENSOR: DIY PRESSURE CUSHION](#) This project examines how interface pressure is a key risk factor in the development of pressure ulcers. Visual feedback of continuous interface pressure between the body and support surface could inform clinicians on repositioning strategies and play a key role in an overall strategy for..... Listed under: [Sensor – Transducer – Detector Projects](#)
191. [JolliCube \(8x8x8 LED Cube\) With MD_Cubo Library](#) So far, we have only built 3 LED cubes. Our first cube is a 4x4x4 LED cube and though we managed to successfully complete it without too much difficulty, we did not find much excitement and satisfaction experimenting with it. Next, we designed, created and..... Listed under: [Arduino LED Project Ideas](#)
192. [DIY | RGB LED Shades Controlled by Arduino](#) Today I'm going to teach you how you can build your own RGB LED Glasses very easily and cheapThis has always been one of my biggest dreams and it finally came true! A huge shout out to EasyEDA for the amazing PCB's and personal support! 😊 The..... Listed under: [Arduino LED Project Ideas](#)
193. [Which MICROCONTROLLER for Your ELECTRONIC FASHION?](#) What Does Fashion Lack? "Microcontrollers" I always answer - and it's TRUE! It makes your garments SO much more interesting, interactive and communicative as soon as you add some INTELLIGENCE to it. But which ones are on the market? I started a little research on..... Listed under: [Bluetooth Projects](#)
194. [How to Use the Adafruit Flora Board – Arduino Tutorial](#) In this tutorial you will learn how to use the Adafruit Flora board and how you can easily program it with Codebender! FLORA is Adafruit's fully-featured wearable electronics platform. It's a round, sewable, Arduino-compatible microcontroller designed to empower amazing wearables projects. The FLORA family also..... Listed under: [LED Projects](#)
195. [VU Meter – LED Noise-o-Meter for Classrooms](#) I built this a short while ago as an idea to use in a primary classroom setting. Poster displays are often used by primary teachers wanting to control the noise levels in their classrooms but I wanted to add technology to make it dynamic and..... Listed under: [LED Projects](#)
196. [Web-Based Pool Controller W/ Raspberry Pi, Arduino, Xbee and Digital Thermometer](#) This simple system allows web based remote control of a swimming pool pump and heater, or any device that be switched with simple relays. It uses a Raspberry Pi as the main controller and web server. It also uses a remote thermometer run by an..... Listed under: [Radio Project Ideas](#)
197. [Arduino Experiments \(Supersize Instructable\)](#) Masses if not all Arduino Experiments done my way,that being everyone carry's out experiments different to the next person,as such this instructable will have alot of videos,and pictures as well as detailed descriptions of each experiment what I did how and why....LARGE INSTRUCTABLE BE WARNED!(there are..... Listed under: [Arduino LED Project Ideas](#)
198. [Arduino Uno R3 Battery Tester](#) This simple project is intended to help you in answering the lifelong question "Does this battery have any juice left?". Although popularity of single cell batteries (such as AA, AAA, C and D cell) is diminishing, there are still many small devices like TV remotes,..... Listed under: [Arduino Battery Project Ideas](#)
199. [Program Arduino Pro Mini Using Arduino Uno](#) Hello everyone. Today I am going to show how to program arduino pro mini using arduino uno. If you already had a arduino uno and you newly buy arduino pro mini then you don't need to buy the USB to serial converter to program the..... Listed under: [Arduino Programmer Projects](#)
200. [Arduino Xylophone](#) I made a xylophone that uses an Arduino Mega to detect when a note is struck, and generate MIDI output. This project is wonderful because I essentially made a xylophone, a drumkit, and any other MIDI controlled sound instrument, with one tool. The following..... Listed under: [Internet – Ethernet – LAN Projects](#)
201. [Arduino Is Slow – and How to Fix It!](#) Arduino is slow? What? This instructable will show just how slow a part of Arduino is, and how to fix it. It's true – more specifically, Arduino's digitalWrite command takes a considerable amount of time. If you are just switching on a LED once or..... Listed under: [Arduino LED Project Ideas](#)
202. [Arduino Nano to Arduino Uno Adapter](#) Arduino Nano is a nice, small and cheap member of the Arduino family. It is based on the Atmega328 chip, what makes it as powerful as the biggest his brother Arduino Uno, but it can be obtained for less money. In Ebay now Chinese versions..... Listed under: [Arduino Programmer Projects](#)
203. [Arduino LED Exploration](#) Arduino LED ExplorationMy program shows you all of the data on your Led from the first light to the normal operation light. From that data you can pick an RS that is good light, but lower in current. You must build the circuit to run..... Listed under: [LED Projects](#)
204. [LilyPad Arduino Painted Canvas With Music and Lights](#) This is a project that I created for my Children and Technology class that I am taking in my Masters of Library Science Program. This was one of my first experiences with coding so this was a trial and error process but *this instructable should Listed under: [Sound – Audio Projects](#)
205. [Getting started with Python and Arduino MKR1000 for secure IoT projects](#) Arduino MKR1000 meets Python With the release r2.0.7, Zerynth adds another board to its supported device list: Arduino MKR1000, a device specifically designed for IoT projects. The MKR1000 is described as a powerful board that combines the functionality of an Arduino Zero (already supported by Zerynth) and the connectivity of a Wi-Fi Shield,..... Listed under: [Electronics News Updates](#), [Sensor – Transducer – Detector Project Ideas](#)
206. [Arduino-Controlled 12V Battery Charger](#) The circuit presented here can automatically charge a 12V, 7Ah battery, or above. Special features of the charger are as follows. It automatically controls the charging current as per the status of the battery. Battery voltage level as well as charging status are indicated on..... Listed under: [Battery Projects](#)

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207. [12-Multi National Digital Clock on Arduino UNO](#) The presence of 12-Multi-National Digital clocks is very common at the lobby / front desk of star hotels, showing time & dates of several countries where from most of the guests to arrive to stay at the hotel. One common feature of these clocks is..... Listed under: [Clock – Timer Projects](#)
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208. [Arduino-Based Coil Winding Temperature Recorder and Alarm Generator](#) Monitoring the temperature of a transformer or electric motor winding involves data acquisition. This project is developed to monitor the temperature of an electric motor and a transformer with high accuracy, incorporating display and alarm facility. This circuit can be installed near a transformer winding..... Listed under: [Clock – Timer Projects](#), [Temperature Measurement Projects](#)
-
209. [Arduino-Based MOSFET Terminal Identification System](#) Metal oxide semiconductor field effect transistor (MOSFET) is a semiconductor device widely used for switching applications and amplifying electronic signals. While the facility to determine the type and pin configuration of bipolar junction transistors (BJTs) are available in digital multimeters (DMMs) used in the laboratory,..... Listed under: [Development Board – Kits Projects](#)
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210. [DC Panel Meter using Arduino](#) Panel meters in regulated power supplies are used to display electrical parameters like voltage and current. Presented here is a circuit to display DC voltage and current of power supplies, including DIY-type ones. Circuit and working Circuit diagram of the DC panel meter using Arduino..... Listed under: [Metering – Instrument Projects](#)
-
211. [Issue Printer](#) Print Github issues on paper and stack them on your desk. Every time you close an issue and you can literally "bin" it! Things used in this project Hardware components Arduino MKR1000 × 1 Thermal Printer × 1 Software apps and online services Arduino Web..... Listed under: [Internet – Ethernet – LAN Projects](#), [Sensor – Transducer – Detector Projects](#)
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212. [Image Processing Based Fire Detection & Extinguisher System Using Arduino](#) This is an image processing based fire detection and extinguisher system using Arduino. It is basically the system is divided into two parts: Fire detection 2. Fire alert and extinguisher In the first part, fire detects using image processing. Here in this project I'm using..... Listed under: [Sensor – Transducer – Detector Projects](#)
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213. [Indoor Air Quality Monitoring System](#) An indoor air quality monitoring system for detecting toxic gases. Things used in this project Hardware components Arduino Yun Shield & Genuino Yun Shield × 1 Arduino Leonardo × 1 Arduino Yun × 1 Arduino MKR GSM 1400 × 1 Arduino MKR WAN 1300 ×..... Listed under: [Sensor – Transducer – Detector Projects](#)
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214. [LED Straw XMAS Tree](#) A simple, original and cheap Christmas tree made with LED-illuminated plastic straws that can be controlled over WiFi. Things used in this project Hardware components Arduino MKR1000 × 1 USB-A to Micro-USB Cable × 1 LED (generic) × 12 Resistor 330 ohm × 12 Software..... Listed under: [LED Projects](#)
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215. [Light Animations Using Arduino and MATLAB](#) Light animations are visually appealing and hence widely used for advertising purposes. In this project, we present a MATLAB-based graphical user interface (GUI) approach to control the glowing pattern of a number of light-emitting diodes (LEDs). Use of GUI is advantageous since the user can..... Listed under: [LED Projects](#)
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216. [Gesture-Controlled Robot](#) A gesture-detecting wearable sleeve that can direct a robot in different directions. Things used in this project Hardware components Arduino MKR1000 × 1 Arduino Motor Shield × 1 Arduino UNO & Genuino UNO × 1 Adafruit BNO055 × 1 Li-Ion Battery 1000mAh × 1 AA..... Listed under: [Robotics – Automation Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
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217. [Snowbuddy](#) Snowman replica that can chat with user to inform them whether outside temperature is safe for outdoor activity or not. Things used in this project Hardware components Arduino MKR1000 × 1 DHT22 Temperature Sensor × 1 Jumper wires (generic) × 1 Software apps and online..... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
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218. [BLUE P: Wireless Arduino Programming Shield](#) Many times we make projects using Arduino, while working with it we need to connect it with PC to upload program using USB cable. In this tutorial, I'm going to replace this USB cable with a wireless programming shield. This shield is build using a..... Listed under: [Wireless Projects](#)
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219. [Light your Bike, and use your Phone to Control It](#) Arduino, NeoPixels, Firmata, and a Windows Phone (picked one up for \$30 bucks) to control lighting. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Bluetooth Modem - BlueSMiRF Silver × 1 Adafruit NeoPixel Digital RGB LED Strip - White 30 LED..... Listed under: [LED Projects](#), [Projects](#)
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220. [RFID Door Unlock](#) Forgot your keys? Unlock the door using an RFID combination sequence from hidden tags. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit Metro Mini × 1 Adafruit Lockitron × 1 RFID reader (generic) I used a RFID-RC522 from ebay × 1..... Listed under: [Home Automation Projects](#), [Projects](#)
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221. [Interfacing a Laser LED with Arduino](#) This project turns on and turns off a laser LED after every second. It can also monitor its own supply voltage level. The circuit can be extended for use as an audio-visual alarm system for security applications. Keyes KY-008 laser transmitter module is available at..... Listed under: [LED Projects](#)
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222. [Stylish IoT Neck Warmer Controlled from Mobile Browser](#) The IoT version of a stylish neck warmer directly coming from this year's Fashion Weeks rolled into London, Paris and New York. Things used in this project Hardware components Arduino MKR1000 × 1 Alligator Clips × 1 Jumper wires (generic) × 1 Adafruit NeoPixel Digital..... Listed under: [LED Projects](#), [Projects](#)
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223. [Multi-Sensor Data Plotting using Arduino IDE](#) Monitoring of various process variables such as temperature, pressure, viscosity, humidity, pH and flow-rate is very important in steel plants, petrochemical and other such industries. The human-machine interface (HMI) at the operator station displays a continuous and real-time trending of process variables on a monitor..... Listed under: [Sensor – Transducer – Detector Projects](#)
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224. [Teleoperated Robot for Sensing the Toxic Gases](#) Remotely operated ground vehicle for sensing the toxic gases which is helpful for firefighters and researchers. Things used in this project Hardware components Arduino Yun × 1 Arduino MKR1000 × 1 Seeed Grove - Air quality sensor v1.3 × 1 Seeed Grove - Gas Sensor(MQ2)..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
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225. [Green Light: Fashion](#) Ever wanted feedback on your new haute couture? Sprinkle a little IoT magic and get immediate critique on your fashion success or failure. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit NeoPixel Ring: WS2812 5050 RGB LED × 1 Software apps..... Listed under: [LED Projects, Projects](#)
226. [GPS Clock using Arduino](#) Global positioning system (GPS) synchronised clocks give accurate time. These clocks are universal and commonly used at railway stations, bus stands and airports. These are widely used for military purposes too. Here we describe a GPS clock based on Arduino Uno R3—an AVR ATmega328-based microcontroller..... Listed under: [Clock – Timer Projects, GPS Based Projects](#)
227. [Interrupts Debouncing with Zerynth \(Python for IoT\)](#) In this tutorial, we'll see the advanced feature of interrupt debouncing using Zerynth. Things used in this project Hardware components Arduino MKR1000 × 1 Jumper wires (generic) × 1 Software apps and online services Zerynth Studio Story [embed]<https://youtu.be/iX2AlezDPVE>[embed] <https://www.youtube.com/watch?v=iX2AlezDPVE&feature=youtu.be> In this tutorial, we'll use PWM..... Listed under: [Projects, Tutorials](#)
228. [Smart Plastic Container](#) A special container for store objects, iot-ready. It is able to keep track of stocks stored inside and notify when stocks are low! Things used in this project Hardware components SparkFun hx711 × 1 Adafruit Standard LCD - 16x2 White on Blue × 1 Arduino..... Listed under: [Projects, Sensor – Transducer – Detector Projects](#)
229. [Optical Theremin Musical Instrument Using Arduino Uno Board](#) Theremin is an early electronic musical instrument controlled without physical contact by the thereminist (performer). It is named after the Russian inventor, Léon Theremin, who patented the device in 1928. A typical theremin musical instrument is shown in Fig. 1. This article explains how you..... Listed under: [Game – Entertainment Projects](#)
230. [Smart City Project](#) Open source air quality sensor network platform. Things used in this project Hardware components Arduino MKR1000 × 1 PMS5003 dust sensor × 1 Breadboard (generic) × 1 Male Header 40 Position 1 Row (0.1") × 1 SparkFun Snappable Protoboard × 1 Software apps and online..... Listed under: [Projects, Security – Safety Projects, Sensor – Transducer – Detector Projects](#)
231. [Pick to Light Project 2 WiFi](#) In the second project in my pick to light, I am using WIFI to pass the data between PC and Arduino. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 2 Jumper wires (generic) × 1 SparkFun Pushbutton switch 12mm..... Listed under: [Projects, Wifi - Wlan Projects](#)
232. [Arduino-based Front Office Visitor Alarm](#) This Arduino based visitor alarm is useful for offices, clinics and shops. It alerts you to the entry of a visitor by producing a beep sound every time the door is opened. The alarm automatically switches off after a few seconds. Circuit and working Circuit..... Listed under: [Clock – Timer Projects](#)
233. [Azure Stream Analytics saving lives!](#) Azure Stream Analytics watches sensors, control device autonomously, send Tweets and alerts in case of a hazard. Controllable by smartphone. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Graphic LCD 84x48 - Nokia 5110 × 1 Texas Instruments LM2596 DC-DC 4.5-40V..... Listed under: [Projects, Security – Safety Projects](#)
234. [Hackable Christmas Greeting Card](#) In this post we will make a cool Christmas greeting card with the possibility of changing the music and much more, with Cayenne IoT. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 1 Buzzer × 1 Jumper wires (generic)..... Listed under: [How To – DIY – Projects, Projects](#)
235. [Control your Human-Like Robot from Anywhere you Are!](#) Buto is my 'real steel' robot project. Now, BuTO has been connected to the Internet and can be controlled remotely. Things used in this project Hardware components Arduino MKR1000 × 1 Arduino UNO & Genuino UNO × 1 Dynamixel Servo MX-64T × 2 Dynamixel Servo..... Listed under: [Projects, Robotics – Automation Projects](#)
236. [Using IoT to Remotely Control a Robotic Arm](#) Controlling a robotic arm to pick up and drop objects is difficult enough, without IoT it would be near impossible to do this remotely. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services MATLAB Arduino IDE Hand tools..... Listed under: [Projects, Robotics – Automation Projects](#)
237. [DC Motor Starter Using Arduino Uno Board](#) Motor starter reduces the load, torque and current surge of a motor during startup. On starting, the motor takes more than five times the normal running current. This overheats the motor's armature winding and creates a sudden voltage dip in the power supply, which can..... Listed under: [Motor Projects](#)
238. [Singing Arduino](#) Would you like to surprise someone with a song? Things used in this project Hardware components Arduino MKR1000 × 1 Buzzer × 1 5 mm LED: Red × 1 5 mm LED: Green × 1 Resistor 330 ohm × 1 Story Would you like to..... Listed under: [Game – Entertainment Projects, Projects](#)
239. [SD Sketch Update](#) How to use the new Arduino SDU library for SAMD boards to update the sketch on your board, putting it on an SD! Things used in this project Hardware components Arduino MKR1000 × 1 Arduino MKR Zero × 1 Arduino SD card × 1 Software..... Listed under: [LED Projects, Projects](#)
240. [Interfacing Multiple LCDs With Arduino](#) Here we describe interfacing of three 16×2 LCDs with common data lines to an Arduino Uno board. Four data lines of all the three LCDs are connected to digital pins of the Arduino Uno board but data displayed on each LCD is different. Circuit and..... Listed under: [LCD Projects](#)
241. [Arduino NeoPixel Wifi](#) An application to rule the neopixels all. Things used in this project Hardware components A WS2812 5050 RGB LED × 1 Story I love LEDs but as much as I love them, you have to manually pull the color..... Li. [Projects](#) Click here to get AI-based help ✕ 9: [an](#)
242. [Notification of Orders in Tindie](#) When you have a new order in Tindie your Arduino warn you. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 1 Software apps and online services Tindie API Arduino IDE Hand tools and fabrication machines Laser cutter (generic) Story..... Listed under: [How To – DIY – Projects, Projects](#)
243. [Arduino Based Digital IC Tester Using MATLAB](#) Testing of digital electronic systems generally involves applying a set of test stimuli to inputs of the device-under-test (DUT) and analyzing responses of the system using a response analyzer. If the DUT generates correct output responses (also called the golden response) for

all the input..... Listed under: [Development Board – Kits Projects](#)

244. [Home Temperature while you're on holiday ...](#) When you are out of your home for Christmas Holiday you can visualize the Temp and Humidity values by your smartwatch using ArduinoMKR1000. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Breadboard (generic)..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
245. [Controlling A Linear Actuator With An Arduino](#) There is a wide application of linear actuator where one wants to move something but they do not want to physically get involved in moving it. There are quite a number of ways to control linear actuators depending on the application and the user experience..... Listed under: [Development Board – Kits Projects](#)
246. [Seat Monitor](#) Using ARTIK cloud to monitor cabin seat state. Things used in this project Hardware components Arduino MKR1000 × 1 Realtek Ameba RTL8195 Board × 1 ControlEverything.com Piezo Sensor × 1 Seeed Grove - Piezo Vibration Sensor × 1 Software apps and online services Samsung ARTIK..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
247. [Tack your Gait!](#) Everyone has a certain Gait-Rythtm! ..influenced by architecture and our surrounding. This Project should Tack your Gait and find yours. Things used in this project Hardware components Velostat, Linqstat × 1 SparkFun Bluetooth Modem - BlueSMiRF Silver × 1 Coppertape (narrow) × 1 cork 2mm..... Listed under: [Bluetooth Projects](#), [GPS Based Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
248. [Generic STM32 board with Arduino](#) Described here is a simple way to load a program without bootloader. An additional thing needed is a USB to Serial/UART/TTL adapter (3.3V level). Connect the USB to Serial board as follows, and power up the STM32 board from a USB port/power supply. • RXD..... Listed under: [Development Board – Kits Projects](#)
249. [Spartan WiFi Pager System](#) Simple Wifi pager system. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit Standard LCD - 16x2 White on Blue × 1 Story This project is an initial stage of the Spartan WIFI pager system (<https://www.hackster.io/challenges/arduino-microsoft-maker/ideas/2421>). First step in this stage is..... Listed under: [Projects](#), [Wifi - Wlan Projects](#)
250. [Telegram Bot Library](#) Host a Telegram Bot on your Arduino and chat with your brand new IoT device! Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Arduino Web Editor Story Learn how to use the Telegram Bot library, host a..... Listed under: [Projects](#), [Tutorials](#), [Wifi - Wlan Projects](#)
251. [Arduino based Smartphone Controlled Robot Car](#) Nowadays smartphones can be used to control a host of electrical and electronic devices including motors, music systems and lights. Here we present an Arduino based robot car, which can be controlled using an Android smartphone having ArduinoRC application installed in it. This bot receives..... Listed under: [Robotics – Automation Projects](#)
252. [IoT4Car \(2\)](#) ObdiiUartMkrShield is a socket board for Arduino MKR board to talk with vehicles through ODB-II interface. Things used in this project Hardware components Arduino MKR1000 × 1 OSH Park Custom fabricated PCB × 1 Sparkfun - OBDII to DB9 cable × 1 Software apps and..... Listed under: [Car Projects](#), [Projects](#)
253. [Simple Water Quality Analysis](#) An easy-to-build and low-cost water quality monitor. Things used in this project Hardware components Arduino MKR1000 × 1 Jumper wires (generic) × 5 Resistor 4.75k ohm × 2 Gold-Plated Pin × 7 Breadboard (generic) × 1 Software apps and online services Arduino IDE Story After..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
254. [PC-based Oscilloscope Using Arduino](#) Oscilloscopes are an essential tool for electronics hobbyists and professionals to verify that their designs would work as expected. PC-based oscilloscopes score over standalone oscilloscopes due to their compact size, low cost and ability to do offline analysis. Here we describe how you can make..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
255. [Christmas Presents Intruder Detector](#) See when your kids move their presents! Detector sets off an audio alarm and sends an alert directly to your phone! Things used in this project Hardware components Arduino MKR1000 × 1 Solderless Breadboard Half Size × 1 Jumper wires (generic) × 1 Adafruit Piezo..... Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
256. [Arduino Environmental Monitoring](#) Periodically measure environmental conditions and send them to WolkAbout IoT Platform to monitor the environment remotely. Things used in this project Hardware components Arduino MKR1000 × 1 MikroElektronika Environment click × 1 Software apps and online services Arduino IDE WolkAbout IoT Platform Hand tools and..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
257. [RFID Based Access Control Using Arduino](#) RFID is a non-contact, automatic identification technology that uses radio signals to identify, track, sort and detect a variety of objects including people, vehicles, goods and assets without the need for direct contact or line-of-sight contact (as found necessary in bar code technology). RFID technology..... Listed under: [RFID - NFC projects](#)
258. [Smart Connected Open Source Pot \(Scopot\)](#) A Smart Pot that has all the component inside of the pot and gives the light and humidity data to the web Things used in this project Hardware components Arduino MKR1000 × 1 Solid State Relay × 1 Jumper wires (generic) × 1 Breadboard (generic)..... Listed under: [Other Projects](#), [Projects](#)
259. [IoT Cloud – Getting Started](#) Get familiar with the Arduino IoT Cloud and take your first steps into the world of con Hardware components Arduino MKR1000 A MKR1010 is also a perfect option, or you could use a MKR IOT Bundle [Ethernet – LAN Projects](#), [Projects](#), [Tutorials](#)

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260. [Arduino Based Programmable Digital Data Display](#) LCDs are widely used in applications like token-display machines in smalls and supermarkets, order number displays in restaurants and café, and so on. The project presented here demonstrates the working of Arduino based message display on LCD using Bluetooth. Circuit and working This circuit uses..... Listed under: [Development Board – Kits Projects](#)
261. [Keep Me Clean](#) A sensor That detects when a diaper needs changing. Things used in this project Hardware components Arduino MKR1000 × 1 Story A Methane Sensor attached to an Genuino mkr1000 sends notifications to Azure when poop (methane) is detected for a period of time. Schematics Device..... Listed under:

[Projects, Sensor – Transducer – Detector Projects](#)

262. [Solar UPS controller/automatic transfer switch](#) Get your essential appliances off the grid with just one solar panel Things used in this project Hardware components Particle Spark Core × 1 Arduino Nano R3 × 1 Arduino MKR1000 × 1 Story [UPDATE] Now using MKR1000 to control the UNplug unit I replaced..... Listed under: [Development Board – Kits Projects, Projects](#)
263. [Arduino Based RGB Colour Code Generator](#) Red, green and blue (RGB) are the basic colours for generating various other colours by mixing colours in a particular proportion. This technique is used in TVs, mobiles etc. Similarly, Web designing using HTML or any other language requires the hex code of a particular colour..... Listed under: [LED Projects](#)
264. [IOT Lighted Xmas Tree](#) Do you want to conserve energy and turn the Christmas tree lights on/off when not required? In IOT era, that can be done using MKR1000. Things used in this project Hardware components Arduino MKR1000 × 1 PowerSwitch Tail II × 1 Software apps and online..... Listed under: [Projects, Tutorials](#)
265. [RGB Infinity Mirror with 3D Magnetic Sensor](#) An infinity mirror with an RGB LED strip that can change its color using Infineon's 3D magnetic sensor knob connected to an Arduino MKR1000. Things used in this project Hardware components Infineon 3D Magnetic Sensor 2Go × 1 Arduino MKR1000 × 1 Darlington High Power..... Listed under: [LED Projects, Projects](#)
266. [Humidity And Temperature monitoring Using Arduino With The IoT](#) Using the Internet of Things (IoT) in homes and industries it is possible to control any electrical or electronic equipment. Moreover, you can get the information from any sensor and analyse it graphically or in any user-defined format from anywhere in the world. The IoT..... Listed under: [Sensor – Transducer – Detector Projects](#)
267. [Scheduled Relays](#) This project will show you how to schedule to drive the outputs on a MKR Relay Proto Shield using a MKR1000! Things used in this project Hardware components Arduino MKR1000 × 1 Arduino MKR Relay Proto Shield × 1 Software apps and online services Arduino..... Listed under: [Projects, Tutorials](#)
268. [WiFi Robot](#) I have created the framework for WiFi and voice control of a robot. The MKR1000 chip enables us to receive controls over WiFi. Things used in this project Hardware components Arduino MKR1000 × 1 DC motor (generic) × 2 Wheels × 1 SparkFun Dual H-Bridge..... Listed under: [Projects, Robotics – Automation Projects, Wifi - Wlan Projects](#)
269. [Wi-Fi Controlled Robot Using Arduino UNO And Blynk](#) This Wi-Fi controlled robot can be controlled from anywhere using the ARMA IoT shield for UNO and the Blynk App which provides the user interface. Overview Simple WiFi Controlled Robot Using ARMA IoT and Blynk! This project uses an Arduino Uno connected..... Listed under: [Wifi - Wlan Projects](#)
270. [Worlds First Remote Control Human](#) This project will allow you to control someone through the internet using the MKR1000 and Electric Muscle Stimulation also known as EMS. Things used in this project Hardware components General Purpose Transistor NPN × 2 Arduino MKR1000 × 1 Icy Hot Smart Relief Back and..... Listed under: [Medical – Health based Projects, Projects](#)
271. [Salt Warehouses Monitoring with Arduino & Artik Cloud](#) In this Article i will demonstrate how to connect Arduino MKR1000 with Artik Cloud & monitor salt/Dairy warehouses Temperature & Humidity. Things used in this project Hardware components Arduino MKR1000 × 1 DHT22 Temperature Sensor × 1 Jumper wires (generic) × 3 Breadboard (generic) ×..... Listed under: [Projects, Temperature Measurement Projects](#)
272. [DIY: Arduino Chatting](#) Networking is the one of the most important mean of communication used to communicate with people who are connected to one. Most of the available network communication modules in the market are not affordable by the overall end users. Considering this problem, a prototype has..... Listed under: [How To – DIY – Projects](#)
273. [Intel Edison as Azure IoT Hub gateway](#) Using Intel Edison as gateway and redirecting data from Arduino MKR1000 to Microsoft Azure IoT Hub. Things used in this project Hardware components Intel Edison × 1 Arduino MKR1000 × 1 Software apps and online services Microsoft Azure Arduino Web Editor Story Background Workshop project during..... Listed under: [Internet – Ethernet – LAN Projects, Projects](#)
274. [IoT Christmas Tree Topper](#) A cool star decoration for Christmas Trees powered by Arduino MKR1000 Things used in this project Hardware components Arduino MKR1000 × 1 3 mm LED: Yellow × 16 Resistor 221 ohm × 4 Jumper wires (generic) × 8 Female header 8 position 2 row (2*4)..... Listed under: [Projects, Tutorials](#)
275. [Road to Santa Claus](#) Waiting for Santa? Count down to his arrival with this MKR1000 device. Things used in this project Hardware components Arduino Road to Santa Claus Kit × 1 Software apps and online services Arduino IDE Arduino Web Editor Hand tools and fabrication machines Vinyl glue Hot..... Listed under: [GPS Based Projects, Projects, Sensor – Transducer – Detector Projects](#)
276. [Wide Range Alarm System](#) This is an alarm system based on the MKR1000 and a raspberry pi 2 or 3. The system will detect different alarms and notify you if necessary. Things used in this project Hardware components Arduino MKR1000 × 1 Raspberry Pi 2 Model B × 1..... Listed under: [Home Automation Projects, Projects](#)
277. [Arduino as AVR Programmer](#) For my project I need two Arduino boards, but I have only one Arduino Mega 2560 board (refer Fig. 1). I can either buy an Arduino Uno board (that costs approx. Rs. 1400 in India) or I can make an Arduino board using a fresh..... Listed under: [Development Board – Kits Projects](#)
278. [GoPRO Shutter](#) Make your own custom GoPRO shutter using a MKR1000 board, 3 buttons and 3 LEDs. Things use Arduino MKR1000 × 1 LED (generic) × 3 SparkFun Pushbutton switch 12mm × 3 Breadboard (generic) × 1 Jumper wires (generic) × 1..... Listed under: [LED Projects, Projects, Tutorials](#)
279. [Holiday Wreath Automation](#) Automate your holiday wreath using an Arduino MKR1000, NeoPixels, and a buzzer. Get notified via SMS/email when someone is at the door. Things used in this project Hardware components Arduino MKR1000 × 1 NeoPixel strip × 1 Buzzer × 1 Breadboard (generic) × 1 Jumper..... Listed under: [Home Automation Projects, Projects](#)
280. [My Home1000 Holiday Things for HOME Automation & Control](#) Remotely we control our home with MKR1000 and IOT of Blynk. We can manage the boiler, the 'anti-theft irrigation, open the Automatic Gate. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor

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(4 pins) × 2 SparkFun BMP180..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

281. [Build An Arduino-Based Shadow Alarm](#) Shadow alarms are usually used for protection against theft. A shadow alarm is a device that sounds an alarm when a shadow falls on it. Described here is a simple circuit of an Arduino-based shadow alarm. This compact shadow alarm unit is capable of sensing..... Listed under: [Clock – Timer Projects](#)
282. [Control a Lamp with MKR Relay Proto Shield](#) Set an alarm with MKR1000 and MKR Relay Proto Shield to turn a lamp on/off. Things used in this project Hardware components Arduino MKR Relay Proto Shield × 1 Arduino MKR1000 × 1 Desktop Lamp × 1 Hand tools and fabrication machines Adafruit Wire Strippers..... Listed under: [Clock – Timer Projects](#)
283. [Arduino Piggyback on Raspberry Pi](#) Arduino is a perfect mindless slave. Give it a job and it performs the task endlessly without defaulting even for a nano second. On the other hand, Raspberry Pi, or Raspi, is a computer that has a brain of its own. But, it may falter..... Listed under: [Sensor – Transducer – Detector Projects](#)
284. [Temperature Logger With Arduino And Artik Cloud](#) Sending temperature from Arduino MKR1000 to Artik Cloud. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Samsung ARTIK Cloud for IoT Arduino IDE Story Hi, In this project find temperature using LM35 ic and post data into artik cloud. The..... Listed under: [Projects](#), [Temperature Measurement Projects](#), [Tutorials](#)
285. [My XL Wireless Photo Wall – PictureLED](#) A project utilizing the mkr1000 and 960 ws2812b to display a picture on the wall, you take a photo with the smartphone and you can see it! Things used in this project Hardware components Arduino MKR1000 × 1 WS2812B x 60 1M led strip ×..... Listed under: [LED Projects](#), [Projects](#)
286. [Designing Smart Chatbot with IoT for home automation with videos \(Hindi & English\)](#) In this project, we will be using ESP8266 12e manufactured by Lolin to make a Chatbot that can control our home applications. To chat with our chatbot, we will use Facebook messenger platform. Also, we will integrate some AI into our chatbot using Chatfuel. It will..... Listed under: [Home Automation Projects](#)
287. [Web Enabled 4 Wheeled Robot using a Photon](#) Expanding upon MKR1000 based Robot project, I created this 4 wheeled Robot. Things used in this project Hardware components Particle Photon × 1 Adafruit Basic Robot Kit × 1 Amazon Web Services L298N × 1 Adafruit DC Motor in Servo Chassis × 4 Adafruit Wheels..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
288. [Mini Christmas IoT Show!](#) Handmade MKR1000 IoT Christmas show made of colored cardboard paper. Things used in this project Hardware components Arduino MKR1000 × 1 DFRobot DFPlayer × 1 Speaker: 0.25W, 8 ohms × 1 LED (generic) × 10 Servos (Tower Pro MG996R) × 4 Software apps and online..... Listed under: [LED Projects](#), [Projects](#)
289. [Logging Sensor Data in MS EXCEL through MATLAB GUI](#) The measurement and analysis of process parameters such as temperature, flow, conductivity, speed, viscosity, and stress play a crucial role in providing information about the process/system under consideration. Parameter values are logged into a computer (using a process called data acquisition) and acquired data is..... Listed under: [Sensor – Transducer – Detector Projects](#)
290. [Christmas Tree Water Level via Cayenne and MKR1000](#) When you have a 'real' Christmas tree, it is important to keep it watered. This project monitors the water level and emails alerts. Things used in this project Hardware components Arduino MKR1000 × 1 water level sensor × 1 LED (generic) × 4 Resistor 220..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
291. [With your Smart Phone and Arduino MKR1000 Blink a LED](#) The idea is to test the Arduino MKR1000, controlling the on board LED from your smart phone (this case iPhone SE. Hacksterlive Bogota. Things used in this project Hardware components Arduino MKR1000 × 1 Apple iPhone × 1 Software apps and online services Snappy Ubuntu..... Listed under: [LED Projects](#)
292. [Implementing serial communication in embedded systems](#) Serial communication was once the most widely used method of transferring data between computers. Many computing devices that you have used over time employ serial communication. Some of the terms associated with this type of data transfer are FTDI chip, COM interface, the RS232 protocol,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
293. [IoT Node with STM32F4 Discovery, MKR1000 and Azure IoT Hub](#) With MKR1000 and Azure IoT Hub, STM32F4 Discovery Board is used to send acceleration and other random telemetry data to Azure IoT Hub. Things used in this project Hardware components STMicroelectronics STM32F407G-DISC1 × 1 Arduino MKR1000 × 1 Software apps and online services AdaCore GNAT..... Listed under: [Internet – Ethernet – LAN Projects](#)
294. [Dual sharing RTC](#) Necessity I have an old window AC at my lab, situated at the terrace. The AC needs to be run intermittently more so often when I’m out of the station and the lab PC needs to be cooled down during the intense noon time when..... Listed under: [Development Board – Kits Projects](#)
295. [Simulate GPS/Read Photoresistor with MKR1000/ADAFRUIT](#) "ADAFRUIT IO" makes IoT for everyone. Here we publish the data from a photo-resistor and a simulated GPS. Things used in this project Hardware components Arduino MKR1000 × 1 Photo resistor × 1 Resistor 1k ohm × 1 Software apps and online services Arduino IDE..... Listed under: [GPS Based Projects](#), [Internet – Ethernet – LAN Projects](#)
296. [Smart Irrigation System](#) This project is based on the AEIOU heuristic framework of Design Engineering Approach. Design for Performance, Safety and Reliability is ensured in terms of segregation of the low voltage and the high voltage parts of the circuit. Design for Manufacturability and Assembly is ensured in..... Listed under: [Irrigation Projects](#)
297. [Hello World with Arduino/Genuino MKR1000: Relay Board and AP](#) Not the simple "Hello World" app but a semi-serious play with the MKR1000. Things used in this project Hardware components Arduino MKR1000 × 1 Relay (generic) × 1 Story I won a MKR1000 at the Hackster contest and I got it on my mailbox so..... Listed under: [Other Projects](#)
298. [Control MeArm Robot With MKR1000 And Your Smartphone](#) This project allows you to control a MeArm Robot with your smartphone, as if you had many potentiometers in your hands. Things used in this project Hardware components Arduino MKR1000 × 1 Arduino UNO & Genuino UNO × 1 Adafruit Standard LCD - 16x2 White..... Listed under: [Robotics – Automation Projects](#)

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299. [Tiny Wi-Fi Switch for \\$3](#) Out of curiosity, I ordered the tiny ESP8266 relay switch from aliexpress.com but never knew it could be so embarrassing to find the right way to operate. The vendor said that the switching program is inbuilt and I only have to use some android phone..... Listed under: [Wifi - Wlan Projects](#)
300. [IoT Wine-Tender-Arduino MKR1000!](#) This circuit serves a wine using a mini water pump all controlled from your phone. Enjoy it during your holidays! Things used in this project Hardware components Arduino MKR1000 × 1 DC motor (generic) × 1 SparkFun Dual H-Bridge motor drivers L298 × 1 Software..... Listed under: [CNC Machines Projects](#), [Motor Projects](#)
301. [Monitor fridge with Arduino MKR1000 and thethings.iO](#) To assure that your beer (and other) beverages are at a cool temperature, today we show you how to remotely monitor your fridge! Things used in this project Hardware components Arduino MKR1000 × 1 Temperature sensor DS18B20 × 1 Jumper wires (generic) × 3 Hand..... Listed under: [Metering – Instrument Projects](#), [Temperature Measurement Projects](#)
302. [Smallest IoT Home Automation using ESP8266 – 01 with Videos \(Hindi & English\)](#) In this project, we will be using the ESP8266 – 01 Wi-Fi Development board to make a small home automation that has Wi-Fi featured in it. The system operates on a local web server and is easy to use for the novice. With this project, we..... Listed under: [Home Automation Projects](#)
303. [Temperature Monitoring with Arduino MKR1000 and ARTIK Cloud](#) Setup an Arduino MKR1000 board to read temperature data and send those readings to ARTIK Cloud for monitoring. Things used in this project Hardware components Arduino MKR1000 × 1 Temperature Sensor × 1 Software apps and online services Samsung ARTIK Cloud for IoT Story This..... Listed under: [Temperature Measurement Projects](#)
304. [Control your MKR1000 with aREST Framework](#) You can control your MKR1000 remotely with a RESTFUL interface. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 2 Resistor 220 ohm × 2 Jumper wires (generic) × 5 Software apps and online services Arduino IDE Story It would..... Listed under: [LED Projects](#)
305. [Home Automation using Bluetooth of ESP32 with Videos \(Hindi & English\)](#) In this project, we will be dealing with the inbuilt Bluetooth feature in ESP32 Development board and try to build an application around it. https://youtu.be/zZUs_GRprpY The Bluetooth system can be divided into two different categories: Classic Bluetooth and Bluetooth Low Energy (BLE). ESP32 supports dual-mode Bluetooth,..... Listed under: [Home Automation Projects](#)
306. [Arduino MKR1000 & Thinger](#) A simple Internet of Things experiment, using an Arduino MKR1000 board to control two LEDs and monitor a potentiometer, via Thinger.io. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 2 Rotary potentiometer (generic) × 1 Breadboard (generic) × 1..... Listed under: [Internet – Ethernet – LAN Projects](#), [LED Projects](#)
307. [Arduino MKR1000 & Favoriot](#) A simple IoT experiment, using an Arduino MKR1000 board to monitor a potentiometer and DHT11 sensor via Favoriot IoT platform. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Rotary potentiometer (generic) × 1..... Listed under: [Internet – Ethernet – LAN Projects](#)
308. [Arduino MKR1000 & Blynk](#) A simple Internet of Things experiment, using an Arduino MKR1000 board to control two LEDs and monitor a potentiometer, via Blynk app. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 2 Rotary potentiometer (generic) × 1 Breadboard (generic) ×..... Listed under: [LED Projects](#)
309. [IoT and Touch-Based Home Automation with Video \(Hindi & English\)](#) We have seen various applications of IoT but what about adding the touch to it. In this project, we will add simple touch buttons to the ESP-32 Wi-Fi module. <https://youtu.be/C4kWwcpaJFE> ESP-32 is a great module to design IoT applications and adding touch to it will make..... Listed under: [Home Automation Projects](#)
310. [Arduino Mkr1000 and Java Swing Shooting Game](#) Arduino Mkr1000 + Uno + Leonardo + Java = Christmas shooting game. Things used in this project Hardware components Arduino UNO & Genuino UNO × 1 Arduino Leonardo × 1 Arduino MKR1000 × 1 3.7V battery × 1 HC-06 Bluetooth Module × 2 Arcade Button..... Listed under: [Game – Entertainment Projects](#)
311. [Internet of Things \(IoT\) LED Lamp with Video \(Hindi & English\)](#) In this project, we handle the output pin of ESP32 for switching and dimming a DC LED lamp using a local Web server. For a local Web server, we do not need an Internet connection; we can handle everything over Wi-Fi. To make this work, we use..... Listed under: [LED Projects](#)
312. [Arduino MKR1000 + Android + Relay = Christmas gift lock](#) Santa is here but you need to guess your gift's password! It's a great starting point if you're new to Arduino MKR1000, networking & Android Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 1 Jumper wires (generic) × 1..... Listed under: [Phone Projects](#), [Wifi - Wlan Projects](#)
313. [Arduino MKR1000 Kit](#) Best in Class Arduino MKR1000 Controller. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Arduino IDE Arduino MKR1000 Kit - Android Apple Arduino MKR1000 Kit - iOS Story This tutorial will focus on how to control and..... Listed under: [Phone Projects](#)
314. [Vehicle Tracking System Based on GPS and GSM](#) Presented here is an Arduino-based vehicle tracking system using global positioning system (GPS) and global system for mobile communication (GSM) modules. GSM modem with a SIM card used here uses the communication technique of a regular cellphone. The system can be installed or hidden in..... Listed under: [Sensor – Transducer – Detector Projects](#)
315. [Arduino MKR1000/Zero Neopixel Throwie](#) A WiFi controlled NeoPixel display. Designed for the MKR1000 but shows the edges but works! Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit NeoPixel Ring: WS2812 5050 RGB LED × 1 Adafruit..... Listed under: [LED Projects](#)
316. [DogWatcher \(MKR1000\)](#) This is MKR1000/Windows 10 based device to keep your dog out of areas he should not be in by sounding an alarm and taking his photo. Things used in this project Hardware components Arduino MKR1000 × 1 Raspberry Pi 2 Model B You can use..... Listed under: [Sensor – Transducer – Detector Projects](#)
317. [ARTIK + MKR1000 + DHT11 + MQTT](#) An IOT app which makes use of ARTIK Cloud, Genuino MKR1000, DHT11 temperature and humidity sensor and MQTT protocol. Things used in this project Hardware components Arduino MKR1000 × 2 DHT11 Temperature & Humidity Sensor (4 pins) × 1 LED (generic) × 2

Software apps..... Listed under: [Other Projects](#), [Sensor – Transducer – Detector Projects](#)

318. [4x4x4 RGB LED Cube](#) This article describes how to build a 4x4x4 RGB LED CUBE (Fig. 6) that is controlled by Arduino. Cube construction We need 64 common cathode RGB LEDs for our cube. Test all LEDs before soldering. Bend all the leads out 90 degrees apart as shown..... Listed under: [LED Projects](#)
319. [Arduino MKR1000 – DHT – Artik cloud](#) Sending temperature and humidity from Arduino MKR1000 to Artik Cloud Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Software apps and online services Samsung ARTIK Cloud for IoT Arduino IDE Story Background This..... Listed under: [Development Board – Kits Projects](#), [Other Projects](#)
320. [IoT Power Tracker for Your Home](#) The power tracker is an IOT based device that helps us to keep track of our power consumption. It also alerts us when we are exceeding the power usage limit. With this device, we don't have to wait until the end of the month to..... Listed under: [Home Automation Projects](#)
321. [Arduino MKR1000 Weather Station](#) Weather station monitors temperature, pressure, light, dust, soil moisture values and displays on the OLED screen and Cayenne dashboard. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit TSL2561 Luminosity Sensor × 1 Adafruit BMP180 Barometric Pressure/Temperature × 1 OLED display I2C..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
322. [MKR1000 Message of the Day](#) Use Arduino MKR1000 and a LCD to set the message of the day. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit Standard LCD - 16x2 White on Blue × 1 Software apps and online services Arduino IDE Story I wanted..... Listed under: [Arduino LCD Project Ideas](#), [Other Projects](#)
323. [IoT Home Automation Using ESP-32 with Videos \(Hindi & English\)](#) Back in earlier days, when the word Internet of Things (IoT) was not a sound bite, developers of this field used various Wi-Fi shields to enable the Wi-Fi feature in their development boards. Following this, in 2014, the low-cost Wi-Fi enabled chip ESP-01 caught everyone's..... Listed under: [Home Automation Projects](#)
324. [MKR1000 With Windows 10](#) Arduino MKR1000 with Windows 10 remote Arduino using Wifi connection. Things used in this project Hardware components Arduino MKR1000 × 1 Hand tools and fabrication machines wifi router Story Hello everyone. First I want to say that this project is for the world's largest Arduino..... Listed under: [Wireless Projects](#)
325. [MKR1000 Christmas IoT Tree with Cayenne Project Builder](#) Automate your Christmas tree and get notified when motion is detected around the tree! Things used in this project Hardware components Arduino MKR1000 × 2 PIR Motion Sensor (generic) × 1 Jumper wires (generic) × 1 Relay (generic) This is a really easy relay to..... Listed under: [LED Projects](#), [Other Projects](#)
326. [DC Power Meter for 0-55V 20A Work Bench Power Supply](#) This project describes how to make a low-cost DC power meter that can be used for displaying Voltage, current, power and the running time of operation. This is useful and can be used as the display for your bench power supply too. This can be..... Listed under: [Metering – Instrument Projects](#)
327. [MKR1000 to ThingSpeak.com](#) A fairly simple project that attaches everyone's favorite environmental monitor, the DHT, to the Arduino MKR1000 then transmits sensor data. Things used in this project Hardware components DHT11 Temperature & Humidity Sensor (4 pins) Arduino MKR1000 Story I had already developed code for the ESP8266..... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
328. [MKR1000 Unboxing and Testing \(7 Steps\)](#) The first run and the first troubles with the Arduino MKR 1000. FAQ. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Arduino IDE Story Finally I've got the board Genuino/Arduino MKR1000. It was well packed and fast shipped..... Listed under: [LED Projects](#)
329. [Temperature Monitoring on Smartphone](#) This article describes a temperature monitoring system on an Android smartphone. Temperature is sensed by a temperature sensor installed in the circuit and is sent over Bluetooth to the smartphone. An Android application is used in the smartphone to display temperature data. The system provides..... Listed under: [Sensor – Transducer – Detector Projects](#)
330. [MKR1000 RGB Strip Controller](#) Using the power of a winning idea, an MKR1000, and a TLC5940 to add RGB lighting to my workspace. Things used in this project Hardware components Arduino MKR1000 Texas Instruments TLC5940 12V 30A Power Supply Software apps and online services Microsoft Visual Studio 2015 Arduino..... Listed under: [LED Projects](#)
331. [Ultimate 6V powering board you will ever need!](#) (AllNewsStories Editorial):- Ahmedabad, Mar 5, 2019 (Issuewire.com) – The board we are talking about is a perfect solution for powering the 6V systems like Arduino and Raspi. The device will be live on Indiegogo soon. Arduino, Raspberry Pi and other development boards have gained much..... Listed under: [Battery Projects](#)
332. [MKR1000 Connecting to the WiFi \(3 steps\)](#) How to connect the Arduino MKR 1000 with the WiFi. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Arduino IDE Story How to connect the MKR 1000 with the WiFi? - It's easier than you think. The..... Listed under: [Wireless Projects](#)
333. [Build Your Own Digital Weighing Machine](#) This article describes how to build a simple and low-cost digital kitchen weighing machine, which can measure weight of up to five kilograms. This digital weighing machine is easier to design. For a heavy-duty weighing machine like your bathroom scale, just change the load cell..... Listed under: [Metering – Instrument Projects](#)
334. [MKR1000 Temp and Humidity Sensor](#) Send temperature and humidity data from an Arduino MKR1000 to Microsoft Azure. Things used in this project Hardware components Arduino MKR1000 Arduino MKR1000 × 1 DHT22 Temperature Sensor DHT22 Temperature Sensor × 1 Software apps and online services Microsoft Azure Microsoft Azure Arduino IDE Arduino..... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
335. [MKR1000 Pushover Status](#) Send status messages of your MKR1000 via Pushover service to your mobile phone, etc. Things used in this project Hardware components Arduino MKR1000 Story An IoT node must be trimmed to reduce current consumption due to battery life. A WiFi-based node as Arduino MKR1000 needs..... Listed under: [Wifi - Wlan Projects](#), [Wireless Projects](#)

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336. [Microcontroller Projects: Fridge Temperature and Humidity Indicator](#) We can measure temperature and humidity inside the fridge using a normal temperature-humidity indicator but relative humidity (RH) could be inaccurate in that case. The moment the fridge door is opened, RH will shoot up due to ingress or egress of moisture in the surroundings..... Listed under: [Sensor – Transducer – Detector Projects](#)
337. [Weather Forecasting on ESP32](#) In any power utility corporation ash dyke management is a huge issue. For fugitive dust control huge sprinklers that spray water all along the dry portion of the dyke are used but maintenance of these sprinklers is a problem as we really don't have any..... Listed under: [Sensor – Transducer – Detector Projects](#)
338. [Door-Ajar Alert with Countdown Timer](#) Ever accidentally left your room door ajar for a long period of time and found your valuables missing? Here is an intelligent solution for you. The idea is fairly simple as it mainly requires a TM1637 4-digit display and a Digispark USB development board. Digispark..... Listed under: [Memory – Storage Project Ideas](#)
339. [3D Printed Alarm Clock Looks Just Like Store Bought](#) Clocks are a popular project on Hackaday. They're a great way to showcase a whole range of creative build techniques, and can make an excellent showpiece as well. We've seen everything from the blinkiest binary build to the noisiest alarms, but [Benoit] has delivered something..... Listed under: [Clock – Timer Project Ideas](#)
340. [Automatic Railway Gate for Unmanned Railway Crossing](#) The aim of this project is to save lives of people who are crossing unmanned railway crossings; by providing an automatic railway gate solution. There are many accidents occurred and lives are lost while crossing the unmanned railway crossings in India. Materials Used: Wood Thermocol..... Listed under: [Sensor – Transducer – Detector Projects](#)
341. [Reaction Time Game](#) This reaction time game tests the time taken by two players to react, and declare the fastest one as a winner. To do this I am using external interrupts and pin change interrupts in atmega328p. It gives four chance to each play, time of each..... Listed under: [Game – Entertainment Projects](#)
342. [Connected Message Lamps using ESP8266 | IoT Projects](#) It is not just another Engraved LED lamp that you see on the market nowadays. This is an advanced version of that lamps. In the era of connected devices, I have made my own connected lamps. This project is inspired by Filimin: A Wi-Fi Enabled Touch Light That..... Listed under: [LED Projects](#)
343. [Getting started with NodeMCU development board for IoT](#) Since Internet of Things (IoT) projects are now quite popular, I recently bought a NodeMCU board to try IoT application development. The NodeMCU development board is an open source board based on ESP8266EX microcontroller with integrated Wi-Fi transceiver. Uploading programs to NodeMCU from any computer..... Listed under: [Development Board – Kits Projects](#)
344. [Digital Soil Moisture Meter](#) A digital soil moisture meter is used for indicating the water content of a given soil sample. [caption id="attachment_31551" align="alignright" width="300"] Soil moisture sensor head[/caption] As crop production requires water at different stages and in different amounts, it is important to measure soil moisture from..... Listed under: [Metering – Instrument Projects](#)
345. [Ultra-Low-Power Sensor Hub Using nRF24L01 Modules](#) Presented here is an ATmega328P microcontroller-based ultra low power sensor hub using nRF24L01+ radio frequency (RF) transceiver modules having transmitter and receiver units. The transmitter sends humidity and temperature values of a place to the receiver kept at a remote location for display on an..... Listed under: [Sensor – Transducer – Detector Projects](#)
346. [How to Play with Pancake Vibration Motors](#) Nowadays numerous electronic devices make use of vibrotactile feedback to increase user interaction with the help of suitable haptic feedback hardware like the eccentric rotating mass motors, linear resonant actuators, and piezoelectric actuators. The most popular type of eccentric rotating mass (ERM) motor inside of..... Listed under: [Motor Projects](#)
347. [Short-Range FM Radio Station](#) This article shows you how to build a small radio station at home and share music with others. The station can also be used for making announcements in colleges, industries, hospitals, schools and other places using a condenser mic amplifier circuit. In this project an..... Listed under: [Radio Projects](#)
348. [Line Frequency Meter Based On Reciprocal Counting](#) Precise measurement of line signal frequency is very important in many applications, especially in the management of power grid systems. Tasks like calibration of governors of engines that run generators in power plants need a resolution up to 0.01Hz. Frequency is also an important parameter..... Listed under: [Metering – Instrument Projects](#)
349. [Voice-Controlled Home Automation System](#) This is a project for a voice controlled home automation system to control appliances with your voice through an Android app. An Arduino Mega board is used for controlling the relay through which an appliance is switched on/off. You can modify the Android app to..... Listed under: [Home Automation Projects](#)
350. [LDR Based DC Motor Speed Control](#) A light-dependent resistor (LDR) whose resistance is inversely proportional to the intensity of light is often used as a sensor in electronic projects that involve the use of light. This LDR based DC motor speed control project uses an LDR to control the speed of..... Listed under: [Motor Projects](#)
351. [IoT-Enabled Air Pollution Meter With Digital Dashboard On Smartphone](#) Presented here is a IoT enabled air pollution meter to monitor air quality on your smartphone using Blynk application and Arduino board. Blynk is an Internet of Things (IoT) platform to control Arduino, Raspberry Pi and the like over the Internet. In this project Blynk..... Listed under: [Metering – Instrument Projects](#)
352. [Controlling A Robotic Car Through MATLAB GUI](#) This project presents the implementation of a MATLAB based gra, movement of a robotic car. The commands to move the car in forward, reverse, right and left directions are sent from the GUI and processed by Arduino Uno board..... Listed under: [Robotics – Automation Projects](#)
353. [Microcontroller Projects: Sonar Water-Level Meter](#) Three-fourths of the earth is water, out of which 97 per cent is saline (in oceans, seas and groundwater). The remaining 2.5 per cent to 2.75 per cent is fresh water , out of which 1.75 per cent to two per cent is frozen in..... Listed under: [Metering – Instrument Projects](#)
354. [Sequential Tilt-Motion Lock](#) Here is a project for locking and unlocking with a tilt sensor by tilting it in a defined sequence. It uses an accelerometer module to detect the tilt motion. If the sequence matches with the predefined motion sequence, the lock opens. You can build this..... Listed under: [Security – Safety](#)

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Projects

355. [Analogue Input on Raspberry Pi](#) While you can connect your analogue input/output devices to Arduino very easily, it is not so easy with Raspberry Pi (Raspi). There are no analogue GPIO pins on Raspi; all GPIOs of Raspi are digital. Circuit diagram of an analogue sensor on Raspi However, simple..... Listed under: [Other Projects](#)
356. [Serial LCD Module](#) In most electronic systems, it is necessary to provide information in the visual form for a convenient user interface. The most commonly used displays in electronic systems are LED, LCD and TFT. Amongst these, an LCD display is the most cost-effective solution as it can..... Listed under: [LCD Projects](#)
357. [RGB LED Cube with Sound to Light Capabilities](#) The objective of our final project was to build a 5x5x5 RGB LED cube that can display a certain color depending on the frequency of music playing. There are two main components of this project. [gallery columns="2" size="medium" ids="31240,31241"] The first part is the hardware..... Listed under: [LED Projects](#)
358. [Magnetometer Parking Sensor](#) The objective of our project was to develop a wireless sensor device to be used for detecting motor vehicles, along with their direction of travel. The sensor is to be used in a larger system to monitor parking lot traffic by counting ins and outs..... Listed under: [Sensor – Transducer – Detector Projects](#)
359. [Balance Beam Controller](#) The purpose of our final project was to create an unstable system that would allow us to investigate classical control design methods by controlling the system using a microcomputer. [gallery columns="2" size="medium" ids="31225,31226"] This was accomplished by creating a teeter-totter that pivoted around a central..... Listed under: [Sensor – Transducer – Detector Projects](#)
360. ["The Note is Right" Pitch Tuning Game](#) The objective of this project is to provide a multiplayer "pitch tuning" game in which the computer can determine the frequency of players' input notes. [gallery columns="2" size="medium" ids="31217,31218"] The system guides two users through various states in which they are each given the chance..... Listed under: [Game – Entertainment Projects](#)
361. [Digital Multimeter](#) The purpose of this project was to design a functioning digital meter to measure voltage, current, and resistance to a known accuracy. The project involved the integration of hardware and software to take an input measurement signal from a pair of high and low leads..... Listed under: [Metering – Instrument Projects](#)
362. [Four Channel Temperature Controller](#) For our final project, we designed a 4-channel temperature controller using PID control. The system was designed to monitor and regulate the temperature of four individual channels by applying 120V to heating elements using on/off switching. [gallery columns="2" size="medium" ids="31204,31205"] This switching was indirectly manipulated..... Listed under: [Sensor – Transducer – Detector Projects](#)
363. [Anti-Collision \(Wall Hugging\) Robot](#) Our project consists of a vehicle designed to avoid collisions with objects and walls. The vehicle achieves this through the use of an onboard sensor to determine when such an object was close by. [gallery columns="2" size="medium" ids="31197,31198"] After recognizing an object within a certain..... Listed under: [Robotics – Automation Projects](#)
364. [Pushbutton → Push Notification](#) How many mundane devices upgrade to IoT because they let you monitor a single data point or a variable? That little nudge over the communication precipice allows you to charge 500% more. Now, if you are as handy as a Hackaday reader, you can throw..... Listed under: [Wifi - Wlan Projects](#)
365. [The Picture Drawing Robot](#) The desired outcome of our final project was to create an autonomous robot that was programmed to move through a series of figures, then stop. Due to time constraints we limited the robot to "drawing" two figures, a five pointed star as well..... Listed under: [Robotics – Automation Projects](#)
366. [Alarm System](#) The objective of our project was to create an alarm system that could detect an intruder using an IR motion sensor. We used a keypad so the user could enter their password to arm and disarm the system. [gallery columns="2" size="medium" ids="31154,31155"] We also included..... Listed under: [Clock – Timer Projects](#)
367. [Home Energy Monitor](#) The purpose of the Home Energy Monitor Final Project is to give people a better idea how much electrical power they consume in a residential system. [gallery columns="2" size="medium" ids="31149,31148"] The method used for this application will utilize a clip on noninvasive current sensor on..... Listed under: [LCD Projects](#)
368. [RGB LED Strip Clock](#) For the final project we made an analog style clock with an Arduino microcontroller. To do this we used three major components: an RGB LED Strip, a DeadOn RTC, and a custom user interface. The LED strip is used to set the display around the..... Listed under: [LED Projects](#)
369. [ReFlex Reaction Game](#) We decided to construct a game for our final project for Microcomputer Architecture. The game, which we named Reflex [gallery columns="2" size="large" ids="31137,31138"] is a simple player versus player reaction game in which the winner is rewarded with a drink of their choice, poured into..... Listed under: [Game – Entertainment Projects](#)
370. [RGB LED Grid](#) This project involved creating a red, blue, green (RGB) light emitting diode (LED) matrix that displayed the colors of the rainbow. The colors of the rainbow were chosen to show the full color spectrum that the LEDs are capable of, while still giving distinct variations..... Listed under: [LED Projects](#)
371. [Smart Aquarium](#) The goal of our project is to display the status of a previously implemented smart aquarium. The external power supply, Arduino Uno, Ethernet Shield, ULN2803 driver, 4 120V AC relays, and 4 controlled 120V AC receptacles, and a servo motor..... Listed under: [Game – Entertainment Projects](#)
372. [Oct Home Automation using ESP8266 & Blynk App – IoT](#) A home automation system is an automating the bulk of electronic and electrical tasks within a home. It uses a combination of hardware and software to enable control and management over appliances and devices within a home. Home automation not only refers to reduce human efforts but also energy..... Listed under: [Home Automation Projects](#)
373. [DIY Arduino Motor Driver Shield](#) In this DIY session, we make an Arduino Motor Driver Shield to drive DC motors, stepper motor and Servo Motor. Compatible with Arduino UNO and Arduino Mega, this motor driver shield can operate 4 DC motors or 1 stepper motor and 2 servo motors at a time. Here two L293D.....

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374. [Record and Play 3D Printed Robotic Arm using Arduino](#) Record and Play 3D Printed Robotic Arm using Arduino Robotic Arms have proved themselves useful and more productive in many applications where speed, accuracy and safety is required. But to me, what’s more than that is these things are cool to look at when they..... Listed under: [Robotics – Automation Projects](#)
375. [Controlling Arduino with Raspberry Pi using pyFirmata](#) Controlling Arduino with Raspberry Pi using pyFirmata Although Raspberry Pi and Arduino are two different hardware in terms of their applications and structure, but they both are considered as two competing open source hardware platforms. They both have very strong community and support. Today we will slightly change..... Listed under: [Development Board – Kits Projects](#)
376. [LC Meter using Arduino: Measuring Inductance and Frequency](#) All embedded lovers are familiar with multimeter which a great tool to measure voltage, current, resistance etc. A multimeter can measure them easily. But sometimes we need to measure inductance and capacitance which is not possible with a normal multimeter. There are some special multimeters..... Listed under: [Metering – Instrument Projects](#)
377. [Analog Speedometer Using Arduino and IR Sensor](#) Measuring the speed/rpm of a Vehicle or a motor has always been a fascinating project to try. In this project, we are going to build a Analog Speedometer using the Arduino. We will use IR Sensor module to measure the speed. There are other ways/sensors for..... Listed under: [Sensor – Transducer – Detector Projects](#)
378. [Arduino Based Guitar Tuner](#) Hi guys, during the last few weeks, I’ve been working on reconnecting with my love for the guitar. Playing the box guitar was how I relax few years back before the saxophone took over. Going back to the guitar, after 3 years of rarely..... Listed under: [Sound – Audio Projects](#)
379. [IoT Based Patient Monitoring System using ESP8266 and Arduino](#) IoT based Patient Monitoring System using ESP8266 and Arduino Health monitoring is the major problem in today’s world. Due to lack of proper health monitoring, patient suffer from serious health issues. There are lots of IoT devices now days to monitor the health of patient..... Listed under: [Medical – Health based Projects](#)
380. [Interfacing nRF24L01 with Arduino: Controlling Servo Motor](#) Arduino NRF24L01 Tutorial to Control Servo Motor While Internet of things (IoT), Industry 4.0, Machine to Machine communication etc are getting increasingly popular the need for wireless communication has become incumbent, with more machines/devices to speak with one another on the cloud. Designers use many..... Listed under: [Motor Projects](#)
381. [Smart Phone Controlled Arduino Mood Light with Alarm](#) Smart Phone Controlled Arduino Mood Light with Alarm I recently purchased the Neo Pixel LED strip and was quite impressed by the way it works. The tiny LED’s have an inbuilt driver IC which helps us to control each LED individually and can produce a wide spectrum..... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Phone Projects](#)
382. [DC Motor Control Using MATLAB and Arduino](#) In this tutorial, we will show you how to control DC motor using MATLAB and Arduino. If you are new with MATLAB then it is recommend to get started with simple LED blink program with MATLAB. Creating MATLAB Graphical User Interface for controlling DC Motor After finishing..... Listed under: [Motor Projects](#)
383. [Stepper Motor Control using MATLAB and Arduino](#) Stepper motors is a brushless DC motor that rotates in discrete steps, and are the best choice for many precision motion control applications. Also, stepper motors are good for positioning, speed control and applications which require high torque at low speed. In previous tutorials of MATLAB,..... Listed under: [Motor Projects](#)
384. [ARDUINO NANO ANDROID ROBOT PROJECT QIK2S9V1 XBEE BLUETOOTH](#) Android robot project built on the Arduino Nano sumo the Sumo robot motor control Qik2s9v1 dual serial motor controller module, Xbee for communication via your Android phone with Bluetooth module is being used. The... Electronics Projects, Arduino Nano Android Robot Project Qik2s9v1 Xbee Bluetooth"arduino projects, avr project,..... Listed under: [Robotics – Automation Projects](#)
385. [GUITAR TUNING PROJECT WITH ARDUINO UNO](#) Arduino Uno kit on the Board at the entrance of the TL082 opamp used Guitar Tuning circuit audio audio input and frequency to detect the “Arduino-Frequency-Detection” software used. According to the LEDs light at... Electronics Projects, Guitar Tuning Project with Arduino Uno "arduino projects, avr project, microcontroller projects, "..... Listed under: [Sound – Audio Projects](#)
386. [ARDUINO UNO ROBOTIC ARM PROJECT](#) The Robot arm is controlled with the computer 6 servo motor used robotic arm system, built on the Arduino Uno is not more complex, additional links to make the robot arm mechanics portion of... Electronics Projects, Arduino Uno Robotic Arm Project "arduino projects, avr project, microcontroller projects, " The..... Listed under: [Robotics – Automation Projects](#)
387. [ENC28J60 ETHERNET MODULE FOR ARDUINO KIT](#) Arduino Kits can be merged with the Arduino Ethernet module is based on the materials used in the design of the PCB DIP ENC28j60 SMD No 3 .3V regulator is used for the material,... Electronics Projects, ENC28j60 Ethernet Module For Arduino Kit "analog circuits projects, arduino projects, microcontroller..... Listed under: [Internet – Ethernet – LAN Projects](#)
388. [Making of the Holiday Lantern](#) Making a Holiday Lantern for which I can change its 'outfits' to different theme depending on the holiday seasons. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit NeoPixel Ring: WS2812 5050 RGB LED × 2 Power Bank × 1 Software apps..... Listed under: [LED Projects](#)
389. [I’m Fine](#) The "I'm Fine" project is about monitoring the well being of especially lonely elderly people, who may not have daily contact to the family. Things used in this project Hardware components Arduino MKR1000 × 1 Arcade style button (60 mm diameter) with builtin LED..... Listed under: [Detector Project Ideas](#)
390. [ARDUINO UNO WITH INTERESTING CLOCK PROJECT](#) I’ve shared this with different time interesting projects carried out with the Arduino Uno this time, I think the most interesting thing isn’t debatable kullanışımı project but the idea as a different kind of... Electronics Projects, Arduino Uno With Interesting Clock Project "arduino projects, avr project, microcontroller projects, "..... Listed under: [Clock – Timer Projects](#)
391. [SPECTRUM ANALYZER CIRCUIT ARDUINO UNO](#) the Arduino Uno module held with MAX7219 8×8 LED matrix display module graphic equalizer spectrum analyzer and the filter driver in the project 2 integration of MSGEQ7. In addition, with Arduino MAX7219 for code... Electronics Projects, Spectrum Analyzer Circuit Arduino Uno "arduino projects, microcontroller projects, " the Arduino Uno module held..... Listed under: [LED Projects](#)

392.

[Domotic Greenhouse](#) Electronic greenhouse controlled real-time, because the environmental conditions change continuously, so we need an efficient monitoring. Things used in this project Hardware components Arduino MKR1000 × 1 Arduino UNO & Genuino UNO × 1 DHT22 Temperature Sensor × 1 Arduino Wifi Shield 101 × 1..... Listed under: [Irrigation Projects](#), [Wireless Projects](#)
393.

[USB CNC PROJECT ARDUINO UNO](#) Arduino uno USB module is controlled via the circuit built on a CNC, which supports the SVG image format in post format, used CNC motor driver L298N motor driver Arduino Uno for the project... Electronics Projects,USB CNC Project Arduino Uno "arduino projects, microcontroller projects, " Arduino uno USB module..... Listed under: [CNC Machines Projects](#)
394.

[Say Thanks to all Courteous Drivers](#) Ever want to say thanks to the nice person who just let you in line? I have thought a lot about that, and here is my solution. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Bluetooth Modem - BlueSMiRF Silver ×..... Listed under: [LED Projects](#), [Phone Projects](#)
395.

[HANDMADE MEMBRANE KEYPAD, AND THE ARDUINO APPLICATION](#) The author has done a beautiful job with handmade membrane is quite an original view is a little tricky, but it works in the prototype experiments, a thin copper foil pieces of the paper... Electronics Projects,Handmade membrane keypad, and the Arduino application "arduino projects, microcontroller projects, " The..... Listed under: [Development Board – Kits Projects](#)
396.

[CarSmart](#) Smart cloud-based vehicle OBD-II diagnostics logging and analysis using Azure IoT Hub, Stream Analytics, and Machine Learning. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun OBD-II-UART This board requires only three connections. I soldered pins and use wire wrap to connect to..... Listed under: [Car Projects](#)
397.

[Thundercatch IoT Network](#) Monitor lightning activity and get alerted on dangerous situations. Things used in this project Hardware components Arduino MKR1000 × 1 MikroElektronika Thunder click × 1 Female/Female Jumper Wires × 1 Software apps and online services Microsoft Azure Microsoft Visual Studio 2015 Arduino IDE Story Introduction..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
398.

[PIANO SOUND CONTROLLED RGB LED AMBILIGHT ARDUINO MEGA](#) As far as I know the system first began to be used in the image on the computer monitor Ambilight the most intense color, whatever color changes the LEDs accordingly when I find a... Electronics Projects, Piano sound controlled RGB LED ambilight Arduino Mega "arduino projects, microcontroller projects, "..... Listed under: [Sound – Audio Projects](#)
399.

[The Ugliest Sweater](#) In the maker world, only boredom is truly ugly. Prevent boredom with horrible, smart flashy lights!!! Things used in this project Hardware components Arduino MKR1000 × 1 LED string lights (battery-powered) × 1 General Purpose Transistor NPN I used the PN2222A (bought from Adafruit). ×..... Listed under: [How To – DIY – Projects](#)
400.

[DRAWING ROBOT MATLAB ARDUINO UNO PROJECT](#) Drawing robot Arduino Uno module is built on a parts kit that was used for the mechanical part of servo motor 3 except that the toy is being used. Generate image data of the... Electronics Projects, Drawing Robot Matlab Arduino Uno Project "arduino projects, microcontroller projects, " Drawing robot Arduino..... Listed under: [Robotics – Automation Projects](#)
401.

[SPECTRUM ANALYZER CIRCUIT ARDUINO RGB LED STRIP](#) the spectrum analyzer circuit a project of Arduino Duemilanove Module 7-band graphic equalizer on board sound on the ground floor MSGEQ7 used to integrate MSGEQ7 is a very talented 8-pin ICS in the frequency...Electronics Projects, Spectrum Analyzer Circuit Arduino RGB Led Strip "arduino projects, microcontroller projects, " the spectrum..... Listed under: [LED Projects](#)
402.

[Make SMART Your Washing Machine](#) If also you, like me, put your vest on the washing machine and wait the best moment for wash the clothes... make SMART your Washing Machine. Things used in this project Hardware components Arduino MKR1000 × 1 Tilt Sensor Switch × 1 Software apps and..... Listed under: [How To – DIY – Projects](#), [Projects](#)
403.

[Store Your Sensitive Data Safely When Sharing a Sketch](#) If there is sensitive data that you want to keep private when sharing a sketch, add a secret tab and store your private info there! Things used in this project Software apps and online services Arduino Web Editor Arduino IDE Story Often in your sketch,..... Listed under: [Security – Safety Projects](#)
404.

[ARDUINO UNO FM AM TRANSMITTER CIRCUIT SI4713](#) The most important part is the construction of a functional sample of a Arduino Uno software-defined one transmitter. After agreement with the supervisor and current options, she was elected concept with SI4713 digital circuit... Electronics Projects, Arduino Uno FM AM Transmitter Circuit SI4713 "arduino projects, microcontroller projects, " The..... Listed under: [Radio Projects](#)
405.


[The Sensometer: 22+ Sensors](#) This is the "Sensometer", a great example of IoT! Get all sensors working at once! Things used in this project Hardware components Arduino MKR1000 × 1 Arduino Mega 2560 & Genuino Mega 2560 × 1 Real Time Clock (RTC) × 1 ProtoCentral Pulse Oximeter &..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
406.

[LED POV CLOCK ARDUINO PRO MINI](#) The Arduino led pov clock circuit has been an interesting project, and the author has made use of the arduino feeding system with the popular wireless energy transmission method, which is an additional circuit...Electronics Projects, Led Pov Clock Arduino Pro Mini "arduino projects, led projects, microcontroller projects, "..... Listed under: [Clock – Timer Projects](#)
407.

[Project "Gallon" – Smart Drinking Water Monitoring Platform](#) This project is a platform for drinking water monitoring and analytics, consists of IoT device, cloud, and mobile and web app. Things used in this project Hardware components Arduino MKR1000 × 1 PCF8574 × 1 AC DC Module EV500MA × 1 10 Segment LED Bar..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Wifi - Wlan Projects](#)
408.

[Gestured Controlled Smart Home](#) Not only this project has all the Smart Home features but it also includes MYO gesture control, allowing control of lights with your arm. Things used in this project Hardware components Myo Gesture Control Armband Armband used to detect arm gestures and control different hardwares..... Listed under: [Home Automation Projects](#), [Projects](#)
409.

[Monitor and control your irrigation system with a mobile app](#) Create your Blynk mobile app to monitor your garden and activate the irrigation. Things used in this project Hardware components Arduino MKR1000 × 1 Seed Grove - Relay × 1 Arduino Rural Hack Kit × 1 Software apps and online services Blynk Story In this..... Listed under: [Irrigation Projects](#), [Projects](#)


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410. [LoRa gateway and node boards run on Raspberry Pi power](#) Pi Supply is Kickstartering lot LoRa Gateway and IoT LoRa Node pHAT add-ons for the Raspberry Pi, as well as a LoRa Node that works with the Micro:bit. An Arduino node is also in the works.Pi Supply, which has produced a variety of Raspberry Pi..... Listed under: [Wireless Projects](#)
411. [BALANCE ROBOT ARDUINO UNO](#) Previously shared " Analog Balance Robot "project using Arduino Uno . Motor drive SparkFun Ardumoto this module is based on the L298 motor drive integration SMD materials are used because the size of the...Electronics Projects, Balance Robot Arduino Uno "arduino projects, " Previously shared " Analog Balance Robot "project using Arduino..... Listed under: [Robotics – Automation Projects](#)
412. [ARDUINO EXTERNAL CIRCUIT CONNECTION CHARTS](#) Arduino transistors, LEDs, motors, MOSFETs, various electronic components, circuit connection diagrams that will be of great use for Arduino projects, Arduino circuits or those who are new to Arduino programming ... Circuit diagrams are... Electronics Projects, Arduino External Circuit Connection Charts "arduino projects, " Arduino transistors, LEDs, motors, MOSFETs,..... Listed under: [Motor Projects](#)
413. [ATMEL ARDUINO COLORED CONNECTION CHART](#) Projects or schematics, drawings that will work when preparing pcb Atmel AVR Microprocessors Information Tags for "Share" drawings directly on Atmel microcontrollers. Colored linking expansions are more comprehensible for those dealing with Atmel Series... Electronics Projects, Atmel Arduino Colored Connection Chart "arduino projects, " Projects or schematics, drawings that..... Listed under: [Other Projects](#)
414. [esp8266/Arduino NTC \(Negative Temperature Coefficient\) library](#) A thermistor is a type of negative coefficient resistor whose resistance is dependent on temperature, more so than in standard resistors. The resistance of a NTC Negative Temperature Coefficient thermistor (<https://en.wikipedia.org/wiki/Thermistor>) decreases as temperature rises. The Steinhart-Hart Thermistor Equation or the Beta Model Equation can be used to correlate the thermistor..... Listed under: [Temperature Measurement Projects](#)
415. [Smart Garage](#) Change the way you operate your garage! Things used in this project Hardware components Arduino MKR1000 × 1 GY-521 MPU-6050 3 Axis Gyroscope + Accelerometer Module For Arduino × 1 Ultrasonic Sensor - HC-SR04 (Generic) × 1 SSD1306 OLED I2C Display × 1 Relay (generic)..... Listed under: [Home Automation Projects](#)
416. [PuzzleBox](#) Protect your valuables with a puzzle! Things used in this project Hardware components Arduino MKR IoT Bundle × 1 Software apps and online services Blynk Story Keeping your valuable items away from prying eyes can be hard sometimes, unless you put it in a big..... Listed under: [Security – Safety Projects](#)
417. [Love You Pillow](#) Open source is love, and so are hugs! Things used in this project Hardware components Arduino MKR IoT Bundle × 1 Software apps and online services Telegram Story We all know that being without that special person in your life can be difficult, but..... Listed under: [Other Projects](#)
418. [Home Automation System for a Camp with Cellular Internet](#) Wouldn't it be nice if you could start warming up the camp before you leave the house? How about using Alexa to do it for you! Things used in this project Hardware components Amazon Alexa Echo Dot × 1 Arduino MKR1000 × 1 ControlEverything.com Relay..... Listed under: [Home Automation Projects](#)
419. [Wi-Fi Power Toggler](#) Restores your Wi-Fi connection for you, so you don't have to, and keeps a track of how often this is done. Things used in this project Hardware components Arduino MKR1000 × 1 DFRobot DF Robot Lithium Polymer Battery (1000mAh, 3.7V) × 1 Jumper wires (generic)..... Listed under: [Wifi - Wlan Projects](#)
420. [Baby-Pram Monitoring System](#) Real time monitoring variables like temperature, X-Y-Z acceleration, sound and light intensity for baby-pram. Things used in this project Hardware components MMA7260 × 1 LM92 × 1 Breadboard (generic) × 1 Electret microphone × 1 Arduino MKR1000 × 1 max4236 × 1 Photocell × 1..... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
421. [A DIY Smart Insole to Check Your Pressure Distribution](#) The smart insole collects foot pressure data in real-time. Through Thinger.io the information is fed into a system that visualizes the data. Things used in this project Hardware components Arduino MKR1000 × 1 Force Sensitive Resistor I've used Interlink model 402 × 3 OpenBuilds Wire..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
422. [Smart IOT Propane Monitoring Pedestal](#) Smart IOT Propane Pedestal capable of tracking propane level as well as detecting any propane leaks. Integration with Amazon Alexa. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Load Sensor 50kg × 4 SparkFun Logic Level Converter - Bi-Directional × 1..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
423. [Crypto Miner](#) Monitor your crypto mining hardware temperatures and hash rates with the ability to restart the rig remotely as well as Alexa integration. Things used in this project Hardware components Arduino MKR1000 × 1 Raspberry Pi 3 Model B × 1 Temperature probe (ds18b20) × 5..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
424. [Wi-Fi RC Car – Qi Enabled](#) This is a project that will show you how to create a Wi-Fi controlled RC Car that will recharge wirelessly while it is parked. Things used in this project Hardware components IDT Qi 5W Transmitter Prototype Kit × 1 IDT Qi 5W Receiver Prototype Kit..... Listed under: [Projects](#), [Wireless Projects](#)
425. [DIY Arduino Relay Driver Shield](#) In this DIY project we make a 3-Channel Arduino Relay Shield Circuit for relay based applications. We designed an isolated PCB for 3 relays. By using this Arduino Relay Shield, we can operate 3 AC appliances at a time. We have put a two pin screw terminal blocks (Neutral, NO)..... Listed under: [Other Projects](#)
426. [IoT Based Electricity Energy Meter using ESP12 and Arduino](#) We all know about Electricity energy meters which are measure the electricity consumption. At last of every month, many of us get worried about the high electricity bill and we have to look at the energy meter once..... Listed under: [Wifi - Wlan Projects](#)
427. [Smart Thermostat](#) Connect your home heater to Internet and chat with it via Telegram! Things used in this project Hardware components Arduino MKR1000 × 1 DHT22 Temperature Sensor × 1 SparkFun Pushbutton switch 12mm × 3 Resistor 10k ohm × 4 LCD screen × 1 Software apps..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
428. [What is Brushless DC Motor \(BLDC\) and How to Control it with Arduino](#) Building stuff and getting them work, the way we want, has always been sheer fun. While that being agreed, building stuff that could fly would defiantly pump a bit more anxiety among the hobbyists and hardware tinkerers. Yes! I am talking about


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Gliders, Helicopters, Planes..... Listed under: [Motor Projects](#)

429. [Weather Station for Drones](#) The project consists of a kit for drones that includes an electronic device that functions as a meteorological station. Things used in this project Hardware components Arduino MKR1000 or Arduino/Genuino Zero + Arduino wifi shield 101 × 1 DHT22 Temperature Sensor × 1 Jumper wires..... Listed under: [Drone](#), [GPS Based Projects](#), [Projects](#)
430. [What is Rotary Encoder and How to Use It with Arduino](#) A Rotary encoder is an input device which helps the user to interact with a system. It looks more like a Radio potentiometer but it outputs a train of pulses which makes its application unique. When the knob of the Encoder is rotated it rotates..... Listed under: [LCD Projects](#)
431. [Visibility sensor for divers](#) Planning a scuba dive will be much easier with the data of visibility sensors on the divespot. Things used in this project Hardware components LED (generic) Make sure the LED is bright enough × 1 Adafruit TSL2591 × 1 Adafruit Waterproof DS18B20 Digital temperature sensor..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
432. [Reed Switch Interfacing with Arduino](#) Reed switch is used in many of the real-life applications such as magnetic door switch, laptops, smartphones etc. In this article, we learn about Reed Switch and guide you to Interface a Reed Switch with Arduino. Reed Switch Reed switch is basically an electrical switch which is..... Listed under: [Phone Projects](#)
433. [Viseesaw](#) Viseesaw uses the figure of a seesaw, to show metaphorically the inequality of two physical, conceptual or social realities. Things used in this project Hardware components Arduino MKR1000 × 1 Breadboard (generic) × 1 Adafruit Motor/Stepper/Servo Shield for Arduino v2 Kit - v2.3 × 1..... Listed under: [Motor Projects](#), [Projects](#)
434. [RFID Based Attendance System – Learn to Build Yourself](#) An RFID based Attendance System is a very interesting project which can be used in different places say in Schools to register the attendance of students and teachers, Private organizations to tabulate monthly working hours of employees and automatically calculate salary based on the number..... Listed under: [LCD Projects](#)
435. [Program MKR Over-the-Air + Goodies: Voice Control, etc.](#) Secure OTA via Azure. Control via voice capable UWP app. Includes sample: room thermostat controlled via phone. Things used in this project Hardware components Arduino MKR1000 This is needed for every OTA projects. The components below are needed only for the use case / sample:..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
436. [Smart LCD Brightness Control using Arduino and LDR](#) Smart LCD with Automatic Brightness Adjusting Using Arduino and LDR Sensor Here is a simple Arduino project that focuses on adjusting the brightness of an LCD screen whenever there isn't sufficient light in a room. The Arduino reads the surrounding light intensity using an LDR sensor. Listed under: [LCD Projects](#)
437. [Arduino Real Time Clock using DS1307 RTC Module](#) In this article, we are going to build an Arduino Real Time Clock using DS1307 RTC Module and 16×2 LCD module for display. First of all, let's see how to interface RTC Module to Arduino. There are different kinds of RTC modules available in the market..... Listed under: [Clock – Timer Projects](#)
438. [Door Sensor](#) Monitor if the door or the valve gas is open... or if someone opened the cookie jar! Things used in this project Hardware components Arduino MKR1000 × 1 Li-Ion Battery 1000mAh optional × 1 OpenBuilds Micro Limit Switch × 1 Software apps and online services..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
439. [DIY Arduino Weather Station using Nokia Display](#) Learn to Build Arduino Weather Station using DHT11, Soil Sensor, and Nokia Display In this project tutorial, we are going to make an Arduino weather station using 2 sensors; FC-28 soil moisture sensor to measure the moisture and the DHT22 sensor to measure the temperature, humidity..... Listed under: [Sensor – Transducer – Detector Projects](#)
440. [Adaptable Sensor and Notification System](#) A easy to use adaptable sensor and notification system that is designed to be used as a temporary change of state notifier. Things used in this project Hardware components Arduino MKR1000 × 1 PIR Motion Sensor (generic) × 1 SW-420 Motion Sensor Module Vibration Switch..... Listed under: [Arduino Programmer Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
441. [Nokia 5110 LCD and Arduino – Ultimate Tutorial and Guide](#) Interfacing Nokia 5110 LCD Display To Arduino In this article, we are publishing a project tutorial which explains different aspects of interfacing a Graphical LCD (GLCD) Nokia 5110 with Arduino. Nokia 5110 is a 48 x 84 graphic LCD that has an internal controller..... Listed under: [Phone Projects](#)
442. [DC Motor Speed Control using GY 521 Gyro/Accelerometer and Arduino](#) In this article, we are going to control two motors by using the GY-521 accelerometer module. The speed of the motor will increase or decrease upon moving the GY-521 module up or down. On moving the Gy-521 towards the downside, the speed of the first..... Listed under: [Motor Projects](#)
443. [Codename RGB](#) Remotely control your RGB LED strip from your pc. Things used in this project Hardware components Arduino MKR1000 × 1 Power MOSFET N-Channel Might be something similar. × 3 RGB Led Strip Make sure its 12v dc (if Its not 12v you will have to..... Listed under: [LED Projects](#), [Projects](#)
444. [Automatic Irrigation System using Arduino](#) In this project, we are going to build an automatic irrigation system using Arduino which senses the moisture of the soil and opens or closes the valve according to the moisture value. The moisture value and the valve status is show [Click here to get AI-based help](#)  [Projects](#)
445. [BBC Micro Online](#) BBC Micro connects to WiFi, accesses games over the Internet. Things used in this project Hardware components Arduino MKR1000 × 1 BBC Micro model B (Acorn Computers) × 1 27C256 EPROM × 1 SparkFun Level Shifter Board × 1 Texas Instruments Hex Schmitt-Trigger Inverter ×..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
446. [Arduino Solar Tracker Using LDR Sensor & Servo Motor](#) Arduino Solar Tracker Solar energy is one of the fastest growing industries in the world; today more than 65 GW energy is produced by solar power. Since solar energy is renewable, it is a good power source, especially for developing countries. In this project, I..... Listed under: [Motor Projects](#)

447. [Plant Monitoring System](#) Real time plant monitoring system to view temperature, light exposure and moisture. Things used in this project Hardware components Arduino MKR1000 × 1 Breadboard (generic) × 1 Temperature Sensor × 1 Photo resistor × 1 Moisture sensor × 1 Resistor 10k ohm × 1 Software..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
448. [Rain Sensing Wiper using Arduino and Servo Motor](#) Automatic Rain Sensing Wiper Using Arduino This project is designed to build a car wiper that automatically detects the rainfall intensity and regulates the frequency of wiper operation. It is built, using Arduino UNO board. A rain sensing module is used for measuring the intensity..... Listed under: [Motor Projects](#)
449. [Ultrasonic Blind Walking Stick Using Arduino](#) Ultrasonic Blind Walking Stick According to the WHO, about 30 million people are estimated to be permanently blind worldwide. These people are totally dependent on others. They even cannot walk on their own. We have created designed and built an “Ultrasonic Blind Walking Stick” device..... Listed under: [Sensor – Transducer – Detector Projects](#)
450. [Automatic Railway Gate Control Using Arduino & IR Sensor](#) About a million people have died over the past 5 years in unmanned railway crossings all over the world. At least 1/3rd of the railway crossings are unmanned due to their remote placement and less traffic. The Automatic Railway Gate Control System using IR Sensor..... Listed under: [Sensor – Transducer – Detector Projects](#)
451. [Amazon Dash Replenishment Pens](#) A pen holder that determines when there are two or less pens and triggers an Amazon pen set replacement. Things used in this project Hardware components Arduino MKR1000 × 1 Crayola Air Dry Clay × 1 OpenBuilds Micro Limit Switch × 5 Software apps and..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Tutorials](#), [Wifi - Wlan Projects](#)
452. [Interfacing Stepper Motor to Arduino](#) In this article, we are publishing a project which explains different aspects of interfacing a Stepper Motor with Arduino. Stepper motor is a specially designed DC motor which comes with advantages of both a servo motor and a normal dc motor. Compared to a normal..... Listed under: [Motor Projects](#)
453. [LinkIt™ Smart 7688 Smart Room](#) This Project will demonstrate you to control & monitor your room through my custom designed responsive web app. Things used in this project Hardware components MediaTek Labs LinkIt Smart 7688 Duo × 1 DHT22 Temperature Sensor × 1 Resistor 10k ohm × 1 Resistor 221..... Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
454. [Simple Robotic Arm Project Using Arduino](#) Nowadays, manual labor is being reduced at big scale industries and factories to increase efficiency and gain profit by installing robots that can do repetitive works. A onetime installation of such a device may cost a huge amount, but in the long run, will turn..... Listed under: [Robotics – Automation Project Ideas](#)
455. [Remote LED Mood Setter](#) Set LED RGB light Scenes remotely Things used in this project Hardware components Arduino MKR1000 × 1 Breadboard (generic) × 1 RGB Diffused Common Cathode × 1 Story Using MKR1000 to control an RGB LED device. In our shortened example we will use a single..... Listed under: [LED Projects](#), [Projects](#)
456. [Arduino Gear Motor Interface Using IC L293D](#) In this article, we are publishing a project which explains different aspects of Arduino-Gear motor interface. Gear motor is a specially designed DC motor whose gear assembly helps in increasing the torque and reducing the speed. Compared to a normal DC motor, maximum rpm a..... Listed under: [Motor Projects](#)
457. [Hot Cocoa 3000](#) Oh the weather outside is frightful, but hot cocoa is so delightful, so let's order some hot cocoa on the go! An Arduino MKR1000 project. Things used in this project Hardware components Arduino MKR1000 × 1 Water Pump NOTE! THIS AND MANY OF THE OTHER..... Listed under: [Other Projects](#), [Projects](#)
458. [Water Level Indicator Using Arduino & Ultrasonic Sensor](#) Water Level Indicator Using Arduino Wireless Water Level Indicator Using Ultrasonic sensor & Arduino is an amazing and very useful project. The objective of this project is to notify the user the amount of water that is present in the overhead water tank. This project..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
459. [Limb Shaker](#) A stepper motor shakes a limb to frighten away birds and squirrels. It is under the control of the MKR1000. Things used in this project Hardware components DC motor (generic) × 1 Arduino MKR1000 × 1 Story The project uses a stepper motor to pull..... Listed under: [Motor Projects](#), [Projects](#)
460. [DC Motor Speed Control Using Arduino & PWM](#) Speed control of DC motor with PC Interface is an easy DIY project. In this project DC motor's speed is controlled by sending the command through PC. Arduino is directly connected to PC through the USB cable and command is given to Arduino on serial..... Listed under: [Motor Projects](#)
461. [PlantAnalyzer](#) A device which collects data (environmental, soil and photosynthesis values) of plant(s) and then stores/analyze using a MKR1000 and Azure. Things used in this project Hardware components Arduino MKR1000 × 1 ADAFRUIT SD CARD READER × 1 ARDUCAM 5MP OV5642 × 1 SparkFun Weather Shield..... Listed under: [Projects](#), [Wifi - Wlan Projects](#)
462. [Project: Car Speed Detector Using Arduino](#) Car speed Detector Project In this project I am going to show you how to measure the speed of running car (or man) from outside. Police department uses this type of system to prevent over speed of vehicles. Our project is a little different from..... Listed under: [LCD Projects](#)
463. [Getting weather data](#) With this tutorial, you will learn how to get the weather data from a web service to your Ard components Arduino MKR1000 × 1 Story In this tutorial we would make use of the WiFiConnection of our mkr100 [Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#), [Tutorials](#)

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464. [Project: Gesture Controlled Mouse \(Air Mouse\) Using Arduino & Accelerometer](#) AIR Mouse is also called gesture-controlled mouse and it works based on hand gesture. In this project an accelerometer is used for measuring the tilt of hand in X and Y direction and moves the cursor according the tilt. In the project two types of..... Listed under: [Battery Projects](#)
465. [Mind Control Drone](#) Learn how to lift-off a drone with your mind and a hacked controller using a MindWave sensor, Arduino MKR1000 and Processing. Things used in this project Hardware components Arduino MKR1000 × 1 Micro Racing Drone × 1 Capacitor 100 µF × 4 Resistor 221 ohm..... Listed under: [Drone](#)

Projects

466.

[DIY: Measuring Wheel/Surveyor's Wheel Using Arduino & Rotary Encoder](#) DIY: Measuring Wheel/Surveyor's Wheel Using Arduino & Rotary Encoder A surveyor's wheel may also be known by other names like: clickwheel, odometer, waywiser, trundle wheel, measuring wheel or a perambulator. All these devices serve a single purpose, which is, measuring distance. The origin of surveyor's..... Listed under: [LCD Projects](#)
467.

[Project: Auto Intensity Control Of Street Light Using Arduino](#) Auto Intensity Control Of Street Light Using Arduino In this project, I am going to show you how to control the intensity of LED lights according to the time and the light intensity of outer atmosphere. This is an amazing and very useful project because..... Listed under: [LED Projects](#)
468.

[Control the Position of a Continuous Rotation Servo via WiFi](#) Position control using wifi from a smartphone sounds too good to be true? Do it with MKR1000. Things used in this project Hardware components Arduino MKR1000 × 1 Hand tools and fabrication machines 3D Printer (generic) Story Many position control use steppers because they are..... Listed under: [Projects](#), [Wifi - Wlan Projects](#)
469.

[Project: Home Automation Using IR Remote Control](#) Arduino-Remote Control Home Automation In this project, we are going to show you how to control home appliances using a TV Remote. This same principle can be applicable in offices and industries as well. The project deals with the automation of four home appliances, like..... Listed under: [Wireless Projects](#)
470.

[Smartphone Controlled Atomic Weather Station](#) This project combines Atomic Time keeping with local weather station, and additional cool projects using Arduino and Raspberry Pi. Things used in this project Hardware components Arduino UNO & Genuino UNO × 1 Raspberry Pi 2 Model B × 1 Adafruit Ultimate GPS Breakout × Listed under: [GPS Based Projects](#), [Projects](#)
471.

[Create Mobile Apps for Android and iOS Connecting to the MKR](#) This simple project shows how to make an app that controls an Arduino MKR1000 board with Evthings Studio by communicating over the TCP. Things used in this project Hardware components Arduino MKR1000 × 1 LED (generic) × 1 Resistor 100 ohm × 1 Jumper wires..... Listed under: [Arduino Programmer Projects](#), [Projects](#), [Wireless Projects](#)
472.

[Arduino Mega Tutorial – Pinout & Schematics](#) First of all, Why Arduino Mega? When cheaper boards are available, why go with Arduino Mega? The main reason behind this is the additional features that are inbuilt with this board. First feature is the large I/O system design with inbuilt 16 analog transducers and..... Listed under: [Pinouts](#)
473.

[DasFilisera Green House](#) Be kind to your plants! Learn about the green house environment using MKR1000 and sensors. Control soil humidity and air conditions! Things used in this project Hardware components DHT22 Temperature Sensor × 1 DS18B20 × 1 Soil temperature and humidity sensor FS200-SHT25 × 1 4-Channel..... Listed under: [Other Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
474.

[One Button to Rule Them All](#) Learn how to connect a simple web app written in JavaScript to Arduino Cloud. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun big dome red button × 1 Software apps and online services Arduino Web Editor Arduino Cloud Story Following this..... Listed under: [Arduino Programmer Projects](#), [Projects](#), [Tutorials](#)
475.

[Arduino Alcohol Detector Circuit Board](#) In this project, I am going to Interface an Alcohol Sensor with Arduino. Here I have designed an Arduino Shield PCB using EASYEDA online PCB simulator and designer. Arduino Alcohol Detector will detect the alcohol level in breath and by using some calculations in code..... Listed under: [Sensor – Transducer – Detector Projects](#)
476.

[Arduino Temperature Sensor](#) I previously worked on an enclosure for the Computer Club server rack, and I thought it would be a good idea to put together a standalone temperature sensor system. Preferably it would interface over the internet so that IRC bots and other programs could talk..... Listed under: [Temperature Measurement Projects](#)
477.

[DIY Arduino Inclinator using MPU6050](#) The MPU6050 is an IC 3-axis accelerometer and a 3-axis gyroscope combined into one unit. It also houses a temperature sensor and a DCM to perform a complex task. The MPU6050 is commonly used in building Drone and other remote robots like a self-balancing robot..... Listed under: [Bluetooth Projects](#)
478.

[Chicken Coop Automation](#) Automating a chicken coop with sensors and actors, using an Arduino MKR1000 and the Blynk internet dashboard. Things used in this project Hardware components Arduino MKR1000 × 1 CHIHAI DC Motor - 12V 200rpm Encoder with Mounting Bracket × 1 Geekcreit L298N Dual H Bridge..... Listed under: [Home Automation Projects](#), [Projects](#)
479.

[Interfacing Graphical LCD \(ST7920\) with Arduino](#) There are many types of LCDs used in Electronic Projects. We have already used 16X2 LCD in many of our projects and also used TFT LCD with Arduino. You can find our entire 16X2 LCD related project by following this link, including interfacing with 8051, AVR, Arduino and many..... Listed under: [LCD Projects](#)
480.

[Good Sleep – Your Sleep Assistant](#) Get the best night's sleep by using Alexa and Arduino to monitor the conditions in your bedroom, make suggestions and help you sleep better. Things used in this project Hardware components Arduino MKR1000 × 1 Amazon Alexa Amazon Echo × 1 SparkFun MEMS Microphone Breakout..... Listed under: [Sensor – Transducer – Detector Projects](#), [Wifi - Wlan Projects](#)
481.

[TVOC and CO2 Measurement using Arduino and CCS811 Air Quality Sensor](#) Sadly, in the name of progress, we have lost our "eat". So monitoring the air quality is very crucial now days because of pollution. For designing an air quality monitor..... Listed under: [Sensor – Transducer – Detector Projects](#)

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482.

[Interfacing Arduino with MATLAB – Blinking LED](#) In this project, we are going to learn, How to set up hardware support for Arduino in MATLAB software. How to control an Arduino using MATLAB code. We normally use Arduino IDE to write and upload codes to Arduino. The advantage of MATLAB is, it..... Listed under: [LED Projects](#)
483.

[Controlling Multiple Servo Motors with Arduino](#) Using one or two Servo with Arduino is Easy but what if we want to use more than one Servo Motors? Here, we are going to show you that how to control Multiple Servo Motors with Arduino. Connecting multiple Servo Motors with Arduino seems to..... Listed under:

[Motor Projects](#)

484. [Smiling Snowball](#) A web-controlled smiling snowball based on the Arduino MKR1000 controlled via WiFi using MQTT, Shitr.io and Node-red. Things used in this project Hardware components Arduino MKR1000 × 1 LED matrix 8 x 8 (MAX7219) × 6 Jumper wires (generic) × 1 cardboard 40 cm x..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Wifi - Wlan Projects](#)
485. [Arduino Uno Rev3](#) Arduino Uno is a microcontroller board based on the ATmega328P (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and..... Listed under: [Battery Projects](#)
486. [Reef Controller](#) A Reef / Saltwater Aquarium controller based on an Arduino Mrk1000 and controlled remotely by an Universal Windows Platform app. Things used in this project Hardware components Arduino MKR1000 × 1 Adafruit Perma-proto board full size × 1 Adafruit I2C logic level converter × 1..... Listed under: [LED Projects](#), [Projects](#), [Temperature Measurement Projects](#)
487. [How to Build an Air Guitar With Arduino, Aka the AiRduino Guitar](#) The idea here is to build a wearable virtual guitar that is to be controlled with two hands much like playing Air Guitar. It has been created and prototyped during a two weeks project at ChalmersUniversity (Sweden) for a Physical Computing class. The aim is..... Listed under: [Sound – Audio Project Ideas](#)
488. [Space Race Game using Arduino and Nokia 5110 Graphical Display](#) Programming has always been fun and it just got a lot better with development platforms like Arduino. Almost every programmer out here would have tried to develop some kind of game using the language that they learning/practising. This helps them to tune their programming skills..... Listed under: [Game – Entertainment Projects](#)
489. [Eggzact Science](#) Entry for the "World's Largest Arduino Maker Challenge" - An IoT Project with Windows10, the Arduino MKR1000, and Chickens. Story Completed App - Home Page Completed App - Connection Page Completed App - Egg Overview Page Things used in this project Hardware components Arduino..... Listed under: [Internet – Ethernet – LAN Projects](#), [Other Projects](#), [Projects](#)
490. [DIY Time Control Machine](#) This project is about how to make a time machine! This machine looks like a glove, and can "stop" any moving subject. At first, watch a video with some demonstration and experiments, guess how it works, and then read about how to make it =)..... Listed under: [Clock – Timer Projects](#)
491. [Arduino Color Mixing Lamp using RGB LED and LDR](#) What if we can generate different colors using a single RGB led and make our room's corner more attractive? So, here is a simple Arduino based color mixing lamp which can change color when there is change in light in the room. So this lamp..... Listed under: [LED Projects](#)
492. [ReSpeaker Home Automation](#) ReSpeaker Home Automation Sample using Arduino MKR1000, Microsoft Cognitive Service Speech API, Api.ai and MQTT Things used in this project Hardware components Seeed ReSpeaker Mic Array v2.0 × 1 Arduino MKR1000 × 1 LED (generic) × 2 Jumper wires (generic) × 1 Software apps and..... Listed under: [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)
493. [Voice Controlled LEDs using Arduino and Bluetooth](#) Controlling LEDs with voice command seems to be a difficult task, but it's easy and you can quickly build it. We just need an Arduino UNO to serially communicate with HC-06 Bluetooth module and a smartphone to send voice command to Bluetooth module HC-06. For..... Listed under: [Bluetooth Projects](#)
494. [Algorithmic Camera Trigger – Shutterino](#) Camera trigger powered by Arduino MKR1000 and controlled by the app. Let the algorithm take the best shots. Things used in this project Hardware components Arduino MKR1000 Any board with WiFi and support for Firmata protocol will work × 1 Servos (Tower Pro MG996R) ×..... Listed under: [Phone Projects](#)
495. [Arduino Plays Piano Tiles](#) Ever wondered if your phone can play games by itself. Yes, it is possible. You can build a circuit to play Piano tiles on your smartphone. The video shows the demonstration of the project. Step 1: Components Required And the circuit can be built with..... Listed under: [Sensor – Transducer – Detector Projects](#)
496. [Auto Intensity Control of Power LED using Arduino](#) Be a bright spark, lights off till it's dark!" sometimes we forget to turn off the lights and waste electricity and you must have also seen street light turned on in the day. We have already built few circuits on Dark detector where lights turn..... Listed under: [LED Projects](#)
497. [Component Designing in Proteus ISIS](#) Hello friends, hope you all are having fun in your life. Today's tutorial is about the component designing in Proteus ISIS. This tutorial actually deals with the presentation of your project. Usually when students give presentation of their projects, then it is asked that add..... Listed under: [Wireless Projects](#)
498. [Arduino RFID Door Lock](#) You have seen RFID Door Lock Mechanism in some Hotels and other places, where you don't need a key to unlock the room. You are given a card and you just need to put it in front of a RFID Reader box, and the lock gets unlocked..... Listed under: [Security – Safety Projects](#)
499. [Temperature Controled Charcoal Smoker](#) Use an Arduino MKR1000 to maintain a constant temperature in a charcoal smoker and allow monitoring over Wifi, Things used in this project Hardware components Arduino MKR1000 × 1 5V Brushless Blower × 1 MOSFET IRF520N Driver Module × 1 100K ohm NTC Thermistors ×..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
500. [Interfacing of Seven Segment with Arduino in Proteus](#) Hello friends, today we are gonna have a look on how to in Proteus. In my last post, I have posted an Arduino Library for Seven Segment Display, which is designed by our team. Click here to get AI-based help  [Click here to get AI-based help](#)
under: [LED Projects](#)
501. [Bluetooth Controlled 8×8 LED Matrix Sign Board Display using Arduino](#) Be it the long stretched highways or your doctors front door, we have sign boards placed everywhere to provide us information. But these sign boards are often boring and cannot be configured as per our interest from time to time. So in this project we..... Listed under: [LED Projects](#)
502. [IoT Santa Tracker on Colorful World Map](#) Use MKR1000 to show the Santa location in real-time on a colorful world map made of neopixels. Things used in this project Hardware components Arduino MKR1000 × 1 Raspberry Pi 3 Model B × 1 FR-1 Printed Circuit Board Blanks × 2 Translucent Colored Cast..... Listed

under: [GPS Based Projects](#), [Projects](#)

503. [ADC value on LCD using Arduino](#) Hello friends, hope you all are fine and having good life. In today's project, we will see how to display ADC value on LCD using Arduino in Proteus ISIS. Its quite a simple project in which we are gonna measure the voltage of ADC pins..... Listed under: [LCD Projects](#)
504. [Arduino Based Piano with Recording and Replay](#) Arduino has been a boon for people who are not from the electronics background to build stuff easily. It has been a great prototyping tool or to try something cool, in this project we are going to build a small yet fun Piano using the..... Listed under: [Sound – Audio Projects](#)
505. [Wifi Enabled 2/4 Wheeled Robot Platform Utilizing MKR1000](#) WIP- Using a MKR1000 to create a WiFi Enabled 2/4 Wheeled Robot Platform, Hardware is in hand, now to implement software Things used in this project Hardware components Arduino MKR1000 I was one of 1000 who won this × 1 SparkFun Dual H-Bridge motor drivers..... Listed under: [Projects](#), [Robotics – Automation Projects](#), [Wifi - Wlan Projects](#)
506. [LM317 Voltage Regulator in Proteus](#) Hello friends, hope you all are fine and having fun. In today's post we are gonna have a look at LM317 Voltage Regulator in Proteus. In the previous post, we have seen how to design a 5V Power Supply in Proteus ISIS, which I have designed..... Listed under: [Motor Projects](#)
507. [RGB LED Colour Control](#) In this project, we will learn how to control the brightness and colour of an RGB LED via I/O ports with PWM output capability, and a touch display sliders. The 4Duino resistive touch display is used as a means for a graphical interface to control..... Listed under: [LED Projects](#)
508. [Publish Any Event to Wia Using Your MKR1000](#) How to setup an MKR1000 and publish an event or location to Wia. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Wia Hand tools and fabrication machines Wia Platform Story Setup Your Environment Install the Arduino IDE..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
509. [TIA Weak Artificial Intelligence IoT Assistant](#) IoT security/environment monitoring device with NFC & fingerprint authentication devices and a Weak Artificial Intelligence Assistant. Things used in this project Hardware components Arduino UNO & Genuino UNO × 2 Arduino MKR1000 × 1 Solderless Breadboard Half Size × 1 SeeedStudio Grove Base Shield..... Listed under: [Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)
510. [Getting Started with Wi-Fi](#) In this project, we will learn how to get started with the ESP8266, an inbuilt 4Duino Wi-Fi module and connect to a local access point. The 4Duino display is used to print the status of the connection for debugging purposes. UNDERSTANDING THE SOFTWARE The ESP8266..... Listed under: [Wifi - Wlan Projects](#)
511. [IoT System To Monitor Soil Moisture With Arduino](#) This IoT system monitors the soil moisture using Arduino and sensors. Data are sent to an IoT cloud platform to access it anywhere. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Soil Moisture Sensor (with Screw Terminals) × 1 Software apps..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
512. [Send SMS with SIM900D in Proteus ISIS](#) Hello friends, hope you all are fine and having fun with your lives. Today, I am going to share a new exciting post on Send SMS with SIM900D in Proteus ISIS. In my previous post, I have shared the new GSM Library for Proteus, which..... Listed under: [Phone Project Ideas](#)
513. [DIY Ceiling Mounted Cable Robot Using Arduino Mega](#) An interesting Arduino project has been created by Nathaniel Nifong and kindly published to Reddit, offering insight on how to create your very own DIY ceiling mounted cable robot powered by an Arduino Mega development board. More commonly associated with sporting events cable robots offer..... Listed under: [Robotics – Automation Project Ideas](#)
514. [Time Stamp from Web Server](#) INTRODUCTION In this project, we will learn the basics of Transmission Control Protocol (TCP) and how to communicate to a webserver over TCP. We will request and receive packets from the Google web server using the above communication protocol. The 4Duino display is used to..... Listed under: [Wireless Projects](#)
515. [DC Motor Control using XBee & Arduino in Proteus](#) Hello friends, I hope you all are doing great. In today's tutorial, we are gonna design a project named DC Motor Control using XBee & Arduino in Proteus ISIS. I have shared the complete code and have also explained it in detail. You can also..... Listed under: [Motor Projects](#)
516. [Multiple mode Environmental Sensor Deck with MKR1000](#) Many fun environmental sensors need a hardware interrupt. With the MKR1000, you no longer need to choose! You get I2C, analog ins too! Things used in this project Hardware components Arduino MKR1000 × 1 MOD-1016 Lightning Sensor × 1 DFRobot MQ-9 Gas Sensor × 1..... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
517. [Start Connect ARTIK Cloud with Arduino/Genuino MKR1000](#) Using Arduino/ Genuino MKR1000 to connect ARTIK Cloud control I/O light LED. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Samsung ARTIK Cloud for IoT Story <https://www.arduino.cc/en/Main/ArduinoMKR1000> A simple project let mkr1000 connect to artik cloud, but..... Listed under: [LED Projects](#), [Wifi - Wlan Projects](#)
518. [Controlling Patient's Fever with Artik & Arduino](#) This project consists of 2 devices. the first one is wearable and monitors temperature, second one will control the temperature. Things used in this project Hardware components Arduino MKR1000 × 2 SparkFun Logic Level Converter - Bi-Directional × 1 Li-Ion Battery 1000mAh × 1 RGB..... Listed under: [Medical – Health based Projects](#), [Projects](#), [Tutorials](#)
519. [HID Attack Over WiFi Using Arduino MKR1000](#) Arduino MKR1000 as a HID, for performing HID penetration testing project Hardware components Arduino MKR1000 × 1 Story Arduino MKR1000 Today I have an Arduino MKR1000 specially designed for IOT..... Listed under: [Arduino Programmer Projects](#), [Wifi - Wlan Projects](#)

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520. [Dash Button Santa with Arduino MKR1000](#) Send information to Santa Claus about the status of the gift request. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Pushbutton switch 12mm × 1 Jumper wires (generic) × 1 Resistor 10k ohm × 1 NeoPixel strip × 1 Software apps..... Listed under: [GPS Based Projects](#), [Internet – Ethernet – LAN Projects](#)
521. [Add SSL Certificates To MKR1000](#) Cannot connect to your favourite https site with your MKR1000? Follow this guide to install SSL certificate in a easy way using the GUI. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Arduino IDE Arduino Firmware updater.....

Listed under: [Arduino Programmer Projects](#)

522. [NTP Clock](#) In this project, we will learn the basics of User Datagram Protocol (UDP). We will request and receive time from the NTP server using the above communication protocol. The 4Duino display is utilised to print the received time in both, digital and analogue clock format..... Listed under: [Clock – Timer Project Ideas](#)
523. [Water Quality Monitoring Using MKR1000 and ARTIK Cloud](#) Water quality data monitoring for swimming pools, fish aquarium and more! Things used in this project Hardware components Arduino MKR1000 × 1 Jumper wires (generic) × 1 DFRobot pH Meter × 1 Resistor 4.75k ohm × 1 Temperature probe × 1 Software apps and online..... Listed under: [Temperature Measurement Projects](#)
524. [Servo Control Using 4Duino](#) In this project, we will control the angular position of the DC Servo Motor via an I/O port (with PWM output capability) and touch knob. The 4Duino resistive touch display is used as a means for a graphical interface to control the angular position of..... Listed under: [Arduino Motor Project Ideas](#)
525. [Electronic Piano](#) In this project, we will learn how to use an Active Buzzer and a 4Duino to create an Electronic Piano. An active buzzer is an electric piezo device which is commonly used to produce sound. When subjected to an alternating electric field, a piezo ceramic..... Listed under: [Sound – Audio Project Ideas](#)
526. [LED Matrix Controller](#) In this project, we will use the digital pins and screen of the 4Duino to create a 5×7 LED matrix controller with a user graphical interface. An LED matrix is essentially many LEDs packaged in a dot grid format in order to produce pictures or..... Listed under: [Arduino LED Project Ideas](#)
527. [4Duino LED Brightness Control](#) In this project, we will learn how to control the brightness of LED via an I/O port (with PWM output capability) and a touch display slider. The 4Duino resistive touch display is used as a means for a graphical interface to control the intensity of..... Listed under: [Arduino LED Project Ideas](#)
528. [Weather Dashboard with MKR1000 and Losant](#) This project is about building a simple weather dashboard using MKR1000 and Losant platform. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Software apps and online services Arduino IDE Losant Platform Story Introduction..... Listed under: [Sensor – Transducer – Detector Projects](#), [Wifi - Wlan Projects](#)
529. [LED Control Using Touch Button](#) In this project, we will learn how to turn an LED ON or OFF via the 4Duino I/O port (D13) and a button widget from 4D Workshops. The 4Duino’s resistive touch display is used as a means for a graphical interface to control state of..... Listed under: [Arduino LED Project Ideas](#)
530. [IoT Smart Socket Arduino And Cayenne](#) A really smart IoT socket. Switch ON/OFF your device by the smartphone using Cayenne Dashboard and Arduino MKR1000. Things used in this project Hardware components Arduino MKR1000 × 1 RobotGeek Relay × 1 9V 1A Switching Wall Power Supply × 1 Software apps and online..... Listed under: [Projects](#), [Tutorials](#)
531. [Build A LDR Sensor Monitoring The Room Temperature](#) In this project we will monitor the room temperature using a LDR_NSL19_M51 light dependent resistor (LDR) and 4Duino. The resistance of the LDR varies significantly with ambient light hence it can detect surrounding light intensity changes in real time. In this project 4Duino’s resistive touch..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
532. [4Duino Ultrasonic Sensor](#) In this project we will measure the distance of the nearby object using TS601-01 Ultrasonic sensor and 4Duino. An ultrasonic sensor has a transmitter (sends ultrasonic signals) and a receiver (receives the ultrasonic signal after it bounced off nearby object). The sensor estimates the distance..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
533. [Using Python and Arduino MKR1000 for Secure IoT](#) Getting started with Python and Arduino MKR1000 for secure IoT projects. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Zerynth Studio Story Arduino MKR1000 meets Python With the last release, Zerynth officially supports Arduino MKR1000, a device specifically designed..... Listed under: [Development Board – Kits Projects](#)
534. [Obstacle Detection Using 4Duino](#) In this project, we will use several ultrasonic sensors to create a robot car with obstacle detection feature. The sensors will help us estimate the distance of the car from the nearby obstacles. Thus allowing us to create routines that we can execute when the..... Listed under: [Robotics – Automation Project Ideas](#)
535. [Home Automation with Arduino MKR1000 and Windows 10](#) Home Automation through Wi-Fi connectivity (Arduino MKR1000) and Windows 10. Things used in this project Hardware components Arduino MKR1000 × 1 Relay (generic) Input: 3V × 1 General Purpose Transistor NPN × 1 1N4007 – High Voltage, High Current Rated Diode × 1 Resistor 10k..... Listed under: [Home Automation Projects](#)
536. [MP3 Player using 4Duino and SOMO-II](#) The Sound Module-II or the SOMO-II is a small and efficient audio module from 4D Systems that is able to play .mp3 or .wma audio files in the convenience of accessing it within a microSD card or a USB Flash drive (by using external components)..... Listed under: [Sound – Audio Project Ideas](#)
537. [Intelligent Buggy featuring 4Duino-24](#) 4Duino Intelligent Buggy project demonstrate how does uCAM-II works. This project also utilized two 4duino communicating using Server-Client architecture over TCP. It also uses a buggy car which carry the 4duino server and uCAM-II. By using built-in ESP8266, 4duino client sends a request to 4duino..... Listed under: [Wireless Projects](#)
538. [GPIO Control from Web Browser featuring 4Duino-24](#) In this project, we will learn how to control the on board 4D In built ESP8266 Wi-Fi module is configured as server enabling the 4Duino to receive commands from a web browser (client). How it works Note:..... Listed under: [Security – Safety Project Ideas](#)
539. [Send MKR1000 Data to Google Sheets](#) This project allows you to transmit DHT environmental data from your MKR1000 to your own customizable Google Sheet for data logging. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Jumper wires (generic) ×..... Listed under: [Other Projects](#)
540. [Pet Food Dispenser featuring 4Duino-24](#) In this project, we will use a 4Duino and several IR sensors to create a simple pet food dispenser. 4Duino checks whether a food tray contains enough food or not. It is programmed to read IR values from each sensor. These values change depending on the..... Listed under:

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[Sensor – Transducer – Detector Projects](#)

541. [DC Motor featuring 4Duino-24](#) In this project, we will learn how to control the speed and direction of a DC motor via I/O ports with PWM output capability, a L293D quad half-h drivers IC and 4D Workshop widgets. In its simplest form, a DC motor has two wires which..... Listed under: [Arduino Motor Project Ideas](#)
542. [MKR1000 to Initial State DHT Visulaizations](#) This demonstrates how to use your Arduino MKR1000 to connect to InitialState.com to produce colorful visualizations of your sensor data. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Breadboard (generic) × 1 Jumper..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sensor – Transducer – Detector Projects](#)
543. [Assistance for Visually Impaired featuring 4Duino-24](#) Blind Assistance is a project designed to help visually impaired people detecting obstacles in their way. It uses 4Duino, three ultrasonic sensors, one vibration motor and an LED. These components are attached to a walking stick. Blind Assistance alarms the user if there’s an obstacle..... Listed under: [Wireless Projects](#)
544. [MKR1000 Surprise Room Decoration](#) This project is dedicated to my parents, but you can also use it for surprise events for someone special. Things used in this project Hardware components Arduino MKR1000 × 1 5V 4 Channel Relay Module × 1 Male/Female Jumper Wires × 12 Software apps and..... Listed under: [LED Projects](#), [Other Projects](#)
545. [DJ Mixer featuring 4Duino-24](#) The 4Duino DJ Mixer is a fun and interactive project similar to a keyboard MIDI Controller that has the ability to play sample beats and songs. Before, DJ and music artist needs to use computers, recording and playback devices before they can mix and play..... Listed under: [Sound – Audio Project Ideas](#)
546. [MKR1000 Servo Control Panel](#) A servo controller using the built-in WiFi abilities of the Arduino MKR1k. The panel consists of a MKR1k web listener and Javascript/ajax. Things used in this project Hardware components Arduino MKR1000 Servos (Tower Pro MG996R) Breadboard..... Listed under: [Arduino Programmer Projects](#), [Development Board – Kits Projects](#), [Projects](#)
547. [WiFi Temperature Sensor featuring 4Duino-24](#) In this project we will quickly create a ‘temperature monitor’ that measures the ambient temperature of a room or an outdoor space. The temperature is measured by TMP35 temperature sensor and is displayed on the 4Duino screen. The data is also sent to Thingspeak IoT..... Listed under: [Temperature Measurement Project Ideas](#)
548. [Voting Machine featuring 4Duino-24](#) The 4Duino Polling Machine is an inquiry project that involves two or more people and has implemented the ability to send and receive data on both ends. The Polling Machine Project works by sending and receiving Questions and Answers (from the Choices) in the form..... Listed under: [Security – Safety Projects](#)
549. [MKR1000 Universal Remonster!](#) WiFi connected universal remote with smart phone webapp. Things used in this project Hardware components Arduino MKR1000 Arduino Nano R3 General Purpose Transistor NPN Triggers the PNP transistors of IR LED array Resistor 1k ohm pulls down NPN transistor IR transmitter (generic) IR LEDs. Get..... Listed under: [LED Projects](#), [Wifi - Wlan Projects](#), [Wireless Projects](#)
550. [Home Security featuring 4Duino-24](#) Home Security project is a password oriented security device. This uses 4Duino display as the user interface where the password can be entered. 4Duino is also used as the host device in this project. It handles a buzzer, an ultrasonic sensor, a uCAM-II and a..... Listed under: [Security – Safety Project Ideas](#)
551. [Stock Monitoring featuring 4Duino-24](#) In this project, we will use several IR sensors to check if an item from an inventory box is present or not. This project makes use of a 4Duino-24 to check whether an item is present or missing from the inventory. The 4Duino uses its..... Listed under: [Sensor – Transducer – Detector Projects](#)
552. [MKR1000 Robot Controlled Via WiFi Using Arduino](#) This project consists of a small robot controlled via WiFi using an Arduino MKR1000, MKR2UNO Shield Adapter and Arduino Motor Shield! Things used in this project Hardware components Arduino MKR1000 × 1 Arduino MKR2UNO Adapter × 1 Arduino MotorShield Rev3 × 1 Arduino Small DC..... Listed under: [Battery Projects](#), [Robotics – Automation Project Ideas](#)
553. [Wireless Pulse Rate Monitor featuring 4Duino-24](#) The Wireless Pulse-Rate monitor is a conceptual project made for hospitals and clinics, its main function is to minimise the time that nurses or doctors need to visit each patient in a hospital. Usually, Doctors and nurses visit each patient to check vital signs, by..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
554. [Arduino based Vehicle Tracker using GPS and GSM](#) In our previous article, we have learned about “How to interface GPS module with Computer and How to make a GPS updated Clock”. In this project we are going one step ahead with GPS and going to track a vehicle using GPS and GSM. This Vehicle Tracking..... Listed under: [Arduino LCD Project Ideas](#)
555. [Temperature and Humidity monitoring with DHT22 sensor Arduino Uno R3](#) The objective of this tutorial is to learn how to use the DHT22 sensor with Arduino uno. The room temperature and humidity will be printed to serial monitor and also will be displayed to the LCD 4×20 in Proteus ISIS. [caption id="attachment_28379" align="aligncenter" width="300"] DHT22..... Listed under: [Temperature Measurement Projects](#)
556. [Controlling RGB LED using Arduino and Wi-Fi](#) In last tutorial, we explained controlling a Robot using Wi-Fi and Arduino and in this article we are with our next IOT Based Project- RGB LED Flasher using Wi-Fi. Here we have used Arduino and ESP8266 Wi-Fi Module to contro Click here to get AI-based help X Listed under: [Phone Project Ideas](#)
557. [Getting Started with Arduino Due](#) ARDUINO DUE is an ARM controller based board designed for electronic Engineers and Hobbyists. ARM architecture is very influential in modern electronics. We are using the ARM architecture based controllers everywhere. For example we are using ARM controllers in our mobiles, iPods and computers etc. Listed under: [Arduino LED Project Ideas](#)
558. [PWM with Arduino Due](#) Arduino Due is an ARM controller based board designed for electronic engineers and hobbyists. ARM architecture is very influential in modern electronics, we use them everywhere like our mobiles, iPods and computers etc. If someone wants to design industrial systems it must on ARM controllers..... Listed under: [Arduino LED Project Ideas](#)

559. [Digital voltmeter using Arduino UNO Range:0-50 volt Using SIMULINO UNO](#) This is a simple project showing you how to make a digital voltmeter using Arduino where the readings are displayed in a Liquid Crystal Display LCD20x4. The proposed voltmeter design can read up to 50V. We are using analogue to digital conversion process. Arduino microcontroller..... Listed under: [Metering – Instrument Project Ideas](#)
560. [Servo Motor Control with Arduino Due](#) As discussed earlier, Arduino Due is an ARM controller based board designed for electronic engineers and hobbyists. This DUE board can be used for making CNC machines, 3D printers, robotic arms etc. All these projects have a common feature that is Position Control. Any of..... Listed under: [Arduino Motor Project Ideas](#)
561. [Make Arduino Based Home Automation Part-1 Using ARDUINO UNO R3](#) Hello every one welcome back . In this project tutorial I will show you how to make arduino based home automation , this means you can control all of your home appliances and devices using a single microcontroller . This Tutorial is divided into two..... Listed under: [Home Automation Project Ideas](#)
562. [Arduino Based Digital Clock with Alarm](#) This Arduino based Real time clock is a digital clock to display real time using a RTC IC DS1307 which works on I2C protocol. Real time clock means it runs even after power failure. When power is reconnected, it displays the real time irrespective to the time and duration..... Listed under: [Clock – Timer Project Ideas](#)
563. [Make Arduino Based Home Automation Part-2 \(wireless\) Using ARDUINO UNO R3](#) Hello welcome back . This is second part of the wireless home automation . In previous part we have connected home appliance with relay and controlled with arduino . In this part we are going to add wireless feature of that device . One arduino..... Listed under: [Home Automation Project Ideas](#)
564. [Smart Phone Controlled Digital Code Lock using Arduino](#) There are many types of security systems used all over the world and Digital Code Lock is one of them. We have already covered many digital locks with simple 16x2 LCD using Arduino, Raspberry Pi, 8051 etc. Here we are going to build a Smart Phone..... Listed under: [Security – Safety Projects](#)
565. [AUTOMATIC DOOR OPEN SYSTEM WITH VISITOR COUNTER PART-1 Using ARDUINO UNO R3](#) Hello every body welcome back . In today's arduino blog I am going to show you how you can make a automatic door opening system when some one wants to enter your room the PIR motion sensor detects the motion of moving body and sends..... Listed under: [Blog](#), [Home Automation Project Ideas](#)
566. [Create a Private Chat Room using Arduino, nRF24L01 and Processing](#) Creating a Local Network to share personnel and confidential data's has become almost impossible for a common man in our modern world. This is mainly because all common chat methods like Whatsapp, Facebook, Hangout and almost everything involves an internet connection. What if, we could..... Listed under: [Wireless Projects](#)
567. [Automatic Door Open System With Vistor Counter Part-2 Using ARDUINO UNO R3](#) Hello welcome back . In previous part we have made a visitor detector by using PIR sensor . This application can be used on night because PIR sensor gives output based on thermal object movement . In this tutorial we are going to extend that project..... Listed under: [Home Automation Project Ideas](#)
568. [Smart Phone Controlled FM Radio using Arduino and Processing](#) In this project we will use an existing FM radio which went repair a long time ago, to convert it into a Smart Wireless FM Radio controlled using Phone, with the help of Arduino and Processing. We can convert any manually operated electronic device into..... Listed under: [Wireless Projects](#)
569. [Door Alarm using Arduino and Ultrasonic Sensor](#) Security has always been a major concern for all of us and there are many Hi tech and IoT based security and surveillance system are available in the market. Intruder or Burglar Alarm is one of the classic and popular project among the Electronics students..... Listed under: [Security – Safety Projects](#)
570. [Real Time Home Automation Using Arduino Uno R3 and DS1307 RTC \(Part-1\)](#) Hello every one , welcome back . In this new arduino tutorial series I'm gonna show you how to control every thing in your home on time basis . After doing this project you will be able to control your home appliances like TV ,..... Listed under: [Home Automation Projects](#)
571. [0-24v 3A Variable Power Supply using LM338](#) Batteries are generally used to power up the Electronic Circuit and Projects, as they are easily available and can be connected easily. But they drained off quickly and then we need new batteries, also these batteries cannot provide high current to drive a powerful motor..... Listed under: [Motor Projects](#)
572. [Connecting multiple I2C device on Arduino Uno R3](#) In this project, we will show how to connect multiple I2C devices to an arduino microcontroller. The I2C bus is a bus which enables high-speed two-way communication between devices while using a minimal number of I/O pins to facilitate communication. An I2C bus is controlled..... Listed under: [Arduino Programmer Projects](#)
573. [Smart Phone Controlled Home Automation Using Arduino](#) Automation is the essence of today's world. Automation can make our life easy and secure. There are many ways to obtain automation. Automation can be achieved by Wi-Fi, IR, GSM, Bluetooth and many other technologies. Previously we have covered many types of Home automations using different technologies..... Listed under: [Security – Safety Project Ideas](#)
574. [Arduino Radar System using Processing Android App and Ultrasonic Sensor](#) This is an interesting project in which we explore the power of an Arduino and Android to create a Surveillance device which uses Arduino and Ultra Sonic Sensor to broadcast the information to a mobile application (Android) using Bluetooth. Safety and Security has been our..... Listed under: [Security – Safety Project Ideas](#)
575. [DIY Speedometer using Arduino and Processing Android App](#) In this project we make a Cool Speedometer for bikes or any automotives by using Arduino which broadcast the speed using Bluetooth to an Android application that we created using Processing. The complete project is powered by an 18650 Lithium cell and hence highly portable along with your vehicle..... Listed under: [Bluetooth Projects](#)
576. [Virtual Reality using Arduino and Processing](#) This is a very interesting project in which we are going to learn how to implement virtual reality using Arduino and Processing. For most of us, the movie Iron man by Jon Favreau has always been an inspiration to build new things that will make..... Listed under: [Wireless Projects](#)

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577. [Arduino based Bluetooth Biped Bob \(Walking & Dancing Robot\)](#) Welcome to another project in which we will build a small Robot which can walk and dance. The project aims in teaching you how to make small hobby robots using Arduino and how to program your Servo motors for such applications. At the end of.....
Listed under: [Robotics – Automation Project Ideas](#)
578. [Real Time Face Detection and Tracking Robot using Arduino](#) Ever wanted to build a Face Tracking Robotic Arm or Robot by simply using Arduino and not any other programming like OpenCV, visual basics C# etc? Then read along, in this project we are going to implement face detection by blending in the power of.....
Listed under: [Robotics – Automation Project Ideas](#)
579. [Interfacing SSD1306 OLED Display with Arduino](#) Most of us would be familiar with the 16×2 Dot matrix LCD display that is used in most of the projects to display some information to the user. But these LCD displays have a lot of limitation in what they can do. In this tutorial..... Listed under: [Arduino LED Project Ideas](#)
580. [How to Send Data to Web Server using Arduino and SIM900A GPRS/GSM Module](#) Today we are here with an interesting project in which we will Send Data to the SparkFun server using Arduino and GPRS. This is an IoT based project in which we will use GPRS, present on the GSM Module SIM900A board, to send some data to..... Listed under: [Wireless Projects](#)
581. [Arduino Data Logger \(Log Temperature, Humidity, Time on SD Card and Computer\)](#) As Engineers/Developers we always rely upon the data collected to design or improve a system. Recording data and analyzing them is a common practice in most of the industries, here we are building Arduino Data Logger Project where we will learn how we can log..... Listed under: [Temperature Measurement Project Ideas](#)
582. [Generating Tones by Tapping Fingers using Arduino](#) In this project we are going to build a piece of entertainment using Arduino. We all have that habit of tapping Table or Pen for creating any random music. Of course it might not be considered as a good mannerism, but we all enjoy doing..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
583. [Smart Knock Detecting Door Lock using Arduino](#) Security is a major concern in our day to day life, and digital locks have become an important part of these security systems. There are many types of security systems available to secure our place. Some examples are PIR based Security System, RFID based Security.....
Listed under: [Security – Safety Projects](#)
584. [Fingerprint Based Biometric Voting Machine using Arduino](#) We all are quite familiar with Electronic Voting Machines, where your vote gets registered electronically and you don't need to use ballot paper to vote in election. Today security is a major concern and it also needs to be ensured that someone can't vote twice,..... Listed under: [Sensor – Transducer – Detector Projects](#)
585. [Arduino based Angry Bird Game Controller using Flex Sensor and Potentiometer](#) It's all started with a small game from the dark ages called "Mario", right from the time of being a tiny little guy jumping on ducks to save my princess till being a masculine handsome Prince roaming in Persia (Prince of Persia) fighting against darkness..... Listed under: [Game – Entertainment Project Ideas](#), [Game – Entertainment Projects](#)
586. [Fingerprint Based Biometric Attendance System using Arduino](#) Attendance systems are commonly used systems to mark the presence in offices and schools. From manually marking the attendance in attendance registers to using high-tech applications and biometric systems, these systems have improved significantly. In our previous projects, we have covered few other electronic attendance system projects using..... Listed under: [Arduino LCD Project Ideas](#)
587. [Arduino Motion Detector using PIR Sensor](#) Detecting motions or movements has always been important in most projects. With the help of the PIR Sensor it has become very easy to detect human/animal movements. In this project we will learn how we can interface a PIR Sensor with a microcontroller like Arduino.....
Listed under: [Sensor – Transducer – Detector Projects](#)
588. [DC-DC Buck Converter Circuit – How to Step Down DC Voltage](#) In this project we are going to make a Buck Converter Circuit using Arduino and N-Channel MOSFET with a maximum current capacity of 6 amps. We are going to step down 12v DC to any value between 0 and 10v DC. We can control the..... Listed under: [Motor Projects](#)
589. [Arduino Based Digital Ammeter](#) Ammeter is used to measure current flow through any load or device. Here in this Arduino Ammeter, we will explain about measuring of current by using ohm's law. It will be quite interesting as well as a good application of basic science that we studied..... Listed under: [Sensor – Transducer – Detector Projects](#)
590. [Control your Computer with Hand Gestures using Arduino](#) Recently Gesture controlled Laptops or computers are getting very famous. This technique is called Leap motion which enables us to control certain functions on our computer/Laptop by simply waving our hand in front of it. It is very cool and fun to do it, but..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
591. [Arduino DC Motor Speed and Direction Control using Relays and MOSFET](#) In this project we control direction and speed of a 24v high current motor using Arduino and two relays. No power switches are needed for this circuit, just two push buttons and in Potentiometer to control the direction and speed of DC Motor. One push button..... Listed under: [Motor Projects](#)
592. [Automatic AC Temperature Controller using Arduino, DHT11 and IR Blaster](#) An AC (Air Conditioner) which was once considered to be a luxury item and was only to be found in big hotels, movie halls, restaurants etc... But, now almost everyone has a AC in our home to beat out the summer/winter and those who have
Listed under: [Temperature Measurement Projects](#)
593. [Interfacing Hall Effect Sensor with Arduino](#) Sensors have always been a vital component in any Project. These are the ones which convert the real real-time environmental data into digital/variable data so that it can be processed by electronics. There are many different types of sensors available in the market and you..... Listed under: [Sensor – Transducer – Detector Projects](#)
594. [Cell Phone Controlled AC using Arduino and Bluetooth](#) In today's modern world, where ever we go we have lots of electronic devices around us. But, out of all, there is only one device that we personally have in our pockets all the time. Yes, it is our mobile phones. Now Mobile phones have..... Listed under: [Phone Projects](#)

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595. [AnduinWiFi Getting Started](#) Consider this the "Blinky LED" of the anduinWiFi shield! Things used in this project Hardware components Andium Anduin WiFi × 1 Arduino Due × 1 Arduino Zero & Genuino Zero × 1 Software apps and online services Arduino IDE Story Motivation Implementing an IoT prototype..... Listed under: [Projects](#), [Wifi - Wlan Projects](#)

596. [How To Measure Distance Between Two Ultrasonic Sensors](#) Ultrasonic sensor (HC-SR04) is commonly used to find the distance of an object from one particular point. It has been fairly easy to do this with the Arduino and the code is also pretty simple. But in this article we are going to try something..... Listed under: [Calculator Projects](#), [Metering – Instrument Projects](#)

597. [Temperature Controlled AC Home Appliances using Arduino and Thermistor](#) Suppose you are sitting in a room and feeling cold and you want your heater to be automatically turned on, and then off after some time when room temperature is increased, then this project help you to control your home appliances automatically according to the..... Listed under: [Battery Projects](#), [LCD Projects](#)

598. [Arduino Relay Control Tutorial](#) LED Blinking is a very common and almost first program for every embedded learner or beginner. In which we blink an LED with having some delay. So today we are here with the same project but here we will use an AC bulb instead of..... Listed under: [Arduino Programmer Projects](#), [LED Projects](#)

599. [Measure Sound/Noise Level in dB with Microphone and Arduino](#) Noise pollution has really started to gain importance due to high population density. A normal human ear could hear sound levels from 0dB to 140dB in which sound levels from 120dB to 140dB are considered to be noise. Loudness or sound levels are commonly measured..... Listed under: [Arduino Programmer Projects](#), [Phone Projects](#)

600. [Arduino Metal Detector](#) Metal Detector is a security device which is used for detecting metals which can be harmful, at various places like Airports, shopping malls, cinemas etc. Previously we have made a very simple Metal detector without a microcontroller, now we are building the Metal Detector using..... Listed under: [Arduino Programmer Projects](#), [Battery Projects](#)

601. [Smart Blind Stick using Arduino](#) Ever heard of Hugh Herr? He is a famous American rock climber who has shattered the limitations of his disabilities; he is a strong believer that technology could help disabled persons to live a normal life. In one of his TED talk Herr said "Humans..... Listed under: [Arduino Programmer Projects](#), [LCD Projects](#)

602. [Arduino Calculator using 4x4 Keypad](#) Programming is always fun and Arduino is a wonderful platform if you are just getting started with Embedded programming. In this tutorial we will build our own calculator with Arduino. The values can be sent in through a keypad (4×4 keypad) and result can be..... Listed under: [Battery Projects](#), [Blog](#), [Calculator Projects](#), [LCD Projects](#)

603. [Build Your FM Transmission Station With Arduino](#) Hi every body . Before A 3 months Ago , one of my friend ask me to build a Simple FM transmitter , he Would to transmit An Audio File from computer and PLAY it on any radio channel , By adjust the frequency of..... Listed under: [Radio Project Ideas](#)

604. [Temperature and Humidity Data Logger using Arduino](#) In this project, we are going to make a temperature and relative humidity data logger. Arduino is the brain of this project. DHT22 sensor is used for sensing temperature and relative humidity. Arduino Uno is programmed to read temperature, humidity values from DHT22 sensor and..... Listed under: [Calculator Projects](#)

605. [Digital Thermometer using Arduino and DS18B20 Sensor](#) In this project, we are going to make a Digital Thermometer using Arduino Uno. We will use DS18B20 temperature sensor to sense the temperature and Nokia 5110 LCD to display it. DS18B20 is a 1-Wire digital temperature sensor manufactured by Maxim Integrated and is capable..... Listed under: [Calculator Projects](#), [LCD Projects](#)

606. [Laura: Emotional Compass Lamp](#) Story Laura Laura is a "counseling" lamp who is helping me to find myself and to understand where I want to go. For her great help, I wanted to give her a present that represents the work we are doing. The inspiration came from the..... Listed under: [Home Automation Projects](#)

607. [ATtiny85 EMF Detector](#) Story This is a simple tutorial to create an EMF detector. You can use Arduino for this job, but is better use a microcontroller called Attiny85. It is possible program it throe the Arduino interface. What is a Magnetic Field [from Wikipedia] An electromagnetic field..... Listed under: [Sensor – Transducer – Detector Projects](#)

608. [IoT Pet Feeder: Use circuito.io to build a smart food dispenser for your pet](#) Story This IoT pet feeder is our first IoT project with circuito.io! We are happy to share it with our community to demonstrate how simple it can be to make basic IoT projects with circuito.io. We are also excited to share this project with you..... Listed under: [Home Automation Projects](#)

609. [Make your own gesture-controlled Wizard's Walking Staff](#) Story This project uses the Arduino 101, a battery and an LED strip to make a gesture-controlled Wizard's Walking Staff. We'll define three different light-display "spells" you can summon by moving the staff in one of three gestures. Tech: The code uses the Inertial Measurement..... Listed under: [Other Projects](#)

610. [MorseCard – A Tiny Telegraph Station](#) Story Behold: the MorseCard! Fulfill your dreams of becoming a telegraph operator (or just make something cool to show your friends) with this weekend project. The MorseCard features a high-contrast OLED screen that will decipher whatever you tap out. I have written a variety of..... Listed under: [Other Projects](#)

611. [Starry Night Prom: How did I stand out at prom? In a light up dress of course!](#) About So for my Junior prom, I real blue with a sequin ombre, but it was out of my price range, and way too voluminous. My mom and I had made my [Other Projects](#)

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612. [DIY Voltmeter with Arduino and a Nokia 5110 Display](#) Story In this tutorial I am going to show you how to build a Voltmeter with a big Nokia 5110 LCD display using Arduino. Building a voltmeter is a great learning experience. When you finish building this project, you will have a better understanding of..... Listed under: [Metering – Instrument Projects](#)

613. [Plant Monitoring System using AWS IoT](#) Story Picture this you are going on a vacation for a week or so and are worried about your house plant at home.Here is a great project to under take a week before you head out for your vacation. Build yourself a plant monitoring and notification system..... Listed under: [Home](#)

[Automation Projects](#)

614. [LedMatrix Tweet Visualization](#) Story Description Display tweets with a certain hashtag on a led-matrix using an Arduino/Genuino Yùn or Yùn-Shield. We will use a Python script to log into twitter and check for updates. Configuring the Yun101/YunShield In order to connect your board to internet you first have..... Listed under: [Other Projects](#)
615. [Purdue ExoMIND Glove A Wearable Device](#) Description The ExoMind Glove is a wearable device equipped with 7 accelerometers that are used to quantify forearm, wrist, and finger angles. Additionally, an EMG with conductive fabric electrodes is secured into the sleeve of the device to monitor muscle activity. The glove houses an..... Listed under: [Medical – Health based Projects](#)
616. [Integrating Wiscore Alexa EVK and Arduino via Serial Port](#) Story Wiscore: Integrating Arduino with Alexa As part of the series of tutorials for the Wiscore Alexa AVS EVK, we will see how to integrate Arduino boards (Uno, Leonardo, Due etc) directly with Alexa Voice Service. The Wiscore board provides the means to communicate with..... Listed under: [Other Projects](#)
617. [Arduino101 / tinyTILE BLE: Match-Making Sunglasses](#) Story Instead of using an app, what if you could send a signal to eye-contact someone you are interested in talking to, in a social setting, even from afar? I'm not proposing a different way to start a date. I'm exploring a new usage of..... Listed under: [Game – Entertainment Projects](#)
618. [Paint Your Dimmer Switch on the Wall](#) Motivation What to do you do when you have some Bare Conductive paint and some Philips Hue lightbulbs laying around? You paint a dimmer switch on your wall using conductive paint! Getting Started Some things you'll need to get started: Arduino Due (or Zero) AnduinoWiFi..... Listed under: [Home Automation Projects](#)
619. [Using Nokia 3310 84×48 LCD with Arduino](#) Story The Nokia 5110 is a basic graphic LCD screen for lots of applications. It was originally intended to be used as a cell phone screen. This one is mounted on an easy to solder PCB. It uses the PCD8544 controller, which is the same..... Listed under: [Phone Projects](#)
620. [Fidget Spinner RPM Counter](#) Hi everyone! This is my next project, Fidget Spinner RPM Counter or Arduino Tachometer with Hall-Effect Sensor. 1: Requirements Parts Required: Fidget Spinner neodymium magnet Arduino Uno LED + resistor 220 Ohm Hall-Effect Sensor - a3144 resistor 10 k Wires Breadboard LCD 1602 2: Hall-Effect..... Listed under: [Sensor – Transducer – Detector Projects](#)
621. [An Urban Plant Watering Solution](#) This device improves plant irrigation in urban environments. Powered by an Arduino 101, it uses on-board tools along with a few external sensors to calculate optimum conditions for watering plants in its own environment, and then waters the plant itself at the calculated time. It..... Listed under: [Home Automation Projects](#)
622. [Cycflix: Exercise Powered Entertainment](#) Now that the cheesy title has pulled you (Fitflix was taken and I didn't want to be sued) I'll tell you about the project, it uses a stationary exercise bike connected to an Arduino Nano to control the streaming of Netflix on a PC, I..... Listed under: [Game – Entertainment Projects](#)
623. [Controlling Robot Over Bluetooth Using Xbox Steering Wheel](#) So I'm guessing that I'm like a large amount of people on this site that are low key hoarders, keeping anything they could turn into a project or salvage for parts and this is an example of that. I have this old Mad Catz Steering..... Listed under: [Robotics – Automation Projects](#)
624. [Can I Use an Arduino Uno for This?](#) So back when I first started working with micro controllers, Arduinos mainly the most annoying this ever was when i would follow someones tutorial for a project and they would use the Arduino uno, I would be using the Arduino micro or something, i would..... Listed under: [Other Projects](#)
625. [Distance Measurement Vehicle via Websocket](#) Story When you measure distance between two point general way is to use a ruler. But you can use a lot of other ways: by laser, map, foot or walking meter. The walking meter is very useful when you are measuring curved (not straight) distance..... Listed under: [Metering – Instrument Projects](#)
626. [Reducing Arduino Power Consumption](#) Story When it comes to portable electronics, one of the most important features is how to maximize the battery life. The ATmega328P, used on popular boards like the SparkFun RedBoard, Arduino Uno, and Pro Mini are actually quite power hungry. The RedBoard and Arduino Uno,..... Listed under: [Other Projects](#)
627. [Arduino on Internal Oscillator Crystal as Clock Source](#) Story I have been working out ways to make a minimal Arduino to fit in the smallest space possible, and limit the power consumption of the microcontroller. (You can go through this project for more info about reducing power consumption at: Reducing Arduino Power Consumption)..... Listed under: [Clock – Timer Projects](#)
628. [RPi Serial Console Automation Using Arduino](#) Story A Continuation of One Button Restart of a Stalled Raspberry Pi In a recent article, I showed how an Arduino Pro Micro can be utilized to send characters to the serial console of the Raspberry Pi Zero W. The Pro Micro was chosen because..... Listed under: [Other Projects](#)
629. [Darby's not dead](#) Story In the future there is a bar where all the dead punk rockers hang out. They are each given a MiFare classic card programmed with their name and 666 credits. This is the device the bartender uses to keep track of their tab. This..... Listed under: [Internet – Ethernet – LAN Projects](#)
630. [2 Players Competition/Quiz Buzzer Box System Using Arduino](#) Story A bit of background. My brother came to me someone to make so that they can determine the fastest contestant to push a button. The box consisted of some .
[LED Projects](#)
631. [Cognitive GSM Autonomous Water Meter](#) Story Imagine you could administer remotely your water utility service in real time, turning on or off your water services according to your usage patterns or needs, and not just letting the water flow in all the time, you could prevent taps for leaking a..... Listed under: [Metering – Instrument Projects](#)
632. [Back-Saver: Backpack-carrying follower robot powered by Wunderbar](#) Hardware components: SparkFun RedBoard × 1 DC Stepper Motor 28-BY-J-48 × 1 MB 1010 LV-Max-Sonar EZ1 × 1 WunderBar × 1 Story A Sparkfun Red-Board utilizes a LV-Max Sonar component to judge distances between the user and the robot,

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powering the DC stepper motor to..... Listed under: [Robotics – Automation Projects](#)

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633. [How to use the TFT display 2.2" QVGA with Arduino](#) Story The main purpose of this project is to build a system based on chip ATMEGA328P, Arduino compatible, and interface it with a 2.2" QVGA TFT display using the library ILI9341. As an alternative to the self-build system you can use an Arduino Pro 3.3..... Listed under: [Other Projects](#)
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634. [Easy Serial on the ATtiny](#) Introduction The Atmel tinyAVR MCU's are great little chips for projects but can prove difficult to debug. Some ATtiny chips do not have direct support for hardware based serial and therefore the Serial object is unavailable in your code, however, it is easy to add..... Listed under: [Other Projects](#)
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635. [CyDuino : An Arduino Dev Board with Lots of Goodies](#) Story We (most of us) really like Arduino because it's possible to make cheap clones, lots of libraries, examples, forum support and community out there. Outside Arduino world, I like Cypress PSoC for some of its cool features like Graphical IDE, APIs, great features and..... Listed under: [Sensor – Transducer – Detector Projects](#)
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636. [Trinket Firmware Exorcism](#) Story Warning: Digispark uses Attiny85 PIN#1 as I/O - remove RESET button functionality Notes FOR ADVANCED USERS ONLY The Trinket 5V and the Digispark share the same hardware design, right down to the LED being on PB1. Personally, I prefer the Trinket hardware over the Digispark,..... Listed under: [Other Projects](#)
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637. [A Semaphore for your Office Desk](#) Story This is a small semaphore you can put on your desk. You can use it to tell whatever you want to the people around it. For example, because you need some concentration and you'd like your colleagues not to disturb you. Or to tell..... Listed under: [Other Projects](#)
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638. [Hot Yet? This faucet water monitor will prevent plunging your hands into cold water](#) Hot Yet? Attiny85 Faucet Water Temperature Sensor Testing Real life testing in the kitchen sink! Note the tri-color LED. Blue is cold and fades into Green which then flips to increasing Red at 85F. Notes This project is an Attiny85 Arduino circuit and uses..... Listed under: [Metering – Instrument Project Ideas](#)
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639. [Chachka \(Trinket clone\)](#) Chachka is born! Chachka is an Adafruit Trinket CLONE built from the ATtiny85 microcontroller. Because it is a current Adafruit product, it has a training guide and its own support forum and lots of sample code. All of this means that like an Uno clone, the..... Listed under: [LED Projects](#)
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640. [Waterproof 10 Minute Timer](#) Story I went for a shower one day, was getting late for office. Running tight on time, but I didn't want to come out of hot shower in cold morning. Without any clock in my bathroom I was saying to myself "Lets enjoy the shower..... Listed under: [Clock – Timer Projects](#)
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641. [Build the Internet for your friend](#) Background A few years ago, a co-worker turned me on to this TV program called "The IT Crowd". The show revolves around a two-person IT team and their "Relationship Manager", Jen, who inadvertently landed the job by including some basic PC skills on her resume..... Listed under: [Internet – Ethernet – LAN Projects](#)
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642. [Arduino : Lead Acid Battery Capacity Tester \(Updated\)](#) Story Yosh ! At last, finished working on this project. I have been working on this project for a while, then got bored and left the remaining work (mostly firmware) for a couple of months, ah ! the longest project I ever did..... Listed under: [LED Projects](#)
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643. [ATTiny Joule Thief NeoPixel](#) Introduction I've been fascinated with joule thief circuits since I made my first one. It's amazing what all you can power from a single AA or AAA battery. The only problem is you can't do much beyond light up an LED because the current isn't..... Listed under: [LED Projects](#)
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644. [PicoDuino = Digispark + RGB LED + Button + Relay Driver](#) Hardware components: Atmel ATTiny85 × 1 DigiSpark × 1 Software apps and online services: Arduino IDE STORY StartFragment How to get FREE board Order 1pc Picoduino board Create project max. 30 days from order Write project steps on instructables ... Include link to my store..... Listed under: [Development Board – Kits Projects](#)
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645. [IR Thermometer, Stopwatch, Cooking Timer, Inactivity Tracker](#) Hardware components: Arduino UNO & Genuino UNO × 1 Adafruit MLX90614 × 1 Atmel AVR for Arduino 328P/168P/8A × 1 SparkFun 7-Segment Serial Display - Red 3 digit display used × 1 Breadboard (generic) 8x2 cm × 2 16 MHz Crystal × 1 Slide Switch..... Listed under: [Metering – Instrument Projects](#), [Temperature Measurement Project Ideas](#)
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646. [DIY Programmable \(SCPI\) Bench Power Supply](#) Hardware components: Arduino Due × 1 LTC3864 × 2 Texas Instruments TL783 × 2 Texas Instruments REF5025 × 2 Texas Instruments DAC8552 × 2 ADG465 × 2 Texas Instruments TS5A9411 × 2 Texas Instruments ADS1120 × 2 Texas Instruments Quad Comparator × 2 Texas Instruments..... Listed under: [Development Board – Kits Projects](#)
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647. [Zoned Climate Control with MediaTek's LinkIt™ Smart 7688](#) Hardware components: MediaTek Labs The MediaTek LinkIt™ Smart 7688 platform × 1 Everything ESP ESP8266 ESP-01 × 1 Arduino Nano R3 × 1 Atmel ATTiny85 × 1 DHT22 Temperature Sensor × 1 Servo (generic) × 1 Software apps and online services: Arduino IDE STORY Winter..... Listed under: [Temperature Measurement Projects](#)
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648. [Infrared Dedicated Decoder](#) Hardware components: Atmel ATTiny85 × 1 Attiny85 IR code for Sony protocol Attiny85 IR code for Sony protocol Download /* IR remote control (Sony) detection for Arduino, M. Burnette Binary sketch size: 2,794 bytes (of a 8,192 byte maximum) 🤖 20130103 MRB Modified for interface..... Listed under: [LED Projects](#)
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649. [Attiny85/84 with Bluetooth](#) Hardware components: Capacitor 10 µF × 1 Atmel ATTiny85 × 1 Arduino UNO & Genuino UNO × 1 LED (generic) × 1 Pushbutton (generic) × 1 HC-05 × 1 Software apps and online services: Arduino IDE MIT App Inventor 2 STORY Here I have..... [Click here to get AI-based help](#) ✕
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650. [NXP Kinetics Smart Web Multimedia IoT – Flexduino Platform](#) Hardware components: NXP Kinetis Freedom Board with FlexIO × 1 ATMEL WINC1500 WIFI MODULE × 1 OV7670 CAMERA MODULE × 1 WM7236 MEMS MICROPHONE × 1 STORY ABSTRACT The project aim is to build an Arduino like development environment that takes advantage of Flexlo advance driver module to..... Listed under: [Sound – Audio Project Ideas](#)
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651. [IR Controller for Air Conditioner](#) Hardware components: Atmel ATTiny85 × 1 Everything ESP ESP8266 ESP-01 × 1 Arduino Nano R3 × 1 STORY My goal is to make my window AC units more functional. Currently they use an on-board thermostat to turn on when the room gets above a..... Listed under: [Arduino Programmer Projects](#), [Home Automation Projects](#)
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652. [Hot Wire Foam Cutter – Arduino PWM](#) Hardware components: Arduino UNO & Genuino UNO × 1 Atmel ATtiny85 × 1 DigiSpark × 1 Plastic box for electronics × 1 Jumper wires (generic) × 1 IRF530 × 1 Resistor 1k ohm × 5 Resistor 100 ohm × 2 Single Turn Potentiometer- 10k ohms..... Listed under: [Arduino PWM Project Ideas](#), [Temperature Measurement Project Ideas](#)
653. [Easily run your ATtiny at 16MHz, without an external clock, from the Arduino IDE](#) Hardware components: Atmel ATtiny85 × 1 SparkFun Tiny AVR Programmer × 1 Software apps and online services: Arduino IDE STORY Introduction The Atmel tinyAVR MCU's (ATtiny) are a series of chips optimized for applications requiring performance and/or power efficiency in a small package. These have internal..... Listed under: [Arduino Programmer Projects](#), [Clock – Timer Project Ideas](#)
654. [ATtiny85 for Simple Projects: Arduino Basics](#) Bare bones: The ATtiny85 on its Own The ATtiny is a small, inexpensive chip that can replace the Arduino in a project you have prototyped. This helps make the project smaller and more permanent, as well as freeing up the Arduino for more fun! The..... Listed under: [LED Projects](#)
655. [OH HAI! on Windows 10 IoT Core](#) Oh, Hai Hai ('hi') is an integration point for several stand alone smart home technologies. Hai runs on the Raspberry Pi and can be adapted to optimize electricity consumption (lighting/HVAC) and water usage (irrigation/rain collection) in a number of ways. Hai was originally envisioned for..... Listed under: [Other Projects](#)
656. [Persistence Of Vision](#) Persistence of vision is an optical illusion, it works on a simple phenomenon how our day to day television works. MY first pov was six months before with arduino uno and with motor. However it is best to have a small and portable device that..... Listed under: [LED Projects](#)
657. [Cellular Data Logger](#) I have been collecting data from Raleigh's trails and parks for the last couple years. My primary platform has been a custom Arduino board I developed for low-cost (hey, these things may get damaged or stolen) and long battery life. I wanted a connected sensor..... Listed under: [Internet – Ethernet – LAN Projects](#)
658. [AVR VideoBlaster](#) More VideoBlasting So why didn't the TV out library reach any higher resolution than 160x100? The answer is simple. They did not use any hardware on chip to push the pixels out. If you use the SPI to push the pixel you will gain an..... Listed under: [Video – Camera – Imaging Projects](#)
659. [POV Cylinder with Arduino Due](#) Introduction This is my first Arduino project. My work was inspired by several maker projects that created Persistence of Vision Displays [2,3,4]. Persistence of vision (POV) refers to the optical illusion whereby multiple discrete images blend into a single image in the human mind and believed to be..... Listed under: [LED Projects](#)
660. [Programming the ATtiny85 \(Using an Arduino Uno\)](#) Today, we are going to build a circuit to program an ATtiny85 with our Arduino. Supplies We are going to need the following: Some jumper wires 1 x 10 micro farad capacitor The ATtiny85 Chip A breadboard An Arduino For Extra visual's (that are not..... Listed under: [Arduino Programmer Projects](#)
661. [OLED on the Cheap!](#) I like cheap electronics for playing. Cheap is good for budget conscious hobbyists and China is delivering lots of toys for playing - one being the inexpensive "mono" OLED displays. The single-color displays often come in a dual-color implementation where the top row of pixels..... Listed under: [LED Projects](#)
662. [3D-Printed Prank Vibrating Cup](#) Picture the following: you have an nice white cup in front of you. It's filled to the brim with sparkling, cool, and refreshing H2O. Your fingers curl around the nicely curved handle, and you bring the cup to your lips. Suddenly, a strong vibration assaults..... Listed under: [Game – Entertainment Projects](#)
663. [3D-Printed RGB Wallet](#) Stand out from the crowd with this unabashedly ostentatious excuse for a wallet. It's got plenty of space, RGB lights, and you can even put your name on it for added vanity. Interested? Keep reading! In the files section of this build you can find..... Listed under: [LED Projects](#)
664. [The Annoy-O-Bug: A Chirping Light-Up Throwie](#) Small enough to slip in a mint tin, yet loud enough to be heard across a house at only a few dollars per unit. A nice combination for a pretty good prank! Let's dive in! Step One: The Circuit You can purchase the printed circuit..... Listed under: [LED Projects](#)
665. [nRF24L01+ with ATtiny85 3 Pins](#) This would be the continuation of my previous project Programming ATtiny85 with Arduino Uno. Now with cheaper ATtiny85 in place I was looking for cheaper ways to transmit the sensor data. Which brought me to nRF24L01+ a cheap, low power RF transceiver. This seemed to..... Listed under: [Other Projects](#)
666. [A Strange Attraction. Various Hall Effect Sensors](#) I came pretty close to calling this one “Magnets, How do they work?” But I thought that might confuse more than it would amuse. All jokes aside, hall effect sensors are pretty cool, and also pretty simple to use, but there are a few types..... Listed under: [Sensor – Transducer – Detector Projects](#)
667. [Simple Temperature With Thermistor + Arduino](#) A Thermistor is a thermal-resistor. It's just a simple device that changes it's resistance based on temperature. If the LRD/Photoresistor is day of of arduino class. The thermistor should be day 1.01. (Can I do that?). If you need precise temperature readings, this is not..... Listed under: [Temperature Measurement Projects](#)
668. [Do You Have The Time? DS1307 RT Clock + Arduino](#) Most microcontrollers are time-agnostic, meaning they are unaware of the time around them, but that's ok as most things we make have no need for it. But... every once in awhile you come up with an idea that requires kn Click here to get AI-based help ✕ under: [Clock – Timer Projects](#)
669. [How to Get Started with the ESP32](#) ESP32 is the hottest new wireless chip out there, offering both WiFi and Bluetooth Low Energy radios rolled up with a dual-core 32-bit processor and packed with peripherals of every kind. We got some review sample dev boards, Adafruit and Seeed Studio had them in..... Listed under: [Wifi - Wlan Projects](#)
670. [Are we getting close? Proximity Sensors + Arduino](#) In past tutorials, we have covered temperature, color, time, direction, but never distance or proximity. I think I strayed away from this because most of the lower cost proximity sensors are pretty drop-dead-simple to use and thought it might not be that useful. But the..... Listed under: [Sensor – Transducer – Detector Projects](#)

671. [Arduino: Individually Control Shift Register Pins](#) If you want an article on general 74hc595 shift register usage with detailed explanation on how it works/what it's doing, you want this article here: <http://bldr.org/2011/02/74hc595/> The following code and library are compatible with arduino software 1.0+ ONLY. You can download the newest version of..... Listed under: [Other Projects](#)
672. [Quickly: KS0108B Graphic LCD 128×64 + Arduino](#) This is an incredibly quick post, and it is actually here simply because this thing was a pain to figure out how to hook it up. But, I wasn't able to do anything with it more than the Arduino library was able to do out..... Listed under: [LCD Projects](#)
673. [L3G4200D Tripple Axis Gyroscope + Arduino](#) Before we begin, just note, that while this all works, I believe the output is scaled wrong. The noise floor is very high. But from everything I have found it looks like this is how it is. We have covered, accelerometers, GPSs, compasses... But no..... Listed under: [Sensor – Transducer – Detector Projects](#)
674. [Sensing Barometric Pressure | BMP085 + Arduino](#) Light, location, temperature... What's next? Well, how about Barometric pressure? You know.. that thing that determines so much of our weather. Well the BMP085 Barometric Pressure sensor, available at SparkFun is a great little sensor capable of sensing such small changes in barometric pressure it..... Listed under: [Sensor – Transducer – Detector Projects](#)
675. [A Slow Display... E-Paper + Arduino](#) Most notable for its inclusion in the Kindel and other E-Readers, E-Paper has recently become very popular. But until very recently been out of reach to being used in personal projects. Luckily for us, SparkFun started selling an E-Paper display, and breakout board finally bringing..... Listed under: [LCD Projects](#)
676. [ESP32 Tutorials](#) The ESP8266 has become one of those ubiquitous parts that everyone knows. However, the new ESP32 has a lot of great new features, too. If you want to take the ESP32 for a spin, you should check out [Neil Kolban's] video series about the device. When we..... Listed under: [Wireless Projects](#)
677. [ESP32 Hands-On: Awesome Promise](#) The ESP32 is looking like an amazing chip, not the least for its price point. It combines WiFi and Bluetooth wireless capabilities with two CPU cores and a decent hardware peripheral set. There were modules in the wild for just under seven US dollars before..... Listed under: [Wifi - Wlan Projects](#)
678. [ESP32 Arduino: LED PWM fading](#) The objective of this post is to explain how to fade a LED with the ESP32, using the LED PWM functionalities. Introduction The objective of this post is to explain how to fade a LED with the ESP32, using the LED PWM functionalities of the..... Listed under: [LED Projects](#)
679. [ESP32 With Arduino IDE](#) Christmas 2015 yours truly was one of the lucky few in the world to receive the ESP32 for experimenting. The board was not assembled, and it was quite intimidating to assemble the board with just a fine tip solder. The experiment is documented at this..... Listed under: [Development Board – Kits Projects](#)
680. [Sensing color with the ADJD-S311 + Arduino](#) A year ago we had an article called Sensing color with the ADJD-S371. Well the ADJD-S371 is long gone, and its replacement is the ADJD-S311 (breakout board available from sparkfun). It is basically the same all around, so without shame, I will be copying a..... Listed under: [Sensor – Transducer – Detector Projects](#)
681. [Rotary Encoder + Arduino](#) One of the first things anyone does when they start working with the Arduino is to connect it to a potentiometer and control the brightness of an LED or move a servo. Well, a rotary encoder may look like a potentiometer, but other than also..... Listed under: [LED Projects](#)
682. [High Sensitivity Light Sensor TSL230R + Arduino](#) A while back we covered the TSL230R, a great little analog sensor for getting ambient light readings when you need something a bit more sensitive than a simple Photoresistor. Well in the spirit of documenting everything we can get our hands on, this week we..... Listed under: [Sensor – Transducer – Detector Projects](#)
683. [Sensing Weight With A Flexiforce + Arduino](#) Flexiforce is a force sensor that is very similar to FSRs we just wrote about in principal. They change their resistance when you apply force to them. (The flexi part of the name is because they are flexible) Flexiforces are about twice as expensive as..... Listed under: [Sensor – Transducer – Detector Projects](#)
684. [Touch Sliders With A Softpot + Arduino](#) You all know the potentiometer, you turn it, and you can read on your arduino where it was turned to. Well 3M makes a product called the softpot that is a linear touch potentiometer. So instead of turning a knob, you touch it. The really..... Listed under: [Sensor – Transducer – Detector Projects](#)
685. [Can You ID This? ID-20 RFID Reader + Arduino](#) A few weeks ago we showed you how to control your arduino over serial. Well this week we are going to do the same thing. Only this time instead of using the serial monitor to send the commands, we will be using the Innovations ID line..... Listed under: [Sensor – Transducer – Detector Projects](#)
686. [Turn on a light, or 10. Arduino control over serial](#) This is something I use all the time, so I figured I would share it with you. Controlling an Arduino over serial can be extremely simple if you let it, and extremely useful if you know how to use it. Many languages such as Processing..... Listed under: [LED Projects](#)
687. [Muxing Around With The CD74HC4067 + Arduino](#) Have you ever found yourself running out of pins to read an array of analog sensors? Don't worry, you're not alone, it happens to the best of us, and there is something you can do about it. An analog / digital multiplexer like the CD74HC4067..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
688. [Tilt Sensing with the RPI-1031 + Arduino](#) Once in a while something comes out that I think is going to be really awesome. I'm sure you all know what I mean... But yeah... This is one of those. The RPI-1031 available from..... Listed under: [Sensor – Transducer – Detector Projects](#)
689. [Stable Orientation – Digital IMU 6DOF + Arduino](#) A while back we wrote an article on sensing orientation with the adxl335 accelerometer. In that article I mentioned all the drawbacks of trying to do this with just an accelerometer, and said that if you needed something stable, what you really needed was an..... Listed under: [Metering – Instrument Projects](#)
690. [Controlling 2 motors with the TB6612FNG + Arduino](#) First off: I know... we went overboard with the motor illustration. In previous articles we have discussed how to control motors with simple transistors. And... with PWM you could control the speed. But that is just one motor, and you can only go one direction.....


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Listed under: [Motor Projects](#)

691. [A Swarm of Xbees! Arduino Xbee Wireless & More](#) In the past we have covered a few things that interact through serial, from RFID readers to controlling an Arduino's pins using the serial terminal. Serial as we have talked about it is actually know as UART, and operates over 2 pins RX and TX..... Listed under: [Other Projects](#)
692. [How's the weather? TMP102 + Arduino](#) The TMP102 is a very simple, yet accurate, ambient temperature sensor which is capable of detecting .0625°C changes between -25 and +85°C, with an accuracy of 0.5°C. And the real kicker... It does all of this while only consuming 10µA (10 millionths of an amp)..... Listed under: [Sensor – Transducer – Detector Projects](#)
693. [One Wire Digital Temperature. DS18B20 + Arduino](#) I know... you are probably thinking "Another Thermometer! How many do you need to cover?" – Well... All of them. But really, they all have something different to offer. For instance this guy, the DS18B20, has a unique serial-number sent with it's data, so if..... Listed under: [Sensor – Transducer – Detector Projects](#)
694. [Pin Control Over the Internet – Arduino + Ethernet](#) In a previous article we showed you how to control digital pins over over serial, and showed how such a simple thing can be so powerful. One major downfall with that is you need to be nearby to send commands... So today we are going..... Listed under: [Internet – Ethernet – LAN Projects](#)
695. [Getting Data From The Web – Arduino + Ethernet](#) Yesterday we covered how you would go about controlling pins of your arduino over the internet using the Arduino Ethernet Shield set up as a server. Today we are going to take a look at using the shield as a client to get information off..... Listed under: [Internet – Ethernet – LAN Projects](#)
696. [Get Touchy – Nintendo DS Touch Screen + Arduino](#) It seems like touch screens are plastered on every consumer electronic device from your phone to your refrigerator. And why not right? Well, even though those beautiful multitouch hi-res screens are a little pricy and crazy hard to develop with, doesn't mean we cant still..... Listed under: [Other Projects](#)
697. [Proximity Sensing with the VCNL4000 + Arduino](#) I'm not really sure why, but proximity sensors are some of my favorite things in the sensor world. Maybe because there are so many of them? Who knows. Whatever the reason, the VCNL4000 is another proximity sensor that caught my eye, so I picked one..... Listed under: [Sensor – Transducer – Detector Projects](#)
698. [Force Sensitive Resistor + Arduino](#) The Force Sensitive Resistor, or FSR is one of those parts that fills bins in interaction design labs across the world. It's a simple guy, a finicky guy, but it has its place in the maker toolbox. A FSR is just what it sounds like..... Listed under: [Sensor – Transducer – Detector Projects](#)
699. [Controlling a ton of servos – TLC5940 + Arduino](#) This is something we have been asked a lot about. How do I control a ton of Servo motors with my arduino? Well... using the TLC5940 is one way. And this nice break outboard from sparkfun makes connecting a ton of servos easy. The output..... Listed under: [PWM Projects](#)
700. [Sensing Orientation With The ADXL335 + Arduino](#) I know, I know, this one has such a simple name. Where's the pun? Honestly, the description was just to long to include one. Maybe it could have been "What's Up? Sensing Orientation With The ADXL335 + Arduino" – Ehhh... Probably not. A few weeks..... Listed under: [Sensor – Transducer – Detector Projects](#)
701. [Triple Axis Magnetometer HMC5883L + Arduino](#) One of the first articles we did was on the hmc6352 digital compass. Well this is his older brother (or younger but smarter). I really don't know what to say about the HMC5883L other than it is a three axis magnetometer, so it is capable..... Listed under: [Metering – Instrument Projects](#)
702. [Displaying on Paper – Thermal Printer + Arduino](#) The following code and library are compatible with arduino software 1.0+ ONLY. You can download the newest version of the arduino software here. Outputting data can be extremely useful, and typically when we look at doing this, it is either to the Arduino's serial terminal,..... Listed under: [Other Projects](#)
703. [Long Distance Remote Light Sensor With RFM95W/RFM98W LoRa](#) There are many wireless communication options when connecting Arduino boards. One of the most popular ones is the Wi-Fi. It works well at small distances, and around Wi-Fi hotspots, however when the modules need to connect over long distance at areas where Internet is not..... Listed under: [Sensor – Transducer – Detector Projects](#)
704. [Arduino Nano: Flame Sensor With Visuino](#) Recently somebody asked for tutorial on Infrared Flame Sensor. It took a while due to severe work overload, but finally I succeeded to make it. The Infrared flame sensors use infrared light to detect flame. While experimenting with my one I discovered that in direct..... Listed under: [Sensor – Transducer – Detector Projects](#)
705. [Capturing IMU Data with a BNO055 Absolute Orientation Sensor](#) The Bosch BNO055 combines tri-axis accelerometers, gyroscopes, and magnetometers to provide orientation to users. About the Sensor The BNO055 uses three triple-axis sensors to simultaneously measure tangential acceleration (via an accelerometer), rotational acceleration (via a gyroscope), and the strength of the local magnetic field (via..... Listed under: [Sensor – Transducer – Detector Projects](#)
706. [Ultrasonic range finder using arduino](#) Ultrasonic range finder using 8051 microcontroller has been already publisl
ultrasonic range finder using arduino. HC-SR04 ultrasonic range finder module is used as the sensor here. The disq
seven..... Listed under: [Other Projects](#)

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707. [Digital thermometer using arduino and LM35](#) This article is about a simple three digit digital thermometer using arduino. Range of this thermometer is from 0°C to 99.9°C. There is also a provision for displaying the temperature in °F scale. Three terminal analog temperature sensor LM35 is used as the sensor here..... Listed under: [Metering – Instrument Projects](#)
708. [PWM motor speed control using Arduino](#) PWM or pulse width modulation is a very common method used for controlling the power across devices like motor, light etc. In PWM method the power across the load is controlled by varying the duty cycle of the drive signal. More the duty cycle more..... Listed under: [Motor](#)

Projects

709. [Interfacing LCD to Arduino – Display Text and Characters on LCD Screen using Arduino](#) A Liquid Crystal Display commonly abbreviated as LCD is basically a display unit built using Liquid Crystal technology. When we build real life/real world electronics based projects, we need a medium/device to display output values and messages. The most basic form of electronic display available..... Listed under: [LCD Projects](#)
710. [Interfacing RFID with Arduino – How to Read RFID Cards using Arduino](#) In this tutorial, we are dealing with yet another interfacing technique. This time we are interfacing an RFID Reader which can read RFID Tags to Arduino. RFID is Radio Frequency Identification. An RFID reader is used to read RFID tags (which contain certain unique data..... Listed under: [Other Projects](#)
711. [Burglar Alarm using Arduino and PIR Sensor](#) In this tutorial, we are building an interesting application using Arduino and PIR Sensor. A Burglar Alarm – is basically an intruder alarm or an anti theft alarm. So this project is all about building an anti theft alarm or an intruder alarm using Arduino..... Listed under: [Sensor – Transducer – Detector Projects](#)
712. [Arduino and Soil Moisture Sensor](#) In this article, we are going to interface a Soil moisture sensor FC-28 with Arduino. This sensor measures the volumetric content of water inside the soil and gives us the moisture level as output. The sensor is equipped with both analog and digital output, so..... Listed under: [Sensor – Transducer – Detector Projects](#)
713. [Interface Arduino and Color Sensor – RGB Sensor TCS230](#) In this article, we are going to read the colors using the TCS230 color sensor (RGB Sensor) and Arduino Uno. The TCS 230 color sensor senses the color light by using the photodiodes. The sensor converts the readings from the photodiode into a square wave by..... Listed under: [Sensor – Transducer – Detector Projects](#)
714. [Pulse Sensor and Arduino – Interfacing](#) In this article, we are going to interface a Pulse Sensor with Arduino. The pulse sensor we are going to use is a plug and play heart rate sensor. This sensor is quite easy to use and operate. Place your finger on top of the sensor..... Listed under: [Sensor – Transducer – Detector Projects](#)
715. [Interfacing Accelerometer to Arduino](#) In this article, we are going to interface the GY-521 accelerometer with Arduino. The GY-521 has an InvenSense MPU6050 chip which contains a 3-axis accelerometer and a 3-axis gyro meter. This makes it a 6 DOF IMU (6 degrees of freedom inertial measurement unit). The chip..... Listed under: [Metering – Instrument Projects](#)
716. [Home Automation using Arduino and GSM Module](#) In this article, we are publishing a highly useful home application – GSM based home automation using Arduino. The project consists of a 16×2 LCD module for displaying the status of the home appliances. The status (turn ON or turn OFF) of the connected devices can..... Listed under: [Home Automation Projects](#)
717. [Robot using Arduino and Bluetooth Module \(Obstacle Avoidance Robot\)](#) This project is designed to build a robot that automatically detects the obstacle on its path and guides itself whenever an obstacle comes ahead of it. This robotic vehicle is built, using Arduino UNO board. An ultrasonic sensor is used to detect any obstacle ahead..... Listed under: [Robotics – Automation Projects](#)
718. [Arduino Irrigation and Plant Watering using Soil Moisture Sensor](#) This project is about a moisture-sensing automatic plant watering system using Arduino UNO. The system reads the moisture content of the soil using soil moisture sensor and switches ON the motor when the moisture is below the set limit. When the moisture level rises above..... Listed under: [Sensor – Transducer – Detector Projects](#)
719. [IOT based Home automation and Security system](#) IOT has become huge trend in the last couple of years. With growing needs in connected devices many companies have shifted the attention to iot market. Today we are going to share a simple project which we have built – IOT based home automation and..... Listed under: [Security – Safety Projects](#)
720. [Build An Arduino Based Voting System](#) Voting systems are one of the finest examples of Embedded devices and applications. The complexity and robustness of a voting system depends on the number of voters involved. Here you could see a simple Arduino based voting system that would be a great fit for..... Listed under: [Security – Safety Projects](#)
721. [Build A Simple Arduino Weather Machine](#) Arduino is a great hardware platform when comes to prototyping and building cool stuffs. Using this I have designed and developed a simple Arduino Weather machine which measures three important parameters Temperature, Light intensity and Humidity and predict the weather condition according to the measured..... Listed under: [Other Projects](#)
722. [Visitor counter project using Arduino](#) People or Visitor counters are pretty famous embedded application that was widely used in places like theaters, malls, Transport stations and so. High end counters uses sophisticated hardware to do the process of counting. Today we are about to see building of simple Visitor counter..... Listed under: [Sensor – Transducer – Detector Projects](#)
723. [Reflex test for your brain using Arduino](#) Arduino based games and consoles are quite popular around the web. And this article is going to bring out the Design, working and code part of a simple Reflex test / trainer using Arduino Uno. Reflex tests are usually carried out to determine how quick..... Listed under: [Other Projects](#)
724. [Stunning RGB light effects using Arduino Nano](#) None of us could deny the fact that we would love with to play with LED's and create attractive lighting effects. This project was a result of such attempt where i created a stunning RGB light effects using Arduino Nano. [Click here to get AI-based help](#)  [th](#)
725. [Fun DIY project – piano using Arduino](#) Here is yet another application you can put your Arduino to use. This will be an interesting DIY to make even though you are not very much into music. Though you cannot expect music out of this but still it will be a fun project..... Listed under: [Other Projects](#)
726. [Keyless piano using Arduino uno](#) Keyless piano using Arduino is sort of sequel to the DIY fun piano i have published in this website. In this project i have eliminated the need of buttons involved to play the piano. Here i have used IR in place of buttons. Let's get..... Listed under: [Other Projects](#)
727. [Project X – Smart home control using Arduino](#) Project X – Smart home control using Arduino is all about automating your home smartly. Imagine your home responding to external condition by altering itself and that's exactly what this project enables your home to do. Also this product features manual control just in

case..... Listed under: [Other Projects](#)

728. [Electronic Spinet – Musical instrument using Arduino](#) Spinet it is a vintage musical instrument which has similar looks of a keyboard. It always get better when Technology touches the vintage stuffs. So we decided to build a simple Electronic Spinet using Arduino without using any keys. This project use of ultrasonic sensor..... Listed under: [Other Projects](#)
729. [Garduino – Automatic plant watering system](#) During summers, most people are too lazy to water the potted plants every day and plants will eventually wither if people go out on vacation. Here is a simple Automatic plant watering system that can water plants in your absence. It is an Arduino based..... Listed under: [Other Projects](#)
730. [Wireless notice board using Arduino and GSM](#) Everyone would have known the use of notice board around our daily life. Even it plays a vital role in public places like bus stops, railway station and hospitals. But with a great shift in technology we could revolutionize this kind of notice board by..... Listed under: [Other Projects](#)
731. [Three level Ultra security system using Arduino](#) Today we are in a world where robbery has increased to a great extent. Hence there is a need to protect everything using a security system. Here is a small project on security system called ULTRA SECURITY SYSTEM which will be very useful. This system..... Listed under: [Security – Safety Projects](#)
732. [Smart Vehicle using Arduino Uno](#) Everything around us is getting smart shoes, watches glasses. Even you might have come across news regarding smart vehicles in newspaper. Likewise we attempted to create a prototype of smart vehicle using Arduino. Let’s get into the building part of our smart vehicle. INPUT PERIPHERALS:..... Listed under: [Other Projects](#)
733. [Automatic Plant watering and Happiness monitoring system](#) The main motto of this project is to provide automatic water supply to plant when it feels thirsty. We intend to automate the watering of plants and deploy Arduino to do the job for us. This will take care of the water requirements of a..... Listed under: [Other Projects](#)
734. [Voice controlled home automation using Arduino](#) Ever thought of controlling your home using voice. If you are the one who fascinated it as I do, this project might help you do it for real. Voice powered products are already taking over the market and this voice controlled home project will enable..... Listed under: [Home Automation Projects](#)
735. [IQ Alarm clock using Arduino for heavy sleepers](#) Raising from bed can be the most painful thing you could ever do. We often set alarms to wake up but ends up in snoozing it out or even kick the alarms away. To address this we have come up with an Arduino project ”..... Listed under: [Clock – Timer Projects](#)
736. [Gesture controlled car using Arduino](#) Who doesn’t love playing with RC cars and Robots. Not only playing, engineers and enthusiasts like us love to build and experiment with these stuffs. Also its fair to say that RC’s and Robots have become more than just toys, they already have started..... Listed under: [Sensor – Transducer – Detector Projects](#)
737. [How to use position wheels with your Arduino](#) Hello everyone, em here today with an interesting tutorial on using position wheels using your favorite Arduino. The whole idea behind this article is to explain the logic behind position wheels, the way it works and how to implement it in your project. If you prefer..... Listed under: [Other Projects](#)
738. [How to Make Arduino Based Collision Detection Warning System](#) This is arduino based collision detection warning system. This kind of system is fastest growing safety feature in automotive industries. Such system enables vehicles to identify the chances of collision and give visual and audio warning to driver. So that driver can take necessary action..... Listed under: [LED Projects](#)
739. [How To Simulate Arduino With Proteus](#) Some Arduino boards can added to the most common and powerful simulation software for electronics hobbies which is Proteus from Labcenter Electronics. Here are steps for adding Arduino library for Proteus ISIS. Step 1: Download the following zip file [DOWNLOAD](#) Step 2: Extract the zipped..... Listed under: [Other Project Ideas](#)
740. [The BIG Arduino Piano! Use Pulse Width Modulation to Dance like Tom Hanks](#) This BIG piano will help exercise the mind and body! All you need is a few buttons, a speaker, and some dancing shoes. BOM: Arduino Uno CUI 8 ohm speaker x8 pushbuttons x8 10k resistors x1 220 ohm resistor Jumper wire Breadboard Foamboard or cardboard..... Listed under: [Other Project Ideas](#)
741. [Arduino Real Time Clock Using DS1307](#) This topic shows how to interface Arduino with DS1307 real time clock to make a clock and calender. To understand the project and code easily you have to read the datasheet of the DS1307. DS1307 Pin assignment: The picture is taken from ds1307 datasheet and..... Listed under: [Clock – Timer Projects](#)
742. [Arduino 4-Digit 7-Segment LED Display](#) 7 Segment LED displays are used in many applications as front panel number indicators. The most common applications are calculators, microwave ovens, electronic lab equipment like function generators and frequency counters. A 7 segment LED display consists of 7 LEDs arranged in such a way..... Listed under: [LED Projects](#)
743. [Remote Controlled Robot Using Arduino and T.V. Remote](#) This remote controlled car can be moved around using practically any kind of remote such as TV AC etc. It makes use of the fact that the remote emits IR(infrared). This property is made use of by using an IR receive [Click here to get AI-based help](#) [Robotics – Automation Project Ideas](#)
744. [Build A Cheapest Possible Arduino-Robot](#) The aim is to build cheapest possible Arduino-robot Step 1: Components Arduino UNO R3 x1 USB cable x1 Mini solderless breadboard x1 IR sensor x1 Continuous rotation servo x2 Battery holder x1 AA battery x4 Bunch of color wires Step 2: Getting Started With Arduino..... Listed under: [Robotics – Automation Projects](#)
745. [Flash Freeze Photography with an Arduino](#) Freeze moments in time to easily produce extraordinary close-up pictures with your digital camera, an Arduino, and these simple circuits. I have always been impressed by high-speed photography. The photographic capture of what normally goes unseen, or at least unnoticed, is intriguing and oftentimes beautiful..... Listed under: [Game – Entertainment Projects](#)

746. [Create a Motion-Sensing Alarm with an Arduino and IR Sensors](#) Infrared (IR) sensors are normally used to measure distances, but they can also be used to detect objects. By connecting a couple of IR sensors to an Arduino, you can make an intruder alarm. Overview Infrared (IR) sensors are normally used to estimate the distance of an..... Listed under: [Sensor – Transducer – Detector Projects](#)
747. [Controlling a Stepper Motor with an SIRC TV Remote and a PICAXE: Infrared Capabilities](#) This is part one of a two-part project. For part one, we will focus on IR remotes and signaling, as well as IR reception and decoding. Using IR (InfraRed) radiation to control electronic devices is widely accepted and implemented. IR devices are routinely used in..... Listed under: [Other Projects](#)
748. [Quark D2000 I2C Interfacing Add a Color Sensor and Asynchronous Mode](#) We finish up our project using I2C on the Quark D2000 development board with the addition of a color sensor and an object color identifier program. Finally, we revisit interfacing the BH1750FVI ambient light sensor using asynchronous mode I2C. Before continuing in this article, consider..... Listed under: [Sensor – Transducer – Detector Projects](#)
749. [Quark D2000 I2C Interfacing: Add a Light Sensor and an LCD](#) Get acquainted with using I2C with the Quark D2000 development board by interfacing an ambient light sensor and an LCD. Previously, we presented a general overview of the Quark D2000 development board. Subsequently, we explored the use of the board's GPIO and PWM. In this..... Listed under: [Sensor – Transducer – Detector Projects](#)
750. [Building a simple digital light meter using Arduino and BH1750FVI sensor](#) A light meter is a device that measures the intensity of light. It finds applications in schools, hospitals, production areas, passageways and more to measure and maintain proper lighting levels. It is often used by photographers to determine the proper exposure for a photograph. Today..... Listed under: [Sensor – Transducer – Detector Projects](#)
751. [MCP9802 temperature sensor and Arduino](#) MCP9802 is a digital temperature sensor from Microchip that measures temperatures between -55°C and +125°C to a digital word. It provides an accuracy of ±1°C (maximum) from -10°C to +85°C. The MCP9802 sensor comes with user-programmable registers that provide flexibility for temperature sensing applications. The..... Listed under: [Sensor – Transducer – Detector Projects](#)
752. [High-voltage seven segment LED display driver with SPI interface](#) Seven segment LED displays are known to be resource and power hungry. But because they are visually so charming and readable from a far viewing distance and at a much wider viewing angle as compared to any other electronic displays, they are still hugely popular..... Listed under: [LCD Projects](#)
753. [PC-based heart rate monitor using Arduino and Easy Pulse sensor](#) The heart rate, also referred to as pulse rate, has been recognized as a vital sign since the beginning of medicine, and it is directly related to a person's cardiovascular health. Today, we are going to make a PC-based heart rate monitor system using an..... Listed under: [Sensor – Transducer – Detector Projects](#)
754. [Arduino measures heart beat rate from fingertip](#) The PIC16F628A based heart rate meter is one of the most popular projects published on Embedded Lab. In this article, I am going to show how to replicate the same project using a simpler platform like Arduino. The Arduino heart rate meter will use Arduino..... Listed under: [Medical – Health based Projects](#)
755. [Using BMP180 for temperature, pressure and altitude measurements](#) The BMP180 is a new generation digital barometric pressure and temperature sensor from Bosch Sensortec. In this tutorial, we will briefly review this device and describe how to interface it with an Arduino Uno board for measuring the surrounding temperature and pressure. We will also discuss about..... Listed under: [Temperature Measurement Projects](#)
756. [Arduino Crowtail and Easy Pulse Plugin](#) Arduino Crowtail is a modular and ready-to-use building block set from Elecrow for rapid prototyping with Arduino. It consists of a base Arduino Uno shield to which various sensor and I/O modules can be conveniently interfaced through standardized connectors. In this example, I am going to illustrate..... Listed under: [Other Projects](#)
757. [Controlling relay switches with an infrared remote](#) The infrared (IR) communication technology, which existed long before WiFi and Bluetooth, is still a key component in implementing major components of a typical home automation system. For example, IR technology is still used in cordless headphones, for intrusion detection in home security systems, and in handheld..... Listed under: [Other Projects](#)
758. [Serial seven segment LED display shield](#) Seven segment LED displays are brighter, more attractive, and provide a far viewing distance as well as a wider viewing angle compared to LCD displays. This project describes a serial seven segment LED display shield for Arduino Uno or compatible boards. The shield consists of..... Listed under: [LED Projects](#)
759. [Wireless Serial using nRF24L01](#) This project is very useful in many application where wireless reliable serial communication is required. It give bidirectional communication, You need to have same code in both arduino, no need of separate configuration for receiver or transmitter. It is more advantageous and cost saving than using Xbee,..... Listed under: [Other Projects](#)
760. [GSM Based Home Security System With SMS Alert](#) This project has GSM technology and anti-theft system using PIR motion detection. Whenever Motion is detected it sends the SMS on predefined mobile number. We have connected PIR Motion sensor with this project. GSM based home security system with SMS alert, it uses PIR Motion Sensor,..... Listed under: [Home Automation Projects](#)
761. [pH sensor arduino](#) In this project, step by step tutorial we are discussing about how to interface pH sensor with Arduino. In chemistry, pH is the negative log of the activity of the hydrogen ion in an aqueous solution. Solutions with a pH less than 7 are said..... Listed under: [Sensor – Transducer – Detector Projects](#)
762. [Low cost continuous pricision liquid level measurement using arduino](#) The purpose of this tutorial is to demonstra continuous liquid level monitoring based on MPX5010DP differential pressure sensor. Most of the traditional measuring systems were designed and implemented by complicated hardware circuitry. It made the product expensive, with low functionality..... Listed under: [Other Projects](#)
763. [LCD interfacing with arduino](#) In this tutorial we'll be looking at how to connect interface parallel LCD to an Arduino. We are using 16 char x 2 Line LCD known as 16x2 LCD, you can usually identify this display by the 16-pin interface. You only need to solder 10 of..... Listed under: [LCD Projects](#)
764. [How to Make Your Own Arduino Clone Board](#) Want to save money by making your own Arduino clone boards? Or want to make a custom board specifically for your needs, then this project is for you! Make Arduino board from cheap electronic components available at your local store. Just follow these simple step.....

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X

Listed under: [Other Projects](#)

765.

[Create an Android Controlled Robot Using the Arduino Platform](#)

Ever wanted to make an Android controlled robot or car? Control your RC car with a smartphone? Or wanted a tutorial about connected devices and getting started with it? Now you can do that with this simple DIY hack that even provides you with a..... Listed under: [Robotics – Automation Projects](#)
766.

[DIY Android Home Automation With Free Smartphone Application](#)

Ever wanted to make your home automated? Wanted to control the lights, fan, and other appliances from your smartphone? Or wanted a tutorial about connected devices and getting started with them? Our DIY Android Home Automation project will show you how to make your home..... Listed under: [Home Automation Projects](#)
767.

[A Simple Guide to Using a Hall Effect Sensor With Arduino](#)

Have you ever wanted to make a project that involved contact-less sensing? For example: to detect a door closing, to count the number of revolutions of a wheel, or make a speedometer? Then this Arduino Hall Effect sensor tutorial is for you! This project uses..... Listed under: [Sensor – Transducer – Detector Projects](#)
768.

[IMU Interfacing Tutorial Get started with Arduino and the MPU 6050 Sensor](#)

In this post, I will be reviewing a few basic IMU (Inertia Measurement Unit) sensors that are compatible Arduino. I will also give a short tutorial for interfacing an Arduino with the best IMU sensor available. IMU sensors like the MPU 6050 are used in..... Listed under: [Sensor – Transducer – Detector Projects](#)
769.

[An Easy Way to Build an Arduino Powered Motion Sensor Alarm](#)

Have you ever wanted to build a project that had could detect the presence of a person in a room? If so, then you can do this very easily using the PIR (Passive Infra Red) Motion sensor. This Arduino motion sensor can detect the presence of a..... Listed under: [Sensor – Transducer – Detector Projects](#)
770.

[DIY Music Keyboard: How to Make Sounds With Arduino](#)

Making cool things with an Arduino is something, but making musical instruments out of an Arduino is something else! So behold, here comes the Musical-duino, an Arduino keyboard. To see what this does, check out the demo video at the bottom of this page. They say..... Listed under: [Sound – Audio Projects](#)
771.

[How to Make an Arduino Powered Lamp Dimmer](#)

Ever wondered how to bring an Arduino board into your daily life? We often adjust the display brightness of our mobile phones to suit to our need. With this project, you can do that for your bedside lamps or any other lighting at home. We..... Listed under: [Other Projects](#)
772.

[How to Make Your First Robot Using Arduino](#)

One of the simplest projects you can make for your first time using an Arduino is an obstacle avoiding robot. If you are a beginner to Arduino and want to learn more about it, this Arduino robot tutorial will teach you the basics while you..... Listed under: [Robotics – Automation Projects](#)
773.

[How to Shrink Your Arduino Projects: Making a Permanent Circuit Board](#)

When you make a project using Arduino, it usually contains a lot of jumper connections on the breadboard and the project will not be a permanent one. If you want to make any other project using that Arduino, you will have to remove all the connections made on it and to..... Listed under: [Other Projects](#)
774.

[How to Make a POV Display Using LEDs and Arduino](#)

Here is a simple project using an Arduino and some LEDs. What we are going to learn here today is how to make a POV display or Persistence-Of-Vision display. It is made out of just 6\$ worth of components. This tutorial gives will teach you..... Listed under: [LED Projects](#)
775.

[How to Build an Arduino Speaker That Plays Music in Minutes](#)

The main thing which makes this project super simple is that this project requires only one extra component. If you are new to Arduino, this tutorial will help you get familiar with Arduino and learn the basics of Arduino programming. This musical project has a..... Listed under: [Other Projects](#)
776.

[How to Make a 8bit Dot Matrix Display Using Arduino](#)

A simple project to display cool 8bit art and animation on your backpack! This is a quick and easy project you could finish off in minutes and show off to your friends. What it does is, when you move your backpack, a dot matrix display turns..... Listed under: [LED Projects](#)
777.

[Interfacing: How to Make an Arduino Uno UltraSonic Range Finder!](#)

A range finder is a device used to find the distance from a point to the nearest obstacle. This device uses ultrasonic technology to measure the distance. You can consider it like an electronic, hassle-free version of a measuring tape with a measuring range of..... Listed under: [Other Projects](#)
778.

[How to Make an Audio Player with Speaker Using the Arduino Uno!](#)

This Arduino project is a simple and fun project you can build in 10-15 minutes. The result of this make will be an Arduino audio player that plays “.wav” files. It consists of a speaker, a simple transistor acting as an amplifier, and a micro-SD card..... Listed under: [Other Projects](#)
779.

[Bluetooth Basics: How to Control an LED Using a SmartPhone and Arduino](#)

Ever thought of controlling any of your electronic devices with your smart phone? How about a robot or any other device? Wouldn't it be cool to control them with your smartphone? Here is a simple tutorial for interfacing an Android Smartphone with Arduino via Bluetooth! Required..... Listed under: [LED Projects](#)
780.

[ESP8266 Tutorial: Programming the Onboard GPIO Pins](#)

The ESP8266 is a great tool for enabling your project to a Arduino easily as shown and allow your project to communicate through the internet. Or even more exciting, to c..... Listed under: [Other Projects](#)
781.

[Audio Amplifier Circuit on PCB Using LM386](#)

In this project, we tend to area unit getting to create a Headphone/Audio electronic equipment by exploitation self-designed PCB. This project is especially designed for amplifying the audio signal from the headphones however we will additionally use it for amplifying the subwoofer or speaker output,..... Listed under: [Sound – Audio Projects](#)
782.

[Arduino Weather Station](#)

How cool would it be to have your own Arduino weather station right in your backyard? Sounds fun? Geeky? Having your own weather station means that you don't need any more inaccurate results from the weather channel! You can even log the data and play..... Listed under: [Other Project](#)

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[Ideas](#)

783. [How to Make a Water Level Indicator with Arduino 6 11](#) Knowing the amount of water in an overhead tank can be one tedious task. Usually, you'll end up climbing up the stairs to the tank and checking the level manually or you'll you hear the water overflowing from the top. But these days electronic water level indicators..... Listed under: [Other Projects](#)
784. [How to make a Smart Cane for the Visually Impaired with Arduino](#) I wanted to make something for them to help the visually impaired become independent, so I created an open source Arduino project for a Smart Cane. This Arduino smart cane can assist with walking alone in new environments by taking inputs through an obstacle sensor..... Listed under: [Other Projects](#)
785. [How to Make a Programmable Guitar Pedal With Arduino!](#) This DIY Guitar Pedal project is for guitarists, hackers, and programmers that want to learn about digital signal processing, effects, synthesizers, and experiment without deep knowledge of DSP, electronics, or hardcore programming. pedalSHIELD UNO is a lo-fi, programmable guitar pedal that works with the Arduino..... Listed under: [Other Projects](#)
786. [ESP8266 Tutorial: How to Control Anything From the Internet!](#) In this ESP8266 tutorial, we are using an ESP-01 module to control an LED over the internet. The ESP8266 is a very cheap yet really effective platform for communicating over the internet. It is also easy to use with an Arduino. After going through this ESP8266 tutorial,..... Listed under: [Other Projects](#)
787. [DIY Arduino Tutorial: How to Automate a Lamp for Ceremonial Inaugurations](#) "Knowledge removes ignorance, just as light removes darkness", as it is wisely said. In India, the ancient tradition of lighting oil lamps has a special significance. Almost all auspicious ceremonies are commenced by lighting a lamp. Hence came the idea to merge our traditional culture..... Listed under: [Other Projects](#)
788. [DIY Soil Testing with Arduino and FC-28 Moisture Sensor](#) In this article, we are going to interface an FC-28 Soil moisture sensor with an Arduino. This sensor measures the volumetric content of water in soil and gives us the moisture level. The sensor gives us both analog and digital output, so it can be used..... Listed under: [Sensor – Transducer – Detector Projects](#)
789. [LazyMax 1000: Arduino Phototransistor and Haptics Project](#) The idea for this Arduino phototransistor project came to me based on an idea that was shared by one of my friends at the FabLab. He talked about how his lab only has stools for people to sit on. Being very uncomfortable, the person succumbs..... Listed under: [Other Projects](#)
790. [Arduino and Processing IDE Communication Tutorial](#) In this tutorial, we will make the communication between the Arduino and Processing. We will make the communication in both the ways, from the Arduino to Processing and from Processing to the Arduino. We will change the color of the serial window in the Processing..... Listed under: [Other Projects](#)
791. [How to Make an Arduino Temperature Data Logger](#) In this project, we are going to make an Arduino Temperature logger that will get the temperature value from the LM35 temperature sensor and the time from the DS3231 Real Time Clock module. Then we will store these values in the SD card file using..... Listed under: [Temperature Measurement Projects](#)
792. [Revive Old Drive-In Speakers with a Modern LED Twist](#) When I was a kid we went to the drive-in theater to see movies like The Legend of Boggy Creek and Evel Knievel. I loved those movies but I remember just as vividly those retro-cool metal speakers that entered into our car for these campy..... Listed under: [LED Projects](#)
793. [Build a Simple Cocktail Drinkbot with Arduino](#) Big parties need a conversation piece, and what's better than a drink-making robot? Not only is it a good conversation starter, it also frees up the party host who would normally be the bartender. It turned out that the drink robot was a really good idea. The..... Listed under: [Other Projects](#)
794. [Extract DNA at Home with a 3D Printed Centrifuge](#) Biotechnology is powerful, but only for those with the tools to experiment with and utilize it. The DIYbio movement seeks to put the tools and techniques used in well-funded laboratories around the world into the hands of ordinary people who have an interest but not..... Listed under: [Other Project Ideas](#)
795. [A Simple Arduino LCD Min/Max Thermometer](#) As a simple first Arduino experiment I interfaced a two line LCD (a Displaytech 162B) and an LM35DZ to make a simple Min/Max thermometer. Step 1 - Interfacing the Temperature Sensor This is really very simple. The LM35DZ has three pins, +5V, ground and a..... Listed under: [LCD Projects](#)
796. [Digital Door Lock using Arduino](#) As thefts are increasing day by day security is becoming a major concern nowadays. In this project we will make a digital door lock system with keypad using Arduino Uno. It will open your door only when the right password is entered and it will start..... Listed under: [Other Projects](#)
797. [Home Automation using Arduino and ESP8266 Module](#) In this project we are going to make a home automation system using ESP8266 WiFi module and Arduino Uno. Using this we will be able to control lights, electric fan and other home appliances through a web browser using your PC or mobile. These AC..... Listed under: [Home Automation Projects](#)
798. [IoT Data Logger using Arduino and ESP8266](#) Today we are going to make an IoT WiFi data logger using Arduino, ESP8266 WiFi module and DHT22 temperature humidity sensor. Arduino is reading temperature and humidity sensed by DHT22 and sending it to an internet server. We are using ThingSpeak as..... Listed under: [Other Projects](#)
799. [Arduino Weather Station Web Server](#) In this tutorial we are going to make a weather station that will tell us temperature, humidity and heat index of a particular location. It will show these values in a web browser. You can monitor these data by entering the IP address in a mobile, computer or..... Listed under: [Sensor – Transducer – Detector Projects](#)
800. [Temperature Controlled Fan using Arduino](#) Here we are going to make a temperature controlled DC fan. DHT22 sensor is used to sense the room temperature and then we adjust speed of a DC fan/motor accordingly using PWM (Pulse Width Modulation). Arduino Uno is the heart of this project and a L293D..... Listed under: [Other Projects](#)

801. [Simple Android Bluetooth Application with Arduino Example](#) This article will detail how to make a simple bluetooth application using Android Studio and demo it using an Arduino to toggle an LED and send data back-and-forth. No prior knowledge of Android development is needed, however it will help to know some basics of..... Listed under: [Arduino Android](#)
802. [Arduino Line Tracking Robot Car](#) This line tracking robot car was built base on the prototype mentioned in the previous knowledge item. You can find the details for the prototype: <http://www.rs-online.com/designspark/electronics/eng/knowledge-item/arduino-line-tracking-robot-car-prototype> Bills of Materials: PCB Geared Motor OSRAM Opto Semiconductors Photodiode (RS stock number: 654-8902) Nichia LED (RS stock number: 713-3996)..... Listed under: [Robotics – Automation Projects](#)
803. [Johnny 6 is Alive!](#) Designing a custom plate for the Arduino Robot, adding jumbo LEDs and displaying readings from an ultrasonic distance sensor to the LCD. My previous post on the Arduino Robot described how I took the Runaway Robot sketch and modified it work with the PING ultrasonic..... Listed under: [LED Projects](#)
804. [The Evolution of a Light Theremin](#) I started out a little over two years ago on work experience, before going on to become a trainee engineer, having decided that I would like to pursue a career in electronic engineering. At work I get to do a wide variety of things, such..... Listed under: [Other Projects](#)
805. [Developing your own Flowcode 7 controlled weather station](#) This project details a Flowcode and E-blocks based weather station capable of reading local temperature and humidity with 2 remote thermo-hygrometer sensors. The local board also incorporates a real time clock. This article has been contributed by Flowcode user John Crow. Flowcode can be downloaded..... Listed under: [Other Projects](#)
806. [Designing and building a coffee table](#) For a number of years, my colleague Andrew has had an old IBM mainframe CPU kept in storage, waiting to be transformed into something new. Hailing from a long-lost era of computing (the system in which this module was used was the 4381, first announced..... Listed under: [Other Projects](#)
807. [How to build an Arduino Robocar Part 1](#) I've been meaning to put some content on here for a while and recently I got around to getting an Uno and motor shield. Given I also have access to a 3d printer and have a shedload of microswitches, semis and other goodies knocking around..... Listed under: [Robotics – Automation Project Ideas](#)
808. [Connected coffee Machine](#) Quite a lot of coffee is consumed at work but real statistics are missing. For the coffee machines with a can it can be interesting to have a visualization with coffee left in can, water in machine, time left until machine is finished, estimated time..... Listed under: [CNC Machines Projects](#)
809. [Wireless Motor Speed Control System with Arduino](#) ICStation team introduce you the NRF24L01 Wireless Motor Speed Control System.This system works under DC 5V voltage. It uses the NRF24L01 Wireless Module to transmit speed control data and the Hall Sensor to detect the real rotate speed. This design uses the PWM duty cycle..... Listed under: [Motor Projects](#)
810. [Dish Shamer](#) Project Description DishShamer solves the age-old problem of getting your roommates to wash their dishes. The kitchen is a communal space. When one individual fails to keep this shared environment clean, there can be two outcomes: conflict and socially awkward confrontations, or placing unfair cleaning burdens..... Listed under: [Other Projects](#)
811. [Chatty Coasters](#) Chatty Coasters are interactive coasters that listen for silences and insert provocative conversation starters into them. Chatty Coasters are interactive drink holders that listen for silences in conversation and insert provocative questions into them. In order to encourage healthy, thought-provoking conversation in kitchens, Chatty Coaster waits..... Listed under: [Other Projects](#)
812. [A Smart Shop Window Experiment with Arduino](#) Smart Shop Window A SmartLiving Experiment where using a QR code to control a light in a shop window. For this experiment we use a Grove LED (representing the shop's light) and a Smart phone to access the control switch. It's an ideal starter project..... Listed under: [LED Projects](#)
813. [Track and Control Your Car Remotely](#) Actually, many of us may suffer or afraid from being his car stolen. In this project, I will try to help you to protect your cars and even control them remotely. Basically, you have to leave a mobile phone in your car and when the..... Listed under: [Car Projects](#)
814. [Build a smart “Clapper” with SmartThings and Arduino](#) When my colleague @thegibertchan first set up his homemade "Clapper" in our office, I knew immediately that I had to learn how it was made. The way it works is simple. A small microphone listens to two claps (within four seconds of each other) and..... Listed under: [Other Projects](#)
815. [Hot Water Solar Boiler Project](#) A solar boiler is great because it gives you hot water using free-sun-energy, but what if there is not enough sun or someone already used all the hot water ? This project helps you take the right decision. It warns you when you run out..... Listed under: [Solar energy project Ideas](#)
816. [DIY Temperature & Humidity & Smoke Detector Alarm System](#) The working voltage of this system is DC5V. It can measure the current temperature, humidity and smoke. It can display real-time data by the 1602 LCD and can realize the sound and light alarm when in the dangerous temperature and humidity. It is a simply..... Listed under: [How To – DIY – Projects](#)
817. [Fast Counter](#) Every once in a while there is a question in the Arduino forum on how fast you can toggle an IO pin. The answer to this question depends on your line of thinking / what you will allow as an answer. So here is my..... Listed under: [Clock – Timer Projects](#)

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818. [Control a Parrot AR Drone with Linino](#) Performing the control of the AR.Drone with the iOS or Android apps is really difficult. The controls are very unstable because the app virtual joystick hasn't a good sensitivity response. The idea was to use a real joystick instead of the Parrot application itself: So,..... Listed under: [Drone](#)
819. [Universal Remote Control](#) The transmitter in the remote control handset sends out a stream of pulses of infrared light when the user presses a button on the handset. A transmitter is often a light emitting diode (LED) which is built into the pointing end of the remote control..... Listed under: [Other Projects](#)
820. [Arduino / Raspberry Pi Internet Radio](#) This is a project for Arduino and Raspberry Pi to make an Internet Radio, aimed at intermediate skill level. Some familiarity with Linux usage will be beneficial (or access to someone who can help out if required). Raspberry Pi runs mpd music player daemon to..... Listed under: [Other](#)

Projects

821. [Useless Box](#) Story Fascinated by this humorous anthropomorphic idea on instructable that left me philosophizing deeply about the essence of art, I decided to make this a project after witnessing many ruthless battles between human and robot on YouTube. How does it work? The Arduino "listens" to..... Listed under: [Other Projects](#)
822. [Psychic Arduino](#) If life has been too serious for you lately, this weekend project will take some of the stress out of your life and create a really neat toy in the process; a delight for a child or for those children who gather around your desk..... Listed under: [Arduino Android](#)
823. [Provocation: Urban Encounters](#) Description Urban Encounters is our imagination of the future of interactive surfaces within our 5x5x5 site. The crosswalk "island" we chose at the corner of Shattuck and Center in downtown Berkeley promotes an interesting combination of isolation, stuck-ness and loneliness. To bring out these themes into the physical world,..... Listed under: [Other Projects](#)
824. [Kroebe Lights](#) Brainstorming Process After selecting Kroeber Fountain as our location of interest, we began to notice that it was a place at which people would congregate without interacting with one another. The fountain's shape - most notably, its tiered steps - affords it the ability to..... Listed under: [Other Projects](#)
825. [Paper Instruments](#) What are the paper instruments made of? Using Conductive Paint, we were able to create a paper piano & guitar that plays notes and changes graphics on a screen. Paper Piano Arduino Code Step by step - Paper Instrument Development Software needed Processing: <https://processing.org/> Capacitive Arduino..... Listed under: [Other Projects](#)
826. [Zeitfluss – Flow of Time](#) About this project Reasoning about time by printing onto the surface of a river Maybe you know situations when time's running up. In German there is a metaphor for that and translated it would be something like "time trickles away". Having this saying in mind..... Listed under: [Clock – Timer Projects](#)
827. [Raspberry Pi teams up with an Arduino](#) The principal behind ArduinoPi First a little clarification, the ArduinoPi isn't really a library or a command set or an out of the box controller, its more a proof of concept using already know programming languages. If you want to use it be ready for..... Listed under: [Other Projects](#)
828. [Cracking an electronic safe using brute force](#) Preface There's nothing nefarious here, nor is the information contained herein particularly helpful to thieves or the dishonest. A thief would just cut the dang thing open and be done with it. The story So I bought a fire safe to protect some documents that..... Listed under: [Security – Safety Projects](#)
829. [Drawing with a Laser – Hack-a-Day Logo](#) Reading Hack a Day I found an interesting challenge: drawing their logo somewhere. And the fact that was even more interesting: "preference will be given to the largest and smallest submissions". I started figuring out how to do something like that with the things I had around, and..... Listed under: [Other Projects](#)
830. [Arduino Astronomical Clock](#) This product allows you to set separate turn-on and turn-off times and those repeat every day. The disadvantage of this product is that, as the seasons change, you need to constantly adjust the turn-on and turn-off times. As illustrated in Figure 1, the variation over..... Listed under: [Clock – Timer Projects](#)
831. [Bike Across the Country While in Your Basement](#) About this project This is a very simple and easy-to-build project that provides a sensor on the pedal crank of any exercise bike and generates keyboard output triggering Google Maps Street View to advance via the up arrow key. In my design, you pedal the crank five..... Listed under: [Car Projects](#)
832. [Arduino stick](#) Description Mystick is an innovative hiking stick that promote exploration and allows you to share your hiking experiences and special findings with other users. When picked up by a user, the Mystick already has a predetermined location to which it directs using a compass and..... Listed under: [Other Project Ideas](#)
833. [Arduino Based Distance Measurement using Ultrasonic Sensor](#) Ultrasonic sensors are great tools to measure distance without actual contact and used at several places like water level measurement, distance measurement etc. This is an efficient way to measure small distances precisely. In this project we have used an Ultrasonic Sensor to determine the distance of an obstacle from..... Listed under: [Sensor – Transducer – Detector Projects](#)
834. [LPG Leakage Detector using Arduino](#) While LPG is an essential need of every household, its leakage could lead to a disaster. To alert on LPG leakage and prevent any mishappening there are various products to detect the leakage. Here we have developed an Arduino based LPG gas detector alarm. If gas..... Listed under: [Other Projects](#)
835. [Live Temperature and Humidity Monitoring over Internet using Arduino and ThingSpeak](#) Humidity and Temperature are very common parameters for measuring at many places like farm, green house, medical, industries home and offices. We have already covered Humidity and Temperature Measurement using Arduino and displayed the data on LCD. In this IoT project we are going to..... Listed under: [Temperature Measurement Projects](#)
836. [Arduino Based Digital Thermometer](#) Thermometers are useful apparatus being used since long time for temperature measurement. In this project we have made an Arduino based digital thermometer to display the current ambient temperature and temperature changes on a LCD unit in real time . It can be deployed in houses, offices, industries etc..... Listed under: [Metering – Instrument Projects](#)
837. [Interfacing Arduino with Raspberry Pi using Serial Communication](#) Raspberry Pi and Arduino are the two most pop Community. They are not only popular among Electronics Engineers but also among school students and hobbyists, because of their Easiness and Simplicity. Even some people just started liking Electronics because of Raspberry..... Listed under: [Other Projects](#)
838. [Interfacing TFT LCD with Arduino](#) Today, we are going to Interface 2.4 inch TFT LCD Shield with Arduino. By using this color TFT LCD shield we can show characters, strings, blocks, images etc on the color TFT LCD. And we can use this TFT Shield in many applications like: Security..... Listed under: [LCD Projects](#)
839. [How to Send Data from Arduino to Webpage using WiFi](#) Wireless communication between Electronic devices and modules is very important, to make them 'Fit' in the World of Internet of Things. HTTP protocol and HTML language have made it possible to transfer the Data anywhere in the world, over the web. We have

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already covered..... Listed under: [Other Projects](#)

840. [Sending Email using Arduino and ESP8266 WiFi Module](#) We are moving towards the World of Internet of Things (IoT). This technology plays a very important role in the Electronics and Embedded system. Sending an Email from any Microcontroller or Embedded system is very basic thing, which is required in IoT. So in this article,..... Listed under: [Other Projects](#)
841. [Wireless Notice Board using GSM and Arduino](#) Wireless notice board is very selective term for this project, as it has a very wide scope rather than just being a simple notice board. First we should understand the purpose of this project, in this system we can display a message or notice to..... Listed under: [Other Projects](#)
842. [Pressure Sensor BMP180 Interfacing with Arduino Uno](#) In this tutorial we are going to design a Barometric Pressure Measuring System using BMP180 and ARDUINO. First of all for interfacing BMP180 to ARDUINO, we need to download a library specifically designed for BMP180. This library is available at: <https://github.com/adafruit/Adafruit-BMP085-Library> After attaching that library, we..... Listed under: [Sensor – Transducer – Detector Projects](#)
843. [Arduino 101 Curie iOS Pulse Sensor](#) I want use the Genuino 101 by Intel and Arduino for a project that regards health, but I want to use all the characteristics of the Arduino 101. One of most important characteristics of this board, I think, is the BLE connection. Then I want..... Listed under: [Sensor – Transducer – Detector Projects](#)
844. [Build A Arduino Bluetooth Vehicle](#) Before I even began to think about how my final chassis was going to look like I became obsessed with the idea of eliminating all of the useless space that plagued my previous designs. I wanted to reduced the car to its most essential components..... Listed under: [Car Projects](#)
845. [Control Door Lock Remotely Using Smartphone](#) Introduction Hi, friends. I came to this idea of controlling a door latch/lock remotely using a smartphone when I saw many people many times forget to carry latch/lock keys when they leave the house for a short trip, or the door gets latched accidentally while..... Listed under: [Security – Safety Projects](#)
846. [Quizmo](#) This project is related to developing a handy gadget to help kids practice basic arithmetic operations. I decided to make it as my kids were very lazy to look into the books and come back very soon saying that they have done it (specially multiplication..... Listed under: [Calculator Projects](#)
847. [Plan your Holiday with Smart Power Planner](#) Introduction Holiday times! It's the time we get a vacation to have fun and be relaxed. Everyone loves to make their holiday, an unforgettable one. But there will always be somethings that can bother you and spoil the holiday fun. As an example, while you..... Listed under: [Wireless Projects](#)
848. [Arduino HackHD Time-Lapse Dolly](#) Story This project was inspired by someone else who made an Arduino time-lapse dolly (suprise surprise). However that project was published some years back and I have lost the link to it. Of course time-lapse is not that exciting anymore but 5 years ago it..... Listed under: [Clock – Timer Projects](#)
849. [IoT Controlled Snow Machine](#) The most homemade snow machine you've ever seen. Made from a hairdryer, polystyrene and MKR1000. Controllable from anywhere in the world* Things used in this project Hardware components Arduino MKR1000 × 1 USB-A to Micro-USB Cable × 1 Apple USB Powe Adapter × 1 Jumper..... Listed under: [Other Projects](#), [Projects](#)
850. [Build A Grill & Deck-Door Monitor Using Arduino](#) Story We use our barbecue grill and our deck frequently. After once leaving the grill on all night, I wanted an easy way to check to make sure the grill is off before going to bed. This is especially important since our grill is tapped..... Listed under: [Other Projects](#)
851. [Give Your BLEBot a New Name](#) At the Hackster Hardware Meetup Seattle, we had a bunch of BLE Bot 9000 robots. The problem was that all of the bots exposed the same services and names, so you can't choose the robot you want to control. The solution to controlling your bot..... Listed under: [Other Projects](#)
852. [Tertiarm – 3d Printed Robot Arm](#) This is first version of my low cost 3d printed robot arm. It is based on Ikea Tertial lamp. I choose it because it has very good kinematic with using springs to unload servos. So you can use different number of springs to achive diffrent..... Listed under: [Robotics – Automation Projects](#)
853. [Knock To Open Treasure Chest](#) Preface My daughter asked me to build her a treasure chest that she could use to store her most valuable things. Obviously she demanded it to have some kind of a locking mechanism so only she could open the box. First thought was to use..... Listed under: [Security – Safety Projects](#)
854. [Arduino Bluetooth-controlled Mini-Lift](#) Story We love our workshop, but it has one downside (or maybe upside) - a large flight of stairs to the gallery. We constantly need to move parts and components between one floor and the other, so we've been plotting different ideas: drones, dogs, carrier..... Listed under: [Other Projects](#)
855. [Build A Voice-Controlled Robot Using Arduino](#) Story Voice-controlled Robot Voice-controlled robot is both hardware and cloud solution in one piece. The main components are: 1. Alexa Skill - to interpret voice commands and translate them to Google Cloud Messaging messages - deployed to Heroku cloud 2. Android application - to receive..... Listed under: [Robotics – Automation Projects](#)
856. [Humidity Display of Date, Time and Temperature](#) Story Have you ever wanted to make your own interface that can display the time, date, along with the temperature and the humidity? Well it's a lot easier than you'd think. A few important components are needed, as shown below. And the first thing will..... Listed under: [Temperature Measurement Projects](#)
857. [Serial Basic Hookup Guide](#) Introduction The Serial Basic is an easy to use USB to Serial adapter based on the CH340G IC from WCH. It works with 5V and 3.3V systems and should auto install on most operating systems without the need for additional drivers. It's a great lower..... Listed under: [Other Projects](#)
858. [Arduino-Powered Water Bottle](#) Introduction: Drinking enough water is very important for our health. Drinking more water can lead to clearer skin, better overall health, improved productivity and brain function, increased energy levels, and even weight loss. In our busy lives, it is really hard to remember to drink..... Listed under: [Other Projects](#)
859. [Complete Digital Clock including Alarm and Motion Sensor](#) I have done several designs of digital clocks for Arduino using LEDs and LCD displays, but this one is more special because I added other features like alarm and motion sensor (PIR). Main features PIR (Presence Infrared Sensor) RTC (real-time clock) Alarm

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Temperature Humidity Water..... Listed under: [Clock – Timer Projects](#)

860. [Build A Wake Up Alarm Clock Using Arduino](#) Story After designing the "Clock Set Date Time" and hearing the suggestion of ArduPic , I thought it would be a good idea and also useful, add a "wake-up alarm." A small change to the code and adding a few components: Here's "the Alarm Clock" Listed under: [Clock – Timer Projects](#)
861. [Digital Dice using Arduino](#) We all are familiar with dice and often played LUDO or SANP SIDH (Snake & Ladders) game by using dice. Dice is a square type solid box which contains 6 different numbers on all of its sides. We throw dice on a surface to get..... Listed under: [Other Projects](#)
862. [Automatic Door Opener using Arduino](#) You must have seen automatic door openers in shopping malls and other commercial buildings. They open the door when someone comes near the entrance and close it after sometime. A number of technologies are available to make such kinds of systems like PIR sensors, Radar sensors, Laser..... Listed under: [Other Projects](#)
863. [Computer Controlled Robot using Arduino](#) After designing this line follower robot using arduino uno, I have developed this computer controlled robot. It can be controlled via the computer and we can use specific keyboard keys to move it. It runs over serial communication which we have already discussed in our previous..... Listed under: [Robotics – Automation Projects](#)
864. [DTMF Controlled Robot using Arduino](#) In present time almost all the people are familiar with robots. Robots play a very important role in human life. Robots are a machine which reduces the human efforts in heavy works in industries, building etc. and makes life easy. We are here with our next robot..... Listed under: [Robotics – Automation Projects](#)
865. [DC Motor Control using Arduino](#) Here we are going to interface a DC motor to Arduino UNO and its speed is controlled. This is done by PWM (Pulse Width Modulation). This feature is enabled in UNO to get variable voltage over constant voltage. The method of PWM is explained here;..... Listed under: [Motor Projects](#)
866. [Arduino Based LED Dimmer using PWM](#) This LED DIMMER is an Arduino Uno based PWM (Pulse Width Modulation) circuit developed to get variable voltage over constant voltage. The method of PWM is explained below. Before we get start building a 1 Watt LED Dimmer circuit, first consider a simple circuit as shown in figure below. Now..... Listed under: [PWM Projects](#)
867. [How to Use Shift Register 74HC595 with Arduino Uno?](#) In ARDUINO we have 20 I/O pins, so we can program 20 pins of UNO to be used as either input or output. Although there are more pins on ATMEGA328P controller than on UNO, this is because while designing the board some pins are defaulted. Now..... Listed under: [Memory – Storage Projects](#)
868. [Arduino Temperature Control – Adjust Fan Speed based on Temperature](#) In this Arduino based project, we are going to control DC fan speed according to the room temperature and show these parameter changes on a 16x2 LCD display. It is accomplished by the data communications between Arduino, LCD, DHT11 sensor Module and DC fan that..... Listed under: [Temperature Measurement Projects](#)
869. [Interfacing 16x2 LCD with Arduino](#) To establish a good communication between human world and machine world, display units play an important role. And so they are an important part of embedded systems. Display units - big or small, work on the same basic principle. Besides complex display units like graphic displays..... Listed under: [LCD Projects](#)
870. [7 Segment Display Interfacing with Arduino](#) In this tutorial we are going to interface a seven segment display to ARDUINO UNO. The display counts from 0-9 and resets itself to zero. Before going further, let us first discuss about seven segment displays. A seven segment display got its name from the very..... Listed under: [LED Projects](#)
871. [Accelerometer Based Hand Gesture Controlled Robot using Arduino](#) Robots are playing an important role in automation across all the sectors like construction, military, medical, manufacturing, etc. After making some basic robots like line follower robot, computer controlled robot, etc, we have developed this accelerometer based gesture controlled robot by using arduino uno. In this project..... Listed under: [Robotics – Automation Projects](#)
872. [How to Use ADC in Arduino Uno?](#) In this tutorial we are introducing concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. Arduino board has six ADC channels, as show in figure below. Among those any one or all of them can be used as inputs for analog voltage. The Arduino Uno..... Listed under: [Other Projects](#)
873. [Humidity and Temperature Measurement using Arduino](#) Humidity and temperature are common parameters to measure environmental conditions. In this Arduino based project we are going to measure ambient temperature and humidity and display it on a 16x2 LCD screen. A combined te mperature and himidity sensor DHT11 is used with Arduino uno..... Listed under: [Temperature Measurement Projects](#)
874. [Color Detector using Arduino Uno](#) In this project we are going to interface TCS3200 color sensor with Arduino UNO. TCS3200 is a color sensor which can detect any number of colors with right programming. TCS3200 contains RGB (Red Green Blue) arrays. As shown in figure on microscopic level one can see..... Listed under: [Other Projects](#)
875. [Automatic Room Light Controller with Bidirectional Visitor Counter](#) Often we see visitor counters at stadium, mall, office, class rooms etc. How they count the people and turn ON or OFF the light when nobody is inside? Today we are here with automatic room light control Click here to get AI-based help by using Arduino Uno. It is very..... Listed under: [Home Automation Projects](#)
876. [Electronic Voting Machine using Arduino](#) We all are quite familiar with voting machines, even we have covered few other electronic voting machine projects previously here and here using RFID and AVR microcontroller. In this project, we have used the arduino controller to create an electronic voting machine. Components Arduino Uno 16x2..... Listed under: [Other Projects](#)
877. [Arduino Based Heartbeat Monitor](#) Heart rate, body temperature and blood pressure monitoring are very important parameters of human body. Doctors use various kind of medical apparatus like thermometer for checking fever or body temperature, BP monitor for blood pressure measurement and heart rate monitor for heart rate measurement. In..... Listed under: [Medical – Health based Projects](#)

878. [Arduino Based LED Chaser using Rotary Encoder](#) In this project we are going to interface a ROTARY ENCODER with ARDUINO. ARDUINO UNO is an ATMEGA controller based development board designed for electronic engineers and hobbyists. In ARDUINO we have 20 I/O pins, so we can program 20 pins of UNO to be..... Listed under: [LED Projects](#)
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879. [Keypad Interfacing with Arduino Uno](#) In this tutorial we are going to interface a 4x4 (16 key) keypad with ARDUINO UNO. We all know keypad is one of the most important input devices used in electronics engineering. Keypad is the easiest and the cheapest way to give commands or instructions to..... Listed under: [Other Projects](#)
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880. [Servo Motor Control using MATLAB](#) In this tutorial you will learn to make direct connection between your Arduino and Matlab, so that you can program your Arduino directly through Matlab. It is very useful when you are working on complex robotics like Robotic Hand, Humanoid etc. as you can process your..... Listed under: [PWM Projects](#)
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881. [Magnetic Field Strength Measurement using Arduino](#) In this project we are using the concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. We are going to use a Hall Effect sensor and Arduino uno to measure the field strength of a magnet. The sensor which we have used here is UGN3503U. This..... Listed under: [Other Projects](#)
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882. [RFID Interfacing with Arduino](#) In this tutorial we are going to design a system to read the ID of RFID cards. RFID stands for Radio Frequency Identification. Each card has a unique ID embedded in it. These systems have many applications, like in offices, shopping malls and in many other..... Listed under: [Other Projects](#)
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883. [Servo Motor Control using Arduino](#) In this tutorial we are going to control a servo motor by ARDUINO UNO. Servo Motors are used where there is a need for accurate shaft movement or position. These are not proposed for high speed applications. These are proposed for low speed, medium torque..... Listed under: [Motor Projects](#)
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884. [Automatic Water Level Indicator and Controller using Arduino](#) In this Arduino based automatic water level indicator and controller project we are going to measure the water level by using ultrasonic sensors. Basic principal of ultrasonic distance measurement is based on ECHO. When sound waves are transmitted in environment then they return back to the origin as..... Listed under: [Other Projects](#)
-
885. [Working of Force Sensor with Arduino](#) In this project we will be developing a fun circuit using Force sensor and Arduino Uno. This circuit generates sound linearly related to force applied on the sensor. For that we are going to interface FORCE sensor with Arduino Uno. In UNO, we are going use..... Listed under: [Sensor – Transducer – Detector Projects](#)
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886. [8x8 LED Matrix using Arduino](#) In this project we are going to design an 8x8 LED matrix display, for that we are going to interface an 8x8 LED matrix module with Arduino Uno. An 8x8 LED matrix contains 64 LEDs (Light Emitting Diodes) which are arranged in the form of a matrix, hence..... Listed under: [LED Projects](#)
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887. [RGB LED with Arduino](#) In this project we are going to interface 5 RGB (Red Green Blue) LEDs to Arduino Uno. These LEDs are connected in parallel for reducing PIN usage of Uno. The RGB LED will have four pins as shown in figure. PIN1: Color 1 negative terminal..... Listed under: [LED Projects](#)
-
888. [Servo Motor Control by Flex Sensor](#) In this tutorial we are going to develop a circuit using FLEX sensor, Arduino Uno and a Servo motor. This project is a servo control system where the servo shaft position is determined by the flex or bent or deviation of the FLEX sensor. Lets first..... Listed under: [Motor Projects](#), [Sensor – Transducer – Detector Projects](#)
-
889. [Variable Power Supply By Arduino Uno](#) In this tutorial we will develop a 5V variable voltage source from Arduino Uno. For that we are going use ADC (Analog to Digital Conversion) and PWM (Pulse Width Modulation) feature. Some digital electronic modules like accelerometer work on voltage 3.3V and some work on..... Listed under: [Other Projects](#)
-
890. [PC Controlled Home Automation using Arduino](#) This project explains designing a home automation system which is controlled by a computer to switch On and switch Off various electrical and electronics devices. For demonstration we have used 3 zero watt bulbs which indicates LIGHT, FAN and TV. It uses Arduino Uno board as a..... Listed under: [Home Automation Projects](#)
-
891. [Arduino Based Tone Generator](#) In this project we will develop a tone generator using Arduino Uno. We will have buttons interfaced with the UNO and each one of them generates different intensity of tone. The frequency of tone generated by the UNO is same at every internal. It's the intensity of the..... Listed under: [Other Projects](#)
-
892. [Snake Game on 8x8 Matrix using Arduino](#) Snake Game has been very popular since the beginning of the Mobile phones. Initially it was come in Black and white cell phones, and soon became very famous. Then with the advancement of the Cellphones, this game has also changed a lot, and now many..... Listed under: [Game – Entertainment Projects](#)
-
893. [Digital Code Lock using Arduino](#) Security is a major concern in our day to day life, and digital locks have become an important part of these security systems. One such digital code lock is imitated in this project using arduino board and a matrix keypad. Components Arduino Keypad Module Buzzer..... Listed under: [Other Projects](#)
-
894. [GSM Based Home Automation using Arduino](#) Mobile phone is a revolutionary invention of the century. It was primarily designed for making and receiving calls & text messages, but it has become the whole world after the Smart phone comes into the picture. In this project [Click here to get AI-based help](#)  ed under: [Home Automation Projects](#)
-
895. [Prepaid Energy Meter using GSM and Arduino](#) Prepaid Electricity Energy Meter is a good concept in which you can recharge its balance, like we do in our mobile phones. In this project we are building a automated system by using Arduino and GSM module. You can recharge the electricity balance through this..... Listed under: [Metering – Instrument Projects](#)
-
896. [Clap Switch using Arduino](#) In this project we are going to make Clapper circuit using the concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. We are going to use a MIC and Uno to sense the sound and trigger a response. This Clap ON Clap OFF switch basically turns..... Listed under: [Other Projects](#)
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897. [IR Remote Controlled Home Automation using Arduino](#) Previously we have covered many types of Home automations using different technologies like DTMF Based Home Automation, PC Controlled Home Automation using Arduino, Bluetooth Controlled Home Automation. In this project, we are using IR based wireless communication for controlling home appliances. In this project, Arduino..... Listed under: [Home Automation Projects](#)
898. [Bluetooth Controlled Toy Car using Arduino](#) After developing few popular robotic projects like line follower robot, edge avoiding robot, DTMF robot, gesture controlled robot, etc. in this project we are going to develop a bluetooth controlled robo car. Here we used a Bluetooth module to control the car, and it is also..... Listed under: [Car Projects](#)
899. [Servo Position Control with Weight \(Force Sensor\)](#) In this tutorial we will develop a circuit using Force sensor, Arduino Uno and a servo motor. It will be a servo control system where the servo shaft position is determined by the weight present on the force sensor. Before going any further let's talk..... Listed under: [Sensor – Transducer – Detector Projects](#)
900. [How to establish UART communication between ATmega8 and Arduino Uno?](#) Here we are going to establish a communication between an ATmega8 microcontroller and Arduino Uno. The communication established here is UART (Universal Asynchronous Receiver Transmitter) type. It's serial communication. By this serial communication data can be shared between two controllers, which is a required in various embedded system..... Listed under: [Arduino Programmer Projects](#)
901. [WiFi Controlled Robot using Arduino](#) There are many types of Robots, from the simple ones like a Toy car to the advanced ones like industrial Robots. We have already covered many types of Robots using different technologies, have a look at them: Line Follower Robot using 8051 Microcontroller Line Follower..... Listed under: [Robotics – Automation Projects](#)
902. [Arduino Solar Day Night Controller](#) Introduction This is an Arduino controlled light sensing switching unit. Its main use is to control solar lights to turn on when it is dark outside, but it can work in many more applications. This guide will walk you through every aspect of the building..... Listed under: [Solar energy projects](#)
903. [Capacitance Meter using Arduino](#) When we come across circuit boards which are previously designed or we take out one from old TV or computer, in attempt to repair it. And sometimes we need to know the capacitance of particular capacitor in the board to eliminate the fault. Then we..... Listed under: [Metering – Instrument Projects](#)
904. [GUI Based Home Automation System using Arduino and MATLAB](#) We all are familiar with the word 'Automation', where the human interaction is minimal and things can be controlled automatically or remotely. Home automation is very popular and demanding concept in the field of Electronics, and we are also making our best efforts to make..... Listed under: [Home Automation Projects](#)
905. [Arduino GPS Clock](#) There are many GPS satellites around the Earth which are used to provide the exact location of any place. Along with the location coordinates (Latitude and Longitude), it also provide other data like time, date, altitude, direction tracking angle etc. We have already learned to..... Listed under: [Clock – Timer Projects](#), [GPS Based Projects](#)
906. [How to Use GPS With Arduino](#) GPS is a very useful device which is used in many electronics projects and applications like vehicle tracking system, GPS Clock, Accident Detection Alert System, traffic navigation and surveillance system etc. But question is how to use the GPS and read the data from GPS? We can..... Listed under: [Other Projects](#)
907. [Arduino Propeller LED Display](#) You have seen Propellers in Aircrafts or in marine ships, if not in real then in movies for sure. In this session we are going to design a Propeller Display with Arduino, LEDs and a DC motor. In this Propeller Display, text will appear to..... Listed under: [LED Projects](#)
908. [DIY LED VU Meter as Arduino Shield](#) VU Meter or Volume Meter is very popular and fun project in Electronics. We can consider the Volume Meter as an Equalizer, which is present in the Music systems. In which we can see the dancing of LEDs according to the music, if music is loud then equalizer..... Listed under: [How To – DIY – Projects](#), [LED Projects](#)
909. [Call and Message using Arduino and GSM Module](#) Sometimes people find it difficult to use the GSM Module for its basic functions like calling, texting etc., specifically with the Microcontrollers. So here we are going to build a Simple Mobile Phone using Arduino, in which GSM Module is used to Make the Call,..... Listed under: [Phone Projects](#)
910. [DIY Smart Vacuum Cleaning Robot using Arduino](#) Hi guys, are you a newbie to the world of Robotics or Electronic? OR Are you looking for a simple yet powerful project to make your friends and teachers impressed? Then this is the place. In this project we will use the power of Embedded..... Listed under: [How To – DIY – Projects](#)
911. [Track A Vehicle on Google Maps using Arduino, ESP8266 & GPS](#) Vehicle Tracking System becomes very important now days, especially in case of stolen vehicles. If you have GPS system installed in your vehicle, you can track you Vehicle Location, and its helps police to track the Stolen Vehicles. Previously we have built similar project in..... Listed under: [Other Projects](#)
912. [Make Your Own Homemade Arduino Board with ATmega328 Chip](#) Arduino is an open-source development platform for engineers and hobbyists to develop electronics projects in an easy way. It consists of both a physical programmable development board (based on AVR series of microcontrollers) and a piece of software or IDE which runs on your computer and used to write and upload..... Listed under: [Home Automation Projects](#)
913. [Frequency Counter using Arduino](#) Almost every electronic hobbyist must have faced a scenario where he or she m..... Listed under: [Metering – Instrument Projects](#)
914. [Arduino Solar Tracker using LDR and Servo Motor](#) In this article we are going to make a Solar Panel Tracker using Arduino, in which we will use two LDRs (Light dependent resistor) to sense the light and a servo motor to automatically rotate the solar panel in the direction of the sun light..... Listed under: [Solar energy projects](#)
915. [Smoke Detector using MQ2 Gas Sensor and Arduino](#) Smoke Detectors are very useful in detecting smoke or fire in buildings, and so are the important safety parameters. In this DIY session, we are going to build a Smoke Detector Circuit which not only sense the smoke in the air but also reads and displays the level.....

Listed under: [Sensor – Transducer – Detector Projects](#)

916. [Heart Beat Monitoring over Internet using Arduino and ThingSpeak](#) In this project we are going to make a Heart Beat Detection and Monitoring System using Arduino that will detect the heart beat using the Pulse Sensor and will show the readings in BPM (Beats Per Minute) on the LCD connected to it. It will..... Listed under: [Medical – Health based Projects](#)
917. [Using the Android Platform to control Robots](#) The popularity of android devices is attributed to their powerful capabilities which include internet connectivity, open architecture, and several other kinds of built-in sensors. Students and other software developers are increasingly using the android platform since it utilizes Java programming language which can easily be..... Listed under: [Phone Projects](#), [Robotics – Automation Projects](#)
918. [Arduino based Automatic Plant Irrigation System with Message Alert](#) Whenever we go out of town for few days, we always used to worry about our plants as they need water on regular basis. So here we are making Automatic Plant Irrigation System using Arduino, which automatically provides water to your plants and keep you updated..... Listed under: [Home Automation Projects](#)
919. [IOT based Air Pollution Monitoring System using Arduino](#) In this project we are going to make an IOT Based Air Pollution Monitoring System in which we will monitor the Air Quality over a webserver using internet and will trigger a alarm when the air quality goes down beyond a certain level, means when..... Listed under: [Sensor – Transducer – Detector Projects](#)
920. [Scrolling Text Display on 8×8 LED Matrix using Arduino](#) In this tutorial we are going to design an 8x8 LED Matrix Scrolling Display using Arduino Uno, which will show scrolling alphabets. 8x8 LED Matrix contains 64 LEDs (Light Emitting Diodes) which are arranged in the form of a matrix, hence the name is LED..... Listed under: [LED Projects](#)
921. [IOT Based Dumpster Monitoring using Arduino & ESP8266](#) In this DIY, we are going to make an IOT based dumpster/garbage Monitoring System which will tell us that whether the trash can is empty or full through the webserver and you can know the status of your 'Trash Can' or 'Dumpsters' from anywhere in the..... Listed under: [Other Projects](#)
922. [The Big Easy Stepper Motor Driver](#) Stepper (or step) motors are really cool. They are perfect for automation or any time you need a motor to turn to a specific point, at a specific speed, in a specific direction. And, unlike typical motors, steppers are able to do all of this,..... Listed under: [Motor Projects](#)
923. [Sensing Humidity With The SHT15](#) The SHT15 is a digital humidity sensor that outputs a fully calibrated humidity reading. And... because what we are measuring is actually relative humidity, and relative humidity being relative to temperature, the SHT15 has a builtin digital thermometer. This makes things much easier to work..... Listed under: [Sensor – Transducer – Detector Projects](#)
924. [MQ-3 Alcohol Sensor, Breakout Board + Arduino](#) lot has happened since our last article was published and to celebrate the continuance of bildr we'll be playing with the MQ-3 Alcohol Gas Sensor. Coupled with the SparkFun Gas Sensor Breakout Board, connecting the MQ-3 to your Arduino is a breeze. The MQ-3 is..... Listed under: [Sensor – Transducer – Detector Projects](#)
925. [DIY 3X3X3 LED Cube with Arduino](#) In this project we are going to design a 3x3x3 LED CUBE and connect it to Arduino UNO to get different patterns. For a beginner we will start with a simple pattern. A typical 3*3*3 LED cube connected to UNO is shown in the image above,..... Listed under: [How To – DIY – Projects](#)
926. [Art-duino](#) We built a mini-crawler robot that draws a path behind it to make interesting designs. We chose this design for a variety of reasons. First and foremost, we experimented with attaching our other materials to the motors, and most of them were too heavy for..... Listed under: [Other Projects](#)
927. [Mobile Phone Controlled Robot Car using G-Sensor and Arduino](#) In this article, we are going to Control the Robot Car through the G sensor of our mobile phone and you will be able to move the Robot just by tilting the Phone. We will also use Arduino and RemoteXY app for this G-Sensor Controlled..... Listed under: [Car Projects](#)
928. [Interfacing MQ2 to Arduino- Gas Sensor for Smoke-Butane-CH4 and LPG](#) In this article, we are going to learn how to interface MQ2 Gas Sensor with Arduino. MQ2 is basically a general purpose gas sensor (similar to MQ5) which can sense a broad range of gases like LPG, Butane, Methane(CH4), Hydrogen and in addition to these..... Listed under: [Sensor – Transducer – Detector Projects](#)
929. [Interfacing PIR Sensor to Arduino – Connect Motion Sensor/Detector to Arduino](#) In this article, we are going to learn how to interface/connect PIR Sensor or Passive Infrared Sensor to Arduino. We have written a tutorial on how to interface PIR sensor to 8051 previously in CircuitsToday! So a PIR sensor which is also known as Pyroelectric..... Listed under: [Sensor – Transducer – Detector Projects](#)
930. [Arduino and 7 Segment Display – Interfacing Tutorial](#) In this article, we are publishing a tutorial on how to interface seven segment LED display to Arduino. Seven segment displays are used in many embedded system and industrial applications where the range of outputs to be shown is known beforehand. Basic 1 digit seven segment..... Listed under: [LED Projects](#)
931. [LM35 and Arduino – Temperature Measurement and Display on LCD](#) In this article, we are presenting a tutorial on how to interface LM35 and Arduino along with its program. Once we successfully interface arduino and lm35, we will go on to build a temperature display using arduino and a 16×2 LCD module which constantly monitors..... Listed under: [LCD Projects](#), [Temperature Measurement Projects](#)
932. [Interfacing 8×8 LED Matrix with Arduino](#) LED matrix displays can be used to display almost anything. Most modern boards with controllers. In this tutorial we are going to interface a single color 8×8 LED matrix with Arduino and display a few characters in..... Listed under: [LED Projects](#)
933. [How to Make an LED Scrollbar](#) In this tutorial, we are going to build an LED Scroll Bar as shown in the image given below. The project is designed to flash Ten LED strips (by giving different lighting patterns for each strip) with the help of a control board. We..... Listed under: [LED Projects](#)
934. [Interfacing MQ5 LPG Sensor to Arduino](#) In this guide, we learn how to interface MQ5 Gas sensor (which is a generic Gas Sensor more suited to detect and determine LPG concentrations) with Arduino. In this tutorial, we are using the MQ5 Gas sensor module (which is widely available in market) Listed under:


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[Sensor – Transducer – Detector Projects](#)

935. [Tachometer using arduino](#) Tachometer is a device used for measuring the number of revolutions of an object in a given interval of time. Usually it is expressed in revolutions per minute or RPM. Earlier tachometers purely mechanical where the revolution is transferred to the tachometer through mechanical coupling.....
Listed under: [Other Projects](#)
936. [Programming an ATtiny w/ Arduino 1.6 \(or 1.0\)](#) This tutorial shows you how to program an ATtiny45, ATtiny85, ATtiny44 or ATtiny84 microcontroller using the Arduino software. These are small, cheap (\$2-3) microcontrollers that are convenient for running simple programs. The ATtiny45 and ATtiny85 have eight legs and are almost identical, except that the..... Listed under: [Other Projects](#)
937. [Temperature logger using arduino](#) Simple temperature logger using arduino (°C & °F). This project is about a simple USB temperature logging system using arduino uno and the serial monitor function in the arduino IDE. The system monitors the temperature every 2 seconds and shows it on the arduino serial monitor..... Listed under: [Temperature Measurement Projects](#)
938. [Gas Leakage Detector using Arduino and GSM Module with SMS Alert and Sound Alarm](#) We have published lots of interesting arduino projects like GSM based Fire Alarm System , Line Following Robot, RFID Based Access Control System and many other useful projects. This time, we are publishing a highly useful home application – Gas Leakage Detector using Arduino and..... Listed under: [Sensor – Transducer – Detector Projects](#)
939. [Arduino and Python](#) Talking to Arduino over a serial interface is pretty trivial in Python. On Unix-like systems you can read and write to the serial device as if it were a file, but there is also a wrapper library called pySerial that works well across all operating..... Listed under: [Other Projects](#)
940. [Calibration](#) This example demonstrates one techinque for calibrating sensor input. The board takes sensor readings for five seconds during the startup, and tracks the highest and lowest values it gets. These sensor readings during the first five seconds of the sketch execution define the minimum and..... Listed under: [Sensor – Transducer – Detector Projects](#)
941. [Arduino Resistance Data Logger](#) I was working on a project were I needed a cheap and efficient way to log the changing resistance of a sensor while simultaneously logging the temperature. This project is similar in many respects to the other data loggers on my site. Three prototypes have..... Listed under: [Memory – Storage Projects](#)
942. [DS1631 – Arduino Code and Temperature Validation](#) Basic information The DS1631 is a low cost, I2C interface digital thermometer popular in the maker community. Capable of providing 12-bit temperature readings over a -55°C to +125°C range. I have need for a digital thermometer in many of my projects and thought it would..... Listed under: [Temperature Measurement Projects](#)
943. [Live Action MATLAB – Arduino data logger](#). Background I was in need of an affordable data logger for a project. I have access to MATLAB on all of my machines so it was an easy choice to build an Arduino based data logger that would easily interface with MATLAB R2014a. MATLAB is..... Listed under: [Memory – Storage Projects](#)
944. [Dented Joystick](#) Goals:The project goals are: Adjustable number of detents Adjustable foce threshold Software controlled damping Implementation: A brief overview: The team's design utilizes several components: Arduino Leonardo Firgelli L16-50-35-12-P actuators (2x) FSRs (4x) TI L293D H bridge MSU Eagle custom PCB print The..... Listed under: [Medical – Health based Projects](#)
945. [Staircase Meets Piano](#) In November 2014, we displayed our first completed project as a club, the Staircase Piano. The idea for the project was given to us by Professor Barry Brown before the club was even formed. Throughout the semester we worked towards putting the piano together for..... Listed under: [Arduino Programmer Projects](#)
946. [LTD SMRT Project \(Safe Monitored Rider Transit\)](#) The proposed new LTD public transportation system uses people counters on the bus system to get an accurate measure of rider tendencies across different routes at specific times. Each bus will be equipped with two sensors which will generate numeric data no larger than 4..... Listed under: [Development Board – Kits Projects](#)
947. [Nodemcu arduino interfacing project](#) A guide to getting started with the ESP8266 with the Arduino IDE This assumes that yo have a NodeMCU type board with the Silicon Labs CP2102 USB to UART Bridge. These boards are convenient because they can be connected directly to your computer for progamming..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
948. [Using an Arduino as a Latching Relay](#) I wrote this one hot week in July 2010. I've been leaving my front door ajar, to get some air through the house. Probably not a very good idea. So I thought I'd hook up an Arduino to ensure that no one takes advantage of..... Listed under: [LED Projects](#)
949. [Arduino-based Graphical Heart Rate Monitor](#) Introduction: Like many out there, I enjoy a good exercise session, whether it be indoors or outdoors. As part of that I purchased a Polar branded heart rate monitor, which came with a "Wearlink" chest strap and RS300Xsd receiver watch. The watch is able to..... Listed under: [Medical – Health based Projects](#)
950. [High-Power Control: Arduino + TIP120 Transistor](#) Up until now, we have talked about working with a lot of low-power devices. Sensors, LEDs, ICs, and the like are all capable of being powered directly from your Arduino, but as many awesome 5 and 3.3v components as there are, eventually you will find Listed under: [Sensor – Transducer – Detector Projects](#)
951. [SunAir Solar Power Controller for Raspberry Pi and Arduino](#) Ever wanted to build your own Solar Powered Raspberry Pi or Arduino system? SunAir and SunAirPlus are 3rd Generation Solar Charging and Sun Tracking Boards designed by Dr. John C. Shovic at SwitchDoc Labs. You can use this board to power your projects and add..... Listed under: [Solar energy projects](#)
952. [Using Arduino and Pd for musical live performance](#) Connecting an Arduino microcontroller to Pd is no big problem: You can just put Firmata on your Arduino and use the Pduino library for communication on the Pd side. But sometimes Firmata is not the answer to every problem: You may want to turn on..... Listed under: [Sound – Audio Projects](#)

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953. [Lab 8: Shift Register and Binary](#) Topics: First Build The Circuit The Code Hardware Theory Overview-"Rollover Rollover" What is a Shift Register How the Arduino Controls the Shift Register Software Theory The shiftOut Function Binary Numbers Other Functions in the Code Exercise References 1. First Build It would be a really..... Listed under: [LED Projects](#)
954. [Knock Detector](#) Introduction For the third assignment, we decided to make a 'knock-detector' that is capable of informing the user/owner of specific events. We designed our system such that it can detect both casual knocks and knock patterns. Casual knocks could be used to inform the owner/user..... Listed under: [Sensor – Transducer – Detector Projects](#)
955. [Arduino Yun SBC adds Wifi and Linux to Leonardo features](#) [Updated Sep 30] — Arduino announced the first open source Arduino hacker board with built-in WiFi, and also the first to run Linux. The \$69 Arduino Yun integrates the functions of an Arduino Leonardo, featuring an Atmel ATmega32U4 microcontroller and 14 GPIO pins, with an..... Listed under: [Wifi - Wlan Projects](#)
956. [Internet Datalogging With Arduino and XBee WiFi](#) Introduction Are you looking to get your data gathering project hooked into the "Internet-of-Things"? Then check out data.sparkfun.com! It makes posting data to the web as easy as constructing a URL and POSTing it to a server. I wanted to create a quick project to..... Listed under: [Wifi - Wlan Projects](#)
957. [Weather Monitor](#) This Instructable shows you how to build a micro-controller based weather monitoring device. Built on the Arduino Uno board it can easily be extended and modified should you have additional sensors at hand. Main requirements: - Measure temperature (accuracy +/- 0,5 degree Kelvin) - Measure..... Listed under: [Home Automation Projects](#), [Metering – Instrument Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
958. [Clear polycarbonate enclosures using Arduino](#) So about a year ago I decided that I wanted to get into AVR microcontrollers. After ordering an AVR pocket programmer from Sparkfun , I soon realized that it was too delicate to be sitting on a workbench full of wire clippings. I knew I..... Listed under: [Ideas](#), [Other Project Ideas](#)
959. [Tutorial 15: Arduino Serial Thermometer](#) The Arduino reads temperature from a MCP9700 temperature sensor IC and displays the temperature in the Arduino IDE serial monitor window. Also see the Arduino LCD thermometer tutorial (tutorial 14). Prerequisites Complete Tutorial 9: Using the Arduino Serial Port before attempting this tutorial. Components Besides..... Listed under: [Sensor – Transducer – Detector Projects](#)
960. [Solar-Oriented, Arduino-Powered Clock](#) This is a clock designed to keep accurate time (independent of atomic or GPS), display local sunrise, sunset and solar noon, and also adjust itself for daylight savings time. I wanted the clock to be easy to use and be flexible. The setting functions are..... Listed under: [Clock – Timer Project Ideas](#), [Ideas](#)
961. [DIY Low Cost Arduino Mobile Development Platform](#) I have wanted to build my own robot for awhile now. But after many tried and failed attempts, I was losing hope that may ever happen. I discovered that there wasn't a small, robust, super easy to add-on to, robot that was within my budget to..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Phone Projects](#)
962. [APR9600 Voice Recording and Playback System with JRC286D Chip ICStation Mega 2560 Compatible Arduino](#) ICStation team introduce you this APR9600 voice recording and playback system used in elevator based on the ICStation Mega2560 compatible with Arduino. It uses DC5V voltage to work. When you press the different keys, the loudspeaker will sound that which floor you arrive. This design..... Listed under: [Sound – Audio Projects](#)
963. [Magical Colour Copying Chameleon Lamp using Arduino](#) In this Instructable, I will show you how to make an Arduino powered lamp that detects the colour under it and then attempts to emulate that colour. All using easy to find parts (most can be found in the Dollar store with the exception of..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
964. [Ultrasonic Dimmer \(Without Humming Or Buzzing Noise\)](#) I have been working on this project for a while and whilst it is still under development I decided to write a short guide after several requests to do so. The dimmer uses an interrupt driven XL-Maxsonar EZ1 ultrasound range finder to measure the distance..... Listed under: [Sensor – Transducer – Detector Projects](#)
965. [Rotary Emotiphone using Arduino](#) Introduction The Rotary Emotiphone is a vintage rotary phone that tweets mood emoticons. It has a predefined list of 10 emoticons, each assigned to a digit, so that when you are happy / sad / drunk / etc., you pick up the handset and dial..... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Phone Project Ideas](#)
966. [High Speed Photo Arduino : HighSpeeduino](#) Today is High Speed Photography day ! The concept is to take a 'long' exposure photograph, 4 seconds say, in a (very) dark room (a bathroom in our case). You end up with a completely black picture, right ? If you burst a flash (about..... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)
967. [Control Two LEDS with an Arduino and bitVoicer](#) So what I want to do here is do several things with two LEDs with speech recognition I'm using bitvoicer you can get it here Step 1: Part List So I'm doing this with as little parts as I can, here's the list: Green LED..... Listed under: [LED Projects](#)
968. [DIY Guide for Amblone LED Light](#) In this section we will explain exactly how you can create your own Amblone setup, consisting of 3 RGB LED strips and an Arduino Mega. What do I need? To create the Amblone setup described in this guide, you will need the following: Amblone software..... Listed under: [LED Projects](#)
969. [Earfingers: Hear with your hands using Arduino](#) First and foremost, I must acknowledge that I am standing on the shoulders of giants (such as all contributors to instructables). If it weren't for the unknowably many people who had the mindfulness to..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)
970. [Talking Pumpkin](#) So my boss came to me one last week and said he wanted to scare the trick-or-treaters who came to his home, and the kids who would come to work during a special Halloween Walk the community does. Thus was born the talking pumpkin. In..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [PWM Projects](#), [Sensor – Transducer – Detector Projects](#), [Sound – Audio Projects](#)
971. [Basics of Turning your Remote Controll Vehicle into an Autonomous System \(Drone\) Using an Arduino](#) I began this project with the objective of cheaply turning my RC helicopter into something of a UAV or at least to fit some sensors to reduce collisions and other "mis-haps." Now unfortunately at the beginning of the

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project i miscalculated my little helicopter's lift..... Listed under: [Wireless Projects](#)

972. [Super Amazing Button using Arduino](#) Hello Everyone. This is my very first Instructable so please go easy on me. This was more or less a test project to see if my new arduino board worked. Any friendly advice will be greatly appreciated so my future posts can be even better..... Listed under: [Game – Entertainment Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)

973. [Connect A 16x2 LCD Display To An Arduino](#) Welcome to my FIRST instructable, i will show you how to connect a 16x2 lcd display to an arduino, follow these simple step by step instructions and you will have it done in no time 😊 Tools Needed : Soldering Iron Wire Strippers Pliers..... Listed under: [LCD Projects](#), [Projects](#)

974. [How to tweet from an Arduino using the wifi sheild](#) Hey, I am a big fan of Instructables. I have consistently used it for the past 3 years and now its time for me to write one myself.Here we go. This instructable is for those who want to make some inanimate object tweet automatically. Like say for..... Listed under: [Wireless Projects](#)

975. [Interactive Child’s Mobile using Arduino](#) What can you make with fluorescent acrylic as the inspiration? We chose to make a glow-in-the-dark baby mobile, with an accompanying toy. This project was completed as a part of the Computing and Craft class at Olin College of Engineering. Materials: - Craft Materials: -..... Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Ideas](#)

976. [Webserver for home appliances control](#) This instructable describes how a simple but powerful webserver used for controlling of home appliances can be done. The hart of the circuit is the ATmega328 microcontroller. I have chose this because I wanted to use all available Arduino libraries compatible with them. The Ethernet..... Listed under: [Home Automation Projects](#)

977. [Learning Arduino basics the easy way – Part 01 “Blink” or “The Internet”](#) You've bought your first Arduino or you're planning to get this great little device? Obi Wan would say: "That's good. You have taken your first step into a larger world." Same thing for me! Congratulations! You'll see, as soon as you master the basics, you'll..... Listed under: [Internet – Ethernet – LAN Projects](#)

978. [Datura 6 home automation – 2015 improvements](#) News: In this latest months I've made some important fixes and improvements to the code and to the webserver of the project. See datura_mega_v19.ino for the latest code. The most functional project over internet – Use it as a complete irrigation system for your garden,..... Listed under: [Home Automation Projects](#)

979. [Analog Read Voltage using Arduino](#) This example shows you how to read an analog input on Pin 0, convert the values from analogRead() into voltage, and print it out to the serial monitor. Circuit: image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect the three wires from..... Listed under: [Metering – Instrument Projects](#), [PWM Projects](#)

980. [Build A Firefighting Robot Using Arduino](#) For my project I created a robot with an attached water cannon. My mentor and I built it in a budget of around \$300 (not including the necessary equipment), and it functions quite well. For the motors we used drill motors, powered by the 18..... Listed under: [Robotics – Automation Projects](#)

981. [An animation inside a water drop by Physalia](#) 2000 pictures compose this piece- that is, 2000 perfect different water drops into which we mapped an animation. Droplets that behave and look strangely similar at the stage of less entropy, and become more disorderly as they splash. The final result of the piece you..... Listed under: [Video – Camera – Imaging Projects](#)

982. [PuttDuino putt-putt hole with Arduino](#) My company has annual events where we all get together for fun - to blow off steam and have a little competition. In the past we have had softball and bowling competitions. This year someone had an inspiration: each department would build a putt-putt 'hole'..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

983. [Temperature Wand using Arduino](#) Most of you have heard the expression 'Hot Air Rises'. Well, it's true. So in your typical house, it's going to be hotter near the ceiling than near the floor. How much hotter? Well, being a Lazy Old Geek, I wanted to know how much..... Listed under: [Ideas](#), [Temperature Measurement Project Ideas](#)

984. [Arduino Alphabet](#) This project is very interesting because it shows the sequence of all letters of our English alphabet. That is, the project generates capital letters from the A to the Z based on Arduino code and showed by an alphanumeric display. I'm using a common cathode..... Listed under: [How To – DIY – Projects](#), [LCD Projects](#)

985. [Arduino based Tic Tac Toe with TV Remote](#) This was my first time attending the Internet of Things Pune Group. It was such a fun learning experience! At today's meetup, Dhiraj and Nishant started out by introducing the InduinoX and Arduino Uno boards along with the Processing IDE that is used to write..... Listed under: [Wireless Projects](#)

986. [Arduino-powered A-10 stick grip remote w/Emergency Party Button](#) I came across Plama2002's "Emergency Party Button" build a while back and wanted something similar for my bar. I also had an old USAF B-8 stick grip from an A-10A that I picked up in my previous life. I figured instead of just being a..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#), [Radio Project Ideas](#)

987. [RaspiDuinoRover – \(Yet another\) iPhone driven moving Raspberry Pi and Arduino rover](#) Architecture RaspiDuinoRover Pi which receives commands from a remote device through a TCP connection, and sends these commands to an Arduino. The same TCP channel is used to send back the remote..... Listed under: [Wireless Projects](#)

988. [Hear your plant make music! – Ethernet version](#) This walk-through will show you how to build a sensor to monitor your plant's environment and use Stats in Sound's ERC-20 app to turn this data into music, allowing you to listen to your plant's reaction to it's environment. For more information on this project,..... Listed under: [Internet – Ethernet – LAN Projects](#), [Sound – Audio Projects](#)

989. [Autonomous drone that you already have in your pocket!](#) In this tutorial i want to learn you something, maybe change your mind. And make autonomous drones available for everyone. Simple question is: What do you need to make your drone autonomous? . Answer: - GPS - Accelerometer - Gyroscope - Telemetry


wireless system -..... Listed under: [Phone Projects](#)

990. [Temperature Recording Arduino Robot](#) My son and myself made a little arduino robot that records temperature. He wanted me to draw a robot, I wanted to experiment with blinking LEDs relaying data so a plan was hatched. The way the LEDs work is as follows: Green = lowest temperature..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
991. [TiltKey- Write by Tilting](#) The TiltKey is a keyboard input device based on tilting. Based on the angle that it is tilted at, and the direction it is tilted in, you can write every letter of the alphabet, every number, and every symbol found on a standard US keyboard..... Listed under: [Sensor – Transducer – Detector Projects](#)
992. [Gesture controlled robot using Arduino](#) This gesture controlled robot uses Arduino,ADXL335 accelerometer and RF transmitter-receiver pair. We will divide the entire robot into 3 parts the transmitter,the receiver and the robot. The different gestures that have been mapped to the direction of the bot are- Hand parallel to the ground-stationary..... Listed under: [Robotics – Automation Projects](#)
993. [Fading an LED off and on using Arduino](#) Demonstrates the use of the analogWrite() function in fading an LED off and on. AnalogWrite uses pulse width modulation (PWM), turning a digital pin on and off very quickly, to create a fading effect. Circuit Connect the anode (the longer, positive leg) of your LED to digital output pin 9 on your..... Listed under: [LED Projects](#), [Projects](#)
994. [Computer controlled RC car with two Arduinos](#) Required Parts: This project requires two Arduino boards which can be bought from <http://www.adafruit.com/category/17> This project uses two Arduino Uno compatible boards. An L293D or other Dual H-Bridge Motor Driver chip will be needed to drive the motors of the RC car. This can be..... Listed under: [Game – Entertainment Projects](#)
995. [Wing Tip Extensions for Arduino](#) Greetings, One late night of web surfing I came across some 45 Degree Extension boards. Thinking to myself "Wow!" that's cool and then I looked at the price...\$27.00 before S&H. "Yikes!" I've been looking for an excuse to learn Eagle PCB layout software and this..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
996. [RC MOOD LYTE](#) RC MOOD LYTE is a commercial quality flameless light engine for heavy, everyday use in the home, restaurant, catering and hospitality industry ,a great improvement over the traditional wax candles in terms of safety and reliability features . LED Candles have No wax, No smoke,..... Listed under: [LED Projects](#)
997. [Arduino Lilypad powered shooes for the visually impaired](#) Anirudh Sharma, an IT Engineer from Rajasthan Technical University has developed a system that offers non-obtrusive navigation for the visually impaired . Calling it Le Chal (Hindi for 'Take me there'), Sharma conceptualized and demonstrated the system at MIT (Massachusetts Institute of Technology) Media Lab..... Listed under: [Game – Entertainment Projects](#)
998. [Using an Arduino Uno R3 as a Game Controller](#) Naturally, the Uno does not natively support keyboard strokes, unlike it's Leonardo brother. Most of Google will tell you you need to do some firmware workarounds and ATMEGA reprogramming just to get it working and the entire ordeal is a mess. If you're like me,..... Listed under: [Game – Entertainment Projects](#)
999. [Arduino Sew Easy Wearable Shield](#) Wearable computing, e-textiles, soft circuits or whatever you want to call it, is a growing field of applying technology to garments or accessories like bags, shoes or backpacks. It is a fun and creative challenge which goes beyond just adding LED lights to fabric. For..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)
1000. [Binary metric clock using Arduino](#) This is a very odd kind of clock, which can easily be made with simple supplies. To begin the explanation, I would like to say that I have always wanted time to be metric. 5 o'clock would be mid-day, 7:5 would be three quarters (6:00..... Listed under: [Clock – Timer Project Ideas](#), [Ideas](#)
1001. [Hard Disk Clock \(HDD Clock with Arduino Uno\)](#) This is a fun project that can be done easily and also cheaply. In this instructable we will explain step by step how to make this beautiful POV clock. Used material: Arduino Uno, RTC modul, ULN 2003, IR diode and IR transistor (used like a..... Listed under: [Clock – Timer Projects](#)
1002. [Home Automation Using Arduino & Autohotkey](#) Its been awhile since i last posted something here. Was kinda busy with my university exams & all! Idea for this project was in my mind for very long & i don't think anyone would've done this project with Autohotkey! Anyway, this is a necessity..... Listed under: [Home Automation Projects](#)
1003. [Volcom RGB Desktop Light Box](#) Greetings! I'm Russell Petersen. I'm an engineer, inventor, designer, fabricator, and dreamer. I'm a junior Electrical Engineer by trade, located and working in the San Francisco Bay Area. I love playing with Solid State Lighting, and came up with this idea one night. Simply stated,..... Listed under: [LED Projects](#)
1004. [Twist Shield for the Arduino](#) This little 'Add-on' board allows you to 'Twist' an existing Arduino Shield 90 degree from its original footprint Twist Shield.brd42 KB Step 1: The Problem... Have you ever finished a project and then realized you stopped one step too soon? While plugging in various shields I..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)
1005. [FTDI Vinco USB Host/Device Development Platform – also for Android & Arduino](#) FTDI has announced its commitment to supporting the Android Open Accessories initiative, thus allowing engineers to realize exciting new system designs that are compatible with tablets and smartphones utilizing the highly popular Android operating system. "FTDI is very excited about the new Android Open Accessories..... Listed under [Click here to get AI-based help](#) ✕
1006. [Microcontrolled Farm Equipment](#) Modified BaleScoop(for picking hay bales out of the field) from manual levers to arduino controlled functions. This eliminates the need for 3 sets of hydraulic hoses to only one set and operator can focus more on where they are going rather then controlling the implement. This is set..... Listed under: [Other Projects](#)
1007. [Arduino PID Motor Controller](#) INTRODUCTION : The development of high performance motor drives is very important in industrial as well as other purpose applications. Generally all high performance motor drives use quadrature encoders and PID control because of its simplicity and precise control. The quadrature encoder acts as a..... Listed under: [Motor Projects](#)

1008. [Arduino Ultrasonic Parking Spotter](#) For my first instructable, I'd like to present The Parking Spotter. This is not a new concept, I know. However, this build was done specifically to suit my needs/wants/materials already in my possession. Typically, a project begins with an idea, parts are then gathered, and..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
1009. [ZIF socket Arduino-compatible board](#) In this tutorial we make an Arduino-compatible board that holds the microcontroller in a ZIF socket. Updated 18/03/2013 Today we are going to make a different type of Arduino-compatible board, one that has a ZIF ("zero insertion force") socket. Our reason for making this is..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1010. [Bootload an ATmega Microcontroller & Build Your Own Arduino – 2](#) Since you lacked the USB interface in your own Arduino board, it becomes necessary to use a homemade/ready-made USB to Serial Converter Module as an efficient and economical solution. Inexpensive and easy-to-use USB to Serial Converter modules are now widely available, such as one shown..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1011. [Simple Remote Data Plotting using Android / Arduino / pfodApp](#) Simple Remote Data Plotting using Android / Arduino / pfodApp This Instructable shows you how to plot Arduino sensor data on your Android mobile and capture it for later downloading to your computer. These instructions are also available at www.pfod.com.au No Android programming is required..... Listed under: [Arduino Android](#), [Arduino Programmer Projects](#), [Phone Projects](#)
1012. [How To Make a Simple Variable Frequency Generator Using Arduino](#) A frequency generator is a very handy device in electronic design, development, testing and trouble shooting. It is such a kind of device which can generate the required frequencies which can be then applied directly to the target device for testing it. There are frequency..... Listed under: [Development Board – Kits Projects](#)
1013. [Build A Fun Hackable Speaker Timer Using Arduino](#) This is a fun speaker timer I made for some upcoming conferences. It uses a 4-digit charlieplexed LED (pseudo 7-segment) display and is driven by a AVR ATmega328 or an Arduino. It allows a default time to be set, can be paused, and will put..... Listed under: [Clock – Timer Projects](#)
1014. [How to Build a Vibration Detector Circuit](#) In this project, we will go over how to build a vibration detector circuit.This is a circuit which can detect and measure flex, touch, vibration, and shock.The sensor we will use to detect these movements is a piezo vibration sensor from Measuremenet Specialists (MEAS). The..... Listed under: [Sensor – Transducer – Detector Projects](#)
1015. [Control an iPod with the Arduino](#) This tutorial will describe a way of controlling an iPod remote, and thus, an easy way of getting some music and sound out of your Arduino project. The remote we used was an unofficial remote I found on the worldwide auction site for around 10..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Phone Projects](#), [Projects](#)
1016. [DIY: Arduino Based Ohmmeter](#) This is a project based on Arduino board which can measure the unknown resistance values and perform diode test and continuity testing. When we connect the unknown resistor on the breadboard circuit, the 16x2 LCD displays the resistor value and when we connect a diode..... Listed under: [LED Projects](#)
1017. [Arduino Powered Four Letter Word Generator](#) Build an Arduino-powered version of the "Four Letter Word Generator" (FLW). This version generates "words" on the fly - it does not use a list. The "original" version from the 1970's used B7971 nixie alphanumeric tubes. These tubes are getting hard to find and they're..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
1018. [HSM-20G Interface with Arduino Uno](#) The HSM-20G is an analog humidity and temperature sensor that outputs analog voltage respects to relative humidity and temperature. However from this sensor relative humidity is found along with temperature. Relative humidity is the percentage of moistures of airs for a particular temperature [1]. Feature:..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1019. [Real-time room temperature on your Website using Arduino](#) This is how to push high resolution real-time data from Arduino-based temperature sensor to your web page without any server-side coding. Arduino is a great device for collecting, storing and transferring data from various sensors but there are times you need to make your data..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
1020. [How To Make a PC Control Robot](#) Do you ever tried to control your robot using your PC or laptop? Controlling a robot using PC or laptop is often being a fun for the student or hobbyist. Thus during this article you will be tend to learn how to control your robot..... Listed under: [Robotics – Automation Projects](#)
1021. [Arduino Controlled Nerf Vulcan](#) Yes, this is exactly what the title says it is. This instructable will teach you how to control any Nerf Vulcan, with your Arduino. The provided tutorial will just shoot for 2.5 seconds, stop for 2.5 seconds, and so on. It is like a "hello"..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1022. [PSoC 4 Pioneer Kit Community Project#042 – Hangman Game](#) Hello! It has been our Friday tradition for the past few weeks to end with a game. This week we have the Hangman game. In this game the user will be using two Pmod boards, an LCD and Button board to display outputs and generate..... Listed under: [Game – Entertainment Projects](#)
1023. [Build a big crane game using Arduino](#) How to build a whole room crane game. Based on the arcade style 'Crane Game' or 'Claw Machine'. This is a continuation of a previus instructable titled CRANE GAME in which we built a 2-axis crane game in a door frame. We have now added a third axis and..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1024. [Battery powered device hardware design tips](#) I'm working on a prototype product(Wifi motion sensor) that will be mega328(arduino bootloader, with sleep mode on and wake on interrupt,and WDT in case it hangs up), a PIR motion sensor , and a CC3000 break out..... Listed under: [Wireless Projects](#)
1025. [Accelerometer powered LED dress](#) Let's be honest for a moment, doesn't everyone want a dress that lights up at your very whim? No? Alright, well I do. It's pretty straightforward, though the programming gets a wee bit tricky. So pick up your pencil, sketch out a design and then we'll..... Listed under: [LED Projects](#), [Metering – Instrument Projects](#)
1026. [Beacon](#) In this tutorial you will learn how to turn any conductive surface into a capacitive touch sensor. This project illustrates how to use capacitive touch to turn on a motor (fan) and neopixel. In this example, all of the components were custom designed and built..... Listed under: [Sensor – Transducer – Detector](#)

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Projects

1027. [Digital thermometer using arduino](#) Digital thermometer using arduino and LM35. This article is about a simple three digit digital thermometer using arduino. Range of this thermometer is from 0°C to 99.9°C. There is also a provision for displaying the temperature in °F scale. Three terminal analog temperature sensor LM35..... Listed under: [Metering – Instrument Projects](#)
1028. [Making sound \(noise\) machines using Arduino](#) As a part of being an artist in residence at Instructables, I took it upon myself to build of couple of noise machines / music boxes. My interest lies in designing objects that would enable people to explore the world of sound synthesis and for..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)
1029. [Arduino powered voltmeter and temp gauge](#) For a while I have been looking for a way of getting a reading of main and leisure battery voltage, and inside and outside temperature in the van. I spent ages on researching and found some bits here and there that might help, but nothing..... Listed under: [Sensor – Transducer – Detector Projects](#)
1030. [Play Music using Arduino Esplora](#) This example shows how to play notes on the buzzer mounted on the Arduino Esplora. Buzzers can generate different audio signals in audible frequency ranges. A note is an audio signal at a specific frequency. If you know the frequency of the notes you want..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1031. [Servo Feedback Hack \(free\)](#) This Instructable brought to you by the kind folks a Rachel's Electronics Visit [www.rachelselectronics.com](#) for cool electronics kits and breadouts! This hobby servo hack will add shaft position feedback by tapping into the servo's own internal potentiometer. The only parts that need are wire and..... Listed under: [Sensor – Transducer – Detector Projects](#)
1032. [Make A Simple Object Tracking Robot Using Arduino](#) In this tutorial I am going to post the step-by-step procedure to make a simple Object Tracking Bot. The main aim of this Bot is to follow the objects which are shown to it in 3D space i.e., x, y and z – axis (horizontal,..... Listed under: [Robotics – Automation Projects](#)
1033. [How to Send Message from GSM Module using Arduino](#) The GSM stands for Global System for Mobile communications. This is a global standard which is followed by the GSM modules inside the cellular phones which enables them to be connected with any mobile network around the globe. In certain applications the microcontroller based systems..... Listed under: [Phone Projects](#)
1034. [RFIDuino – Using an Arduino & RFID Reader to make a puzzle GeoCache](#) I enjoy both Geocaching and electronics and have made a couple of electronic puzzle caches using an Arduino. My latest creation (with the help of a fellow cacher for the code) is using an Arduino and RFID reader to make a puzzle geocache we call..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1035. [Servo Motor Simulation via Arduino UNO](#) Hey everyone. I hope you will be fine. As you know that last time, we had started Arduino UNO course and given you a brief introduction how to simulate the LED blinking via Arduino UNO and its implementation in proteus ISIS. Now, today we are..... Listed under: [Motor Projects](#)
1036. [Web Client Repeating using Arduino](#) This example shows you how to make repeated HTTP requests using an Ethernet shield. This example uses DNS, by assigning the Ethernet client with a MAC address, IP address, and DNS address. It connects to [http://www.arduino.cc/latest.txt](#). The content of the page is viewable through your..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1037. [Poor Man's Robot Base](#) I've been wanting to get into robotics for awhile now, but it can cost at the very least 20 dollars to build a decent motor base, and I wasn't willing to invest that much money into it, so I made a robot base using parts..... Listed under: [Robotics – Automation Project Ideas](#)
1038. [Temperature Display Using LCD](#) Here is a Simple Temperature Display Circuit using LCD (Liquid Crystal Display). For Heat Sensor we have used IC LM35 (Precision Centigrade Temperature Sensors) whose Output voltage is linearly proportional to the Celsius (Centigrade) temperature. Output of LM35 IC is 10mv/degree centigrade for eg if..... Listed under: [LCD Projects](#)
1039. [Arduino Based Lie Detector](#) We have previously posted the the project lie detector, now here is is also a lie detector using arduino. Here is a simple tutorial to build a simple lie detector which will give visual indication through LED arrangement whether the person speaks lie or truth. The project uses a..... Listed under: [LED Projects](#)
1040. [Build A Easy Home Surveillance Gadget Using Arduino](#) Everyone wants to keep their home secure. If zombies have swarmed your house, you want to know it's not safe to return, RIGHT? What better way to do this than to set up a surveillance system? Now it's easier than ever to have. And, you don't..... Listed under: [Home Automation Projects](#), [Security – Safety Project Ideas](#), [Video – Camera – Imaging Projects](#)
1041. [Lambda Calculus in a Can using Arduino](#) You can get soup in a can. You can get bread in a can (*). Now the long wait is over! You can finally get Lambda Calculus in a can. Project LambdaCan is an amusing exercise in absurdity. It implements a reducer (interpreter) for the..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1042. [Fritzing – The Ultimate Tool For Sketching Out Electronics Projects \[Cross Platform\]](#) Despite sounding like an alcopop, Fritzing is actually an incredible bit of free software you can use to create circuit and component diagrams for use with rapid-prototyping electronics boards such as the fantastic open source Arduino. As such, it's open source too, entirely cross platform and..... Listed under: [Development Board – Kits Projects](#) [Click here to get AI-based help](#) 
1043. [Make A LCD Shifter for Arduino](#) The original idea was to create a library that simplify the use of IC 74HC595 between Arduino and other hardware. In this Instructable I will share this to you using as example the control of a 16x2 LCD. The example will show on the LCD..... Listed under: [LCD Projects](#)
1044. [Arduino 7 Segment LED Display and Counter – Tutorial #8](#) This is a simple 0 to 9 counter circuit constructed using Arduino! Here, a common cathode 7-segment LED display is connected to Arduino for displaying the digits. The code (Arduino sketch) allows push button increment of the counter from 0 to 9. The whole circuit..... Listed under: [LED Projects](#)
1045. [Temperature Sensor DS18B20](#) Electronic Brick, Waterproof and other Versions NOTE: There are different-appearing versions but they work the same. This is an electronic thermometer which has high accuracy over a wide range (accurate to ±0.5°C over the range of -10°C to +85°C) (Workable from -55°C to +125°C).

You..... Listed under: [Metering – Instrument Projects](#)

1046. [Playfield :: Hardware :: Flippers](#) If you are contemplating building your own machine, then you probably already know a good bit about how pinball machines work. It's basically series of electro-mechanical events where a steel ball activates a switch, which in turn fires a solenoid that drives a mechanism, sending the ball off in some other..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1047. [StrobeDuino – Computer-controlled RGB strobe/lamp](#) After experimenting with Arduino and Processing serial communication i wanted to do something cool. I had some RGB LEDs lying around so i thought about making something with them. I ended up with a strobe/lamp controlled by a Processing sketch that receives the commands from..... Listed under: [LED Projects](#)
1048. [Arduino – Theremin with 7 Segment LED Display](#) In this instructable, I will show you how to make a simple toy that combination of the LEDs flash and Theremin. We're gonna using some basic electronics built on top of an Arduino. The basic idea of 7 Segment LED Display was from Enjoying Electronics..... Listed under: [LED Projects](#)
1049. [Make A Air Cap-Sense Piano Using Arduino](#) I recently got my shipment of 10 buzzers I ordered about a month ago, so as soon as I got them I was eager to make something fun with them, so I looked around a bit and searched for what to do with them, and..... Listed under: [Game – Entertainment Projects, Projects, Sound – Audio Project Ideas](#)
1050. [Arduino multi-mode lamp with soft touch switch](#) In this Arduino-based project, we will build a lamp with multiple light displays: color sequencer, dimming light, color chaser, firelight - all selected by a touch bar on the circuit board. All the functions are done in software, including the touch sensor, which is a..... Listed under: [Home Automation Projects, LED Projects, Projects](#)
1051. [The Transistor Menace – Questions regarding an Arduino rgb LED project](#) I've been browsing this forum and the internet now for a couple of days and what I thought would be an easy side project turned into a (for me) quite complicated matter. I'm planning to build a mood light that consists of 12 common cathode..... Listed under: [LED Projects](#)
1052. [HSM-20G temperature & humidity analog sensor + Nokia5110 LCD](#) Temperature and humidity measurement are always a nice addition to hobbyist projects. In my previous post, I've discussed the DHT11 sensor, which is capable of measuring both temperature and humidity. They are digital sensor and provide calibrated outputs with temperature and relative humidity. I've also..... Listed under: [LED Projects, Phone Projects](#)
1053. [Arduino Binary Clock \(hours, minutes and seconds\)](#) Hello everyone; I was looking for this project for a long time. Finally I it it together with a lot of effort. For this project you will need: [su_box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" title="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] 1- Listed under: [Clock – Timer Projects, Home Automation Projects](#)
1054. [Remote Controlled lunaring with Arduino](#) Nothing puts the fun back into coding like watching your very own creations come to life in the physical world. Luckily, with the current glut of high-tech toys and electronic gadgets on the market, it's never been easier to experience the thrill of designing your..... Listed under: [Wireless Projects](#)
1055. [Quick and Easy Arduino Compatible H-bridge Shield](#) In this instructable I will detail how I went about making a quick and easy, Arduino compatible, H-bridge shield. But first, a brief intro into what got me motivated to make it. A couple of years ago, I started wanting to learn more about micro-controllers..... Listed under: [Development Board – Kits Project Ideas, Ideas](#)
1056. [PC-350: Arduino Synthesiser](#) Contents Aim To create a device that takes a users input and based upon that input play sounds. I want this 'synthesiser' to be simple to play, requiring little or no skill. Therefore, allowing the user to experiment with the sounds they are producing instantly..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1057. [Compact Protoboard Arduino type thing yea](#) This ible is for the building of my small, almost matchbox size, arduino compatable board. As seen in this ible.. <http://www.instructables.com/id/Pocket-Arduino-kit/> I experemented with the one in this ible to see how it can be impreoved, but the consept is the same and so is..... Listed under: [Development Board – Kits Projects](#)
1058. [Solar powered wireless Arduino based Geiger counter porject.](#) Hello, I have plans to build myself a solar powered wireless Geiger counter using a RH Electronics Arduino IDE Geiger counter connected via a serial connection through a logic level converter to a 3.3V ATmega328P-AU Pro MCU with an ESP8266 serial WiFi tranceiver to send..... Listed under: [Solar energy projects, Wireless Projects](#)
1059. [Diverting surplus PV Power](#) As mentioned on the Contents page, two different hardware platforms have been successfully used to support Mk2 PV Routers. [Update at 7/3/14: Since writing this article, I have developed a new hardware platform which has been specifically designed for this product. The main board has..... Listed under: [Development Board – Kits Projects](#)
1060. [Pimp Your Chocolates with Arduino IDE and ATtiny13](#) The idea for this project came to me on the way to the trash. I was tasked with throwing away a box that has just been emptied of its original Ferrero Rocher sweetness content by my dear wife. This was shortly after the Valentine's Day..... Listed under: [Game – Entertainment Project Ideas, Ideas](#)
1061. [RS-232](#) In this tutorial you will learn how to communicate with a computer using a MAX3323 single channel RS-232 connection on the Arduino. A general purpose software serial tutorial can be found here. Materials needed: Comp
Listed under: [Development Board – Kits Projects](#)

Click here to get AI-based help ✕
1062. [Arduino \(Optic Fibre\)](#) I just brought a new lamp and after a week, I'm tired of looking at it randomly change colours between red, blue, green. What can you expect from a cheap lamp brought at 5\$. Looking at the lamp I realized that I could make..... Listed under: [Home Automation Projects, LED Projects](#)
1063. [Arduino 2.4 GHz Spectrum Analyser](#) This article describes a simple spectrum analyser for the 2.4 to 2.5 GHz Wi-Fi band. It's based on the Cypress CYWM6935 Wireless Radio Module. Although the manufacturer doesn't recommend it for new commercial projects, it is still widely available from eBay suppliers and Farnell here..... Listed under: [LCD Projects](#)

1064. [Arduino Laser Show \(adapted from NothingLabs' Instructable\)](#) This project uses an Arduino, a pair of speakers, and a laser pointer to create a laser projector able to trace out designs in a dark room. To power it, I've cannibalized a PC ATX power supply capable of delivering plenty of current for the..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
1065. [How to Deal with Noisy Neighbors with Arduino device](#) My next door neighbors have recently been playing their music really loud so that I can hear it through the walls. I've gotten tired of having to bang on the walls each time to get them to quiet down, so I decided to automate some..... Listed under: [Home Automation Project Ideas](#), [Ideas](#)
1066. [Build a cat litter box fan with Arduino](#) A hideaway cat litter box is a great way to make your apartment look like a residence for adults instead of crazy cat ladies. A hidden litter box in a cabinet, under a sink, or built in to some other furniture does a lot for..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1067. [A Simple Bat Detector based shield for the Arduino Uno](#) I've built a number of projects that have interfaced the output of the Simple Bat Detector with a microprocessor. The most recent was the BatLogger II. But I hadn't come up with an easy way for others to experiment with this idea ... until now..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1068. [How to make \(and connect\) a soft potentiometer](#) This instructable will tell you how to make and connect a soft potentiometer to a microcontroller, in particular we will connect it to a Lilypad Arduino. In our case soft potentiometer means a potentiometer made of a textile conductive ribbon. What you need: 1. soft..... Listed under: [Metering – Instrument Projects](#)
1069. [Arduino UNO Tutorial 8 – NightLight](#) In this Arduino UNO tutorial, we are going to use a Light Dependent Resistor (LDR) to create a simple childrens bedroom nightlight which turns on automatically when it gets dark and turns off when it gets light. An LDR's resistance changes depending upon the amount..... Listed under: [Sensor – Transducer – Detector Projects](#)
1070. [1 LED Game with Arduino Uno and an RGB LED](#) Sometimes I just have those days where I really want to make something neat with the Arduino I have lying around, but I know I don't have the patience for a more involved project that'll take more than a day or so. This is for..... Listed under: [LED Projects](#)
1071. [LED aquarium lighting with an Arduino based PWM timer](#) I bought a small aquarium (54l) as an impulse buy and I needed some lights for it, so naturally I wanted to use LEDs. I also needed a timer for the lights. I also wanted the lights to fade in and out when they were..... Listed under: [LED Projects](#)
1072. [Ground Tracking LED Longboard Mod](#) This mod uses a custom designed encoder on one of the wheels to track where the longboard is on the ground and light up the LEDs so that the light pattern remains stationary on the ground as the board moves over it. To make doing..... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)
1073. [Arduino Clock using Standard Clock Display](#) This is a relatively simple clock to build, in terms of the hardware required and in terms of hooking up all the wires. The complexity lies in the software, which I've conveniently included as part of this instructable 😊 This instructable illustrates a few things:..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1074. [Getting Things to Talk: Arduino + LCDs](#) I spent the better part of the day on Saturday doing some more basic research into connecting an Arduino and LCD for this ongoing project. For the most part, it's pretty basic and following the wiring diagrams and tutorials online is fine. I ran into..... Listed under: [LCD Projects](#)
1075. [TV Volume Loudness Guard using Arduino](#) UPDATES Mar 05, 2013 Featured on WonderHowTo <http://goo.gl/fpeVC> Feb 14, 2013 Featured on LifeHacker <http://goo.gl/tx4QG> Feb 13, 2013 I have updated the Arduino program in step 4 to support additional remote controls. Feb 13, 2013 Featured on Dangerous Prototypes <http://goo.gl/DJcwe> Feb 12, 2013 Featured on Semageek <http://goo.gl/EH58K> Feb 12, 2013 Featured on..... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)
1076. [Arduino ISP – Lazy Old Geek \(LOG\)](#) Arduino ISP - LOG So this Lazy Old Geek (LOG) has had a lot of trouble getting Arduino bootloader on Atmega chips. I couldn't get either of these to work with Arduino UNO Rev3. <http://arduino.cc/en/Tutorial/ArduinoISP> <http://letsmakerobots.com/node/35649> So I developed a couple that worked for me:..... Listed under: [Arduino Programmer Projects](#)
1077. [Home Automation with Android and Arduino Yún](#) The Arduino Yún is a WLAN capable development board featuring an ATmega microcontroller, as well as a separate chip running a small Linux distribution, making it a perfect candidate for home automation projects like in the picture below! This basic tutorial will show you how..... Listed under: [Home Automation Projects](#)
1078. [Make an Atom Synchronised Clock from a 1950's Slave Dial using Arduino](#) One day while exploring the bric-a-brac at the markets, I stumbled across an old, Bakelite slave dial from the 1950's. Slave Dials are clock movements without the actual time keeping circuit. All they contain is the mechanism to drive the hour and minute hands, which..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1079. [Make Electronic Dice using Arduino](#) In this project we make electronic dice. Updated 18/03/2013 In this article you can learn how to make an electronic die (die is the singular of dice), using an ATmega328 with Arduino bootloader and a few inexpensive components. The reason for doing this is to introduce another..... Listed under: [Other Projects](#), [Projects](#)
1080. [Arduino Knob](#) Control the position of a RC (hobby) servo motor with your Arduino and a potentiometer. This example makes use of the Arduino servo library. Hardware Required Arduino Board (1) Servo Motor (1) Potentiometer hook-up wire Circuit Servo motors have three pins. Click here to get AI-based help X d Listed under: [Motor Projects](#)
1081. [Prototyping shield for Arduino Mega](#) This is a down and dirty prototyping shield that will work for Arduino Mega's and there pin compatible clones. This is the first time i have made this board, but i have other projects i think this would be handy for. [su_box color="#985D00" bg="#FFF8CB" font="verdana"..... Listed under: [Development Board – Kits Projects](#)
1082. [LED Sun rise/set Arduino Proj](#) I've been slowly working on this project for the past month or so. I finally have some time to share and post-up what I'm working on. I know there are commercial products available, but then what's the fun in that! What I want is a..... Listed under: [LED Projects](#)

1083.

[Orange mePod](#) Firstly, why would I make a music player when one can be purchased for so little and Apple iPods are so great? Well, I'll tell you. After several cheap MP3 clones have died due to their Lipo batteries and my cracked, inoperable screen on my..... Listed under: [Sound – Audio Projects](#)
1084.

[Remotely Controlled VGA Camera – Overview](#) The idea behind this project was very straightforward: design an inexpensive remotely controlled system capable of taking still pictures and uploading them to a remote file storage with a camera to be activated by either remote commands or sensor events. And after numerous brain storms..... Listed under: [Wireless Projects](#)
1085.

[Introduction: T.A.B.U. A Robot using Arduino](#) To all other teens (I'm 16) who have begun to pick up an intrest in robotics and electronics the following project will give you a great user-system to get started with. This is not for complete beginners, but after only 6 months of teaching myself..... Listed under: [Projects, Robotics – Automation Projects](#)
1086.

[CustomKeys using an Arduino](#) CustomKeys is a customizable, Arduino-based, polyphonic synthesizer. The CustomKeys keyboard uses capacitive touch sensing - each key is made of a conductive material which, when touched, signals the synthesizer to emit a tone from the speaker. The CustomKeys library allows the user to choose an..... Listed under: [Projects, Sound – Audio Projects](#)
1087.

[Nerd+ +: Controlling Dioder RGB LED Strips with Arduino, Pt. 1 – Getting Started](#) A few weeks ago, it came to my attention that IKEA do a set of colour-changeable LED strips. I've been looking for a decent way of providing some lighting behind my computer to reduce eye-strain for a long time, and these seemed perfect: I was..... Listed under: [LED Projects](#)
1088.

[DIY- G-force measurement system](#) So this time around, it's another fun and functional microcontroller based DIY, a g-force measurement system with data logging to SD card. HARDWARE USED: 1) Arduino UNO w/ATmega328P 2) 3-axis accelerometer breakout 3) SD card 4) SD card breakout w/level shifting circuit 5) LED HOW..... Listed under: [Game – Entertainment Projects, How To – DIY – Projects](#)
1089.

[Autonomous Robot Part 3: Ghosty](#) Introduction Ghosty is an autonomous little robot who is adventurous and loves to explore his surroundings. However, unlike a normal ghost, he doesn't like to scare people. Instead they actually scare him! In our most current version of Ghosty, his vision line is based on..... Listed under: [Motor Projects](#)
1090.

[Animatronic Stargate helmet using Arduino](#) I love the movie Stargate and when I first saw it I immediately knew I wanted to make one of the super cool Horus guard helmets. I had sketched multiple designs over the years and figured out several different methods for building it but rejected..... Listed under: [Game – Entertainment Projects, Home Automation Projects, Projects](#)
1091.

[Arduino BICMOS Curve Tracer](#) Draw curve traces for both Bipolar and CMOS transistors using this hardware and free online software. Step 1: Upload and Plot Curve for NPN, PNP, NMOS, and PMOS The data for the transistor curves gets uploaded into any computer and can be plotted using SciLab..... Listed under: [Sensor – Transducer – Detector Projects](#)
1092.

[Arduino Laser Security Shield](#) *** I AM THIRTEEN. I REALLY ENJOY PUTTING TOGETHER THESE INSTRUCTABLES. PLEASE SHOW SUPPORT BY VOTING FOR ME IN THE LASER CUTTER CONTEST - <http://www.instructables.com/contest/epilog3/>*** I started thinking about this project a couple of months ago now. A laser tripwire that can log when the..... Listed under: [Projects, Security – Safety Projects](#)
1093.

[Arduino-based AVR High Voltage Programmer](#) Update 01/02/09: A PCB version of this circuit is in the design stages – some preliminary information is here. Update 03/11/09: Kits based on this design are now for sale! Update 12/14/10: The original AVR HV Rescue Shield kit has been replaced by the new..... Listed under: [Arduino Programmer Projects](#)
1094.

[SP0256-AL2 Speech With Arduino](#) Here's the Arduino version of a project to use the General Instruments (GI) SP0256-AL2 vintage speech synthesis chip to say "hello world". I'd previously shown how to do this with a Basic Stamp 2. Here's what it sounds like saying, "hello world" 20101215_164333.mp3 How it..... Listed under: [Development Board – Kits Projects](#)
1095.


[Si4707 Hookup Guide](#) Introduction Weather-band radio is an awesome public service provided in the US, Canada, and Bermuda. With hundreds of transmitting stations dotting the country, weather radio acts as the “voice of NOAA” (National Oceanic and Atmospheric Administration). In addition to spouting out weather forecasts, weather radio..... Listed under: [Development Board – Kits Projects](#)
1096.

[Arduino UNO Tutorial 6 – Rotary Encoder](#) We have written a tutorial for Rotary Encoders using a Microchip microcontroller but now would be a good time to make an Arduino UNO version. With a rotary encoder we have two square wave outputs (A and B) which are 90 degrees out of phase..... Listed under: [Other Projects](#)
1097.

[Arduino LEDs](#) Description In this tutorial you will set up and turn on a single LED. Note that this code can actually be executed with just the Arduino and no other components as in Figure 5. If you notice, next to pin 13 is a tiny LED..... Listed under: [LED Projects](#)
1098.

[Arduino Leonardo AVR Development Board](#) Arduino Leonardo AVR Development Board is a microcontroller board based on the Atmel ATmega32u4. It offers 20 digital IOs (of which 7 can be used as PWM outputs and 12 as analog inputs), a 16MHz crystal oscillator, a micro USB connection, a power jack, an..... Listed under: [Development Board – Kits Projects](#)
1099.

[Android Phone Controlled Robot using Arduino](#) The Android phone that stays in your hand most of the time is us Whatsapp, Facebook; appliances; monitor your health parameters. How it would be if it can control a Robot, which.

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 under: [Phone Projects, Robotics – Automation Projects](#)
1100.

[Sending MIDI Messages](#) Introduction If you completed any of the buzzer projects, you will know by now that there is much fun to be had in making the Arduino create noises. The only issue you might have had is with the quality of the sound. Since MIDI is..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1101.

[Servo powered peristaltic pump controlled by Arduino](#) This instructable shows you how to make a pump using a servo motor and an Arduino Uno to transfer small amounts of liquids. The pump is a peristaltic pump which consists mainly of a motor, flexible tubing and a circular pump casing. Two rollers attached..... Listed under: [Motor Projects](#)

1102. [Use A Simple Cheap Webcam To Make DIY Microscope](#) This Project Is A Part Of The Afrimakers Event <http://www.afrimakers.org/> Introduction We used a simple cheap webcam to make a microscope. In short, a small hack to the optics of a standard webcam with an adjustable focus-lens, allows to create video data, with a magnification..... Listed under: [Video – Camera – Imaging Projects](#)
-
1103. [Temperature Sensor v2.0](#) Overview This board allows you to use a thermistor to measure the temperature of something. It is designed to be used to measure things in the range of 100C - 300C, but with the proper calibration and resistors, it can be adapted to any temperature..... Listed under: [Temperature Measurement Projects](#)
-
1104. [PhysComp: Mid-term Project – Instagram TUI – prototyping the interactive elements using Arduino](#) The physical interface will consist of a 3×3 grid of push buttons that will correspond to a 3×3 grid of images in the Processing program. Instead of a creating a 2D array of variables to correspond to the buttons' postions in the grid, each location..... Listed under: [Other Projects](#)
-
1105. [Brushless DC \(BLDC\) motor with Arduino – Part 2. Circuit and Software](#) In this post I will describe the hardware and the software part of a project involving the use of BLDC (Brushless DC) motor salvaged from a broken Xbox 360. This is a second installment in the series of posts related to Arduino and brushless DC..... Listed under: [Motor Projects](#)
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1106. [Digital to Analogue Converter \(DAC\) DAC Theory](#) A digital to analogue converter takes a series of digital inputs (a string of 1s and 0s, in our case there will be 8 of them like 10011001) and converts it into an analogue output. You see DACs in every digital audio device (MP3 players,..... Listed under: [Sound – Audio Projects](#)
-
1107. [Remote Controlled Switching](#) Vision The aim of our project is to be able to control a electrical switching process using a remote. The idea is to come up with an alternative to the conventional electric switch boards, using a wireless control mechanism, in an economic way. In other..... Listed under: [Wireless Projects](#)
-
1108. [Make An Motor Shield For Arduino](#) We are not the first to make an Motor Shield for Arduino. But could be that we are the first that make a Motor Shield with a minimum of flexibility. We are studing a WiFi robot with camera controlled by Arduino. The robot will be..... Listed under: [Motor Projects](#)
-
1109. [Mobile Controlled Automation Using Arduino](#) By this mobile controlled automation using Arduino you can perform switching operation of any load or device which is connected with the circuit. Before some days i posted about DTMF tone in mobile communication. Here i am using DTMF tone in this project. Visit following..... Listed under: [Phone Projects](#)
-
1110. [Toaster Oven Reflow Technique](#) Introduction This page describes how to reflow solder surface mount printed circuits using a cheap toaster oven. It owes a great deal to Nophead's Cooking with Hydraraptor blog post. The picture shows Sally Bowyer (Director, RepRapPro Ltd) preparing components for soldering in the oven. For..... Listed under: [Sensor – Transducer – Detector Projects](#)
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1111. [Control a Furby with Arduino \(or other microcontroller\)](#) The Million Dollar Furby: We can rebuild him. We have the technology. Continued from the previous Instructable where we excised Furby's primitive brain , it's now time to replace it with something greater. This Instructable will detail how to install a new microcontroller in place..... Listed under: [Robotics – Automation Projects](#)
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1112. [Arduino Tri-colour LED Flasher Circuit](#) This simple tri-colour LED flasher circuit is great for beginners. The three pin tri-colour LED is controller by an Arduino Uno and changed between three colours. This video shows the Arduino running a sketch that controls the tri-colour LED. Circuit Diagram for the Arduino Tri-colour..... Listed under: [LED Projects](#)
-
1113. [Tutorial 19: Arduino Dice Circuit And Sketch Using A 7-Segment Display](#) In this tutorial you will build a dice that is shaken by holding the button in and thrown by releasing the button. The shake, throw and number thrown are animated and displayed on a seven segment display. A 74HC595 IC is used to interface the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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1114. [Blink An LED Using Arduino](#) This example shows the simplest thing you can do with an Arduino to see physical output: it blinks an LED. Hardware Required Arduino Board LED Resistor, anything between 220 ohm to 1K ohm Circuit To build the circuit, connect one end of the resistor to..... Listed under: [LED Projects](#)
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1115. [Tutorial 16: Arduino Clock](#) In this tutorial, the Arduino displays the time and date on a LCD (optional) and in the Arduino IDE serial monitor window. A PCF8563 real time clock (RTC) IC is used to generate the time and date. The time and date can be set using..... Listed under: [Clock – Timer Projects](#)
-
1116. [The Arduino Microprocessor Miniterm Project Pages: keattsd](#) Navigation LCD_driver.c LCD_driver.h LCD_driver.h.out ball12d.php boja.c boja.c.out chenb.php doyer.php ellwangerk.php foo.txt frickd.php gamblec.php hurleyg.php keattsd.php littletonj.php panuskip.php parsonstc.php schrodere.php Here is keattsd Bluetooth SNES Controller Supplies I used the following supplies for my mini-term project: Arduino Uno microcontroller RN-42 bluetooth module USB A to B..... Listed under: [Bluetooth Projects](#), [LED Projects](#)
-
1117. [Magic Light \(Capacitance Sensor, First Arduino Project\)](#) This was my very first arduino project. Its great for beginners. Fade the color or the lights my moving your hands near it. It fades from a pretty purple blue to a firey red-orange. Its was SUPER easy to build, not to hard to write..... Listed under: [Sensor – Transducer – Detector Projects](#)
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1118. [Temperature Sensing using DS18B20 Digital Sensors](#) Note: When referring to Arduino below, this works in the same way on the arduino which is arduino based. The DS18B20 is a small thermometer with a built in 12bit ADC; it can be easily connected to Arduino digital input. [Click here to get AI-based help](#) ✕ Listed under: [Sensor – Transducer – Detector Projects](#)
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1119. [Arduino Tiny Relay Shield Project](#) In this Arduino project, you will build a small relay shield from stripboard. The shield can have one or two relays fitted to it. Connect the Arduino and relay shield to your PC via a USB cable. Download the PC software and use it to..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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1120. [Arduino Platform – Interrupts Introduction](#) Introduction This is my second article relating to the Arduino Microprocessor Platform. The first one was a simple implementation of the SIMON game using the Arduino. The article can be found here. For an introduction to the Arduino Hardware, see jeffb42's excellent articles, as there..... Listed under: [Development Board – Kits Projects](#)
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1121. [Open Source Home Automation Project using Arduino UNO + Ethernet Shield](#) This is Open Source Home Automation Project based on Arduino Uno and Arduino Wiznet based Ethernet shield. How Does it Work The main brain for this project is Arduino UNO Board along with Arduino Ethernet Shield to give it a wireless connectivity.Arduino runs a code..... Listed under: [Home Automation Projects](#)
1122. [How To Connect A Buzzer To An Arduino](#) This article and circuit diagram show how to connect a buzzer to an Arduino when the buzzer operates at a different voltage to the Arduino. The buzzer may operate at 9V, 12V or some other voltage. Arduinos such as the Arduino Uno operate from 5V..... Listed under: [Arduino Programmer Projects](#)
1123. [Thermal Camera: Arduino UNO + MLX90614 IR Thermometer](#) I did the following steps: 1) Hardware: Connect the MLX90614 (refer to the datasheet) as follows: Pin 1 on MLX (SCL) connect to ANALOG pin 5 on Arduino Pin 2 on MLX (SDA) connect to ANALOG pin 4 on Arduino Pin 3 on MLX (VDD)..... Listed under: [Video – Camera – Imaging Projects](#)
1124. [Arduino MicroBot Project](#) Steps On the breadboard, build two bi-directional motor control circuits (also known as "H-bridge") circuits. These circuits will control the two DC motors that drive the wheels. Each circuit will have two wires from the Arduino (one for forward, one for backward) to control the..... Listed under: [Robotics – Automation Projects](#)
1125. [Blinkenlights](#) Topics: Overview Hardware A Basic Schematic Diagram Resistors Reading Resistor Values Putting it Together Trying it out! More on Resistors and LEDs Software Comments Variables Procedures References Project 1.Overview As mentioned earlier, Arduino consists of two major parts: the hardware (the Arduino board) and the..... Listed under: [LED Projects](#)
1126. [GPS and GSM based Vehicle Tracking System Using Arduino](#) This circuit is designed for tracking the location of vehicles. Most oftracking systems are made by using GPS. This is very simple and cheap. Tracking systems are mostly used by fleet operators for tracking a vehicle location, routing and others. This is a very good..... Listed under: [GPS Based Projects](#)
1127. [Real Time GPS Tracker with Integrated Google Maps](#) This project describes how you can build a mobile real time GPS tracker with integrated Google Maps. I began this project mainly to see if I can integrate all the different pieces of hardware and software to make a workable solution, and it took some..... Listed under: [GPS Based Projects](#)
1128. [ArduDroid: A Simple 2-Way Bluetooth-based Android Controller for Arduino](#) UPDATES October 30, 2013 - 7PM (GMT+2) The new official name for this app is ArduDroid and it can be installed from Google Play. I changed the name to avoid a naming conflict with another app. September 15, 2013: I Have won a Nexus..... Listed under: [Bluetooth Projects](#)
1129. [Build An Audible Memory Chest \[Instructables How-To\]](#) If you're a fan of the Harry Potter series then we also bet you were pretty taken with Hogwarts headmaster Dumbledore's pensive—the magical object that could not only store memories, but actually let people fall into and re-experience the events. This week's Instructables How-To from..... Listed under: [LED Projects](#)
1130. [General Purpose Input Output Arduino Shield](#) This example shows technique for calibrating sensor input and shows the sensor outputs by controlling LEDs and SSD, also shows how to monitor the state of a switch. Hardware Required 8 LEDS 2 push button switches 2 sliding switches 4-SSD with MAX7221/7219 LM35 Speaker Circuit..... Listed under: [LED Projects](#)
1131. [Stage 4: Complete Beginner's Guide For Arduino Hardware Platform For DIY](#) Contents 1. Background 2. Setting up Arduino Development Environment 3. Arduino Power Management 3.1 Powering Up Arduino Board 3.2 Output Power of Arduino 4. Indicators And Switches 4.1 LED 4.1.1 Working With Onboard LED 4.1.2 Connecting and Controlling External LED 4.2 Buzzer 4.3 Switches 5..... Listed under: [How To – DIY – Projects](#)
1132. [Arduino project: USB foot-operated mouse switch](#) This foot pedal plugs into the Arduino case which plugs into your PC via microUSB cable. Arduino microcontrollers can easily be used to power fun projects like robots and even sending tweets to Twitter but they're versatile enough to turn up in the strangest of..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1133. [Stream support for the Arduino MQTT library](#) MQTT is a lightweight messaging protocol for the Internet of Things. This post details the use of Stream support for large payload storage in the Arduino MQTT library. MQTT is a lightweight protocol, but that doesn't mean that the payloads have to be small. The..... Listed under: [Other Projects](#)
1134. [Technical Details of Logging Seawater Temperature](#) Block Diagram This diagram shows the basic components required for collecting temperature readings from seawater and transmitting the data to a base station where it can be collated into a database for analysis. To the left is a schematic of 10 temperature sensors, spaced 1..... Listed under: [Temperature Measurement Projects](#)
1135. [Modifying an Arduino Mega and chipKIT Max32 for 5V Operation](#) Max's Arduino Mega and chipKIT Max32 both require 9V external supplies, but he really wishes to power them from a single 5V supply. Well, nothing is simple, is it? I ran into a minor "gotcha" with regard to my Bodacious Acoustic Diagnostic Astoundingly Superior Spectromatic..... Listed under: [Development Board – Kits Projects](#)
1136. [Arduino Projects: Wireless Arduino](#) Long-time readers will know I'm not one to promote trendy marketing phrases and certainly 'Internet of Things' or 'IoT' is right up there with the best (worst) of them. But the concept behind the phrase is worth understanding as it drives the next generation of Listed under: [Wireless Projects](#)
1137. [Making a RFID Card Reader with Arduino Yún](#) Surya Mattu is a creative technologist who loves to make things. He's based in NYC and working at ITP, a two-year graduate program exploring the imaginative use of communications technologies. Today he's sharing with us how feasible it could be to build an RFID-controlled entry..... Listed under: [RFID - NFC projects](#)
1138. [Arduino Project 6: Web-controlled music player](#) Our NetPlay project is built on a standard breadboard. In our previous Arduino masterclass we briefly introduced the Ethernet Shield an Arduino expansion board that adds Ethernet connectivity plus microSD card storage. We used that storage as the basis of a simple one-button digital audio..... Listed under: [Other Projects](#)

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1139. [Simulating and controlling GE Color Effects Lights with Arduino](#) Overview This project builds a Christmas lights controller for the GE Color Effects lights allowing programmed control of up to 8 sets of Christmas lights. Furthermore, it provides a function specific language for programming patterns for these lights and an emulation environment for testing the..... Listed under: [LED Projects](#)
1140. [Arduino Project 8: Stompy the robot \(part 1\)](#) Our first Arduino robot called Rolly in our February issue proved to be a popular project. Powered by an Arduino Uno board it was easy to put together and cost very little. In this project we upped the ante again with our first walking robot..... Listed under: [Robotics – Automation Projects](#)
1141. [Tutorial: Arduino Motor/Stepper/Servo Shield – Part 1: Servos](#) This post starts a small (or larger?) series of tutorials using the Arduino Motor/Stepper/Servo Shield with the FRDM-KL25Z board. That motor shield is probably one of the most versatile on the market, and features 2 servo and 4 motor connectors for DC or stepper motors..... Listed under: [Motor Projects](#)
1142. [Communication between a USB/serial device and an AVR \(atmega/Arduino\) microcontroller](#) I have a device which provides a USB port. If I attach it to a Windows PC it is recognized as a "CP2103 USB to UART Bridge Controller". According to the device documentation, it should communicate in serial format at 38400bps.I have to talk to..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1143. [Store Arduino data to Firebase database \[Howto\]](#) The last few weeks I was playing with Firebase mostly because I wanted to get familiar with this technology. So at some point I thought that it will be a great idea to connect Arduino with Firebase. Imagine that you have a simple temperature sensor..... Listed under: [Temperature Measurement Projects](#)
1144. [New Arduino Project: Spectrum Analyzer?](#) I've been reading a lot about receivers, and it sounds like one important thing is filtering. It makes sense too - simple receivers can suffer from front end overload due to a strong signal. And when on the ham bands, you never know where that..... Listed under: [Development Board – Kits Projects](#)
1145. [Indoor Weather Station using Arduino](#) Introduction In my first article using the Arduino 2009 board, I described a simple temperature sensor interfaced using Visual Basic. I have developed the board and Visual Basic code to give a fairly usable indoor weather station. Overall Operation The Arduino 2009 acts as a..... Listed under: [Sensor – Transducer – Detector Projects](#)
1146. [Develop A Arduino Weatherstation](#) At University, Alexander Zenger and I decided to realize a weatherstation with an Arduino Microcontroller. We wanted to measure temperature, pressure and humidity. It should be also possible to get every 5 min a value update on an external server. Our basic idea was to..... Listed under: [Temperature Measurement Projects](#)
1147. [Arduino and Android Projects for the Evil Genius](#) Since this book was written, Arduino 1.0 was released and Google has changed the Open Accessory standard a lot. At the start of December 2011 Arduino 1.0 was released. This changed a few things, requiring all third-party libraries to be updated. This hasn't happened yet..... Listed under: [Phone Projects](#)
1148. [1B – Arduino Project – Perry the Predator Pillow](#) The Team Kaitlin Schaer as scribe; Bryan Gardiner as tutor; Ruben Markowitz as designer; Anna Failla as integrator Introduction In a time where the logistics of sleep can be all too much to handle, there is a solution! There is a smarter pillow, a pillow that..... Listed under: [Home Automation Projects](#)
1149. [Add a TFT Display to your Arduino projects \(1.8 TFT SPI 128×160\)](#) In all my arduino projects I was using cheap 1602 LCDs mostly because... they are cheap but also of the libraries flexibility. Recently I found a nice TFT 1.8 inch 128×160 in a very competitive price and i thought to give it a go. Just..... Listed under: [LCD Projects](#)
1150. [The E-Taster Assistance System with Lab-on-Spoon and Lab-on Fork as 'Electronic Tongues'](#) Subject: Daily life activities of food preparation can be challenging for consumers due to restricted skills and experience, loss of perceptive abilities (accident/aging) or due to product fraud and contaminations, commonly summarized under the term of food adulteration, which are exceeding human perceptive abilities in..... Listed under: [Wireless Projects](#)
1151. [Interfacing an Arduino with LCDs](#) Introduction This is the second article in a three part series I am writing on the Arduino hardware platform. This article focuses on wiring an Arduino to a character LCD and a graphic LCD, and includes static and animated demos to show off the capabilities..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#)
1152. [Midi VU meter, LM3914, Arduino, PWM](#) Hello everybody, I've been working on a midi controller for some time now, Midi OUT hasn't been a problem, but for Midi IN i had to take some more time. i've used this circuit for midi input but i've used a 4n25: original thread @..... Listed under: [Metering – Instrument Projects](#)
1153. [Arduino Event-Driven Universal AV Remote](#) TL;DR - I wanted all of my AV components to turn on and change inputs as soon as I started Airplaying music to my Apple TV from my iPhone, so I popped open the Apple TV, wired up a photocell sensor to an Arduino Uno,..... Listed under: [Wireless Projects](#)
1154. [Android Arduino Communication through Modbus and Rs485](#) In this post I'd like to describe you a project I'm working on that consists of connecting an Android development board to one (or more) Arduino slave(s) using modbus protocol and rs485. Even though the idea of this project could be applied in many fields,..... Listed under: [Development Board – Kits Projects](#)
1155. [Safe and simple AC PWM Dimmer for arduino / Raspberry_pi](#) Dimmer With MOSFET This circuit shows that dimmers always have to contain a triac. Here, a MOSFET (BUZ41A, 500 V/4.5A) in a diode bridge is used to control the voltage width modulation..... Listed under: [PWM Projects](#)
1156. [Ultrasonic sensor arduino mega with code](#) This is a simple guide on how to make a Ultrasonic sensor arduino mega with code, an HC-SRO4 Ultrasonic Sensor, a Buzzer, and some leds. The ultimate goal of this tutorial is to use the buzzer and LEDs to display how far the object is..... Listed under: [LED Projects](#)
1157. [Displaying Arduino data](#) Arduino temperature display I've had an Arduino-based weather station since June 2009, but one problem with it has been that there hasn't been any easy way to display the data in real time without going to the database (or the raw import files) to see..... Listed under: [LCD Projects](#)

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1158. [Arduino – Cannot get ECG readings from heart, but I do when I poke at the leads](#) down vote favorite I have a minor issue with my ECG. When I poke at the leads, I get a reading. But when I hold the leads or place it near my heart, I don't get anything. I'm pretty sure this is hardware related, but..... Listed under: [Medical – Health based Projects](#)
1159. [Pololu Wixel Shield for Arduino User's Guide](#) 1. Overview The Wixel shield seamlessly enables a wireless link (with a typical range of ~50 feet) to replace your Arduino's USB interface, which means you can use the standard Arduino computer software to: wirelessly program the Arduino (this feature is not available with the Arduino..... Listed under: [Wireless Projects](#)
1160. [Stepper Motor Control System Based On Arduino With ULN2003 Chip](#) Project Summary: This project uses ULN2003 chip to drive. The working voltage is DC5V. It is widely used on ATM machine, inkjet printer, cutting plotter, fax machine, spraying equipment, medical instruments and equipments, PC peripheral, and USB Mass Storage ,precise instrument, industrial control system, office automation, robot areas, etc. Bill of..... Listed under: [Motor Projects](#)
1161. [How to make a Arduino LED Scroll Bar](#) Today I want to make a LED Scroll Bar as the above picture showed. Ten LED strips can flash in different effects by using a control board. Required Components LED strip, Arduino Nano, Dupont line and a control board. So, how to make a LED..... Listed under: [LED Projects](#)
1162. [Traffic light and pedestrian crossing implemented with an Arduino](#) This video shows the Traffic light and pedestrian crossing I've implemented with an Arduino. It's a reproduction of the crossing near my home, timings taken from a video of it. Incidentally, I produced the diagrams for this using a product called Fritzing. It's a nifty piece of..... Listed under: [Development Board – Kits Projects](#)
1163. [Build A Rain Alarm Project Using Arduino](#) Water is basic need in every one's life. Saving and proper usage of water is very important. Here is an easy project which will give the alarm when there is rain, so that we can make some actions and save the rain water. As a..... Listed under: [Home Automation Projects](#)
1164. [RC Quadrotor Helicopter](#) This project is a RC quadrotor helicopter (quadcopter, quadcopter, quadricopter, etc). It's a RC helicopter that uses 4 rotors. You need some pre-requisite skills: How to use Arduino, enough to get started Soldering, wiring, basic electronic skills Basic hand tool operation A quadrotor helicopter flies..... Listed under: [How To – DIY – Projects](#)
1165. [\[FTC\] Open Feathercoin ATM](#) Open Fethercoin ATM is an open-source automated teller machine for education and experimentation. Based on John Mayo Smith's OpenBitcoinATM which can be seen in action here A "voucher" is printed containing a private key QR Code that has been pre-loaded with the correct value of..... Listed under: [Other Projects](#)
1166. [Scooterputer](#) I spend a fair amount of time zipping around town on my scooter, and thought it would be cool to add a voltage monitor to warn when the battery might need recharging. Waiting until the electric starter no longer works is somehow lacking. So after..... Listed under: [LED Projects](#)
1167. [Arduino Tutorial – Chapter 2.3: Schematic and Breadboard Diagrams](#) Schematic Diagram You may remember, if you studied electronics as part of your science course at school, that there is a specific way of drawing circuit diagrams. Each component has a particular symbol (which may vary slightly depending where in the world you live) that..... Listed under: [Development Board – Kits Projects](#), [LED Projects](#)
1168. [Web Server with Two Temperature Gauges](#) This project consists of two temperatures that are measured by the Arduino using two MCP9700 temperature sensors An Arduino Uno and Ethernet shield are set up as a web server that hosts a web page to display the two temperatures on two gauges. The web..... Listed under: [Temperature Measurement Projects](#)
1169. [How to Text Yourself when your DSC PC1550 Home Security System Alarms](#) I have a home security system that was installed when my home was built in the early 1990's. It is, or was until I modified it, a wired perimeter system with a single wired motion detector. The system is a DSC PC1550 and originally was..... Listed under: [Security – Safety Projects](#)
1170. [A lightning flash counter](#) Many years ago, I think it was in 1997, I stepped into an interesting circuit on a book about high voltage [1]. It was the diagram of a simple "lightning flash counter" intended to help in designing lightning protections on power lines. The description was..... Listed under: [Other Projects](#)
1171. [Using an Arduino as a garage car parking sensor](#) "M-my lord, it-it's impossible to locate the ship. It's out of our range." – Nute Gunray We recently moved into a new house and as always the first problem to address was finding the optimal place to park cars in the garage. Ideally, we wanted..... Listed under: [Sensor – Transducer – Detector Projects](#)
1172. [Gesture control car\(robot\) with Arduino and Android\(bluetooth\)](#) Hi folks, Here's an interesting project for all you creative minds out there. We are going to build an android phone controlled RC car. Nothing could be more fascinating than remote controlled cars. This one uses Bluetooth for communication and accelerometer of the mobile device..... Listed under: [Bluetooth Projects](#), [Robotics – Automation Projects](#)
1173. [GSM Home Security Alarm System with Arduino](#) This project deals with the design & development of a theft control system for home, which is being used to prevent/control any theft attempt. The developed system makes use of an embedded system (comprises an open hardware microcontroller and a gsm modem) based on Global..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)
1174. [Arduino RFID Reader RC522 + Access Control System](#) I just received my RC522 RFID reader and made this simple Arduino access control system that uses the reader, a buzzer for the alarm and a relay shield for the security system. The relay can be used to open a door lock and if you..... Listed under: [RFID – NFC projects](#)
1175. [Rotary Encoder & Arduino](#) I am not sure, but it was in year 1999, a non-stop (360 degree rotation) potentiometer found in a stereo music system confused me a lot. At that time, I failed to keyed out the strange potentiometer manufactured by ALPS. Later, I learned that it's..... Listed under: [Other Projects](#)
1176. [Arduino based Bi-color LED Matrix Flappy Bird Game](#) We have built quite a few projects using the Bi-color (Red and Green) LED Matrix Driver Module kits from jolliFactory and have published them as instructables here. Each of these modules uses two MAX7219 Display Driver ICs to drive a Bi-color LED Matrix. These ICs..... Listed under: [LED Projects](#)
1177. [Arduino based Electronic Queuing System](#) This is a Queuing System project requested by a clinic asistant which allows the doctor enter number from a keyboard and display it on a 32x16 LED panel. This project uses two Arduino, the first Arduino functioned as a SENDER which included a PS2 keyboard..... Listed under:

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1178. [Digital Arduino Voltmeter with Temperature](#) Step 1: The case I dug out an appropriate case from the dumpster, milled out a rectangular hole for the lcd, and drilled holes to mount the LCD and the Arduino. I used brass standoffs and fiber washers to prevent shorts. Then I gave the..... Listed under: [Metering – Instrument Projects](#)
1179. [Learning Sequential Logic Design for a Digital Clock](#) This instructable is for two purposes 1) to understand and learn the fundamentals of sequential logic 2) use that knowledge to create a digital clock. Digital clocks have been built by countless electronics hobbyists over the world. So why have I chosen to implement that?..... Listed under: [Clock – Timer Projects](#)
1180. [Homebrew Arduino Pulse Monitor \(Visualize Your Heartbeat\)](#) Movies look cool with those EKG (electrocardiogram), the one that beeps and detects heart activities. A few months ago, we had to shoot a hospital scene for our school project. We needed an EKG instrument. To keep the movie authentic, we didn't want to fake..... Listed under: [Medical – Health based Projects](#)
1181. [How to Build a \(Piezo\) Knock Sensor Circuit](#) In this article, we go over how to build a piezo knock sensor circuit. A knock sensor is a sensor which produces a voltage in response to some type of physical stress such as a knock or vibration. This is why it's called a knock..... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)
1182. [Simulating Logic Gates](#) Introduction This project is a simple way of using the Arduino to simulate the behaviour of logic gates. Logic gates are explained on this page. The project does not actually carry out the function of the logic gate, just turns a light on or off..... Listed under: [LED Projects](#)
1183. [Tri-State Logic](#) Introduction So far we have sent one of two values to any Arduino output pin, either HIGH or LOW. This project shows how we can exploit a third state of the Arduino pins to reduce the number of pins needed to control LEDs. In the..... Listed under: [LED Projects](#)
1184. [Make A Coin slot detector Using Arduino](#) When your coin slot is exposed, this wearable hip-pack vibrates that area to make you aware of it. You decide to cover up, or let it all hang out. The coin slot detector is a simple way to tackle the complicated modern problem low-rise jeans..... Listed under: [Sensor – Transducer – Detector Projects](#)
1185. [Polargraph Drawing Machine](#) This machine, a variation on the hanging-pen plotter is a conspicuous and wilfully naive attempt to break out of the pristine, pixel perfect, colour-corrected space that exists inside our computers. It's a drawing machine, that takes a pen (a human tool) and uses it to..... Listed under: [Robotics – Automation Projects](#)
1186. [Turn your Arduino into a Magnetic Card Reader!](#) Everyone has used a magnetic card reader, I believe. I mean, who carries cash these days? They're not difficult to get your hands on, either, and during a trip to my favorite local electronics shop, I found a bin full of these guys. So....of course,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1187. [Arduino Sous-Vide Cooker](#) Sous-vide cooking allows you to precisely control the temperature of cooked food (how "doneness" is measured) by immersing it in a carefully controlled water bath. It's possible, but seriously difficult, to do this just with a thermometer and a pot on the stove... but if..... Listed under: [Temperature Measurement Projects](#)
1188. [Basic Projects using chipKIT Uno32](#) Happy Tuesday, everyone! I tend to get excited about products that enable beginners to be really creative, and today's product highlight is one I think is worth getting excited about! [video width="380" height="285" id="_63Mq6QMxxM&" type="youtube"] A few things that I really like about the shield:..... Listed under: [How To – DIY – Projects](#)
1189. [Arduino Laser Tag – Duino Tag](#) Duino tagger- General introduction Duino tag is a laser tag system based around the arduino. Finally a laser tag system that can be tweaked modded and hacked until you have the perfect laser tag system for office ordnance, woodland wars and suburban skirmishes. Laser tag..... Listed under: [Game – Entertainment Projects](#)
1190. [Wii Nunchuck Adapter](#) This tutorial is for all those people who have an Arduino and want to use there Wii nunchuck as an input device, but don't really feel like cutting open the cord and ruining the nunchuck FOREVER!!!!!!well you've come to the right place! Step 1: Supplies..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1191. [Flamethrowing Jack-O'-Lantern](#) A flamethrowing jack-o'-lantern keeps the trick-or-treaters a safe distance from your house and is a fine addition to any anti-Halloween arsenal. At the first sign of any sugar-obsessed imp, simply press the trigger button and wirelessly shoot a one-second burst of flames out of the..... Listed under: [Other Projects](#)
1192. [The EyeWriter 2.0](#) The EyeWriter is a low-cost eye-tracking apparatus + custom software that allows graffiti writers and artists with paralysis resulting from Amyotrophic Lateral Sclerosis to draw using only their eyes. The original design, as shown here, featured a pair of glasses as the basis for the..... Listed under: [Development Board – Kits Projects](#)
1193. [N: how to make a multi-layered acrylic and LED sculpture with variable lighting levels](#) Here you can find out how to make you very own n as made for the exhibition www.laplandscape.co.uk curated by art/design group Lapland.More images can be seen at flickr This exhibition was from Wednesday 26 November - Friday 12 December 2008 inclusive, and had a..... Listed under: [LED Projects](#)
1194. [Power Laces- the Auto lacing shoe](#) Also, check out Power Laces: Version 2.0 Why wait until 2015? Inspired by 'Back to The Future II', this project is less 'Practical' than 'Proof of Concept', but hopefully it'll tide you over until Nike comes out with something more polished. This was also the..... Listed under: [Other Projects](#)
1195. [On The Fly – Prototype II Final Report: Home Automation Framework](#) Introduction: The Home Automation Framework project is a web application that can remotely control the electronic devices in one's home using a web interface on a smartphone, tablet or desktop computer. The project facilitates ease of access and remote control of electronic devices for those..... Listed under: [Home Automation Projects](#)
1196. [LED Cube 8x8x8](#) Create your own 8x8x8 LED Cube 3-dimensional display! We believe this Instructable is the most comprehensive step-by-step guide to build an 8x8x8 LED Cube ever published on the intertubes. It will teach you everything from theory of operation, how to build the cube, to the..... Listed under: [LED](#)

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Projects

1197. [Cloud Sensor Base-Station](#) What I want to do I want to create a platform with the capacity to control a large number of sensors and actuators necessary for the hydronponics system outlined in this wiki, and to serve as the central gateway to a cloud-enabled dashboard. The basis..... Listed under: [Sensor – Transducer – Detector Projects](#)
1198. [Drawing on a 7×5 LED matrix with Arduino in C](#) In my component drawers I have a LTP-7357AG, which is a matrix of 35 green LEDs conveniently packaged in a 12-pin display. I wanted to play with it so I began to hook it with my Arduino Uno. This post is part of a series about programming Arduino..... Listed under: [LED Projects](#)
1199. [The Viciously Simple Clap-ON Clap-OFF Circuit For Arduino](#) Hi Everyone! I've had a few people ask about creating a simple clap-on/clap-off circuit using Arduino. Well those who are interested are now in luck. The software in this instructable is simple and well commented. The schematic is simple, and the components are easy and..... Listed under: [LED Projects](#)
1200. [Arduino car LCD display](#) Here is a project I made a couple of years ago for my father’s car. The original dashboard’s info-panel which displayed current time, date and temperature was working only partly – and that only after a good cleaning and connector fastening. In other words –..... Listed under: [Car Projects](#), [LCD Projects](#)
1201. [Automatic Home surveillance system using arduino\(simple and cheap\)](#) The goal of my project is to achieve Automatic home surveillance system without any manual interference. In general other surveillance system it is necessary to power ON TV and camera receiver every time. And also it needs to any user input to view who is..... Listed under: [Home Automation Projects](#)
1202. [GESTURE VOCALIZER FOR DUMB PEOPLE INTERACTIn ION](#) To establish a communication or interaction with Deaf and Mute people is of utter importance nowadays. These people interact through hand gestures or signs. Gestures are basically the physical action form performed by a person to convey some meaningful information. Gestures are a powerful means..... Listed under: [Other Projects](#)
1203. [Solar Panel Battery Charge Controller Using Arduino](#) This is an updated version of Solar Panel Charge Controller Using Arduino. Solar Panel Battery Charge Controller Using Arduino Pictures of Power box and Arduino solar charge regulator: Charge Regulator with Power Box Connections to Regulator Inside the Box The output voltage of the ACS712..... Listed under: [Solar energy projects](#)
1204. [Make A LED firefly Jars Using Arduino](#) There's a nice charm to fireflies in a jar—except for, you know, all the dead bugs afterwards. I decided to make a bunch of fake fireflies in real jars for decoration at an outdoor event. The fireflies are yellow LEDs controlled by a small ATtiny45..... Listed under: [LED Projects](#)
1205. [Accelerometer Controlled Robot](#) Most of industrial robots are still programmed using the typical teaching process, through the use of the robot teach pendant. In this paper is proposed an accelerometer-based system to control an industrial robot using two low-cost and small 3-axis wireless accelerometers. These accelerometers are attached..... Listed under: [Robotics – Automation Projects](#)
1206. [Construct A Bluetooth Controlled Robot Using Arduino](#) In this proposed system we going to construct a basic DC motored robot which we are going to control with android app easily available on google play store named bluecontrol. With Basic mobility of robot like forward, Reverse, left, right we try to implement four..... Listed under: [Bluetooth Projects](#), [Robotics – Automation Projects](#)
1207. [Arduino Project: Intervalometer for Fuji cameras](#) This post is about an arduino-based intervalometer I built for my camera, a Fuji S9600 dSLR. I decided to go for a very simple interface: a rotary switch in the middle of a plastic box which would allow me to select 12 pre-defined intervals. I..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Video – Camera – Imaging Projects](#)
1208. [Build An Hygrometer Using Arduino](#) I am building an automated irrigation system for my vegetable patch. This will be a system that monitors the soil moisture level and then turns on a pump to send water to my garden according to the detected moisture level. The water is coming from..... Listed under: [LED Projects](#)
1209. [Make a Web Connected Robot \(for about \\$500\) \(using an Arduino and Netbook\)](#) This Instructable will show you how to build your own Web Connected Robot (using an Arduino micro-controller and Asus eee pc). Why would you want a Web Connected Robot? To play with of course. Drive your robot from across the room or across the country,..... Listed under: [Robotics – Automation Projects](#)
1210. [How To Throw An Arduino Motor Party](#) In this instructable I will show you how to throw an Arduino motor party. I will also be giving away an Arduino Mega, Arduino Uno, and an Arduino Pro Mini. (Details at the end) Step 1: Assembly + Code You'll need a handful of motors..... Listed under: [Motor Projects](#)
1211. [Send SMS from Arduino over the Internet using ENC28J60 and Thingspeak](#) This Instructable explains how to send an SMS from an Arduino using the Internet. There are many ways to approach this and I will explain one of the different methods used to accomplish this task. Some major points needed for my project: I have a..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1212. [Washer Dryer Laundry Alarm using Arudino & SMS Text Messaging Alerts](#) Have you ever wished there was a better way to be notified when your laundry was done? Have you ever forgotten a load in the washer because you couldn't hear the buzzer and your clothes became smelly and moldy from sitting there for too long?..... Listed under: [Home Automation Projects](#), [Wireless Projects](#)
1213. [Converting infrared to RF signals with Arduino](#) In this project we will show you how to switch on and off the power power sockets box, but other RF receivers can be switched on and off with the same IR remote as well. We..... Listed under: [Wireless Projects](#)
1214. [How to Make a Wireless Path Tracking System Using Mouse, XBee and Arduino](#) The applications of microcontroller are not limited to control simple electrical or electronic device but they are widely used in robotics and automotive industries nowadays. From simple rear view mirror control to complex engine control functions are done by the microcontroller. The microcontroller can even..... Listed under: [Wireless Projects](#)
1215. [How to Transmit Mouse Data Using Xbee with Arduino](#) The PS2 mouse is an input device which can communicate with a host device using the PS2 protocol. It can be connected to a host device using the 6 pin mini DIN connector. The mouse will continuously give output which can be decoded to get..... Listed under:


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[Development Board – Kits Projects](#)

1216. [How To Save a Text In The EEPROM of The Arduino](#) A microcontroller might need to store its data like sensor value, or a particular count or image data for a long period of time. The most common type of memory used with the microcontroller based systems is EEPROM. The EEPROM stands for Electrically Erasable Programmable..... Listed under: [LED Projects](#)
1217. [Generate Random Number using Arduino](#) A random number generation is very important in computing devices which helps them to do task in random manner. The applications of random number generation can be found in shuffling the audio files in an audio player, in almost all kind of digital games, generating..... Listed under: [Development Board – Kits Projects](#)
1218. [Augment a Moog Etherwave Theremin](#) I'm going to go through my process of hacking a Moog Etherwave Theremin. I created a new acrylic top, partially sanded to be translucent in certain areas, and created my own circuit around an ATmega168 Arduino Bootloaded microcontroller which is stealing a control voltage from..... Listed under: [LED Projects](#)
1219. [Arduino based Drone Quadricopter](#) [gallery ids="19920,19921,19922,19923,19924,19925,19926,19927"] arduino based Drone Quadricopter It's a tiny quadrotor helicopter! Update Feb 25 2012: Warning, I may have discovered a bug inside the CadSoft EAGLE 6.1.0 software that may make the PCB look slightly different. My design files are meant for 5.11 so use..... Listed under: [Drone](#)
1220. [Project: Cleaner robot using Magician Chassis, Arduino, distance sensor and hand sweeper](#) This is a cleaner robot so you can give to your mommy or just use to clean your bedroom =P. Material List: 1x Arduino UNO R3 1x Magician Chassis 1x Shield Motor Driver (Shield 4Power) 1x Distance Sensor 1x Servomotor 1x Hand Sweeper 1x Battery 1..... Listed under: [Robotics – Automation Projects](#)
1221. [Arduino-Based Shadow Alarm](#) Arduino-Based Shadow alarms are usually used for protection against theft. A shadow alarm is a device that sounds an alarm when a shadow falls on it. Described here is a simple circuit of an Arduino based shadow alarm. This compact shadow alarm unit is capable..... Listed under: [Security – Safety Projects](#)
1222. [Arduino Bicycle Alarm and Lights](#) This alarm is a good way to alert you if somebody messes with your bike. I had a bicycle stolen a while back and decided there had to be a better way to keep my bike secure. When I searched for bicycle alarms, all I..... Listed under: [Security – Safety Projects](#)
1223. [How to Use IR Remotes with Arduino \(Current and Updated\)](#) I'm tired of these complicated tutorials on how to use certain things. I like simple, easy to understand, step by step instructions. My biggest problem was with IR and POV*. I've finally mastered how to control my project with any TV remote in a few..... Listed under: [Wireless Projects](#)
1224. [ARDUINO Burglar Alarm Using Infrared Emitter-Detector pair](#) In this tutorial i will show you , how to make a simple Inexpensive Intrusion Detection(Burglar alarm) using an Arduino Uno board . This project uses the Infrared Emitter-Detector pair to detect intrusion and triggers an alarm as soon as the object crosses the infrared..... Listed under: [Wireless Projects](#)
1225. [Arduino for Photographers: Building a Universal Intervalometer](#) Practicing the art of time-lapse photography without an intervalometer is doable, but not particularly efficient. And while any decent photo equipment store will be happy to sell you one, you can go the DIY way and build your own intervalometer based on the excellent Arduino platform. Theoretically, building..... Listed under: [LED Projects](#)
1226. [Connecting the ADXL337 to the Arduino](#) Today I'll write about the ADXL337 accelerometer. The ADXL337 measures the acceleration of the x, y and z axis. This means it measures the force acting on any of the axes at a specific moment in time. Because it's an analog device the measurement intervals are as short..... Listed under: [Other Projects](#)
1227. [Arduino Accelerometer mma7361](#) Hey guys, I am a teaching assistant for an introduction to engineering class for biomedical engineering majors at Vanderbilt University this semester. I created this video to explain analog-to-digital conversion to them because time ran out during class and I did not get to this..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sensor – Transducer – Detector Projects](#)
1228. [Arduino DS1307 Clock](#) 1) Introduction and Images Hello friends, today I am going to build a Digital Clock using Arduino UNO and famous DS1307 Real Time Clock IC. Before we begin, here are some images of the completed project. You can find the YouTube video at the bottom..... Listed under: [Clock – Timer Projects](#), [LCD Projects](#)
1229. [MCP41100 an Arduino Controlled Potentiometer](#) We know the analog potentiometer , is a three-terminal resistor with a sliding contact that forms an adjustable voltage divider . MCP41100 an Arduino Controlled Potentiometer: 1)volume controls on audio equipment. 2) Control the amplifier Gain and offset . 3) Transducer " displacement transducers "..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sensor – Transducer – Detector Projects](#)
1230. [Arduino Bipolar Stepper Motor](#) It is a well known fact that Stepper motors are awesome! The only downside is that they can be a bit trickier to get going than servos and plain old DC motors. If you are interested in the inner mechanics and theory of stepper motors, check this..... Listed under: [Motor Projects](#)
1231. [How To Generate Square Wave Using Arduino](#) Any AVR microcontroller based board which follows the standard Arduino schematic and is flashed with the Arduino bootloader can be called an Arduino board. The Arduino is referred to as open source hardware and the Arduino IDE is also open source and anybody can contribute..... Listed under: [Development Board – Kits Projects](#)
1232. [Arduino and Transistors Question – RE: School Musical Production](#) One of the directors has asked me to create a special backdrop for our college musical. This particular backdrop has a particular design (see below) that includes LED strip lighting to give the feel of a 1920s casino sign – similar to what is seen..... Listed under: [LED Projects](#)
1233. [Build Arduino Based Home Security System Using PIR Motion Sensor](#) PIR sensors are widely applied in wireless residential security systems, home alarms systems and many more security circuits as motion detector sensors. A typical PIR sensor detects the infrared red (IR) waves from human body and so it is also known as 'human sensor'. It..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)

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1234. [Temperature Sensing with Arduino](#) As part of the CanSat Primary Mission, we need to measure temperature. For this our starter kit has given us an Arduino Uno R3 micro-controller, as well as some resistors and an NTCLE101E3 NTC Thermistor. The thermistor is a special kind of resistor that changes..... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
1235. [Arduino Basics #5 – Add SD storage to Arduino](#) Arduino Uno’s microcontroller board is great, but the one thing it’s not overly generous with is storage. Having 32KB of program flash storage, 2KB of RAM and 1KB of programmable EEPROM space at your disposal is fine for many Arduino projects, but it’s not enough..... Listed under: [Arduino Programmer Projects](#)
1236. [GSM Based Wireless Notice Board](#) ABSTRACT: There are several places which require vital notice to be displayed like colleges, railway stations, share-market, restaurants, hospitals etc. Looking into the present trend of information transfer, it is seen that vital notice take time to be displayed on the displaying boards. This latency..... Listed under: [Wireless Projects](#)
1237. [How to Make Phonecall From GSM Module Using Arduino](#) One can use a cell phone with any cellular networks around the globe if the proper SIM card is inserted in it. This is possible because there is some device inside the cell phone which follows a global standard enabling them to connect with different..... Listed under: [Phone Projects](#)
1238. [Arduino Digital Voltmeter 0V to 30V](#) Here is a useful circuit for Arduino lovers and experimenters. It is a simple digital voltmeter, which can safely measure input dc voltages in 0 to 30V range. The Arduino board can be powered from a standard 9V battery pack, as usual. As you may..... Listed under: [Metering – Instrument Projects](#)
1239. [Pololu Dual VNH5019 Motor Driver Shield for Arduino \(ash02a\)](#) Get your Arduino moving! This shield makes it easy to control two high-power DC motors with your Arduino or Arduino-compatible board. Its dual robust VNH5019 motor drivers operate from 5.5 to 24 V and can deliver a continuous 12 A (30 A peak) per motor, or a continuous..... Listed under: [Motor Projects](#)
1240. [Arduino Programming For Beginners: The Traffic Light Controller](#) Last week, we learnt about the basic structure of an Arduino program and took a closer look at the ‘blink’ example. Hopefully you took the opportunity to experiment with code, adjusting the timings. This time, we’ll be writing something from scratch. In fact, let’s make..... Listed under: [LED Projects](#)
1241. [Arduino Project 5: Digital audio player](#) So far in this series we’ve had a diverse look at how Arduino can interact with a range of real-world devices from servo motors to ultrasonic range finders TVs to humidity sensors. Now we’ll see if we could get the Arduino to make a few..... Listed under: [Sound – Audio Projects](#)
1242. [Arduino Project 4: Enhancing your mini robot](#) You’ll need these: HC-SR04 – Get this ultrasonic sensor from eBay.com.au for \$2. SG90 Servo Motor – We’ve seen this servo selling for around \$4 on ebay. Motor drive shield – You can get this expansion board for \$5 online. If you’re new to APC..... Listed under: [Robotics – Automation Projects](#)
1243. [Capacitive Touch Sensor on Arduino](#) If you ever wanted to integrate touch sensitivity into your project, this board could just do the trick. It's a capacitive touch sensor. These sensors are used in our everyday consumer electronics like notebook trackpads, video game consoles, touchscreens...just to name a few. They work..... Listed under: [Sensor – Transducer – Detector Projects](#)
1244. [Wireless Arduino Oscilloscope](#) In this guide I will explain how to use a Windows 8.1 phone, Arduino Uno board, and HC-05 Bluetooth module to build a wireless oscilloscope. The phone application has the critical functions of an oscilloscope, although the bandwidth is a measly 300 Hz. Still, if..... Listed under: [Wireless Projects](#)
1245. [Arduino 3.3V](#) This Lazy Old Geek (L.O.G.) loves Arduinos. I have noticed that a lot of sensors, like GPS, LCDs, magnetometers are 3.3Vdc sensors. But the standard Arduinos, Uno, RBBB are 5Vdc modules. So I decided I’m going to make more of my Arduino projects with 3.3Vdc..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1246. [Arduino Fridge Magnet](#) Do you have a habit of leaving notes on the fridge, now take it digital and add an Arduino to it. In this instructable I'm going to show you how to do just that. All you need is an Arduino, an LCD screen and a..... Listed under: [LCD Projects](#)
1247. [Ultrasonic Range detector using Arduino and the SR04 Ultrasonic sensor](#) his is a preliminary instructable that will take you through the steps I took to get the SR04 ULTRASONIC SENSOR connected and working to the Arduino. It will then be incorporated to my mini environment monitor. Eventually, if it all fits, it will end up..... Listed under: [Sensor – Transducer – Detector Projects](#)
1248. [Kid-friendly PuppyDuino 0.31](#) OK, this is not a fully autonomous "get you a beer, open it for you and then tweet about it" robodog (yet 😊 but if you're itching to get past the blinky lights on a breadboard stage with your Arduino and you're ten or know..... Listed under: [LED Projects](#)
1249. [David Bynoe works in progress](#) For an upcoming project I needed a pneumatic ram with a closed loop control system so I could position it accurately. Didn't have the budget for an off the shelf solution, so I bodged one together with an arduino, a couple air solenoid valves, and..... Listed under: [Other Projects](#)
1250. [How to Build an H-bridge Circuit with an Arduino Microcontroller](#) An h-bridge is a chip that allows DC motors to be run versatile, with bidirectional capability. With an H-bridge, motors can go forward or backward, left or right, up or down, etc, depending on the use of the motor(s) in the circuit. Without a microcontroller,..... Listed under: [Motor Projects](#)
1251. [Arduino passive IR trigger for Canon EOS](#) The other day I wanted to experiment with external triggers for my Canon EOS 550D camera. I stumbled upon a nice open source project called Arduino Camera Control from Oleg Mazurov, the creator of the USB Host Shield library for Arduino. The Arduino Camera Control..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1252. [Internet connection indicator box with restart button](#) THE SETUP For an interface I thought 3 LEDs would be simple enough: Blue for everything is fine (as blue LEDs are cooler than green ones); red for something is wrong; and yellow for the modem and router are being restarted. I added a button..... Listed under: [Internet – Ethernet – LAN Projects](#)

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1253. [Arduino Security Alarm with Reed Switch](#) How does the security alarm circuit works? When power is turned on, the circuit goes into standby mode, and this condition is indicated by "SECURITY ALARM" in the LCD screen.Note that here a N/O reedswitch + bar magnet combination is used to detect any mishaps,..... Listed under: [Security – Safety Projects](#)
1254. [Line Follower Robot using Arduino](#) A line follower robot using 8051 microcontroller is already published here and this time the same thing is done using arduino. This line follower robot is basically designed to follow a black line on a white surface. Any way the same project can be used..... Listed under: [Robotics – Automation Projects](#)
1255. [HOW TO MAKE CUSTOM GEAR FOR LINEAR MOTION](#) In the manufacturing industry, a wide variety of devices used at home or in the garden has been experiencing challenges in automating linear displacement of any of the items used. For instance, For example, an automatic opening of gates, automatic unlocking and changing positions of..... Listed under: [Metering – Instrument Projects](#)
1256. [Arduino Platform – SIMON Game Implementation](#) Introduction Having been a CodeProject member for several years, and not having got round to ever publishing an article, left me feeling a bit disappointed in myself. I have thought many a time on what kind of article I can produce. Then after coming across..... Listed under: [Game – Entertainment Projects](#)
1257. [Arduino Based Security System using GSM & PIR Sensor](#) In present time Home/Office and many other place security is most important. In our absence these places are not secure. For make these palaces secure many peoples keep guards and many people prefer electronic security systems. In present time many types of security systems are..... Listed under: [Security – Safety Projects](#)
1258. [Interface single and Dual IR Infrared sensor with Arduino and LCD](#) Interface single and Dual IR Infrared sensor with Arduino and LCD Introduction- Multiple Sensor Interface to Arduino In this another tutorial on sensors for beginners, we are going to interface single and multiple Infrared IR sensors with Arduino Uno development board, working simultaneously and have the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sensor – Transducer – Detector Projects](#)
1259. [Getting Started with Arduino – LED Blinking](#) Arduino Uno is the best development board for beginners in the field of embedded systems. We can program Arduino board with less technical knowledge and programming skills. This tutorial is intended to beginners in the field of Arduino. Hope you already have an Arduino board. Then..... Listed under: [LED Projects](#)
1260. [LPD8806 SD/LCD Digital Light Wand! \(Last Update – 20 September 2014\)](#) I have gathered the information from the HL1606 Digital Light Wand Blog and brought it all over to this new page so that there would be a page dedicated to the LPD8806 Digital Light Wand created by ISO-MICK. Mick took my original design and turned..... Listed under: [LCD Projects](#)
1261. [Interfacing LCD with Arduino Uno](#) 16×2 character LCD display is a very basic LCD module which is commonly used in electronic projects. 16×2 means it can display 2 rows of 16 characters (columns). Its other variants such as 16×1, 16×4 etc are also available. These LCDs are usually made using..... Listed under: [LCD Projects](#)
1262. [Analog to Digital Conversion in ARDUINO](#) Analog to digital conversion module of ARDUINO UNO has 6 input ports. The number of the port varies with your ARDUINO model but the coding remains the same. The analog reading in the analog inputs are converted into corresponding 10bit(0-1023). ARDUINO developers have made such an option that you..... Listed under: [Other Projects](#)
1263. [How to Convert an Arduino into an AVR Flash Programmer](#) In case you don't have an AVR programmer but you do have an arduino, the arduino can be converted into an AVR flash programmer, meaning it can program bare AVR microcontroller chips. Say if you have an AVR chip and you want to program the..... Listed under: [Arduino Programmer Projects](#), [How To – DIY – Projects](#)
1264. [How to Build an Infrared Distance Sensor Circuit](#) An infrared (IR) distance sensor is a sensor that can measure distance from a solid or physical object. An infrared distance sensor does this through light waves. It sends out infrared light and waits to receive it back at the receiver end. If it receives..... Listed under: [How To – DIY – Projects](#)
1265. [How to Build an HC-SR04 Distance Sensor Circuit](#) An ultrasonic distance sensor is a sensor that can measure distance from a solid or physical object. An ultrasonic range finder does this through sound waves. It sends out high-frequency sound waves and then waits to listen back for these sound waves. If it has..... Listed under: [Sensor – Transducer – Detector Projects](#)
1266. [How to Build a Servo Motor Circuit \(with Arduino\)](#) In this project, we will go over how to build a servo motor circuit using an arduino. This is a circuit which can control and rotate a servo motor to rotate a certain amount of degrees. Specifically, in our circuit, we will make it so..... Listed under: [Motor Projects](#)
1267. [How to Build an Ohmmeter Using an Arduino](#) In this project, we will show how you can build an ohmmeter using an arduino. An ohmmeter is a device that can measure resistance. Most of the times now, ohmmeters aren't standalone devices but appear as one of type of measuring device amongst many in..... Listed under: [Metering – Instrument Projects](#)
1268. [MQ-3 Alcohol Sensor Circuit Built with an Arduino](#) In this project, we will go over how to build an alcohol sensor with an arduino. The alcohol sensor we will use is the MQ-3 sensor. This is a sensor that is not only sensitive to alcohol, particularly ethanol, which is the type of alcohol..... Listed under: [Sensor – Transducer – Detector Projects](#)
1269. [MQ-2 Smoke Sensor Circuit Built with an Arduino](#) In this project, we will go over how to build a smoke sensor circ we will use is the MQ-2. This is a sensor that is not only sensitive to smoke, but also to flammable gas. The MQ-2..... Listed under: [Sensor – Transducer – Detector Projects](#)
1270. [How to Build a Liquid Level Gauge Circuit with an Arduino](#) In this project, we will build a liquid level gauge circuit with an arduino. This is a circuit in which a liquid level can be monitored through a gauge. We read the liquid level from the gauge (low, medium, or high), just as you see..... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#)
1271. [Arduino Light Meter Circuit](#) In this project, we will go over how to connect an analog volt panel meter to an Arduino so that it can measure and give us a

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readout of light striking the circuit. In this way, the circuit will function as a light meter. When..... Listed under: [Metering – Instrument Projects](#)


1272. [How to Build a Soil Moisture Sensor Circuit with an Arduino](#) In this project, we are going to build a soil moisture sensor with an Arduino microcontroller. A soil moisture sensor, also called a hygrometer, measures the amount of moisture, or water, in the soil. Therefore, we can tell whether the soil has enough moisture or..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)
1273. [How to Build a Night Light Circuit Using an Arduino](#) In this project, we will go over how to build a night light circuit using an arduino. A night light circuit is a circuit which will turn on when nighttime comes, which is when it gets dark and the place could use some illumination. It..... Listed under: [How To – DIY – Projects](#), [LED Projects](#)
1274. [How to Build a Heat Detector Circuit Using an Arduino](#) In this project, we will go over how to build a heat detector circuit using an Arduino. A heat detector circuit is a circuit, of course, which can detect the presence or absence of heat. This could be useful for a wide range of circuits..... Listed under: [Sensor – Transducer – Detector Projects](#)
1275. [How to Build a Color Sensor Circuit](#) In this project, we are going to build a color sensor circuit with an Arduino microcontroller. A color sensor is a device that can detect and differentiate between certain primary colors. This sensor can detect and differentiate between the colors white, blue, green, and red..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)
1276. [Visual / Aural Guitar Tuner “The Tune Trainer” using arduino](#) Build a strobe tuner with an integrated tone generator to teach tuning by ear. -==Background=- I have always dabbled in instruments. Over the course of my life, I've attempted (with varying success) Piano, Guitar, Banjo, Penny Whistle, Ocarina, Panpipes, Great Highland Bagpipes, Smallpipes, and Didgeridoo..... Listed under: [Sound – Audio Projects](#)
1277. [How to Build a Light Detector Circuit Using an Arduino](#) In this project, we will go over how to build a light detector circuit using an arduino. A light detector circuit is a circuit which can detect the presence or absence of light, depending on how we write our code to respond to the varying..... Listed under: [How To – DIY – Projects](#)
1278. [How to Build an Infrared Proximity Switch Circuit Using an Arduino](#) In this project, we will build an infrared proximity switch circuit using an arduino. This is a circuit in which a switch activates when the infrared sensor detects an object in its proximity. The infrared proximity switch sensor is a reflection-type photoelectric snesor which sends..... Listed under: [How To – DIY – Projects](#)
1279. [How To Build Your Own Ultrasonic Batgoggles using an Arduino](#) Wish you were bat? Want to Experience Echolocation? Want to try to "see" with your ears? For my first Instructable, I will show you how to build your own ultrasonic Batgoggles using an Arduino microcontroller clone, Devantech ultrasonic sensor and welding goggles for around \$60..... Listed under: [Game – Entertainment Projects](#)
1280. [How to Build a Simple Force Sensing Resistor \(FSR\) Circuit](#) In this article, we will go over how to connect a force sensing resistor, or force sensitive resistor, (FSR) to a circuit to build many different types of useful circuits with them. Force sensing resistors are variable resistors which change resistance according to the pressure..... Listed under: [How To – DIY – Projects](#)
1281. [How to Install the Arduino to the Lithium Backpack using arduino](#) The Arduino is an open source hardware input and output circuit and the Lithium Backpack is a Ardino accessory that will power the Arduino when it is away from a computer or a wall power. These products are sold at Liquidware for under \$34 each..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1282. [How to Connect a Microphone to an Arduino](#) In this project, we will go over how to connect a microphone to an arduino so that the arduino can detect whether there is sound in the environment or not. This circuit is only capable of detecting whether there is sound in the environment or..... Listed under: [How To – DIY – Projects](#)
1283. [Spectrographic Auroral Indicator – A Northern Lights Warning Device using arduino](#) 3/16/2011 EDIT: The Wing Kp Predicted Geomagnetic Activity Index model is now deployed and operational. Costello is now considered non-operational and will be discontinued on 23 Mar 2011. Comments and questions are welcomed at SWPC.CustomerSupport@noaa.gov The Wing Kp Predicted Geomagnetic Activity Index model is known..... Listed under: [Security – Safety Projects](#)
1284. [How to Integrate a Temperature Sensor Circuit to an LCD](#) In this project, we will go over how we can build a temperature sensor circuit and integrate it to an LCD so that we can get a readout of the temperature on the LCD. In previous projects with temperature sensor circuits, we built the circuit..... Listed under: [LCD Projects](#), [Sensor – Transducer – Detector Projects](#)
1285. [How to Build a LM335 Temperature Sensor Circuit](#) In this project, we will demonstrate how to build temperature sensor circuit using a LM335 sensor. As a temperature sensor, the circuit will read the temperature of the surrounding environment and relay this temperature to us back in degrees Kelvin. The difference between an LM335..... Listed under: [Sensor – Transducer – Detector Projects](#)
1286. [How to Build a TMP36 Temperature Sensor Circuit](#) In this project, we will demonstrate how to build temperature sensor circuit using a TMP36 sensor. As a temperature sensor, the circuit will read the temperature of the surrounding environment and relay the temperature to us back in degrees fahrenheit. The IC we will use..... Listed under: [Sensor – Transducer – Detector Projects](#)
1287. [Hard Drive Persistence of Vision \(HDPOV\) using arduino](#) The platter of a hard drive spins well over sixty times a se Click here to get AI-based help ✕ or to allow LEDs to shine through, we can achieve flicker fusion and trick the eye into seeing a stable image. This phe [Storage Projects](#)
1288. [How to Drive a 7 Segment LED Display with an Arduino](#) In this project, we will show how to drive a single 7 segment LED display with an arduino microcontroller. A 7 Segment LED Display is an electronic device housing 8 individual LEDs. Using this device, we can display all numerals and many alphabetical characters and many more..... Listed under: [LED Projects](#)
1289. [Low Cost Water Flow Sensor and Ambient Display using arduino](#) Water is a precious resource. Millions of people do not have access to clean drinking water, and as many as 4000 children die from water contaminated illnesses every day. Yet, we continue to be wasteful with our resources. The overarching goal of this

project is..... Listed under: [Home Automation Projects](#)

1290. [How to Build an RGB Full Color LED Module Circuit](#) In this project, we are going to build an RGB Full Color LED module circuit. A full color LED module is a circuit in which an LED can be lit to any color. This is why it is called a full color LED module. By..... Listed under: [LED Projects](#)
1291. [Super Simple Beginners Robot! using arduino](#) I created this Instructable for the absolute n00by robot wannabe. I have noticed a huge jump in the number of beginners getting into the hobby and the number of "how do I" questions seem to be mounting. Maybe this humble little Instructable will help one..... Listed under: [Robotics – Automation Projects](#)
1292. [How to Interface GPS with Arduino](#) Every single location in the entire globe can be specified in terms of geographical coordinates. The geographical coordinate is a system which specifies any given location on the earth surface as latitude and longitude. There are devices which can read the geographical coordinates of a..... Listed under: [GPS Based Projects](#)
1293. [Create an Applescript/Arduino Alert flag. using arduino](#) Have you ever felt like the mail sound on your Mac just wasn't enough? Simple sounds and alerts just don't cut it for you? You want something more apparent and rewarding? If so, this is the Instructable you've been looking for. In this Instructable, I'll..... Listed under: [How To – DIY – Projects](#)
1294. [Time Sensing Bracelet using arduino](#) The Time Sensing Bracelet is a fabric potentiometer. You select your desired time of day by making contact in the corresponding position on your wrist - where your watch would normally be. There is no point to it but fun. Update: Using some wire wrapped..... Listed under: [Sensor – Transducer – Detector Projects](#)
1295. [YAHMS: Wireless Temperature Probes](#) My wireless temperature probes work by using an Xbee module to transmit readings from a TMP36 down to the Arduino base station. The XBees aren't too cheap, coming in around £19 or \$23 so I tried to be cheap and ordered mine from Sparkfun, I..... Listed under: [Temperature Measurement Projects](#)
1296. [Simple mass storage for your microcontroller project using arduino](#) Do you want gigabytes of storage for your microcontroller? Would you like a simple way to tranfer files from your PC to your picaxe or arduino or other micro project? This little projects demonstrates the uDrive that can be set up as an extra drive..... Listed under: [Memory – Storage Projects](#)
1297. [How to make a solar iPod/iPhone charger -aka MightyMintyBoost using arduino](#) I wanted a charger for my iPodTouch and the MintyBoost was definitely my first choice. I wanted to take it a bit further and make it not only rechargeable but also solar powered. The other issue is that the iPhone and iPodTouch have large batteries..... Listed under: [Solar energy projects](#)
1298. [TV-B-Gone Kit Using Arduino](#) Tired of all those LCD TVs everywhere? Want a break from advertisements while you're trying to eat? Want to zap screens from across the street? The TV-B-Gone kit is what you need! This ultra-high-power version of the popular TV-B-Gone is fun to make and even..... Listed under: [Video – Camera – Imaging Projects](#)
1299. [Arduino Police Flasher Kit](#) After reading about the famous Arduino programmable microcontroller using the "Getting Started with Arduino Kit (Jameco P/N 2121121) I was eager to try my hand at some real live electronic programming. The Arduino platform is a great place to start for a novice like me. After learning..... Listed under: [LED Projects](#)
1300. [Tweet-a-watt – How to make a twittering power meter... using arduino](#) Tweet-a-watt - How to make a twittering power meter... This project documents my adventures in learning how to wire up my home for wireless power monitoring. I live in a rented apartment so I don't have hacking-access to a meter or breaker panel. Since I'm..... Listed under: [Metering – Instrument Projects](#)
1301. [Arduino Circuit to Dim LED with Potentiometer](#) In Lesson 8 you learned to write analog voltages on the Arduiono, and in Lesson 10 you learned to read analog voltages from the arduino. In this lesson we will combine what you did in lessons 8, 9, and 10 to create an LED with..... Listed under: [LED Projects](#)
1302. [LED Sunrise Alarm Clock with Customizable Song Alarm using arduino](#) My Motivation This winter my girlfriend had a lot of trouble waking up in the morning and seemed to be suffering from SAD (Seasonal Affective Disorder). I even notice how much harder it is to wake up in the winter since the sun hasn't come..... Listed under: [Clock – Timer Projects](#)
1303. [Arduino Lab 2 – Morse Code Generator](#) Introduction An excerpt from OmniGlot.com about the origin of Morse Code: Morse Code was invented by Samuel F. B. Morse (1791-1872), a painter and founder of the National Academy of Design. He conceived the basic idea of an electromagnetic telegraph in 1832, and produced the..... Listed under: [Development Board – Kits Projects](#)
1304. [Arduino robot kit – Wiring Diagram](#) I have created this wiring diagram for the connections between the motor controller, motors, and sensor shield. I'll update it later to include other components. And here is an update that includes the servo motor and the range sensor. And here are the detailed pin..... Listed under: [Robotics – Automation Projects](#)
1305. [How To Communicate With An Alien Artifact or using arduino](#) Close Encounters of the Curiously Minty Kind. This Instructable will show you how to build an Altoids version of the 'Close Encounters' mothership, and how to interact with it. This may be vital training for that ~~darkness~~ the Bright White Beam comes to suck..... Listed under: [Game – Entertainment Projects](#)
1306. [Isolated mains power monitoring \(Arduino\)](#) All about power today.. For a while now, I've been looking around for a mains (220-240VAC) power monitoring circuit that I might be able to interface with an Arduino. There is of course the OpenEnergyMonitor solution, but they seem to use a transformer to isolate and measure..... Listed under: [Metering – Instrument Projects](#)
1307. [How to build an 8x8x8 LED cube and control it with an Arduino using arduino](#) There are a lot of LED cubes on Instructables, so why do another? Most are for small cubes consisting of 27 or 64 LEDs, rarely larger since they are limited to the number of outputs available on the microcontroller. This cube will be 512 LEDs,..... Listed under: [LED Projects](#)


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1308. [Using A Bar Graph With The Arduino](#) Introduction This project explores a couple of ways of simulating and using a bar graph with the Arduino. Bar graph components like the following one can be used, This type of bar graph is basically just 10 LEDs in a row with anodes on one..... Listed under: [Other Projects](#)
1309. [Solderless Breadboard Layout Sheets \(plug and play electronics\) using arduino](#) Here's a fun system designed to take care of some of the headaches involved in breadboarding a circuit. It is is a simple set of template files drawn to scale with real world electronic components. Using a vector drawing program you simply move the components..... Listed under: [Development Board – Kits Projects](#)
1310. [Arduino-Based Optical Tachometer](#) Over ten years ago, I put up a web page with detailed instructions on building a simple electric motor based on one from the Beakman's World TV show. I called it the "Beakman's Electric Motor" page and over the years it has had hundreds of thousands, if..... Listed under: [Metering – Instrument Projects](#)
1311. [USB NES controller with an arduino! using arduino](#) UPDATE 22-12-2014 Instructables user mattpbooth has updated the code and is hosting it on github: <https://github.com/mattpbooth/ArduinoNESController...> Thanks Matt! UPDATE 03-12-2011 Replaced a println with print (derp). UPDATE 01-12-2011 Remade all code from scratch. Remade 'ible code section; Now includes a 'Processing COM port config for..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1312. [How to Build a LM35 Temperature Sensor Circuit](#) In this project, we will demonstrate how to build temperature sensor circuit using a LM35 sensor. As a temperature sensor, the circuit will read the temperature of the surrounding environment and relay thi temperature to us back in degrees celsius. The IC we will use..... Listed under: [How To – DIY – Projects](#), [Temperature Measurement Projects](#)
1313. [Tilt Sensor Tutorial using arduino](#) What is a tilt sensor? Tilt sensors allow you to detect orientation or inclination. They are small, inexpensive, low-power and easy-to-use. If used properly, they will not wear out. Their simplicity makes them popular for toys, gadgets and appliances. Sometimes they are referred to as..... Listed under: [Sensor – Transducer – Detector Projects](#)
1314. [RFID with Arduino](#) If you ever wanted to integrate RFID functionality into your project, this small tutorial might help you accomplish that. I used the RDM630 module from seedstudio in its UART version. It comes on a small board with presoldered connectors which fits perfectly on a breadboard. You only..... Listed under: [RFID - NFC projects](#)
1315. [Ceiling Fan LED Display using arduino](#) Seeing so many persistence of vision ideas on the web was too tempting not to try one. After considering several different motors to drive a display, a ceiling fan seemed to run at just the right speed, is out of the way, and very quiet..... Listed under: [Home Automation Projects](#)
1316. [Home Automation using Arduino and MATLAB](#) n present time home office appliance controlling is common thing. Today for controlling home/offices appliances, machineries in companies/industries uses different types of automation systems like DTMF controlled, GSM controlled and many others. So here this project is made for interfacing MATLAB (Graphic User Interfacing) and Home/office/industries..... Listed under: [Home Automation Projects](#)
1317. [AVRSH: A Command Interpreter Shell for Arduino/AVR. using arduino](#) Ever wanted to be "logged in" to your AVR microcontroller? Ever thought it would be cool to "cat" a register to see its contents? Have you always wanted a way to power up and power down individual peripheral sub-systems of your AVR or Arduino in..... Listed under: [Arduino Programmer Projects](#)
1318. [Acorn Chime using arduino](#) By: Charlie DeTar, Christina Xu, Boris Kizelshteyn, Hannah Perner-Wilson A digital wind chime with hanging acorns. Sound is produced by a remote speaker, and data about chime strikes is uploaded to Pachube. Step 1: Brainstorming for a device that would represent ourselves Our goal was..... Listed under: [Game – Entertainment Projects](#)
1319. [Arduino Chandelier from Jars](#) E-Edit: Thank you very very much for voting for me in Featured Author, Glue and Battery Powered Contests! Cheer up and wait for my project so special is coming... Edit: If you really like this project, you can vote for me on the top right corner, forFeatured..... Listed under: [LED Projects](#)
1320. [Bedazzler: DIY non-lethal weaponry using arduino](#) Our first open source Homeland Security non-lethal weapon project - The "THE BEDAZZLER: A Do-it-yourself Handheld LED-Incapacitator". After attending a conference where the \$1 million "sea-sick flashlight" (named "THE DAZZLER") was demonstrated by the US Dept. of Homeland Security, we decided to create our own..... Listed under: [Home Automation Project Ideas](#)
1321. [Using Push Button Switch with Arduino Uno](#) In this tutorial you will learn how to read the status of a digital pin of Arduino. I hope that you already go through our first tutorial, Getting Started with Arduino Uno – LED Blinking. In this example, a push button switch and an LED is connected to Arduino..... Listed under: [LED Projects](#)
1322. [Build A Binary Clock Using Arduino](#) Introduction In this project, 16 LEDs are used to represent the time in binary. The time is read from a Real Time Clock breakout board - the same one used in the Digital Clock page. The binary clock uses 4 place values for the hour..... Listed under: [Clock – Timer Project Ideas](#)
1323. [Build an Arduino-powered talking robot head using arduino](#) This robot head was originally built as a end of the year project for my physical computing class, but over the summer it has "learned" how to talk. The head is powered by two Freeduinos, 3 TLC5940NT chips and an Adafruit Industries Wave Shield found here: www.ladyada.net/make/waveshield/..... Listed under: [Robotics – Automation Project Ideas](#)
1324. [3x3x3 LED Cube with Arduino Lib using arduino](#) There are other Instructables about building LED cubes, this one is different for several reasons: 1. It's built with a low number of off-the-shelf components and hooks up directly to the Arduino. 2. A clear, easy to reproduce circuit diagram is provided with plenty of..... Listed under: [Arduino LED Project Ideas](#)
1325. [Easy DIY Home Automation \(using servo switches\) using arduino](#) This Instructable is all about one of life's simple actions, flipping a light switch on and off. At oomlout we do it many times a day, so many in fact it came to a point where we asked ourselves "Can't we get an Arduino to..... Listed under: [Home Automation Project Ideas](#)
1326. [DIY Arduino Pulse Sensor](#) So I mentioned in an earlier Instructable that I am a teaching assistant (TA) for an introductory engineering course for biomedical engineering majors at Vanderbilt University. My main task as a TA is to re-write a few laboratory exercises that the students will be performed..... Listed under: [How To – DIY – Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)

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1327. [Two Wire Arduino Knight Rider](#) This tutorial shows how to interface eight LEDs to an Arduino using only two Arduino pins. This is made possible by using a PCF8574 I/O expander IC. A "Knight Rider" display is shown on the LEDs. Prerequisites Complete tutorial 4 – Arduino Knight Rider. Be able..... Listed under: [LED Projects](#)
1328. [Arduino Lilypad Interactive Passion Sensing Scarf using arduino](#) This was my first time working with an Arduino Lilypad. I have been wanting to try something that dealt with soft circuits for awhile now. This project is what I came up with. The concept is based off my friend Ethan Dicks from theFusefactory.org's emergent..... Listed under: [Game – Entertainment Project Ideas](#)
1329. [Arduino Serial Thermometer](#) The Arduino reads temperature from a MCP9700 temperature sensor IC and displays the temperature in the Arduino IDE serial monitor window. Also see the Arduino LCD thermometer tutorial (tutorial 14). Prerequisites Complete Tutorial 9: Using the Arduino Serial Port before attempting this tutorial. Components Besides an Arduino Uno board,..... Listed under: [Metering – Instrument Projects](#)
1330. [The Ardweeny: the little friend of the Arduino \(and how to beef it up\) using arduino](#) Open-source hardware? Arduino(tm) is the first name to come to mind! As great as it is, sometimes we need a small microcontroller solution for a project, or a stripped-down version for cost-effectiveness. The Ardweeny is the solution. These small kits are 100% compatible with the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1331. [Using the Arduino Serial Port](#) The Arduino Uno can send data (such as a text message) to the PC over the USB cable. The Arduino IDE has a serial monitor window that can be opened and will receive and display the data sent from the Arduino board. Data can also..... Listed under: [Interfacing\(USB – RS232 – I2c - ISP\) Projects](#)
1332. [Core3duino using arduino](#) This is an addon shield to an addon shield. That's right, you have to have the Core2duino on your Arduino to be able to understand why you would want this in the first place. So once you have your Core2duino saddled up, give this one..... Listed under: [Development Board – Kits Project Ideas](#)
1333. [Make A Dual LED Flasher Using Arduino](#) A two transistor circuit that flashes two LEDs on and off alternately. Prerequisites Complete tutorial two - Transistor Timer before attempting this tutorial. Components In addition to an electronic breadboard, wire links, a 9V battery and a battery clip, you will need: QTY PART DESIGNATOR NOTES TYPE..... Listed under: [LED Projects](#)
1334. [Building IllyClock – Arduino-based alarm clock in a coffee can using arduino](#) Updated Aug 4, 2011 A streamlined version is now described here. Beside the enclosure, the original feature of IllyClock is showing the time in colors: 3 hours before wake-up time, color changes from green to orange; 1 hour before wake-up, the time is shown in red. One..... Listed under: [Clock – Timer Project Ideas](#)
1335. [Arduino Melody](#) A very easy tutorial that uses only two components. The Arduino plays a short melody on a loudspeaker. The program to load to the Arduino is one of the programs that is built into the Arduino IDE. Prerequisites Complete tutorial 3 - Starting with Arduino..... Listed under: [Sound – Audio Projects](#)
1336. [Twitter Mood Light – The World’s Mood in a Box using arduino](#) How's the world feeling right now? This box tells you. Powered by: an Arduino, a WiFly wireless module, an RGB LED, Twitter.com and a 9v battery. I'm a news junkie. I want to know everything that is going on in the world as soon as..... Listed under: [Game – Entertainment Projects](#)
1337. [Arduino Knight Rider](#) In this tutorial, eight LEDs are interfaced to the Arduino Uno board. This is not complicated – it is just like interfacing a single LED to the Arduino as done in tutorial 3, but eight times over. A program is then loaded to the Arduino..... Listed under: [LED Projects](#)
1338. [Arduino LCD](#) In this tutorial you will connect a LCD (Liquid Crystal Display) to the Arduino Uno and then run the Arduino LCD example programs that are built into the Arduino IDE. Prerequisites It is recommended for beginners to complete all the Arduino tutorials up to and..... Listed under: [LCD Projects](#)
1339. [Arduino and Touchpad Tic Tac Toe using arduino](#) Or, an exercise in input and output multiplexing, and working with bits. And a submission for the Arduino contest. This is an implementation of a tic tac toe game using a 3x3 array of bicoloured LEDs for a display, a simple resistive touchpad, and an..... Listed under: [Game – Entertainment Project Ideas](#)
1340. [Make A Arduino LCD Thermometer](#) In this tutorial, a temperature sensor (MCP9700 linear active thermistor IC) and LCD are connected to the Arduino. The Arduino reads the temperature from the MCP9700 on analog pin A0 and displays the temperature on the LCD. This video shows the circuit operating. When touched..... Listed under: [LCD Projects](#)
1341. [How to wire an arduino-based 3-axis CNC machine using arduino](#) I've seen a number of tutorials about how to build the platform for a 3-axis CNC milling machine. I have not seen anyone tackle the tricky subject of the electronics. Here now is my attempt to do so. Step 1: Parts You'll need: - an..... Listed under: [CNC Machines Project Ideas](#)
1342. [Drive with PID Control on an Arduino Mega 2560](#) This example shows how to simulate a simple closed-loop control algorithm in Simulink and how to run it on an Arduino Mega 2560 board. Contents Introduction Prerequisites Required Hardware Task 1 – Build the Vehicle Task 2 – Build the Motor Controller Task 3 –..... Listed under: [Other Projects](#)
1343. [Musical MIDI Shoes using arduino](#) Like many people, I often find myself unconsciously tapping my feet, whether it's along to a song or out of some nervous habit. As fun as that is though, I've always felt as if something has been missing. If only I could trigger the sounds. Listed under: [Sound – Audio Projects](#)
1344. [MIDI Linear Actuator](#) This project uses relays to control a Firgelli Automations linear actuator without feedback. Th (Control Change number CC7) command which is read by the microcontroller and converted into one of the only 3 states of operation: 1) The..... Listed under: [Other Projects](#)
1345. [Wallbots: Autonomous Magnetic Robots that Traverse Vertical Surfaces using arduino](#) This Instructable will teach you how to create magnetic robots that traverse vertical surfaces. These robots can move on any metallic walls, including elevators, whiteboards, refrigerators or metal doors. The robots are outfitted with several light sensors, allowing them to respond to simple user interactions..... Listed under: [Robotics – Automation Project Ideas](#)
1346. [LPG sensor using arduino](#) LPG sensor using Arduino with alarm and cutoff. A simple LPG sensor using Arduino is shown in this article. This circuit indicates the amount of LPG in the air. The circuit sounds an alarm and trips a relay when the concentration is above a predetermined..... Listed under: [Sensor – Transducer –](#)

[Detector Projects](#)

1347. [Make a 8×10 L.E.D Matrix using arduino](#) UPDATE 1: I HAVE ADDED THE CODE FOR CONWAY'S GAME OF LIFE UPDATE 2: NOW YOU CAN SAVE SOME ARDUINO PINS WITH THE HELP OF 1 SHIFT REGISTER. In this instructable I will show you how to build a quite fancy 8 by 10 L.E.D matrix(with scrolling text and animations) using the Arduino and 4017 decade..... Listed under: [LED Projects](#)
1348. [IR Remote Controlled Home Appliances using Arduino](#) In present times there are many types of Home Automation Systems which are available in the market. Most of these are simple Home Appliances Controlling Systems like DTMF controlled Home Appliances, GSM based Home Appliances Controlling, RF based Home Appliances Controlling. Here we are going..... Listed under: [Home Automation Project Ideas](#)
1349. [Arduino Controlled Servo Robot \(SERB\) using arduino](#) What better way to start experimenting with open source micro-controllers (Arduino) then by building your very own open source robot (CC (SA -BY))? What to do with your SERB? (here) - How to connect your SERB to the internet and drive..... Listed under: [Robotics – Automation Project Ideas](#)
1350. [Build A Simple Robotics Breadboard Using Arduino](#) This Instructable shows you how to build a simple, inexpensive breadboard for robotics experiments. It is a companion to Cheap, Easy Robotics for the Non-Programmer. Here we'll learn how to build a Babuino robot to use for experiments with the Babuino/Blocos software environment. Using a..... Listed under: [Robotics – Automation Project Ideas](#)
1351. [An easy way to send your heartbeat to the Cloud using arduino](#) This cool (and very low price) sensor is attached on your ear and can detect your heart's pulse through transmitting infrared light and checking the absorption variation caused by the blood flow on your ear lobe. The site of the products provides also the Arduino..... Listed under: [Medical – Health based Project Ideas](#)
1352. [PIR Motion Sensor Tutorial using arduino](#) Pyroelectric ("Passive") InfraRed sensors: ""What is a PIR sensor?"" PIR sensors allow you to sense motion, almost always used to detect whether a human has moved in or out of the sensors range. They are small, inexpensive, low-power, easy to use and don't wear out..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1353. [A DIY photoplethysmographic sensor for measuring heart rate](#) Meet Easy Pulse: A kit that includes all it needs to make a DIY heart rate sensor. Although it is not built using an Arduino, it is still open and easy to build. From the site: "This project is based on the principle of photoplethysmography..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1354. [The Smuggie: Tweet straight from your Snuggie using arduino](#) Want to tweet how satisfied you are cuddled up in your Snuggie? The Smuggie is a modified Snuggie, designed specifically for those who feel the need to express their smug satisfaction with a Snuggie to their friends on Twitter. Here's a list of everything you'll..... Listed under: [Internet – Ethernet – LAN Project Ideas](#)
1355. [Very simple ECG + Pulse Oximeter using arduino](#) Scott W Harden has built an updated version of his ECG circuit for tracking his heartbeat. The main goal of the update is to provide a hack for collecting heartbeat with minimal h/w cost and circuit complexity. As you can see from the project photo above, the..... Listed under: [Medical – Health based Project Ideas](#)
1356. [The Lightning Simulator/Breathalyzer/Graphic Equalizer – Arduino Powered using arduino](#) UPDATE: A portable version of the Talking Breathalyzer is here <http://talkingbreathalyzer.com> The LED strips are mounted on an outdoor trellace which functions as a lightning simulator, outdoor breathalyzer, graphic equalizer synced to music, and a few other effects with sound. Materials: 8 12v RGB Waterproof Flexible..... Listed under: [LED Projects](#)
1357. [Interfacing EM-18 RFID reader with Arduino Uno](#) Arduino Uno is an opensource physical computing platform based on ATmega328 microcontroller and provides a development environment for writing software for the board. It can be used for a variety of projects. EM-18 RFID reader is one of the commonly used RFID reader to read..... Listed under: [Other Projects](#)
1358. [Arduino + WiFi, Music Responsive LED Light Fixture using arduino](#) This instructable gives instructions for constructing a Saiko5 WiFi enabled LED light fixture based on the Arduino hobbyist platform. It includes step-by-step instructions from board design to soldering to case integration, as well as instructions explaining how the software and firmware can be used to..... Listed under: [LED Projects](#)
1359. [Trinket Audio Player using arduino](#) Overview We usually think of the Adafruit Trinket as a tiny subset of a “real” Arduino; less RAM, less code space, less I/O. But this little chip has a couple tricks up its sleeve, things its larger brethren can’t do. One of these is a..... Listed under: [Sound – Audio Projects](#)
1360. [Beatfly : Make an illuminating blimp and control it with your voice, Keyboard, MIDI Controller, Garageband file, iPhone, Flash, and more! \[Mac OSX\] using arduino](#) [Mac OSX Only] Because I use Quartz Composer, my program works only on Mac OSX. I am now extending and improving it toward cross-platform. If you have knowledge of computer programming, you can make your own system that connects to the blimp. The communication protocol..... Listed under: [LED Projects](#), [Sound – Audio Project Ideas](#)
1361. [Make A Arduino Solar Radio](#) Solar charging, via the panel on the back. * 12 position switch to select channel number * Seek up / seek down controls and 'store' button * RDS display of call sign * Frequency display * Battery voltage display * Solar charging current display The..... Listed under: [Radio Projects](#)
1362. [Updating the Arduino Garage Door Circuit for the new Gliderol Garage Controller.](#) We moved house recently and I was able to use my Arduino to continue the home automation routine. As described in Adventures with an Arduino – Part 1: The Business Problem, I created a [Click here to get AI-based help](#)  integrate with a BOSS BOL6 garage door controller..... Listed under: [Home Automation Project Ideas](#)
1363. [Intelligent Letter Box using Arduino and GSM](#) In the days of technology postman still comes to our house for delivering the letters, couriers and parcels. Because some things like courier, parcels can’t sends via email and by using any other electronic media. So for getting notification of our letter delivery in our..... Listed under: [Other Projects](#)
1364. [LED Umbrella with Arduino using arduino](#) The LED Umbrella with Arduino combines an umbrella, an 8x10 LED matrix and an Arduino microcontroller to create a controllable, programmable LED experience in the privacy of your own umbrella. This project was inspired by the Electric Umbrella by sockmaster and a number of LED matrix instructables..... Listed under: [LED Projects](#)

1365.

[ARDUINO based IR remote control robot using arduino](#)

Hi everyone. This my new project IR remote control robot using arduino. This is a simple design robot you can easily build it. Step 1: Requirements: Project requirements: Arduino uno Tsop1738 (ir receiver) H bridge ic (L293D) Two dc motor A robot base 9v Battery..... Listed under: [Robotics – Automation Project Ideas](#)
1366.

[Sleek word clock using arduino](#)

nspired by drj113's great instructable on making a word clock, I wanted to make my own. After seeing the (extremely overpriced) commercial "qlocktwo" word clock, I decided to borrow its smooth glossy black design while basing the innards of my clock on drj113's design. In..... Listed under: [Clock – Timer Project Ideas](#)
1367.

[Project work3:Arduino code and the circuit diagram using arduino](#)

In order to realise the “music garden”,the most important part is the Arduino code and circuit diagram. First of all,I will present my Arduino code:(I will show you the way I think as a flow chart at first) Flow Chart: Details:this flow chart is a..... Listed under: [Sound – Audio Projects](#)
1368.

[Haptic Feedback device for the Visually Impaired \[Project HALO\] using arduino](#)

I recently watched an episode of Stan Lee’s Superhumans which featured a blind man who used a series of clicks, like a bat, to echo locate his surroundings. I got to thinking about other blind people and their ability to navigate freely – without the..... Listed under: [Medical – Health based Project Ideas](#)
1369.

[Hobbyduino Mini V1.0 using arduino](#)

Introduction The Hobbyduino Mini is a clone of the Arduino main-board. It contains a ATmega328 processor programmed with the Arduino bootloader. The Hobbyduino does not contain the circuitry for USB communication. I opted to rely on the FTDI232R serial boards to handle the USB-to-Serial protocol. Here..... Listed under: [Development Board – Kits Projects](#)
1370.

[A simple DIY spectrophotometer using raduino](#)

What's all this? This instructable will explain how to build a fairly basic but working spectrophotometer out of easily sourceable parts. Of course, this device is nothing compared to a commercial spectrophotometer, but it will allow the builder to understand how such a device works..... Listed under: [Metering – Instrument Project Ideas](#)
1371.

[Build Your Own Arduino & Bootload an ATmega Microcontroller – part 1](#)

There are many reasons to build your own Arduino circuit on a protoboard or a custom-designed printed circuit board. At the heart of the Arduino platform is an AVR microcontroller, in usual way you need a special hardware programmer and suitable hex files to program..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1372.

[High-speed Photography with Arduino and CHDK using arduino](#)

This project uses an Arduino microcontroller and a laser break-beam trigger to fire via USB remote a Canon camera modified with CHDK (Canon Hack Development Kit) firmware. Immediate influences are the high-speed flash photography triggered by sound or light project by Glacial Wanderer and the..... Listed under: [Video – Camera – Imaging Projects](#)
1373.

[Arduino PWM Led Control using arduino](#)

Looking for a simple circuit to control the light intensity of Light Emitting Diodes (LEDs) or similar lighting sources? Here is an Arduino based circuit with three independent pulse width modulated (PWM) channels to fulfil your requirements! Just follow the schematic diagram to complete the..... Listed under: [LED Projects](#)
1374.

[Lunchtime Clock using arduino](#)

Have you ever wished lunchtime were longer, but didn't know where to find those few extra minutes? Well, wish no longer! Thanks to great in advances in clock technology, I present to you a clock that speeds up 20% every day at 11:00 and slows..... Listed under: [Clock – Timer Project Ideas](#)
1375.

[Arduino project: Stereo Peak Program Meter using arduino](#)

Previously, we introduced the Arduino’s analog-to-digital converter (ADC) in detail, looking at successive-approximation A-D conversion and how it’s the best compromise between speed and cost. This time, we start putting some of that theory into practice by building a stereo peak-program meter. Our Peak Program..... Listed under: [Metering – Instrument Project Ideas](#)
1376.

[Simple Animatronics with Servos and Arduino using arduino](#)

Servos are surprisingly easy to use. Even more so than simple DC motors and steppers when you have a microcontroller. In this instructable we'll use a 'duino to drive five servos which will control a doll's limbs and neck. I bought the servos at HobbyPartz..... Listed under: [Game – Entertainment Projects](#)
1377.

[MIDI Bass Pedal Arduino Encoder using arduino](#)

MIDI BASS PEDAL ARDUINO UNIT The MIDI Bass Pedal circuit is capable of encoding any number of momentary action, push to make, single pole single throw (SPST), switches from 1 up to 30 to produce the equivalent MIDI note-on/note-off data commands. The encoded switches are..... Listed under: [Sound – Audio Projects](#)
1378.

[Arduino + Laptop Touchpad using arduino](#)

Yes, this is more or less your average touchpad that one can find from inside a laptop. This model, like majority of touchpads out there operates with PS/2 standard. This means that it can be directly plugged in to a PS/2 connector and with proper..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1379.

[Electronic Circuit: photocell and LED](#)

The cmd_response sketch is very general with respect to the ANALOG IN and DIGITAL I/O of the Arduino boards. We can use it to read a wide variety of sensors from remote computer systems. First, we demonstrate how the Arduino cmd_response sketch works, we construct..... Listed under: [LED Projects](#)
1380.

[Sending Message Using Alpha-Numeric Keypad with GSM and Arduino](#)

GSM is quite a common Device which is used in major Projects and Real Time Operations. There are many applications which are using features of GSM Module like the feature sending Messages, making a Voice Call, Reading Messages, attempting Call etc. Many at times you..... Listed under: [Development Board – Kits Project Ideas](#)
1381.

[Arduino Wind Instrument using arduino](#)

I wanted to create an Arduino instrument that was easy to play, but would sound better with practice. This "wind" instrument combines the Sparkfun Electret Microphone breakout board with the Tone library and 5 buttons on one analog pin. The musician must make a sound..... Listed under: [Home Automation Project Ideas](#)
1382.

[Peggy2: High And Low](#)

First and foremost, big thanks to Damien for her time and effort on soldering 265 LEDs on peggy2 circuit board, which made my programming part possible to continue. Instead of soldering LEDs directly onto the Peggy2 board, we have to use Ethernet cables as “extensions” Listed under: [LED Projects](#)

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1383. [Rechargeable Battery Capacity Tester using arduino](#) Do you have a pile of AA rechargeable batteries in your drawer? Some are old, some are new, but which sets would you bring with your camera on your next trip, and which ones are past their useful life? I like using rechargeable batteries, but..... Listed under: [Battery Projects](#)
1384. [CMUcam3: Working Module But Not Working CMUcam3-Arduino System](#) After over spending nearly 20 hours extra on fixing peggy2 board I mentioned in the previous post, there is only a few hours left for me to work on CMUcam3-Arduino system and its facial-recognition driven motor system. The basic programming architecture is shown below. When in..... Listed under: [Video – Camera – Imaging Projects](#)
1385. [NESBot: Arduino Powered Robot beating Super Mario Bros for the NES using arduino](#) An Arduino Duemilanove (other boards will probably work, but you will have to adjust the steps for your device) Working NES Console Super Mario Bros. (Note: this must be only the single game, not the two- or three-in-one cartridge) A controller you can cut the..... Listed under: [Game – Entertainment Project Ideas](#)
1386. [Arduino Intervalometer Camera controller](#) Intervawhat? An intervalometer is a camera controller that signals the camera to take a picture after some set interval. This is really useful for creating time-lapse videos. For a long time, I used my TI-89 calculator to create time-lapse videos with my Canon digital Rebel XTi. It..... Listed under: [Video – Camera – Imaging Projects](#)
1387. [Q&D-Poor man’s-Skinner-Sadist-Jeopardy game using arduino](#) In this instructable you will learn how to make a Q&D-Poor man's-Skinner-Sadist-Jeopardy game . First off, the disclaimer: I'm not responsible of whatever you do. You have to know that with a great power comes...bla-bla-bla. Just be careful and remember that electricity reserves respect. While..... Listed under: [Game – Entertainment Project Ideas](#)
1388. [Radio Telemetry for a Model Rocket using arduino](#) Flying model rockets is fun, but there is always the question of how high did it go. Using a programmable micro-controller and some sensors, you can monitor the entire phase of flight and measure acceleration and altitude, among other things. With this project, I'll show you how..... Listed under: [Radio Project Ideas](#)
1389. [Bubblebot: Gigantic Bubble Generator using arduino](#) While being a bit lengthy and requiring experience with Arduino, this contraption is bound to grant you infinite glory among your friends, toddlers and grownups alike! Step 1: What You Need Here's a list of the materials and parts I used: The Frame * 5..... Listed under: [Game – Entertainment Project Ideas](#)
1390. [New Arduino WiFi Shield \(Testing\) usign arduino](#) The WiFi Shield was delivered by Amazon. The Arduino UNO Rev 3 was found at RadioShack... First you need to load the last Arduino IDE (Ver 1.0.2) it has the necessary library to use the WiFi shield. Tried the examples “Scan for available networks” and Listed under: [Wifi - Wlan Projects](#)
1391. [Review – Maxim MAX7219 LED Display Driver IC using arduino](#) Today we are going to examine the Maxim MAX7219 LED display driver IC. The reason for doing so is to show you how something that used to be quite complex can be made very simple – and that is what all this technology is for,..... Listed under: [LED Projects](#)
1392. [Arcade Button MIDI Controller using arduino](#) Having a hardware interface to your favourite music / DJ / VJ software can really open up doors in your creativity. The most widespread form of hardware control to your PC for such applications is a MIDI based controller. A MIDI controller can send and..... Listed under: [Sound – Audio Project Ideas](#)
1393. [Brushless DC \(BLDC\) motor with Arduino. Part 3 – The Stroboscope Project](#) It has been all dry theory in the Brushless DC (BLDC) motor with Arduino series up to this point. This is where it gets to be more fun. If you’ve just arrived, please check out the previous two installments: Driving a three-phase brushless DC motor..... Listed under: [Motor Projects](#)
1394. [Arduino Basics: Rctime using arduino](#) Rctime is a function for the Arduino that finds its roots in Basic-based micro controller programming languages (such as the Basic Stamp). This function basically counts the amount of time it takes to charge a capacitor through a resistor and returns a digital value. In..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1395. [Arduino Mega Pololu Shield using arduino](#) RepRap Arduino Mega Pololu Shield, or RAMPS for short. It is designed to fit the entire electronics needed for a RepRap in one small package for low cost. RAMPS interfaces an Arduino Mega with the powerful Arduino MEGA platform and has plenty room for expansion..... Listed under: [Development Board – Kits Project Ideas](#)
1396. [The Wordclock Grew Up! using arduino](#) Well, It had to happen. I first published my WordClock project in September 2009. It was a Microchip PIC based clock, using a PIC16F877A microprocessor. In the last year and a half, I have been constantly improving it, and have adapted it to the Arduino,..... Listed under: [Clock – Timer Projects](#)
1397. [Light Meter Using I2C Level Converter, LCD, and TSL2561using arduino](#) I recently needed to measure how different materials affect light transmission for a gardening project. I decided this was the perfect opportunity to try out the new logic level converter to run both a 5v LCD and a 3.3v light sensor on a single i2c..... Listed under: [LCD Projects](#), [Metering – Instrument Project Ideas](#)
1398. [Arduino Laser Show with Full XY Control using arduino](#) Update! See Step 32 to find out how to use this project with a green laser! Also - checkout the LaserTweet Instructable to make this project display data from Twitter: <http://www.instructables.com/id/LaserTweet> Twitter Projecting Laser Show/ This project uses an Arduino and some cheap audio speakers to create a real..... Listed under: [Game – Entertainment Project Ideas](#) Click here to get AI-based help ✕
1399. [Arduino GPS Clock usign arduino](#) I had a Holux M-1000B Bluetooth GPS module that was just gathering dust in my room. I had bought it from DealExtreme back in the days when I had GPS-less (but external GPS capable) Nokia E51. Upgrading to a Nokia E52 has since made this..... Listed under: [Clock – Timer Project Ideas](#), [GPS Based Project Ideas](#)
1400. [DS1307 I²C Clock using arduino](#) I wanted to learn how to interface with I²C devices using my Arduino, so I bought a DS1307 clock and crystal kit from Earthshine Electronics. I've no association to them, but I'd recommend having a look at their shop. Their prices are very reasonable, unlike..... Listed under: [Clock – Timer Project Ideas](#)

1401. [Lampduino – an 8×8 RGB Floor Lamp using arduino](#) Lampduino is a computer-controlled free-standing floor lamp, comprised of an 8x8 RGB LED matrix. The lamp stands 45" high and 18" wide. Light emanates from both sides. It has various display modes, as well as an included editor for creating animations. The lamp is controlled..... Listed under: [Home Automation Project Ideas](#)
1402. [Room roving robot – phase 1 using arduino](#) My second holiday project was a bit more fun than just blinking lights. I decided to tear apart a \$10 RC jeep and control it with the Arduino. For this project, I added a motor shield on top of the Arduino that I purchased at..... Listed under: [Robotics – Automation Project Ideas](#)
1403. [Make a simple platform and give mobility to your computer using arduino](#) A computer is a very handy thing to use in your robots. If you start listing all the features that can be used for robotic purposes you'll find that it is cheaper to buy a netbook than buying LCD, wifi and bluetooth modules, cameras, speech synthesizer..... Listed under: [RTOS – OS Projects](#)
1404. [Hacking Hex Bug Spider using arduino](#) For the Smart Cities exhibition in Leeds in a couple of weeks, we've been building a physical representation of an agent based simulation. Hex Bug Spiders are relatively cheap hexapod robots that are controlled via an infra-red transmitter which has an A or B code so..... Listed under: [Game – Entertainment Project Ideas](#)
1405. [\(w/ Video\) Basic Arduino Robot, Light Seeker! using arduino](#) Many times I have Googled for "Arduino Robot" in hopes of finding a robot to build. I end up finding many versions of a obstacle avoiding robot that uses either an infrared or a sonar range finder sensor mounted on a servo to detect objects..... Listed under: [Robotics – Automation Project Ideas](#)
1406. [Easy, Reversible Motor Control for Arduino \(or any Microcontroller\) using arduino](#) This project uses just three main components to provide forward and reverse control for a single motor. You can easily interface it to an Arduino or any other microcontroller. It's so simple - you can wire it up "free-form" without a circuit board in about..... Listed under: [CNC Machines Project Ideas](#)
1407. [How To Use a Nokia Color LCD!](#) Nokia manufactures a wide variety of cell phones and many of their cheaper phones contain simple LCD's which may be used in microcontroller projects. There is one particular LCD model that is used in a wide variety of their phones and is often referred to..... Listed under: [Phone Project Ideas](#)
1408. [Tutorial – Arduino and the MAX7219 LED Display Driver IC using arduino](#) Use the Maxim MAX7219 LED display driver with Arduino in Chapter 56 of our Arduino Tutorials. The first chapter is here, the complete series is detailed here. Update – 4/1/15 – This article is pending a re-write, please refrain from comments and questions until the new version is published. Introduction..... Listed under: [LED Projects](#)
1409. [Ollie- a DIY autonomous robotic blimp using arduino](#) Ollie is an open source blimp-based autonomous and ambient robot that dwells in human habitats. Ollie is observant, often flying in a manner suggesting curiosity for the world around him. Ollie reacts to voices by excitedly flapping his wings, communicating his friendliness and eagerness to..... Listed under: [Robotics – Automation Project Ideas](#)
1410. [PS1 Controller Joysticks with Arduino](#) Idea: To take one of my old Playstation 1 controllers and extract the dual thumbstick setup so that it can be easily used in a microcontroller project (in my case: with the Arduino) without extra libraries or drivers that you would need if you want..... Listed under: [Game – Entertainment Project Ideas](#)
1411. [Arduino Binary Die using arduino](#) After buying a Nanode (an Arduino-compatible board with ethernet built-in) last weekend, we've been trying to work it out by making a couple of simple examples, the 'Binary Dice' is the first one with input and outputs. A note, this code example is based on..... Listed under: [LED Projects, Other Project Ideas](#)
1412. [Shaun The Noisy Sheep using arduino](#) Make A "doorbell" using an Arduino Uno, a Wave shield from Adafruit, a small speaker, a plug, a Sharp distance sensor and a Shaun the Sheep. Our Shaun is used in an open doorway to alert store staff when a customer has entered. Step 1:..... Listed under: [Game – Entertainment Project Ideas](#)
1413. [Telecran \(Etch a Sketch\) + Arduino = Telecranduino ! using arduino](#) I came across a bunch of stepper motors and I have since been looking for a project to do with the kids. An old Telecran (French for Etch-a-Sketch) later, we are in business ! What I used for this project: - an Arduino Uno -..... Listed under: [CNC Machines Project Ideas](#)
1414. [Boozeduino using arduino](#) Now with more LED. Arduino mega powered breathalyzer using the MQ-3 sensor. A relative gauge for judging how intoxicated you are. NOT TO BE USED AS MEANS OF BREATHALYZING NEVER DRINK AND DRIVE. This is more of a device to encourage one to drink..... Listed under: [LED Projects](#)
1415. [Analog Sensors using arduino](#) Analog sensors produce an analog (continuous) voltage that typically varies from 0 to 5 volts. They have three wires – ground, power, and signal (typically red, black, and white, respectively). Examples shown below include: Potentiometers Proximity Accelerometers Ribbon Bend Pressure Light Temperature Sound Multi-touch Touch..... Listed under: [Sensor – Transducer – Detector Projects](#)
1416. [LoL Shield Audio Spectrum VU Meter using arduino](#) This is an audio spectrum VU meter using the LoL Shield for Arduino . The LoL Shield is a 14 x 9 LED matrix which fits onto the Arduino as a shield and is controlled through an efficient method known as Charlieplexing . It was Listed under: [Motoring Instrument Project Ideas](#)
1417. [Flash trigger using arduino](#) his project is mainly based in this one from Glaciar Wanderer. I just liked his idea and worked it on my own. (I think this guy and me would be friends, as the projects he has in his photography category are things I've been wanting..... Listed under: [Video – Camera – Imaging Projects](#)
1418. [TROBOT: A Miniature Articulated Robot using arduino](#) The TROBOT is a miniature six-axis articulated robot, modeled after large industrial & assembly line robots. The prototype versions were developed to be interfaced with ABB's Robot Studio software. Robot Studio was designed to program, simulate, and debug real industrial robots in an offline virtual environment..... Listed under: [Robotics – Automation Project Ideas](#)
1419. [Jetson/Tutorials/GPIO using arduino](#) Quickly testing a GPIO pin To set pin GPIO_PH1 as an output: sudo su (Enter your user password. Defaults to "ubuntu") # See which pins are currently configured as GPIO, and what their state is. cat /sys/kernel/debug/gpio # Validate that the entry for the Tegra..... Listed under:

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[Other Project Ideas](#)

1420. [Arduino + LEDs + fan = POV "APPLAUSE" sign](#) I saw these POV(Persistence of Vision) devices on other Instructables and thought I would like to make one and I have always wanted my own "APPLAUSE" sign. Next improvement will be to make it go on whenever I enter the room. 😊 Maybe have it..... Listed under: [Robotics – Automation Project Ideas](#)
1421. [Magic Music Table No menus, no buttons using arduino](#) NOTE: This instructable is now slightly old and a better machine has been made with lower cost parts and much better software that automatically allows you to "pair" new cards with new tracks as they are added to the iPod playlist. iPod playback track selection..... Listed under: [Sound – Audio Project Ideas](#)
1422. [Using the tymkrs "Turn Me" with an Arduino](#) Here is a quick write up on how to use the tymkrs "Turn Me" rotary encoder. This supports the "push down" feature of the tymkrs kit. Fritzing Rotary Encoder Part: Rotary Encoder with Knob bth.fzpz Fritzing Project: RotaryEncoderDemo.fzz Arduino (1.5) project: RotaryEncoderDemo.ino 1 2 3 4 5 6 7 8..... Listed under: [Sound – Audio Projects](#)
1423. [Boost Converter Intro with Arduino](#) Let's say that you're trying to drive a few Nixie clock tubes, or you want to make a strobe light. A variable high voltage DC power supply from 50-200+ volts may be required. Transformers are terrific, but difficult to find the right one and a..... Listed under: [PWM Projects](#)
1424. [Arduino Circular Cylon!](#) This is a quick arduino project that is great for beginners. Enjoy! There is a video on the last step! Step 1: What you Need To build this project you will need: 10 LEDs, any color will do. Some wire, I used a ribbon cable..... Listed under: [LED Projects](#)
1425. [Car No. 06 Programmed Automatic Driving Car using arduino](#) Hi! Kaeru no Ojisan is back with Car No.06. Car No.06 is a Programmed Automatic Driving Car with following procedure; - Simulate the Car Trajectory based on the Target Passing Points. - Drive automatically as simulated using Reflective Photosensor and Gyro Sensor . - Adjust..... Listed under: [Car Projects](#)
1426. [Interactive skull using arduino](#) I bought this skull to decorate my computer desk. However, analyzing better, I could do something more interesting. I hope you enjoy. Step 1: Materials - A plastic skull - 8 screws; - Microcontroller (I used an Arduino board); - A Protoboard - A nunchuck..... Listed under: [Game – Entertainment Project Ideas](#)
1427. [Light and obstacle detecting bot using arduino](#) Introduction For our ECSP project we have made a bot that senses and follows light and at the same time avoids obstacles. Rationale We wanted some hands on experience in using microcontrollers and electronics in general . Using a combination of light and distance sensors..... Listed under: [Robotics – Automation Project Ideas](#)
1428. [8 LED Chaser with 74HC595 8 Bit Shift Register using arduino](#) Have you wanted to make a sweet Cylon/Knight Rider (Larson) Scanner effect? But you don't want to use up all of your Arduino IO pins? Well, you can make a nice 8 LED Scanner with a shift register IC. In this tutorial we'll be using..... Listed under: [LED Projects](#)
1429. [arduino based distance sensor using arduino](#) Here is a simple tutorial to build a Distance sensor which will show the distance from the distance sensor HC-SR04 (Or any other compatible devices) to the wall or obstacles in front of the sensor in CentiMeters. This project uses a HCR-SR04 distance sensor and..... Listed under: [Temperature Measurement Project Ideas](#)
1430. [Make A 3D LED Cube Using Arduino](#) The 3D LED Cube is a really cool device that enables you to see in three dimensions, get some depth perception and has 512 LED's or 512 pixels. It is based on an Arduino Uno which is an Atmel AVR microcontroller on a development board..... Listed under: [LED Projects](#)
1431. [TiDiGino Contest using arduino](#) The project TiDiGino We developed a new GSM remote control called TiDiGino. The name recalls the initials (TDGxx) of our previous GSM remote control and is also based on the Arduino project. All the details of this circuit can be found below, but no the sketch, because this is your assignment. The contestYou have to write..... Listed under: [Wireless Projects](#)
1432. [Control Ikea Dioder LED Strip with Arduino + 16X PWM LED Fader Board using arduino](#) We're going to show how to wire up and control an Ikea DIODER LED strip with an arduino, using a 16X PWM LED Fader board as an intermediary. The 16X PWM board is basically a bunch of mosfets under PWM control (switches that turn on..... Listed under: [LED Projects](#)
1433. [Secret Knock Final using arduino](#) Secret Knock Description - My final project is a door lock that listens for your personalized knock. The lock uses an arduino board and a piezo speaker and will not unlock the door unless the specific pattern is used as a knock. Arduino Program -..... Listed under: [Home Automation Projects, Security – Safety Project Ideas](#)
1434. [Thermocouple Sensor 1.0 using arduino](#) Overview Jump to the Table of Contents This is a simple board for measuring temperature. It uses an AD595 chip to make thermocouple measurements easy. The AD595 amplifies the thermocouple signal and conditions it for easy use. Thermocouples are great due to their linearity over..... Listed under: [Temperature Measurement Project Ideas](#)
1435. [Display Live Txts on Costume at Party w/ Scrolling LED Belt Buckle using arduino](#) This project shows how to send SMS text messages to a cheap scrolling LED display via an Android app and arduino with USB host shield. The project was originally inspired by a friend wanting to make a "sexting themed" costume, with a scrolling LED display..... Listed under: [LED Projects](#)
1436. [Arduino: measuring the Earth's magnetic field with the magnetometer HMC5883L using arduino](#) The HMC5883L n HMC5883L, produced by Honeywell, bases its operation on AMR (Anisotropic Magnetoresistive) technology and direction and the magnitude of the earth's magnetic field. This magnetometer HMC5883L has within 3 magneto-resistive..... Listed under: [Temperature Measurement Project Ideas](#)
1437. [Nunchuk-controlled Helicopter using arduino](#) Welcome to my 3rd Instructable everyone ! Today we're going to build a 'device' to control a mini-sized helicopter with a Wii Nunchuk. The helicopter that we're using is a cheap (26\$) 3-channel (yaw, throttle, pitch) helicopter that I bought a 1 month back from..... Listed under: [Game – Entertainment Project Ideas](#)
1438. [Surfin' Bird \(Arduino Style\) using arduino](#) I just hope every body's heard. The Bird is the Word! This is a simple device to play Surfin Bird really loudly when someone trips off the motion sensor. If you don't already own an Adafruit Wave Shield, I'd highly suggest purchasing one. It's become..... Listed under: [Game –](#)

[Entertainment Project Ideas](#)


1439. [Voice Recognition System using arduino](#) Contents 1 Team Members 2 Mentor 3 Concept 4 Softwares Used 5 circuits 5.1 Pre Amp circuit 5.1.1 Circuit Diagram 5.1.2 Working 5.2 EEPROM circuit 5.3 Led Matrix display circuit 6 Algorithm for silence & noise removal 6.1 Pre-Emphasis 6.2 Silence and Noise Removal 6.2.1..... Listed under: [Sound – Audio Projects](#)
1440. [Arduino powered Haunted Pumpkin using arduino](#) This is a cute little project that takes a pumpkin, motion sensor, and some parts from Radio Shack. It was fun to create and build. This project was sponsored by the Radio Shack Great Create and I was able to make the whole thing with..... Listed under: [Game – Entertainment Project Ideas](#)
1441. [A Makers Wedding – Photo booth usnig arduino](#) This Instructable is about: building an automated photo booth. The total build cost was around \$150 as I re-used a lot of the components and materials I already had in my garage - in addition to what I could salvage from scrap yards. Why? -..... Listed under: [Video – Camera – Imaging Projects](#)
1442. [Extending PWM output pins with a Texas Instruments TLC5940 LED driver using arduino](#) Introduction Microcontrollers like the Arduino were designed to facilitate the use of electronics for designers and DIY enthusiasts. The interface provides a great starting points for a variety of electronic circuit designs. However, as the microcontroller is standardized, it is also limited in its use..... Listed under: [PWM Projects](#)
1443. [Human Body Infrared Smoke Temperature Alarm System with Arduino](#) Web site: <http://www.instructables.com/id/Human-Body-Infrared-Smoke-Temperature-Alarm-System/> Project Summary: The Human Body Infrared Smoke Temperature Alarm System works under the DC 5v voltage and uses the DH11 Temperature Module to detect the room temperature. When the module detects the temperature is higher than the maximum, the buzzer alarms and..... Listed under: [Security – Safety Projects](#)
1444. [Doorbell to Arduino 'Interface'](#) Hi Everybody In my first Instructable I want to show you how to build an cheap and easy Doorbell to Arduino 'Interface' so you can let your Arduinoproject get triggered through it or simply use your Arduino as a bell. Almost endless possibilities 😊 Step..... Listed under: [Home Automation Project Ideas](#)
1445. [1RE45 Non contact digital thermometer using arduino](#) Contents 1 Introduction 2 Components Used 3 Description 4 Idea 5 Plan Of Action 6 1st week: 7 2nd week: 8 3rd week: 9 4th week 10 5th week 11 Expenses(In Rupees) 12 Videos, Photos 13 Code 14 Team Members 15 Resources: Introduction Temperature is..... Listed under: [Temperature Measurement Projects](#)
1446. [SPROT, my SimPleROboT using arduino](#) in this instructable i will show you how to make a very simple robot, using an arduino. this robot could be the base for a wide range of projects, i am planning on adding LDRs to mine so it can seek put light and also..... Listed under: [Robotics – Automation Project Ideas](#)
1447. [How to build an Arduino energy monitor – measuring mains voltage and current arduino](#) Including voltage measurement via AC-AC voltage adapter and current measurement via a CT sensor. This guide details how to build a simple electricity energy monitor on that can be used to measure how much electrical energy you use in your home. It measures voltage with..... Listed under: [How To – DIY – Projects](#), [Temperature Measurement Project Ideas](#)
1448. [VOICE CONTROL CAR USING ARDUINO AND ANDROID](#) Hello friends,Welcome to ElectroPLUS . This is a post to show how to make voice control car using arduino and android. COMPONENTS REQUIRED: 1.Arduino uno or Induino R3 board. Hello friends,Welcome to ElectroPLUS . This is a post to show how to make voice control..... Listed under: [Car Projects](#), [Sound – Audio Projects](#)
1449. [Build a Laser 3D Printer – Stereolithography at Home using arduino](#) Here is how to make a Stereolithography 3D Printer. It is still a bit of a work in progress but so far it is working pretty well. This is mainly an experiment which started as a Delta Robot Stereolithography Printer but ended as a more..... Listed under: [CNC Machines Project Ideas](#)
1450. [A new board for the 3Drag: there's more than Sanguinololu using arduino](#) When we first released our 3D printer, we tried to use some parts that were already available and tested, in full respect of the open source philosophy. In particular, we decided to use the electronic card Sanguinololu. The “open” firmware we chose, the Marlin firmware..... Listed under: [Blog](#), [Motor Projects](#)
1451. [Temperature Detecting Heating Control System with Arduino Mega2560](#) Web site: http://www.icstation.com/product_info.php?products_id=3517 Project Summary: To help electronic DIY hobbyists, will show you how to use Temperature Detecting Heating Control System with Arduino Mega2560. Full Project: The temperature detecting heating control system works with DC5V voltage. This system uses DS18B20 temperature detection chip as the..... Listed under: [Temperature Measurement Projects](#)
1452. [RoboBrrd Using Arduino](#) RoboBrrd is an robot / animatronic character whose purpose morphs to mirror that of the virtual world. It is designed to be used as a tangible real world interface to virtual world learning applications. As a standalone robot, RoboBrrd is an entertaining platform that can..... Listed under: [Game – Entertainment Project Ideas](#)
1453. [Camera and flash trigger module using arduino](#) Here we go again, here is a picture of the camera and flash trigger module I made for my arduino photographic projects: It includes three 4N26 optocouplers. One (first one from the left side) to trigger a flash, as I did in the arduino controlled..... Listed under: [Video – Camera – Imaging Projects](#)
1454. [Stroboscope \(zoetrope\) using Arduino and a broken Xbox 360 DVD drive using arduino](#) Stroboscope (AKA zoetrop moving picture by showing a rapid successions of frames "stopped" for a fraction of a second due to the persistence-of-vision (POV) effect. It is a very old toy; zoetropes have been amusing crowds..... Listed under: [Game – Entertainment Project Ideas](#)
1455. [3x3x3 LED cube shield using arduino](#) What should be in your kit: 1 – PCB 27 – LED's 2 – 6 Pins for Arduino 2 – 8 Pins for Arduino 3 – Resistors 1 – Foam Guide 1 – Small Wire 1 – Medium Wire 1 – Large Wire You will..... Listed under: [LED Projects](#)
1456. [MQ-8 Hydrogen Gas Sensor Circuit Built with an Arduino](#) In this project, we will go over how to build a hydrogen gas sensor circuit with an arduino. The hydrogen gas sensor we will use is the MQ-8 sensor. This is a sensor that is sensitive to effects of hydrogen gas. Hydrogen gas (H2), at..... Listed under: [Sensor –](#)

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[Transducer – Detector Projects](#)

1457. [Simple Solar Power using arduino](#) Simple Solar Power Light contains energy. When light hits a conductor (or semiconductor) some of the energy is translated into moving electrons, creating current. We can harness the current using solar cells (aka photovoltaic cells). When the sun shines on a solar cell, the current..... Listed under: [Battery Projects](#)
1458. [DIY Turntable using arduino](#) You always wanted to be a Disc-Jockey. You know nothing about beats, delays or mixing but, damn, scratching is like the coolest thing ever invented! If this is also your case, follow this instructable to build a low-fi DJ set: the DIY Turntable as featured..... Listed under: [Sound – Audio Project Ideas](#)
1459. [Arduino-enabled Patron Interaction Counting using arduino](#) Using the Arduino development board (<http://arduino.cc>) has become a very popular way to create hardware prototypes that bridge the divide between the physical world and the Internet. This article outlines how to use an Arduino, some off-the-shelf electronic parts, the Processing programming language, and Google..... Listed under: [Internet – Ethernet – LAN Projects](#)
1460. [Make a Fire Breathing Animetronic Pony from FurReal Butterscotch or S'Mores usnig arduino](#) For Maker Faire Detroit 2011, I displayed a hack I made to a FurReal Friends Butterscotch Pony. My fellow LVL1 Hackers and I had taken control of the motor control system of the toy and added a flame thrower to it. It seemed to go..... Listed under: [Robotics – Automation Project Ideas](#)
1461. [Real-Time Energy Monitor with Arduino and LabVIEW using arduino](#) We present the candidature of Mr. Michele Mancini for the TiDiGino Contest. He proposes us a recent application with Arduino: Real-Time Energy Monitor This is a simple power meter to analyze the current consuming in a house using the led indicator of a house energy..... Listed under: [Temperature Measurement Project Ideas](#)
1462. [Using an RGB LED to Detect Colours using arduino](#) I am going to show you how you can use an RGB LED and a Cds photocell as a colour sensor for a micro-controller. I will illustrate the method to retrieve a colour using Arduino, and I will show you a how you can verify the..... Listed under: [LED Projects](#)
1463. [Reviving A Dead Arduino](#) Well I managed to kill my Arduino. It no longer accepted uploads with the classic out of sync error. After asking on the Arduino forum I was told I would need a high voltage programmer to rectify, so I decided just to buy a new..... Listed under: [Development Board – Kits Projects](#)
1464. [Cosmic ray detection from vertical and horizontal directions using three Geiger counters using arduino](#) Research Group: Ryan Mountcastle, Minh Trang Nguyen, Nathan Ranno, and Ryan Ward Launch: Whitworth Fall 2012 This experiment was designed to examine cosmic ray activity in the Earth's atmosphere as altitude increases. The previous group's project utilized three Geiger counters stacked vertically to eliminate false..... Listed under: [Other Projects](#)
1465. [Using the Parallax RFID Reader with an Arduino](#) f you've ever wanted the ability to use some form of hardware-based authentication in your projects then this is the board to do it with. The Parallax RFID (Radio Frequency Identification) reader is super easy to configure. It only takes four wires! It uses serial..... Listed under: [Projects, RFID - NFC projects](#)
1466. [Inflatable Teddy Bear/LED Costume/Power Glove using arduino](#) This was a behemoth of a project involving an inflatable costume, a LED costume, and a glove that controlled the colors and patterns of the LEDs. I've been wanting to make an inflatable creature that would give birth to me for a while now (lots..... Listed under: [Game – Entertainment Project Ideas](#)
1467. [Build a network clock \(NCLK\) with Microduino-RTC](#) The resolvent of clock synchronization over internet. by PKJ, The web–based clock management system allows you to monitor clock status from wherever they are and centrally change settings. and this small device is built with PoE technology, thus IP clocks get their time, data and power..... Listed under: [Clock – Timer Projects, Internet – Ethernet – LAN Projects](#)
1468. [TFT Display with microSD breakout board using arduino](#) 128X160 pixels in 18 bit color with a microSD breakout board courtesy of Adafruit Industries You can purchase the 18-bit color TFT LCD display with microSD card breakout kit (part# ST7735R) from Adafruit Industries This tutorial from Adafruit is for a 1.8" diagonal TFT display..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, LCD Projects](#)
1469. [SPI Interfaces using Arduino](#) Update (6/7/2012) – I've had to disable comments on this post, because it is being targeted by spam bots for some reason. Please use the contact page if you have a question about this topic. [su_box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
1470. [Awesome button, and then some. usnig arduino](#) Many of you have probably seen the Awesome button done by Matt Richardson of Make Magazine. If not here is his video which was very well done and was the inspiration of my project. I liked the idea of having a button to press for..... Listed under: [LED Projects](#)
1471. [Secret Knock Detecting Door Lock using Arduino](#) Protect your secret hideout from intruders with a lock that will only open when it hears the secret knock. This started out as a bit of a joke project, but turned out to be surprisingly accurate at judging knocks. If the precision is turned all..... Listed under: [Home Automation Projects, Projects, Sensor – Transducer – Detector Projects](#)
1472. [The Soil Temperature Sensor using arduino](#) You are building a soil temperature sensor. We need a waterproof thermometer that we can bury in the soil. The sensor is made up of a small circuit enclosed in a piece of heat shrink (to waterproof it). Supplies: (see the parts page) an LM335..... Listed under: [Home Automation Projects, Temperature Measurement Projects](#)
1473. [Make An Arduino RFID Card Reading](#) Finally! It's been about 3 months since my last Arduino tutorial – I've been k one for some time. I got the parts months ago, made an outline a few weeks ago, prototyped the circuits and wrote..... Listed under: [Projects, RFID - NFC projects](#)
1474. [Arduino – One Wire Digital Temperature Sensor – DS18B20](#) The one wire Digital Temperature Sensor - DS18B20 from Maxim (formerly Dallas) is a great chip for measuring temperature in your projects. Luckily, there is a Dallas Temperature library for the arduino which makes using this sensor very easy. The most recent version of this..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas, Temperature Measurement Projects](#)
1475. [Traffic Light Stoplight LED Scarf – Safety Scarf of Righteousness using arduino](#) Multipurpose like a traffic light, this one keeps you warm and blinks to make you more visible in the night. Stop traffic with this fun scarf worn around your neck. Repurpose a dollar-store bicycle safety flasher to embed in the scarf. Simulates

the light changing..... Listed under: [LED Projects](#)

1476. [Soldering an SMT MOSFET Driver with a hotplate](#) Soldering SMD components isn't as hard as you might think. In fact it's easy. If you follow this instructables you'll soon see just what great results you can obtain at home using just a hotplate. It's not just being able to make small circuit boards..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#)
1477. [Wendell the Robot using arduino](#) What follows is my proposed design for a robot. A robot with a simple design, that is easy to share and change. A robot you can build with a hand saw or a laser cutter; from cardboard or karbonite. A robot you can share; and change..... Listed under: [Robotics – Automation Project Ideas](#)
1478. [Arduino + Compass Module 3-Axis HMC5883L](#) Background In this blogpost we're going to deal with the Compass Module 3-Axis HMC5883L from Parallax and how to integrate it into an Arduino. The Compass Module 3-Axis HMC5883L is designed for low-field magnetic sensing with a digital interface. This compact sensor fits into small..... Listed under: [CNC Machines Project Ideas](#), [Robotics – Automation Project Ideas](#)
1479. [3D AIR mouse | Arduino + Processing](#) 3D AIR mouse | Arduino + Processing I'm an Industrial design student, and last year as part of a course called "Technology as RAW materiel" I built this project as my final work. I work most of the time with SolidWorks, a CAD software for..... Listed under: [Arduino Programmer Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1480. [Arduino Chiptunes usnig arduino](#) I am not a big fan of programming. I may like it but, I try to keep it down to a 555 timer like in this ible. However, when it comes to synths, well, I just NEED programming. One day, while exploring Synthesizers, I came..... Listed under: [Sound – Audio Project Ideas](#)
1481. [LilyPad Arduino – the wearable technology using arduino](#) Introduzione LilyPad Arduino is one of the many Arduino microcontrollers, but unlike the more well-known Arduino UNO, MEGA and Yun, this little board has very specific characteristics that make it unique. In fact, the LilyPad can be sewn on fabric. In fact, with only 19..... Listed under: [Medical – Health based Project Ideas](#)
1482. [Make A Twitter Poem Box Using Arduino](#) This is a project that was inspired by Marc de Vinck's Kitty Twitty Cat Toy <http://makezine.com/22/kittytwitty/> . It incorporates an RFID reader and the BlinkM, a programable RGB LED. The lamp tweets random colored poems when it detects one of the three RFID cards which..... Listed under: [Internet – Ethernet – LAN Projects](#)
1483. [Smart Relay Power Box\(SiriProxy Compatible\)](#) If you have ever wanted to control high voltages/currents with an Arduino, setup up a complicated light timer, or even have Siri turn on a Lamp. Then this is an instructable for you! In this instructable in a few simple steps we will build a self-powered..... Listed under: [Development Board – Kits Project Ideas](#)
1484. [BennyP's Light Contraption using arduino](#) Introduction Disclaimer: I am not an expert in any of this. There is lots of information online regarding such designs. Although this setup worked for me, do not trust any of my calculations. Please work all this out for yourself and consult many other sources,..... Listed under: [Home Automation Project Ideas](#), [PWM Projects](#)
1485. [ST7565 LCDs: Graphical LCDs](#) What it is... Type: Graphical (128x64) monochrome LCD with LED backlight Interface: Serial / SPI This is a good time to read the datasheet Available from: Adafruit, of course! Introduction: This mini-tutorial will go through the process of setting up a ST7565 LCD. These LCDs..... Listed under: [LCD Projects](#)
1486. [Making 1×10 LED Array with Random Patterns](#) This will teach you how to make a very simple 1x10 array of LEDs on a breadboard controlled by an Arduino Uno to make the LEDs blink and flash in 10 different patterns. Link to notebook for project: <https://docs.google.com/document/d/1YP4p11SbDNOnM7mDn-sRjLnxGPj6o0DkrFZnznVMvk/edit> Link to YouTube video of LEDs..... Listed under: [LED Projects](#)
1487. [The party starter using arduino](#) A desktop motorized musical disco ball. Great for holiday parties, impromptu dance-offs, and Tuesday afternoons. Bling, Music, Arduino, and glitter covered styrofoam; this Instructable has got what you need to get your boogie on. Fires need help go get going, so do parties. I recently..... Listed under: [Game – Entertainment Project Ideas](#)
1488. [Controllers and Sensors using arduino](#) John has been working to recover components from old power supplies and available trash electronics, in order to build controllers to power stepper motors and other mechanisms for the FabLab. Intro The Arduino microcontroller board is able to supply a current of 40mA from its..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1489. [Arduino lets you play Atari 2600 and ZX Spectrum using a NES controller](#) This instructable shows you how to use NES controller in Atari 2600 or ZX Spectrum (with Kempston Interface) with the aid of an Arduino. Step 1: Background talk I have recently acquired a couple of Atari 2600s and a bunch of joysticks. Both consoles were working..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1490. [Serial Duplex using an Arduino](#) Overview In the first serial lab, you sent data from one sensor to a personal computer. In this lab, you'll send data from multiple sensors to a program on a personal computer. You'll use the data from the sensors to create a pointing-and-selecting device (i.e..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1491. [Yet Another Arduino 110v Power Controller](#) This Instructable shows you how to build a four-gang outlet box in which each outlet is controlled via an Arduino (or any other TTL level signals). It differs from the other relay boxes in that it uses no circuit boards and has very few parts. [Click here to get AI-based help](#)  [energy_projects](#)
1492. [Sensing color with the ADJD-S371 + Arduino](#) About 2 years ago I picked up a ADJD-S371 color sensor from Sparkfun to work with my arduino. I spent a few days getting it to work, but finally got it going pretty well. I still get a few emails here and there asking for..... Listed under: [How To – DIY – Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
1493. [Displaying Twitter feed without a PC! using Arduino](#) There are a lot of Twitter feed readers around the Web that use Arduino AND a PC to display twits on LCD displays or whatsoever. Then, I decide it was the time to design a solution for performing the same job WITHOUT A PC, and..... Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#)

1494. [Geiger counter triggered LED decorations using arduino](#) Bored of blinky lights that blink in response to time? Make them blink with space instead! This instructable shows a quick method for connecting LED tree decorations to a Geiger counter via arduino, so that the lights blink between different strings each time radiation is..... Listed under: [LED Projects](#)
1495. [Arduino ISP \(In System Programming\) and stand-alone circuits](#) We use an Arduino to program other ATmega without bootloader . This technique allows you to use all flash memory for code and make boards using new ATmega, cheaper than those with bootloader. The qualities that have made the success of Arduino are undoubtedly the open-source..... Listed under: [Arduino Programmer Projects](#)
1496. [Introducing PETBOT: A node.js Telepresence Robot using arduino](#) It's a telepresence robot I built for our office, consisting of an iPad mounted on a lightweight chassis powered by an RC car. To operate it, you open up a video chat session with the iPad, then control the robot from your browser using the..... Listed under: [Robotics – Automation Project Ideas](#)
1497. [Digispark RGB LED Fader](#) Forward: This instructable was originally posted at <http://www.instructables.com/id/How-to-make-LED-Fader-using-Digispark/> My students and I developed it into this exemplar, for which they received a very good mark. Viewing the following video may leave you with a sense of too much too fast. Please continue to read this..... Listed under: [LED Projects](#)
1498. [Rocket Brand Studios Medium Tank using arduino](#) This is the assembly instructions for the Medium Tank from Rocket Brand Studios. This is a great little robot kit, and can be purchased as a complete kit or as a rolling chassis, ready for the micro controller of your choice --Arudino Uno, Duemilanove, Picaxe..... Listed under: [Robotics – Automation Project Ideas](#)
1499. [pedalSHIELD Arduino Guitar Pedal](#) Web site: <http://www.electrosmash.com/pedalshield> Project Summary: pedalSHIELD is a programmable Arduino Open Source & Open Hardware guitar pedal made for guitarists, hackers and programmers. Users can program and share their own effects in C/C++. Full Project: pedalSHIELD is a programmable Arduino guitar pedal. It is Open..... Listed under: [Sound – Audio Projects](#)
1500. [World's Smallest Stepper Motor with Arduino and EasyDriver](#) This little wonder of electromechanical engineering came from inside a laser diode sled of an HP CT10L Bluray drive I've opened some time ago. The device on the picture consists of several parts, all easily fitting on a dime coin: a bipolar stepper motor with..... Listed under: [Motor Projects](#)
1501. [Telemetry with solar cell using an Arduino](#) *NOTE* THIS PROJECT IS DONE BY A GROUP OF STUDENTS FROM SINGAPORE POLYTECHNIC. Telemetry - Solar Cells Our project is using Arduino with the ZigBee to transmit and receive data from the solar cell. Data will be shown in the LCD and the software called..... Listed under: [Battery Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Solar energy projects](#)
1502. [LED Gingerbread house using arduino](#) Last year my Wife and I started a new tradition of building a Gingerbread house for Christmas. We had a few nicely decorated houses last year, and I wanted to do a little more this year. Adding LEDs makes everything better, so that is exactly..... Listed under: [Home Automation Project Ideas](#)
1503. [An I²C Bus powered Arduino IO Expander Board controlled via Bluetooth and Android](#) Today we'll expand Arduino's digital resources thanks to an I2C bus equipped shield and we'll allow the management of the board via a bluetooth connection RN-42 through an Android systems. All Arduino boards feature a number of digital I/Os. For the simplest projects, such resources..... Listed under: [How To – DIY – Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1504. [Linking an Arduino to a Radiometrix NTX2B Transmitter](#) Part 1 - Test Circuit and Test Code Introduction Getting your Arduino to transmit via the radio initially may seem daunting but its actually pretty simple. Please freely substitute the word "Arduino" for any micro-controller you wish to use. The example below works for 5V..... Listed under: [Wireless Projects](#)
1505. [Extreme Color Organ using arduino](#) Hi All! I have wanted to do something fun with my bedroom for a while now and the Make it Glow challenge provided me with a reason to do so. A few months ago I acquired a strand of GE-35 Color Effects lights and owing..... Listed under: [Home Automation Project Ideas](#)
1506. [Solar USB Charger 2.0](#) Everyone has USB gadgets. It's pretty much a fact of life. Another fact of life is that these USB gadgets also continually run out of power when you most need them. No need to fear, solar power is here! Ditch those crazy wall adaptors, throw..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Solar energy projects](#)
1507. [Make A 0 to 99 Light Display Using Arduino](#) This circuit will take a light reading then display a number between zero and 99. Step 1: Parts you will need Major Components in Project To make the 0-99 LED display you will need... ~ photo resister ~ Arduino ~ 9 different wires ~ 2..... Listed under: [LED Projects](#)
1508. [PS/2/You: Go-anywhere, LED digital message board using Arduino microcontroller](#) Combine three inexpensive LED matrix display panels, an Ardweeny microcontroller and a standard PS/2 computer keyboard into your own go-anywhere, instantly updatable 768-pixel digital message board. The code can hold up to six lines of text with a maximum of 100 characters each. Pressing a..... Listed under: [LED Projects](#)
1509. [Solar Tracker Relay circuit using Arduino](#) I've reached the point where I need to think how I'm going to control the motor & linear actuator for my solar tracker. Things to consider - Must be able to go forwards and backwards - so that makes 4 channels, 2 for each motor..... Listed under: [How To – DIY – Projects](#)
1510. [Nick Smith – Magical Music Box using arduino](#) This is my Magical Music Box which converts music into a light show. When I was developing what to make for my final project, i wanted something that would make a light show for any song simply by hearing it. Materials used: [Click here to get AI-based help](#) ✕
[Entertainment Projects](#)
1511. [Interactive LED Lab Coat using Arduino](#) This is an instructable for the Interactive LED Lab Coats, showcased at Autodesk University. Check out the videos below! The first is a demo of the colors actuated by the buttons. The second is a demo of the breathalyzer! (this will be explained later) Tools Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
1512. [\[Said Alyami\] – \[Funny Cartoon Sounds with a twist\] arduino](#) Introduction My project is about providing multiple saved cartoon sounds then do funny effect on them through controlling the speed of play either faster or slower. it contains 4 sound files: Crazy Frog, Bird is the Word "by Family Guy", oompa loompa "by Willy..... Listed under: [Game – Entertainment Project Ideas](#)

1513. [How to convert \(almost\) any 27 or 49 MHz RC Car into a Robotic car using arduino controller](#) I am teaching a robotics course in my kids high school (Rambam Mesivta in Lawrence, NY). I was looking for a cost effective way to teach them about the priciples of robotics without spending an arm and a leg, and getting them excited about the..... Listed under: [Robotics – Automation Project Ideas](#)
1514. [\[OoB\] Shooting paintball maker with relay, Arduino and .NET WinForms](#) [OoB] Shooting paintball maker with relay, Arduino and .NET WinForms My first Arduino based project was Sonar with C#, JS and HTML5. Now I continue the "Out of Boredom" series with a setup that allows firing a paintball marker (gun) with a command sent from..... Listed under: [Game – Entertainment Project Ideas](#)
1515. [Arduino Controlled RGB LED Dot Matrix Board](#) This project is a relatively straightforward and simple DIY music board. The Dot Matrix Board will allow any aged person to create their own music and beats. All you need to have is an understanding of Arduino and circuitry. Step 1: Gather Parts Needed [su_box..... Listed under: [LED Projects](#)
1516. [5×5 rgb lpd6803-led matrix arduino controlled](#) what: a 5*5 rgb led matrix, made with arduino and lpd6803 based leds from adafruit. with an pir sensor, it goes on if it detects movements and a ir distace sensor, 1 animation shows the distance you have from the sensor :). why: because its..... Listed under: [LED Projects, Projects](#)
1517. [Self-contained 16-Digit display – Arduino & Attiny85](#) Ever wanted a 7-segment display for around the house? Here's your chance to make one! It can even be interactive based on the programming.Parts: (\$7.60) 16 Digit TM1640 based display Dealextreme.com SKU: 104311 <http://www.dealextreme.com/p/jy-mcu-16x-digital-tube-yellow-led-module-104311> (\$2.50) Atmel ATtiny85 Digikey PN: ATTINY85-20PU-ND(\$1.73) Extra long female header pins..... Listed under: [Home Automation Project Ideas](#)
1518. [An Open Source, hackable Digital Clock](#) Andrew O'Malley, an amazingly creative maker, created this fanstastic Open Source Arduino-based clock that can display the time in many different ways: if not enough, one can also add his own personal animation. Compared to other clocks based on Arduino, this one has two distinctive..... Listed under: [Clock – Timer Projects](#)
1519. [Tiny Wearable LED kit – 12 PWM LEDs from a reprogrammable ATtiny85](#) This instructable covers the assembly and use of a Tiny Wearable LED kit. The kit is useable immediately but is desigend to be hackable and can be reprogrammed to your liking using an ISP programmer or Arduino board and the Arduino IDE. There are not..... Listed under: [LED Projects, Projects, PWM Projects](#)
1520. [Infinity Mirror – Tony Stark Arc-Reactor thing using arduino](#) I'm creating a robot, but am finding that it's better if I break the build down into smaller projects. This is one of those projects, and it seems to have a look that could be used for other things as well. Step 1: Destroy a lady's..... Listed under: [Battery Projects](#)
1521. [Ultraviolet nightlight, ingredients and setup](#) This simple instructable will show you how to make a nightlight out of a translucent container, a bottle of tonic water, an Arduino, and ultraviolet LEDs. If you've ever played with a black light, you've noticed that some substances glow brightly under these lights. In..... Listed under: [LED Projects](#)
1522. [Rocket Brand Studios Tiny Tank using arduino](#) This is the assembly instructions for the Tiny Tank from Rocket Brand Studios. This is a great little robot kit, and can be purchased as a complete kit or as a rolling chassis, ready for the micro controller of your choice --Arudino Uno, Duemilanove and..... Listed under: [Robotics – Automation Project Ideas](#)
1523. [Arduino Esplora Light Calibrator](#) This sketch shows you how to read and calibrate the Esplora's light sensor. Because light levels vary from one location to another, you need to calibrate the sensor for each location. To do this, you read the sensor for a few seconds, and save the..... Listed under: [Development Board – Kits Project Ideas, LED Projects, Projects, Sensor – Transducer – Detector Projects](#)
1524. [MultiMovEDIA](#) The title "MultiMovEDIA" does not mean much – if anything – at first sight. However, looking at more carefully, we can see it is a composition of two words: "Multimedia", referring to the information content and the channels it uses (text, image, sound), and "Move",..... Listed under: [Sound – Audio Projects](#)
1525. [\[Team PGH\] – Prototype I Final Report: \[Motion RC Car\] using arduino](#) Introduction: Give a brief description of what you are trying to solve. Include a high-level overview of what you made, why you made it, what parts you used, and what it does. In today's growing technology, it seems every little electronic is becoming touch or motion sensed..... Listed under: [Car Projects](#)
1526. [The IKEA Robot Lamp using arduino](#) Welcome to the SM-1 project from ArduinoArts.com! (A.K.A as the Annoying IKEA Lamp) We are proud to introduce you to the SM-1 project (aka the Annoying IKEA lamp), as part of the Toy hacking contest from the SeeedStudio.com friends. The project consists in modifying an..... Listed under: [Robotics – Automation Project Ideas](#)
1527. [Single Digit Decimal counter using Arduino](#) "Hello world",I am not going to start this blog with typical "Hello world" program,since lot of resources already covered Arduino way of telling "hello world",that is Blinking a LED. This project is absolutely for beginners who prefers to run than taking a walk,I am going..... Listed under: [Clock – Timer Project Ideas](#)
1528. [Python Meets the Arduino](#) Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. Python is our favarate programming language that allows you to integrate systems more effectively. Learn how to use Python to Listed under: [Internet, Ethernet, I AM Projects, Projects](#)
1529. [Alarm Clock with Tetris to Prove You're Awake using Arduino](#) This is an Arduino powered alarm clock that after hitting snooze twice the alarm will not cancel until the user has cleared 4 lines in the game Tetris. You physically turn the clock sideways, so the screen is vertical, to play Tetris. It's never fun..... Listed under: [Clock – Timer Projects, Home Automation Projects, Projects](#)
1530. [Using a transistor to control high current loads with an Arduino](#) In this tutorial, you'll learn how to control a high-current DC load such as a DC motor or an incandescent light from a microcontroller. (:toc Table of Contents:) Connect a transistor to the microcontroller The transistor allows you to control a circuit that's carrying higher..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)

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1531. [Wireless Glove-Controlled Electric Mountainboard: An Analysis](#) Hey guys! So I finally decided to make a page that has everything you could possibly know about my project. Even though I had previously answered everyone's questions, they were usually through a message. Because of that, I was usually asked the same questions and..... Listed under: [Radio Project Ideas](#)
1532. [IR Harp using arduino](#) Contents 1 Team Members 2 Mentor 3 Introduction 4 Components Used 5 Idea 6 Arduino Uno Board (ATMega328P) 7 Approach to Project 8 Sound Synthesis 8.1 Delay() 8.2 Interrupts 8.3 The nature of the periodic waveform 8.4 The nature of the amplitude envelope 9 Working..... Listed under: [Home Automation Project Ideas](#), [Security – Safety Project Ideas](#)
1533. [Arduino Mobile Processing](#) How the mobile sketch works: The brain of the system is really on the arduino or the web page the phone requests. . . The phone just passes any data it sees back and forth. . . For the phone app to run, it needs..... Listed under: [Phone Projects](#)
1534. [Bleeber – A physical layer between data and action. using ardiuno](#) This project is a contribution to the first belgian Arduino Jam (2012). First of all we would like to thank the organisation and especially the main sponsor, Capgemini, which made all of this possible. Bleeber is a physical way of interacting with data trough oobleck. In..... Listed under: [Development Board – Kits Project Ideas](#)
1535. [Build An Lego Spybotics With Arduino](#) A friend gave me his old Lego Spybotics robot, however, the programming environment that goes along with it is a bit too orientated to the younger user. So why not control it using an Arduino? Step 1: Open up! In order to get this robot..... Listed under: [Home Automation Projects](#), [Robotics – Automation Projects](#)
1536. [Arduino animatronics- make your awesome costumes more awesome](#) Here's how to add lights, sound and action to your favorite Halloween project using the open source Arduino microcontroller. Arduino is easy to learn to use and it opens up a whole new world for costume builders and creature creators. If you want to learn..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1537. [General Instruments SP0256-AL2 English Phoneme Speech chip & an Arduino](#) The GI SP0256 chip is an early 1980s bit of technology. It's a 5V (to 7V) NMOS chip which is compatible enough with the 5V TTL circuitry common in that era. 5V TTL disappeared for a while, then came back with the Atmel _28-based Arduino..... Listed under: [Home Automation Project Ideas](#), [Sound – Audio Project Ideas](#)
1538. [CARduino – Arduino-Powered, LabVIEW-Controlled Vehicle](#) The CARduino is a remote-operated vehicle which is controlled by a controller attached to a computer running LabVIEW. The vehicle is powered by the Arduino, and can be expanded upon through the addition of sensors or other devices. Using LabVIEW, one can easily modify the..... Listed under: [Car Projects](#)
1539. [Momentary Switch as Digital Sensor using arduino](#) many cases switches are just switches. They directly control the flow of electricity to an appliance, flashlight or mains-voltage lamp. An example of this is the switch on the wall in your living room. In many cases nowadays however, switches are digital sensors, meaning that..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1540. [Read analog data directly in Processing using arduino](#) This instructable presents a fast an easy way to use data received from an analog sensor in Processing. You will learn to utilize the Arduino and prototype electronic boards to read meaningful data from the environment. The sensors can be affected by the light, the..... Listed under: [Arduino Programmer Projects](#)
1541. [The Arduino Noise Machine](#) Okay, okay, I know you all were wondering what I am up to now. I love synths and so, I built this. There are three things that can catch my attention: Synthesizers, Amplifiers and free. The other day (Actually it was just Thursday) I was..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1542. [Arduino DMX shield for Christmas projects](#) This shield allows to connect an Arduino with DMX equipment. It implements the RS485 interface to adapt the electrical levels needed for DMX connection. This shield has been designed with flexibility in mind and allows the user to choose between several Arduino pins for digital..... Listed under: [Game – Entertainment Project Ideas](#)
1543. [The Soil Moisture Sensor using arduino](#) You are building a cheap soil moisture sensor so the brain can read the amount of moisture in the soil. The version we are building is very low tech, but it is also very cheap and easy to build. It consists of a block of..... Listed under: [Home Automation Projects](#), [Temperature Measurement Project Ideas](#)
1544. [Arduino theremin like musical instrument](#) When I got my Arduino protoshield from sparkfun, I wanted to make something cool with it. And since I had seen a few Theremin projects before, and already thought about making some, I finally made one, using the Parallax PING sonar sensor. Here are some..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1545. [Mouse Control With Pushbuttons using arduino](#) Overview In this lab, you'll build an alternative computer mouse using an Arduino Leonardo using pushbuttons to move the mouse left, right, up and down. You'll see the difference between reading a digital input continually and reading for a change of state. (:toc Table of..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1546. [Remote control via GPRS or GSM SMS using Arduino](#) Remote control, it has been a very profound things in the past. When I was a child, I always imagine that I have an equipment which can control all home appliances. Now, this has become a reality, and it is quite easy. Then I will..... Listed under: [Ideas](#), [Phone Project Ideas](#), [Radio Project Ideas](#)
1547. [Xbox 360 RF module + Arduino](#) I was going to make a huge write-up on this, but I can't be bothered right now. I'll then, have an Arduino sketch. If you don't know what you're doing with it then chances are you don't have..... List

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[Projects](#)
1548. [Robotic Talking Turret using Arduino](#) Here I will show you an overview on how to make a robotic talking turret, loosely based off of the turrets from the popular game, Portal. This instructable should help anyone wanting to do an animatronics project. For more detailed pictures, go to: <http://razorconcepts.net/turret.html> This..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1549. [New Textiles 2012 using arduino](#) Twist Switch by ttseng Through the action of twisting, swatches of conductive fabric are folded in upon each other, completing a circuit that then turns on LEDs. On each face of stretched spandex are swatches of conductive fabric. Before choosing which swatches to designate as..... Listed

under: [LED Projects](#)

1550. [Demystifying 4 pin RGB LEDS \(Radio Shack 276-0028\) using arduino](#) RGB LEDs are fairly useful in projects allowing for a wide range of color from a single unit. However they can be a pain in the neck to work with and they too often come with little or no documentation. I searched for some time..... Listed under: [LED Projects](#)
1551. [Connect the arduino and make the speaker play](#) To make your Arduino to play a melody you need thes accessories. One 5 ohm speaker One Arduino uno board One Push buttom One 10 kohm resistor 8 leds And a lot of core wires Step 1: Connect the arduino and make the speaker play This..... Listed under: [Sound – Audio Projects](#)
1552. [Team 1 Final Project Report & Video: Arduino Video Game System using arduino](#) Introduction We built a video game system that can play either Snakes or Pong. We saw a project called “Arduino Pong” and wanted to recreate it with our own twist. Description Parts Needed: Arduino Uno Video Game Shield 2 LEDs 2 non-latching push buttons 2..... Listed under: [Game – Entertainment Projects](#)
1553. [Arduino Morse Code Flaher using arduino](#) I am a big fan of programming but I like to keep it down to 555 timer but when it comes to complex functions like flashing a LED in a certain pattern programming is necessary.One day while surfing through the I came across something known as Morse code.I decided..... Listed under: [Arduino Programmer Projects](#)
1554. [How To Make A Arduino Robotic Arm](#) In this instructable I will show you how to make a simple robotic arm controlled by 4 servos , 2 analog joysticks, and an Arduino UNO. It is very similar to my "2 Servos + Thumbstick" instructable. This tutorial is in particular to help out..... Listed under: [Robotics – Automation Projects](#)
1555. [Rear Wheel Tachometer using arduino](#) One of the goals of Movable Party is to provide an interactive experience for audiences/participants. Since power will be generated from a hub motor attached to the rear wheel of each bike (see this post), the speed of the rear wheel directly translates to the..... Listed under: [CNC Machines Project Ideas](#), [Temperature Measurement Projects](#)
1556. [The Versatile Arduino Robot using arduino](#) This is my first arduino robot, and I am quite happy with the outcome. What I came up with is a robot that with modifications can do just about anything in the realm of small arduino robots. The electronics are very simple. You only need..... Listed under: [Robotics – Automation Project Ideas](#)
1557. [Time-Lapse Camera Controller using Arduino](#) Simple digital cameras can produce remarkably good quality photos and are now cheap enough that it doesn't hurt the wallet too much to buy one with the intention of modifying it for use in a project. You may even already have an old digital camera..... Listed under: [Video – Camera – Imaging Projects](#)
1558. [A useful and simple IO Shield for Arduino](#) In order to “visually” highlight the behavior of Arduino programs you must connect a device to the I/O pins, which gives you tangible signals. Normally, if you want to check if a program changes a level of an output pin, answering a command or executing..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#)
1559. [StorageBot – voice controlled robotic parts finder using arduino](#) Introduction I created the StorageBot to help solve a problem experienced by most Makers. After many years of accumulating thousands of parts stored in storage bins, I began to go crazy looking for parts scattered between so many of these bins. The hardest parts to..... Listed under: [Robotics – Automation Project Ideas](#)
1560. [Laser cut gear clock with ChronoDot using Arduino](#) This summer, my hackerspace LVL1 (in Louisville, Ky) got an awesome laser cutter <http://fslaser.com/40w-deluxe-hobby-laser-engraver-and-cutter>. LVL1 is an awesome community of creative folks that like to build stuff. You can always check out what we are up to at <http://www.lvl1.org>. If you like instructables and making..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1561. [Using an Arduino to Control or Test an SPI electronic device](#) There are many electronic devices that use the SPI bus, or Serial Peripheral Interface bus, for communications (e.g. various sensors, LCD displays, digital potentiometers, D/A and A/D converters, wireless transmitters and receivers, audio volume controls). The devices receive data serially from a microcontroller using a..... Listed under: [Battery Projects](#)
1562. [Solar Powered LED/Ultracapacitor Arduino Regulated Light](#) This instructable primarily shows how to control the charging voltage from a solar panel to an energy storage device (capacitors in this case). I showed how to construct the light previously <http://www.instructables.com/id/Human-Powered-Light-from-my-book-Doable-Renewab/> Step 1: This solar panel can produce up to 18 volts, but my..... Listed under: [LED Projects](#), [Projects](#)
1563. [Arduino – based camera trigger unit](#) I developed the camera trigger unit in order to synchronize various events and actions during free-flight experiments with hawkmoths in the wind tunnel described in a previous post. More specifically, the goal was to trigger multiple high-speed cameras and have LEDs that indicate the exact..... Listed under: [Home Automation Project Ideas](#), [Video – Camera – Imaging Projects](#)
1564. [Bouncing Multicolored LED line](#) This is an arduino controlled project and uses leds, jumper wires, and a breadboard. This is one of my first attempts on programming arduino and I am pleased with the outcome. I'm ten years old and I just started programming 2 weeks ago. Step 1:..... Listed under: [LED Projects](#)
1565. [R.O.V.E.R.: Reactive Observant Vacuous Emotive Robot using arduino](#) R.O.V.E.R. is an autonomous robot. He was built and designed as an interactive art installation specifically for the MAT EoYS 2013. He navigates the space with a heat array and bump sensors and int Click here to get AI-based help ✕ recognizes that a person is present he..... Listed under: [Electronics News Updates](#), [Robotics – Automation Project I](#)
1566. [Programming Arduino in C++11 — ROM dumping](#) In this tool-assisted education video I show how to program an Arduino Atmega2560 board in C++11 to dump a ROM chip, such as a 386sx BIOS or a Famicom cartridge ROM. I also make a ZMODEM sender and a LED blinker in this video. Sorry..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
1567. [Smallsword Choreography Shirt usnig arduino](#) Stage combat is the art of theatrical violence. Rather than resembling fencing, stage combat is choreographed like dance for aesthetic and theatrical effect as well as for safety. Over years of choreographing and teaching others stage combat choreography, I realized that one of the most..... Listed under: [Game – Entertainment Project Ideas](#)

1568. [Arduino Automatic Watering System For Plants Sprinkler](#) Last month, Elecrow have left from the original office and moved to a new office. We will miss our original office where we worked so hard for more than two years, we will miss everything here, the desks, the windows, and those potted plants, that..... Listed under: [Home Automation Projects](#)
1569. [The iButton garage-door opener using an Arduino](#) I've made an iButton garagedoor opener and logger. On a Dutch (kind of) eBay (www.marktplaats.nl) I found some iButtons and readers very cheap. I had no idea what to do with them, but I bought them anyway. My garage opens with a push on a..... Listed under: [Home Automation Projects](#), [LCD Projects](#), [Projects](#)
1570. [RFM12B – Part 1 – Hardware Overview](#) To see how RFM12B wireless compares to other similar wireless options (e.g Xbee, XRF etc..) check out this well compiled comparison overview by Stuart Poulton: <http://blog.homelabs.org.uk/wireless-connectivity/>. Overview Made by Hope RF, re-branded by RFSolutions in the UK. Sometimes called 'Alpha RF' Low cost RF transceiver (from Rapid, Farnell,..... Listed under: [Radio Project Ideas](#), [Wireless Projects](#)
1571. [Arduino Throttle Body Synchronization Shield](#) A common Motorcycle maintenance task is to synchronize the throttle bodies on the engine to smooth out any rough idle. This is done by monitoring the vacuum on each throttle body and using the idle screw to make the adjustment. While this sounds rather advanced,..... Listed under: [Car Projects](#), [Projects](#)
1572. [Ardusumo: an Open Source Platform for Fighting Robots using Arduino](#) The idea Ardusumo is a universal platform to build robots on wheels that can move around avoiding obstacles using infrared sensors and follow routes marked with dark lines on a white background. We have created Ardusumo to bring young students to the world of robotics:..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1573. [A laser barrier with Arduino](#) In this post we will see how to make a laser barrier to integrate with an Arduino board. The applications of a light barrier (laser and infrared) are numerous, especially whenever we want that the passage of a person or of an object through a threshold..... Listed under: [Home Automation Project Ideas](#), [Security – Safety Project Ideas](#)
1574. [BUILD YOUR OWN LASER HARP using Arduino](#) The laser harp is a musical instrument made of light. A fan of beams shoots up from the floor into the night sky. The performer can create music by placing their hands in the beams. Not only does “breaking” the beam produce notes, but sliding..... Listed under: [Game – Entertainment Projects](#)
1575. [Touch Control Panel using Arduino](#) Small 4-wire resistive touchscreens are now amazingly cheap: they are produced in such enormous quantities for mobile phones, PDAs, and particularly handheld games such as the Nintendo DS that they can be bought brand new for under US\$10. Larger touchscreens are also rapidly falling in..... Listed under: [Sensor – Transducer – Detector Projects](#)
1576. [Arduino + 2 Servos + Thumbstick \(joystick\) using arduino](#) In my other 2 Arduino tutorials I have help new users to play tones and making 2 servos move with a mouse. This time I will help you move the same 2 servos with a thumbstick. And again I have surf the internet to see If there..... Listed under: [Motor Projects](#)
1577. [Stepper Motor drive from Arduino](#) Stepper Motor drive from Arduino In this tutorial we will show you how to connect a bipolar stepper motor to an Arduino Uno board. The stepper motor we are using is the Sparkfun Stepper Motor but you can use any other 4-wire bipolar stepper motor..... Listed under: [Motor Projects](#)
1578. [Analog In with an Arduino](#) Overview In this lab, you'll learn how to connect a variable resistor to a microcontroller and read it as an analog input. You'll be able to read changing conditions from the physical world and convert them to changing variables in a program. (:toc Table of..... Listed under: [How To – DIY – Project Ideas](#)
1579. [UVic Quadcopter using arduino](#) Hardware Controller The Arduino platform is selected for this project, mainly due to its open software and hardware nature which has resulted in availability of extensive technical information. As a result there are many tutorials and example project available for this platform. A list of..... Listed under: [Car Projects](#), [Robotics – Automation Project Ideas](#)
1580. [How to: Use Arduino to Generate Glitchy Audio VGA Visuals](#) This post is a guide for people that are interested in my previous posts about dual monitor VGA hacking (see 1, 2 and 3). You will need: • A laptop or a computer with a VGA output • A breadboard (optional) and some wires or..... Listed under: [Sound – Audio Projects](#), [Video – Camera – Imaging Projects](#)
1581. [Hacked Pan and Tilt Camera Mount](#) So my sister managed to break a pan and tilt camera mount and naturally thought daddy can fix this. After sitting on my dads workshop bench for a while he had a go at it and couldn't work out how to fix it so it..... Listed under: [Video – Camera – Imaging Projects](#)
1582. [Adafruit Arduino Motor Shield Build](#) Overview The Arduino Motor Shield is based on the L298 (datasheet), which is a dual full-bridge driver designed to drive inductive loads such as relays, solenoids, DC and stepping motors. It lets you drive two DC motors with your Arduino board, controlling the speed and..... Listed under: [Motor Projects](#), [Projects](#)
1583. [How to make fist pumping with LED animation using Arduino](#) It's to make a fist pumping LED controller. What is it? Have you noticed yourself fist pumping to the music at a party or a club? That's exactly for that. You would wear a band with a accelerometer/gyro mounted. As you move your hand around..... Listed under: [LED Projects](#), [Projects](#)
1584. [Developed on Hackaday: First Version of the Hardware](#) The Hackaday writers and readers are currently working ha the mooltipass (click to see the project description). Next in our Developed on Hackaday series, we present the fir been a lot of discussions going on in..... Listed under: [Security – Safety Projects](#)

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1585. [DIY Teagueduino](#) What is Teagueduino? Teagueduino is an open source electronic board and interface that allows you to realize creative ideas without soldering or knowing how to code, while teaching you the ropes of programming and embedded development (like Arduino). Teagueduino is designed to help you discover..... Listed under: [How To – DIY – Projects](#), [LED Projects](#)
1586. [Automatic blind hooked up to existing projector screen using Arduino](#) Hello my name is Chipsy, I'm French, reading instructables since at least 2 years, it is the first entry i make on this website. Why i made this project : I have a small homecinema system in my living room, with a projector and a..... Listed under: [Home](#)

[Automation Projects, Projects](#)

1587. [4x Multiplexed RTD Temperature sensor module](#) Description This module can be used to measure temperature using RTD (resistive temperature detectors) temperature sensors. It produces an analog voltage that is proportional the temperature of the probe. The module contains a multiplexer to enable measurement of up to 4 temperature probes. Design RTD..... Listed under: [Temperature Measurement Project Ideas](#)
1588. [MenZ-DECK](#) About a year ago, we drunk beer in The-MenZ Lab. When Zagan said "I want PCDJ controller, So next project is make controller!". The project began at this time. ***MenZ-DECK featured by Maker Faire UK Blog.*** <http://www.makerfaireuk.com/maker-faire-tokyo/> (Continue with broken English) Components for make controller: Arduino..... Listed under: [Development Board – Kits Projects](#)
1589. [Arduino Watch Build Instructions](#) Update: New version out that works with Arduino 1.0 and higher! The Arduino Watch provides augmented sensing of temperature and range, 16-bit color drawing program, Breakout game, and also tells the time in your choice of digital, binary, or analog. Additional sensors, devices, and programs..... Listed under: [Clock – Timer Projects, Projects](#)
1590. [Girino – Fast Arduino Oscilloscope using Arduino power connector](#) I am a Physicist and the nicest part of working in this field is that I get to build my own instruments. With this way of thinking, I decided to build a homebrew Arduino Oscilloscope. This instructable was written with the purpose of teaching a..... Listed under: [Metering – Instrument Project Ideas](#)
1591. [GSM Remote Control – GSM Module](#) This GSM Mobile is used for our Remote Control (for example Gate Control, Temperature Control....). We use the word ‘module’ because, unlike what we did in our remote control projects, this time around the mobile phone is not mounted on a printed board, but rather on..... Listed under: [Phone Projects](#)
1592. [Team 12 – Prototype I Final Report: Home Automation Project using arduino](#) Introduction The Home Automation Framework project is a web application that can remotely control the electronic devices in one’s home using a web interface on a smartphone, tablet or desktop computer. The project facilitates ease of access and remote control of electronic devices for those..... Listed under: [Home Automation Project Ideas](#)
1593. [Interface a rotary phone dial to an Arduino](#) An old rotary phone can be used for a number of purposes in your Arduino projects - use it as a novel input device, or use the Arduino to interface a rotary phone to your computer. This is a very basic guide describing how to..... Listed under: [Interfacing\(USB – RS232 – I2c - ISP\) Projects, Phone Projects, Projects](#)
1594. [Arduino Controlled Can Crusher With LCD Readout](#) I have always wanted to do an instructable, but I never had a somewhat original idea that hasn't been done a million times, or something that had no means of building. I have some friends who recycle aluminum for money and after seeing the large bags of an unknown..... Listed under: [Home Automation Projects, LCD Projects, Projects](#)
1595. [Infinite Loop – Prototype I Final Report: Hazardous Weather Warning System using arduino](#) Introduction: The LED warning system notifies local residents of emergency withing the area. The difference in the color of the LED will allow residents to differentiate between different warnings. Each shelter building has a person who is in charge of unlocking the door for residents..... Listed under: [Security – Safety Project Ideas](#)
1596. [Computers are Dumb](#) Objective: Overcome your fear of computers! If you can count to two, then you can master the basics of computers. If you think computers are smarter than you, you are wrong and I will prove it. For normal people, just follow the LOG: comments. Computers..... Listed under: [RTOS – OS Projects](#)
1597. [Bicycle North Indicator using Arduino](#) Magnetoeception is the ability of some animals to detect magnetic fields as a means of orienting themselves. Although humans do not seem to posses the same biological mechanisms that allow other animals to sense magnetic fields, there are still many ways that we can improve our..... Listed under: [Game – Entertainment Projects, Home Automation Projects, Projects](#)
1598. [Shade Technologies – Prototype I Final Report: Motorized Wheelchair Canopy using arduino](#) Introduction Our Motorized Wheelchair Canopy intends to help those people with disabilities that confine them to their motorized wheelchairs and need shelter at times of inclement weather, such as rain or extreme heat. Although manual wheelchair canopies do exist, no type of motorized wheelchair canopy..... Listed under: [Medical – Health based Project Ideas](#)
1599. [Fab Lab Barcelona SuperNode /Fab Lab Sevilla /Jose Perez de Lama](#) Retablillo de las Maravillas v1.0 Developed july> >august 2013 4./ Interactivity & electronics 4.1/ Switches / characters 4.2/ Screen / interface 4.3/ Motor controller 4.4/ I/O controller & interface [4./ electronics] [4.1/ switches / characters] The characters on top of the moving platform function, as interfaces,..... Listed under: [Game – Entertainment Project Ideas](#)
1600. [SPI interface to the FlySky/Turnigy 9x](#) Interfacing a RC radio to a microcontroller is a bit of a pain, especially if you want a lot of channels, because you have to time each channel's output individually. An AVR only has one 16 bit timer with two compare channels, so either you..... Listed under: [Radio Projects](#)
1601. [Arduino powered 7seg led display with Port Manipulation](#) Time for something a little more advanced. Direct Port Manipulation. Normally when using Arduino software, the actual logic behind changing the values in pins is abstracted away with digitalWrite and digitalWrite. Now, for most people that's just fine. But it has some limitations. For one,..... Listed under: [LED Projects, Projects](#)
1602. [Arduino controlled animatronic wooden head \(reading lamp\) usnig arduino](#) This head is a reading lamp which can be adjusted for direction of lighting and dimmed as required. This Instructable combines Arduino programming, some simple electronics, carving with han Click here to get AI-based help ✕ a bit of woodwork. Apart from the Arduino and a..... Listed under: [Home Automation Projects](#)
1603. [How to build an Arduino energy monitor – measuring mains voltage and current](#) This guide details how to build a simple electricity energy monitor on that can be used to measure how much electrical energy you use in your home. It measures voltage with an AC to AC power adapter and current with a clip on CT sensor,..... Listed under: [Temperature Measurement Project Ideas](#)
1604. [High Power RGB LED Moodlamp which syncs with Philips Hue](#) In this instructable the main focus lies on the software which I've created - not so much on the hardware side. You needn't to use a high- power led for this, you can use every RGB- LED you like. The "High Power RGB LED Moodlamp"..... Listed under: [LED Projects](#)

1605.

[Buggy Wheelchair Robot using an Arduino](#)

This is a Modification of an electric wheelchair. I called it "Buggy" for two reasons. #1 My kids can still ride it around because I left the seat intact. #2 I haven't programmed anything for a long time. I plan to create "jobs" for it..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1606.

[Make A FOBO Bipedal Walking Robot Using Arduino](#)

FOBO is the fourth prototype from Project Biped. It is a 3D printed, self-contained, statically balanced, bipedal robot. It has 8 DOF (degrees of freedom) and can walk around its environment and avoid obstacles using an ultrasonic range sensor. All of the designs, instructions, source..... Listed under: [Robotics – Automation Project Ideas](#)
1607.

[Build the Ultimate Larson Scanner! using arduino](#)

I have watched the availability of high power (>10W) LED's jump over the past year or so and... drop in price. I came across some very inexpensive 10W white LED's from Deal Extreme that were in the \$3 dollar range and put out 900lumens, which..... Listed under: [CNC Machines Project Ideas](#)
1608.

[Precision Fermentation: Arduino-Controlled Crock Pot Yogurt Maker](#)

A homemade thermostat attachment for a crock pot (or other electric heating device). It can be used to precisely control the temperature of the crock pot for things like yogurt fermentation. Why Making yogurt is fun. It is also way cheaper than buying it. You..... Listed under: [Home Automation Projects](#)
1609.

[BLU-BOARD, control your home with blue tooth!](#)

Big thanks to the fine people at Hack-A-Day for sharing this with the world! if you'd like to donate to the project: <https://www.suprmav.com/projects/167/blu-board> This project has been in the works for along time, three months if I reckon Correctly, but anyways, this device will allow you..... Listed under: [Development Board – Kits Projects](#), [Home Automation Projects](#)
1610.

[CatBot: Automated Cat Laser using an Arduino](#)

The CatBot is an autonomous laser toy for your cat. You may say "But Joe, isn't the laser pointer the best toy for the lazy cat owner?" I'd have to say no, the CatBot takes one step further. Using two servos, an Arduino and a..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1611.

[Group 9 – Prototype I Final Report: Remote Piano Pedal Controller using arduino](#)

Introduction: As a group, we feel that everyone should be able to enjoy the things they love to do despite their limitations. Our project is designed to enable people who are unable to use their legs to operate the pedals of a piano and..... Listed under: [Sound – Audio Project Ideas](#)
1612.

[Arduino compatible Luna Mod Looper](#)

The Luna Mod Looper, basically lets you record a sequence using a potentiometer to control the pitch of the note, and then play it back and add affects. Ever since I saw videos of the Luna Mod being played, I wanted to build my own..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1613.

[Glowing Color-Changing Guitar](#)

In the kingdom of rock and roll it is important to set oneself apart. With millions of people in this world who can play the guitar, simply playing well is just not going to cut it. You need something extra to rise up as a..... Listed under: [Sound – Audio Projects](#)
1614.

[LED matrix using shift registers using arduino](#)

This instructable is meant to be a more complete explanation than others available online. Notably, this will provide more hardware explanation than is available in the LED Marquee instructable by led555. Goals This instructable presents the concepts involved with shift registers and high side drivers..... Listed under: [LED Projects](#)
1615.

[Athena: The Global Car Tracking System\(3D Images\)](#)

Bring out your 3D glasses and enjoy viewing in a novel way! I have added a new dimension to my instructable. If you do not have 3D glasses, then you can make one yourself. The following link explains how to make 3D glasses (link). Please..... Listed under: [Car Projects](#), [Sensor – Transducer – Detector Projects](#)
1616.

[Piano Stairs with Arduino and Raspberry Pi](#)

Who doesn't love music? These Piano Stairs are an interactive, relatively portable, musical installation that can be applied to basically any stairwell. I built them for HackPrinceton and won 2nd place in the hardware track. I've had requests to share my code and diagrams, so..... Listed under: [Sound – Audio Projects](#)
1617.

[Addressable Milk Bottles \(LED Lighting + Arduino\) using arduino](#)

Make PPE milk bottles into good looking LED lights, and use an Arduino to control them. This recycles a number of things, mainly the milk bottles, and uses a very low amount of power: the LEDs apparently dissipate less than 3 watts but are bright..... Listed under: [LED Projects](#)
1618.

[How to Build an Arduino Circuit on a Breadboard](#)

Small Kit with Big Functionality By Ryan Winters Product Manager There are many reasons to build your own Arduino circuit on a breadboard or PCB. It takes less space, projects don't always require every pin to be used on the I/O headers, or maybe you..... Listed under: [Development Board – Kits Project Ideas](#)
1619.

[Make your own cellphone from scratch](#)

The DIY Cellphone is a working (albeit basic) cellphone that you can make yourself. It can make and receive phone calls and text messages, store names and phone numbers, display the time, and serve as an alarm clock. It connects to GSM networks (like AT&T and T-Mobile..... Listed under: [How To – DIY – Projects](#), [Phone Projects](#)
1620.

[Arduino LED Cube Spectrum Analyzer](#)

In this project we'll create a small add-on PCB containing the a MSGEQ7 spectrum analyzer circuit and show how it can drive the RGB LED cube kit from Freetronics. This allows the cube to display the seven bands over four horizontal planes. There is a small amount..... Listed under: [LED Projects](#)
1621.

[High Speed Outdoor Photography](#)

High speed photography is generally carried out in a dark room with dedicatex example)... The instructable proposed here enables to make high speed photography outside (and enjoy the sun!), in less than 2 hours with some generic DIY basic tools. The principle is the following..... Listed under: [Video – Camera – Imaging Projects](#)
1622.

[DIY Sensors Workshop using arduino](#)

The Arduino offers the advantage that a lot of people are using it so it is usually quite easy to get help or information via the internet. The main website for the Arduino is: <http://www.arduino.cc/>. The Arduino can also be programmed to behave in many..... Listed under: [Sensor – Transducer – Detector Projects](#)
1623.


[Troubleshoot your car battery with ATtiny](#)

Last winter I experienced some problems with my car battery. I knew that it was about time to replace it so off I went

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to buy a new one. This fact reminded me of an old article about a car battery/charging system diagnostics kit I..... Listed under: [Battery Projects](#), [Car Projects](#)

1624. [Solar theremin with Arduino using arduino](#) materials: arduino uno 3 photoresistors 4 buzzers 3 10k resistor (optional) usb solar pannel or usb battery Step 1: Why? During the 2014 art Exhibition at Met (M. di Ragusa), I created (with the technical collaboration of Carmel Iurato), this theremin made from three photoresistors,..... Listed under: [Solar energy project Ideas](#)
1625. [Arduino Prototype Center](#) This is a relatively inexpensive and easy to build project that will help you test out all of your Arduino projects and prototypes. Since it has a plug-in power source, it eliminates frequent battery use and leaves the breadboard free of voltage regulators and capacitors..... Listed under: [Metering – Instrument Project Ideas](#)
1626. [STEAMPUNK STEAM GAUGE, POWERED BY ARDUINO](#) This was created to be some eye-candy for my kitchen. I wanted something unique for a special blank space on my wall, and adding movement, blinky lights and interesting mechanical “guts” made it even better. Ultimately, this project ended up requiring the following range of..... Listed under: [Metering – Instrument Projects](#), [Sensor – Transducer – Detector Projects](#)
1627. [Build An Arduino Laser Engraver](#) I started this project because I wanted to make something that had mechanical, electrical and software components. After looking around on Instructables, I figured that an Arduino based laser engraver would be an interesting machine to make, and that the machine itself could make interesting..... Listed under: [Other Projects](#)
1628. [Arduino ATmega328 – Hardcore using arduino](#) Ok, you've completed your prototype using an Arduino Uno board, perhaps using a shield or a breadboard for any additional components, but now you want to finalise your design and construct it using your own pcb. Well, that is fairly straightforward, as we have made..... Listed under: [Development Board – Kits Project Ideas](#)
1629. [Controlling Cubase with Arduino based MIDI](#) A friend of mine wanted to control Cubase, his audio recording software, with a push button so that he could stop and start recordings remotely without having to go over to the computer and type on the keyboard. You may be able to do this..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1630. [Plugduino – Arduino based 120 Volt outlet controller](#) give your Arduino a 120 volt kick in the pants! The Arduino is a great tool for anyone interested in learning microcontroller programming, but after blinking some LEDs, what's next? This project enables your Arduino to control real-world 120 Volt electrical appliances you have in..... Listed under: [LED Projects](#)
1631. [Arduino Masterclass Part 2: Build an LED weather station using arduino](#) Project-specific parts You'll need the standard parts (Arduino board breadboard wires pliers and so on) along with these extras: DHT11 temperature/humidity sensor 7 x 330-ohm/0.5W metal film resistors 3 x 4.7k-ohm/0.5W metal film resistors 2 x BC337 NPN transistors 2 x LTS543R or FND500 common..... Listed under: [LED Projects](#)
1632. [Proximity Sensing Origami Flower using Arduino](#) Origami is the traditional Japanese art of paper folding. In this project, with a little help from an Arduino, you can bring your origami into the 21st century and make it an interactive art! The result shown here uses Bare Conductive paint to give an..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1633. [FireHero: Turn Guitar Hero into an extreme sport by adding flamethrowers! using Arduino microcontroller](#) So, long ago I had read about propane fire poofers. They're pretty cool... I mean, who doesn't love fire?! But, no matter how awesome, they could get pretty boring after a while of seeing the same large fireball. I never built one because I wanted..... Listed under: [Game – Entertainment Projects](#)
1634. [How to Display Text on an HD44780 LCD with an Arduino](#) In this article, we will go over how to connect an HD44780 LCD to an arduino in order to display any text that we want to show on the LCD. To do this, first, we must make the appropriate physical connections from the arduino board..... Listed under: [LCD Projects](#)
1635. [DIY Antique Phone Doorbell using Arduino](#) Bryan Zimmer emailed us this fantastic retro-themed DIY hack, a most timely submission as we just revisited the noir art deco-science fiction classic Dark City and we think this would have perfectly fit in the world (or in Adama's quarters on BSG). Bryan gives step-by-step..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Phone Projects](#)
1636. [Controlling speed controllers with Arduino](#) Hey guys, I'm back with another instructable. This is about RC speed controllers. What this will do is allow you to test out your speed controller in the Arduino world using Serial, then you write the values down and can use them for your projects..... Listed under: [Ideas](#), [Metering – Instrument Project Ideas](#)
1637. [Arduino Touch Screen iTunes control \(ATSIC\) using arduino](#) What I'm going to show you is how to make an iTunes control device using an Arduino and a touch screen. The iTunes Control works by reading area's of the touch screen and send a letter to the computer via the serial port, which is..... Listed under: [Phone Projects](#)
1638. [Building an Arduino Robot, Part II: Programming the Arduino](#) Welcome to the second article in the tutorial series in which I'm building a remote controlled Arduino based vehicle robot. Here is the list of articles I have published: Part I: Hardware Components Part II: Programming the Arduino (this article) Part III: Assembling the Robot..... Listed under: [Robotics – Automation Projects](#)
1639. [Make A Color Changing Display Using Arduino](#) Custom made Multiple color display. Have you ever wanted a display that is a little larger than one you can buy? Have you ever wanted to make a display the way you wanted it? Me too! This is how I made a custom multiple color display. [Click here to get AI-based help](#) 
1640. [DMX Ardweeny Node using Arduino](#) I've settled on the lighting industry standard of DMX as my overall control protocol as I explore the world of blinky lights. This universal control method is electrically robust, radio transmissible, and flexible enough for my needs (not to mention the needs of major concert,..... Listed under: [Development Board – Kits Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1641. [Control a Relay with Arduino](#) In this quick Arduino tutorial I will explain how you can control a relay using the Arduino Board, one 1K and one 10K resistors, 1 BC547 transistor, one 6V or 12V relay, one 1N4007 diode and a 12V fan. When the button is pressed the..... Listed under: [Sensor – Transducer – Detector Projects](#)

1642.

[Easily control your iPod using Arduino](#)

Easily control your iPod with Arduino using serial commands. This instructable includes the schematic, the code and some extra info; everything you need to make this work. USB,battery or wall power supply powered. Step 1: What you need Parts: 5x 1K ohm resistors 2x 1M..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Phone Projects](#), [Projects](#)
1643.

[Make an Arduino Timer](#)

Hi, so me and my pal are setting up so we can make PCB’s. We are currently making a UV exposure box (possibly another instructable) and for this box, we needed a timer, so this is what we have done so far, and what we..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1644.

[RC Car to Robot using arduino](#)

Converting an RC car into a robot is a quick and easy way to get started with robotics. At the very least, when you get bored of playing with your remote control car after three days, you can turn it into a robot that will..... Listed under: [Game – Entertainment Project Ideas](#)
1645.

[Easy 4x6 LED Matrix, Arduino!](#)

In this inst’able, I will show you how to create your very own 4x6 LED matrix as well as show you how to write code for it! There is an animation creator program in step 4! Here is one ANIMATION to get you excited about the project! ***Wave..... Listed under: [LED Projects](#), [Projects](#)
1646.

[Pulse Width Modulation : PWM using Arduino](#)

Pulse Width Modulation or PWM is a method of Digital to Analog Conversion. It helps in delivering analog average voltage using digital pulses of variable pulse width. By controlling the on time and off time, we can generate an analog average voltage using the digital..... Listed under: [PWM Projects](#)
1647.

[Robot arm from a desk lamp \(IKEA Tertial hack\)](#)

This project answers to a need I had: a third hand that holds a camera while I perform a test and takes photos/videos (useful when you're stuck at the lab late at night, and suddenly need a photographer). The downside to a robotic arm was..... Listed under: [Robotics – Automation Projects](#)
1648.

[Arduino Guitar Pedal using arduino](#)

The Arduino Guitar Pedal is a digital multi-effect pedal based upon the Lo-Fi Arduino Guitar Pedal originally posted by Kyle McDonald. I made a few modifications to his original design. The most noticeable changes are the built-in preamp, and the active mixer stage which lets..... Listed under: [Game – Entertainment Project Ideas](#)
1649.

[Breadboard Arduino](#)

Received a couple of nice big bread boards for Christmas and decided that one of them needed an arduino to use with it. After some thought I decided that the best option was to build the required parts of an Arduino circuit direct on the..... Listed under: [Development Board – Kits Projects](#)
1650.

[Tabletop Soccer Game using arduino](#)

Send a Foosball down a ramp and try to score on the goalie! But scoring is not so easy - the goalie moves left and right to block your shot! This project was made for a class called "Thinks that Think" at CU Boulder for the Spring..... Listed under: [Game – Entertainment Project Ideas](#)
1651.

[The MAX7219 and MAX7221 Led drivers](#)

These two integrated circuits from Maxim are for driving either 64 individual Led's, or up to 8 digits of 7-segment displays. The drivers implement a SPI compatible slave interface that can be controlled from the Arduino using only 3 of the digital output pins. An..... Listed under: [LED Projects](#)
1652.

[Arduino Time & Temp Display Shield](#)

Another project I'm working on required a good timer, but the more I read about Arduino, I realized that I couldn't make an accurate timer using an Arduino that was already devoted to other tasks. The Arduino will always lose time if you perform other..... Listed under: [Temperature Measurement Projects](#)
1653.

[Measuring Battery Capacity With an Arduino](#)

I needed a couple of AA batteries and found the display at the supermarket where they were all arrayed. Normally when I’m shopping in the supermarket, I tend to look at the price/kg or price/l when comparing similar products. In the case of the batteries,..... Listed under: [Battery Projects](#), [Projects](#)
1654.

[Sunflower Automaton using arduino](#)

This was a 6 week project created for the Spring 2012 Things That Think course at the University of Colorado at Boulder. Our project is an autonomous Sunflower. As in nature, the highest priority for our flower is sunlight, necessary for photosynthesis. Our Arduino controlled..... Listed under: [Video – Camera – Imaging Projects](#)
1655.

[Arduino Optical Theremin](#)

When I first became aware of Arduino, a theremin seemed like a natural project: sensor + actuator. It turned out to be quite affordable and fun to make. It is a naive design, using just one photocell and some hacked headphones. After some experimentation, I..... Listed under: [Ideas](#), [Sound – Audio Project Ideas](#)
1656.

[Charlieplexing LEDs with an Arduino](#)

Charlieplexing is an ingenious method for controlling many LEDs without using many microcontroller pins. You can turn on or off one LED at a time. To light more than one LED at a time, you can scan the LEDs by turning a sequence of them..... Listed under: [LED Projects](#), [Projects](#)
1657.

[Mobile Earth Rover One – 3.5G Exploration using arduino](#)

If you can’t explore the Moon or Mars ... you can always explore your neighborhood! The main goal of this project is to alter a remote controlled vehicle and control it via Internet Telerobotics using the Mobile Telephone Network (WWAN - Wireless Wide Area Network)..... Listed under: [Robotics – Automation Project Ideas](#)
1658.

[Nocturnal Emissions: My Arduino Powered Internet Enabled Dream Generator](#)

We all need to dream more so I've created this Arduino Powered "dream generator" to help plant the seeds for some big thinking craziness. When you approach the generator a Maxbotix ultrasonic sensor triggers lights and music that draw you in so you can stare..... Listed under: [Internet – Ethernet – LAN Projects](#)
1659.

[Light Seeking R.C Car Hack \(with Arduino\) using arduino](#)

Creating a robotics platform from scratch takes allot of w is easy but costs allot of money (at least for me). So instead I decided to piggy back off of the companies who ma

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1660.

[Appliance Remote Control using Arduino](#)

One of the basic tasks in many home automation systems is controlling power to appliances. They could be lights, or a heater, or an exhaust fan, or just about anything else that runs on mains power. The problem of course is that it's dangerous to..... Listed under: [Home Automation Projects](#), [Robotics – Automation Projects](#)
1661.

[Arduino Wireless Programming with XBee Series 1 or 2](#)

Hi. This Instructable will guide you through the process of wirelessly programming your Arduino using two XBees. I just finished designing a wireless EEG system with the XBee modules, so I've become quite fluent in their programming and have just now been able to accomplish this. It still amazes..... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1662. [My Arduino Binary Clock](#) Hi from Italy Although many watches are created binary, my project was inspired mainly to this: <http://www.instructables.com/id/LED-Binary-Clock-1/>, very smart and funny. I tried to improve the design and to add something personal. I think it's a good result at the end. The project is..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1663. [Power Supply unit for arduino power and breadboard using arduino](#) how you can take a computer u hv old (power supply unit) and turn it into a power supply that will power your Arduino and give you all the amperage you need as well as your standard 3.3 volts, 5 volts, and 12 volts for..... Listed under: [Development Board – Kits Project Ideas](#)
1664. [Using Arduino tide predictions using arduino](#) In the previous post, I outlined some Arduino code to generate tide height predictions for a NOAA tidal reference station. Now let’s do something useful with this newfound functionality. In the experiments I run, it’s useful to keep intertidal animals like snails and limpets on..... Listed under: [Home Automation Project Ideas](#)
1665. [Arduino weather station part 2 using arduino](#) Sometimes I just do not have time to connect to the internet and check current weather conditions. This is the reason why I made this indoor LCD weather display based on Atmega328 Arduino MCU. The circuit board consists of two LP2950 voltage regulators, MCU, four..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1666. [Cheap Arduino Controled Yogurt Maker](#) These days I was reading an interesting post on how to make yogurt "by the gallon" (<http://www.instructables.com/id/Yogurt-By-The-Gallon/>). One thing needed was to maintain a rather constant temperature of 43°C (110°F), so the bacteria can grow properly. Though you can buy commercial yogurt makers, they aren't..... Listed under: [Home Automation Projects](#), [Projects](#)
1667. [Make an Attiny13 based IR proximity sensor](#) This is an extremely cheap IR proximity sensor you can make with a few cheap parts and an AVR programmer. I use an Arduino as my programmer in this Instructable. This sensor only has a range of about 3 inches. You can easily add more..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sensor – Transducer – Detector Projects](#)
1668. [Google Weather on graphical display with Arduino](#) In this project, I am using an Arduino board to show forecast of the weather from Google Weather service on a VGA screen. The display is obviously graphical one, with icons and some colorful text. It is one of those gadgets I wanted to have..... Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#), [Projects](#)
1669. [Bluetooth plus Infrared Controlled Robotic Arm](#) Hi. I’m Darren a 17 year old hobbyist, and this is the first Instructable I’m posting here, so I apologize if it kinda sucks! I hope it's good enough... So how did the idea of a robotic arm come to me? Well, the first thing..... Listed under: [Internet – Ethernet – LAN Projects](#), [Robotics – Automation Projects](#)
1670. [Arduino controlled Interactive wallpiece](#) This project is a subset of my idea of an interactive wall.. so this is an interactive wall-piece.. What does it do ? Mine is a touch activated light display. How does it work? It is controlled by an Arduino UNO which senses the inputs..... Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Ideas](#)
1671. [How To Make A Transforming Chandelier Using Arduino](#) In this tutorial I will go over how to make a transforming chandelier. This project will be heavily CAD oriented (Solid works and Illustrator), made by laser cutting/engraving acrylic sheets, and a little bit of Arduino coding and soldering. Step 1: Choosing materials. All the..... Listed under: [Other Projects](#)
1672. [Sentriduino! Its the all new Sentry turret](#) Hey guys, Today I would like to show you how to make a simple sentry turret out of household Items! You would only need to get an Arduino UNO or Mega, a Ping))) Ultrasonic Range finder, two servos, and an electronic water squinter! The rest of..... Listed under: [How To – DIY – Projects](#)
1673. [How to make a Ghost Knocker](#) Step 1: Check the materials you need. Below is the list of stuff you need to make it: 1. Arduino I used an Arduino Pro Mini 3.3V. You also need USB-Serial tether to program it. 2. A battery box I used a AA x 4..... Listed under: [Game – Entertainment Projects](#)
1674. [Wireless Finger Drum using Arduino](#) I came across these Force Sensitive Resistors. I like them a lot and I wanted to do something with them, may be making them more usesable than standing on the breadboard. Few months ago, I created the pocket-sized RevIO - Arduino Compatible and having fun with..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1675. [Temperature-Sensitive Infinity Mirror](#) As per an assignment in my digital multi-media class, I’ve combined two Arduino-related tutorials into a functional object! The result is a pair of infinity mirrors that flash red and blue depending on minute fluctuations in ambient temperature. This is my first experience with Arduino,..... Listed under: [Temperature Measurement Projects](#)
1676. [The Word Clock Arduino version](#) ***** Major updates - A much better enclosure for this clock has been designed - check out <http://www.instructables.com/id/The-Wordclock-Grew-Up/>
***** Last month I wanted to build a special gift for my beautiful wife, Megan. She has a teaching background in English, so what better present to..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1677. [Palm Arduino II](#) I have a "through the Looking Glasses" idea of making another version of Palm Arduino. Since this design derived from Palm Arduino, I will called it Palm Arduino II. This Palm Arduino, the Second, will be the combination of Palm Arduino and Portable 5V Voltage Regulator So..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)
1678. [Arduino BlinkyBall Project](#) I frequent a blog called hackaday.com which featured a project by "Nikolai", it was a 10cm LED ball that used shift registers. It seems like a really fun project to attempt but the cost of having the boards made & not having any experience sending..... Listed under: [LED Projects](#)
1679. [ButtonHero using Arduino](#) ButtonHero is a game made on an Arduino that involves the use of buttons, LEDs, wires, and resistors. In this game, you have to hit the corresponding button to the light that is randomly selected before the light changes. You start with 5 lives and..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1680. [Guide For The Educational colorimeter kit](#) This instructable is a step-by-step assembly guide for the educational colorimeter kit we launched in April 2012 on Kickstarter. Assembly takes from 20-40 minutes. Once assembled the colorimeter can be used in a wide variety of science experiments to measure the

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absorbance and concentration of..... Listed under: [Metering – Instrument Projects](#)

1681. [Blinky Lights using Arduino and LumiGeek](#) I used the Arduino UNO combined with three LumiGeek shields to run lighting. LumiGeek has dedicated shields to support 1 Watt RGB LEDs that require constant current, Addressable RGB LED Strip, and Non-Addressable RGB LED Strip. Step 1: 1 Watt RGB LEDs (2x) I wired.....
Listed under: [LED Projects](#)
1682. [Servo 360 rotation mod \(Parallax\)](#) In this instructable I will expalin and show you how to make a Parallax servo rotate 360°. And againI have search the internet to see tutorials clear enough to make this posible with no luck. Don't get me wrong they are some how good but not..... Listed under: [Motor Projects](#)
1683. [Wu-Tang Can: Interactive Tipping](#) Cash rules everything around me. C.R.E.A.M. Get the money. Arduinos are showing up everywhere. Even in space. But what about the lowly tip jar? No. Are Arduino projects giving the Wu-Tang Clan the proper respect they deserve? Not even close! Rectification. That's what this is.....
Listed under: [Other Projects](#)
1684. [Arduino Based Four Legged Robot](#) The name of our robot is FIER and here is a video of it saying hello to the world. In this instructable, I will try to show you the basic steps to making your own walking robot for the most bang for your buck. You..... Listed under: [Robotics – Automation Projects](#)
1685. [Analog audio panel for PC using Arduino](#) Have you ever struggled with audio settings in control panel in middle of a VoIP call? Or, wondered if the other guy can hear you properly? I have. My work requires great deal of remote conference calls using PC. The first thing I wonder always..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1686. [4X4X4 LED Cube w/ Arduino Un](#) As someone who is very new to digital electronics this LED cube was fun to make, challenging and a great lesson in soldering. If you have some patience (64 LED's to solder!) and steady hands, this project will be well worth it in the end!..... Listed under: [LED Projects](#)
1687. [Vacation Pet Feeder from Recycled Materials](#) If you are a pet owner, going on vacation can be stressful. Usually, you need a friend or neighbor to come over every day and feed your pets. However, by enslaving robots you can keep your pet happy and enjoy a stress-free holiday. To save..... Listed under: [Home Automation Projects](#)
1688. [HexiLogger, an Arduino based data logger](#) The purpose of this project was to create a simple, portable device that would periodically read sensors and then store the sensor data so it could be retrieved later. The result is the HexiLogger, "hexi" because it can support up to six different sensor inputs..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1689. [Open Source Server Room Monitor using Arduino](#) This server room environmental monitoring system is a low cost high performance device with the same onboard features as commercial devices costing hundreds of dollars more. In addition to a low cost platform we will provide low cost sensors for many important devices to insure..... Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1690. [iTime clock in a Mac Mini box using Arduino](#) After the untimely death of my Mac Mini (the last thing Apple I never buy), I recycled her limping in a clock display LEDs. Technically, there is not rocket science: an Arduino reads the time from an external clock and displays a matrix of 8x6..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1691. [The UCube: Design & Print 3D Objects by flipping switches](#) This instructable goes through how to design and print a variety of 3D models using a system called the 'UCube'. Note: I would love to eventually publish detailed instructions on how to make your own UCube, but since the design is still changing and improving,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1692. [Open Source Hearing Impaired Alarm Clock using Arduino](#) Activities of daily living (ADL) are self-care activities that are usually taken for granted, since as the name implies they are performed on a daily basis. If you have ever ended up in a cast, or on crutches you can empathize how menial daily activities can suddenly be very difficult to to..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1693. [DIY Mod an Omnibot 80's Robot with Voice, Camera, Servos, Bluetooth](#) *Check back for more updates on this build 😊 So, have you heard of the Omnibot? Well! Any kid from the 80's will remember how amazing this robot was. For you young kids, this robot was released in the early 80's by Tomy. The robot..... Listed under: [Internet – Ethernet – LAN Projects](#), [Motor Projects](#), [Robotics – Automation Projects](#), [Video – Camera – Imaging Projects](#)
1694. [Tag Archives: arduino speaking clock](#) How to: Speaking Clock Hello 😊 Setup and Procedure The wave shield is interfaced with the Arduino Mega 2560 as normal. A couple of pins were remapped because the wave shield was initially made for a different device. The DAC pins were remapped to pins 22,23,24.....
Listed under: [Clock – Timer Project Ideas](#)
1695. [LED Calculator with Rotary Quadrature Encoder for Target System Voltage Selection using Arduino](#) I'm still working on the LED calculator (original idea and most recent work) — I've finally got 'round to adding a rotary encoder to set the target system voltage. Now you can turn the potentiometer to set the LED brightness, turn the rotary encoder to set what..... Listed under: [Calculator Projects](#), [LED Projects](#), [Projects](#)
1696. [Sensing Squeeze using Arduino](#) I'm researching squeeze sensing as a mode of tactile interface. Here I will cover the process of developing a squeezeable sensor and the firmware/software concerns associated with interpreting the data from the sensor. This fulfills the "sensor project" for my class called Computational Principles in..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1697. [S.A.M. Spring Aided Machining \(CNC with adhesive remover\)](#) S.A.M. Spring Aided Machining (CNC with solvent) is architecture students at CCA, San Francisco: Matt Boeddiker, Abelino Robles, and Tim Henshaw-Plath. (www.cca.edu) The machine is capable of rapidly prototyping and creating subtractive formwork that can be used to cast..... Listed under: [CNC Machines Projects](#)
1698. [A Beginner's guide to making an Arduino Shield PCB](#) (This tutorial has gotten really popular recently, and I'm very pleased that so many people are interested. I learned all of this stuff while working on my first PCB. If you're interested, I've started to sell the most recent version of my Arduino ProtoShield. If..... Listed under: [Development Board – Kits Projects](#)
1699. [How To Make Arduino Color Sensor](#) Here we will be learning how to make a color sensor. my model consists of three cardboard compartments containing an LED - one red, one blue, and one green - and an OP550B phototransistor. The LED's shine simultaneously on a solid colored card. The phototransistors..... Listed

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under: [Sensor – Transducer – Detector Projects](#)

1700. [Cat Repelling PIR motion sensor \(covert\) speaker box alarm using Arduino](#) This is a PIR motion sensor device that works with the arduino uno. In order to make it covert enough to be placed in multiple settings and portable enough to fit most places, I decided to make the case for it appear as a speaker. The inspiration for..... Listed under: [Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#), [Sound – Audio Projects](#)
1701. [Arduino MIDI Volume Pedal](#) I’m playing keyboards this fall in another rock concert to benefit the high school robotics team, and for some of the tunes I need to be able to fade an organ in and out over a period of a measure or two. My keyboards are..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1702. [Geiger Counter with Touch Interface!](#) There are quite a few geiger counter instructables. The difference with this one is that I wanted to give it a modern interface, similar to smart phone touch screens, that anyone would feel comfortable using. The reason for this is that I want to use it as..... Listed under: [Calculator Projects](#), [Sensor – Transducer – Detector Projects](#)
1703. [Digital Clock with Arduino and DS1307](#) In this article you will learn how to make a digital clock using Arduino and the DS1307 RTC IC. What is DS1307 IC actually? Well, it is a Real Time Clock (RTC) IC that is simple to use, low cost and easy available. The IC..... Listed under: [Clock – Timer Projects](#)
1704. [Arduino Drawbot](#) In some of my previous Arduino instructurables I have show to the Arduino beginners on how to control servos in different ways. And in my last instructurable I have show the modification of a Parallax servo for a 360° rotation. So in this one I will show Arduino..... Listed under: [Robotics – Automation Projects](#)
1705. [Arduino Led Dice](#) This instructable will show you how to create a dice using Arduino and few components. It's an easy and fun project, suitable for beginners and those who want to start with Arduino; it also requires a minimal amount of components. This explains how to create..... Listed under: [LED Projects](#), [Projects](#)
1706. [Arduino-Square with Color LCD](#) B-Squares is a modular electronics platform that enables users to build, customize, and continuously update their own electronics applications. In this B-Squares App we will cover how to assemble a simple Color-LCD Application using the Arduino-Square. Hardware: 1. Arduino-Square. 2. Battery-Square 3. Color LCD Shield..... Listed under: [LCD Projects](#), [Projects](#)
1707. [Simon the Octopus](#) Everyone loves the Simon game ! So we decided to take it to another level. This project was done for our Things That Think class where we had to make a PlushBot (a plush toy that thinks! "with computation") thus, kids were our target.We decided..... Listed under: [Game – Entertainment Projects](#)
1708. [The Traveling Geocache using Arduino](#) This project and future projects can be found at my website <http://revoltlab.com/> where you can also find my blog. UPDATE LOG: NOW SUPER SIMPLE TO REPROGRAM! Easy FTDI USB interface hardware explained in step 10 Easy FTDI USB interface programming explained in step 13 NEW..... Listed under: [GPS Based Projects](#), [LCD Projects](#), [Projects](#)
1709. [Arduino Button Activated Treat Dispenser](#) For my Digital Multimedia class final, I created a treat dispenser that is activated by pulling a chain, which starts a servo motor that spins a wheel to dispense treats to my to African Grey parrots. Step 1: Gather Materials [su_box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14"..... Listed under: [Motor Projects](#), [Other Projects](#)
1710. [DIY Arduino Stepper Motor Driver Board](#) This page will show you how to put together a simple stepper motor driver board that can be controlled with an Arduino. I built mine to use with my heliostat projects, but it could be used for other things too. Update: I no longer use..... Listed under: [How To – DIY – Projects](#), [Motor Projects](#)
1711. [Build A Giant LED bar graph Using Arduino](#) For a recent project I needed to build a large and obvious bar graph display. This was to show the power generated from a bicycle generator. I came up with this design and was pretty pleased with the final results as it is relatively low..... Listed under: [LED Projects](#)
1712. [Drive with PID Control Using Arduino Board](#) This example shows how to simulate a simple closed-loop control algorithm in Simulink® and how to run it on an Arduino® board. Supported Hardware: Arduino Leonardo Arduino Mega 2560 Arduino Mega ADK Arduino Pro Arduino Uno Available versions of this example: Arduino Mega 2560 board:..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1713. [BLINKING AN LED USING AN ARDUINO UNO \(EXPLAINED\)](#) So you’re here because you want to start learning some of the Arduino Basics... So let’s start with THE most basics... no this "tutorial" is actually a little more basic than what you have in mind. It only requires that you: Have ANY Arduino Board..... Listed under: [LED Projects](#)
1714. [Easy Arduino Audio Annoyatron](#) This simple device simple plays a small tune at a random interval, between 5 and 30 seconds when the lights in a room go off. It can be cleverly disguised inside a tissue box, or inside or under any number of household objects. This is a vary simple project (my..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1715. [Blinky the one-eyed clock using Arduino](#) In this tutorial you learn how to make a blinking clock with a difference! Updated 18/03/2013 Followers of my website would realise that I tend to make too many clocks in those tutorials. Well, I like making clocks... so here is another one. However this time..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1716. [Arduino SOS signal with 8ohms speaker and LED blinking](#) SOS is the commonly used description for the international Morse code distress signal (..... [read more on wiki] Requirements: 1) Arduino 2*) 8 Ω speaker 3*) 150 Ω or similar resistor 4) 5mm RED LED 5) I [Click here to get AI-based help](#) ✕ [Projects](#), [Radio Projects](#), [Sound – Audio Projects](#)
1717. [Radio link between two Arduino boards](#) I was looking for a way to handle wireless communications between two Arduino boards. Other options like Xbee or Bluetooth were going to cost \$50 to over \$100. Then I found a cheap RF transmitter and receiver at Sparkfun. The total cost is only \$9!..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Radio Projects](#)
1718. [Pololu Motor Controller Testing and Troubleshooting](#) Finally, I finished reading the datasheet. It didn’t give much information about how to connect the motor controller to a micro-controller. I used the simple circuit I found from a post in Pololu’s forum: Using Dual VNH3SP30 Motor Driver with arduino @ <http://forum.pololu.com/viewtopic.php?f=15&t=1923>. Dual VNH2SP30..... Listed under: [Motor Projects](#)

1719. [Webster: A Geometric Pattern Weaving Machine](#) We are three students from California College of the Arts in San Francisco in the Architecture program. This studio is called Creative Architecture Machines and is taught by Jason Johnson and Michael Shiloh. Webster is a geometric pattern weaving machine that takes inspiration from Islamic..... Listed under: [Calculator Projects](#), [PWM Projects](#)
1720. [Colorful Countdown Clock for tight timeline management using Arduino](#) This is a funny looking clock that has that displays time on relatively large 32x16 Bi-Color LED Matrix. It includes also a countdown counter that I find very useful in many situations. Features: Date And time display Temperature display Countdown timer Buzzer notification Randomly changing..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1721. [Arduino Nano based Microbot](#) This instructable was created to be entered in the Robot Challenge. If I win, the parts will of course, go into robots like this one. Notes on how to include some of the very components in the prize packages are given in the last step. I..... Listed under: [Robotics – Automation Projects](#)
1722. [Simple Arduino light meter](#) This Arduino project is a simple light meter using a photo-transistor. An LDR would be more appropriate but the photo-transistor is what I has spare at the time. On the other hand the photo-transistor is sensitive to infrared, so its handy for testing remote controls..... Listed under: [Metering – Instrument Projects](#)
1723. [Arduino Based Automated Lighting Control](#) This is my second instructable. i want to share some of the basic things i made using the arduino i am so busy lately. then i got the chance to have this spare time... inspired by my former student and a fellow co league to..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [LED Projects](#), [Projects](#)
1724. [Mobile Chicken Coop with some automation using Arduino](#) My wife and I have wanted to raise chickens(for the eggs) and we finally decided to do it this spring. I have read a lot about pastured chicken and wanted to create a mobile coop so that the chickens would not destroy the yard. I..... Listed under: [Home Automation Project Ideas](#), [Ideas](#)
1725. [Remote Control Door – Internet Your Thing](#) We can instantly open a door or control anything we can connect. It works from any iPhone, Android, or PC. After connecting something we want to control, download the free app to a PC, open a port, and control it remotely from anywhere. It's open..... Listed under: [Internet – Ethernet – LAN Projects](#)
1726. [Minimal Arduino with ATmega8](#) Like me, you may have a few old Arduino boards or ATmega8 chips (in the boards) laying around from when you were first playing with Arduino. Those chips can still be really useful as the heart of a tiny “Minimal Arduino” setup. A normal Arduino..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1727. [Control Arduino Wirelessly with MATLAB](#) Been seeing few DIYs on how to establish a communication between MATLAB application and Arduino that is hardwired to PC. However, I haven't encountered anything that control Arduino via MATLAB wirelessly using the ENC28J60 compatible Ethernet shield. In this ible', I'm going to show the..... Listed under: [How To – DIY – Projects](#), [Internet – Ethernet – LAN Projects](#)
1728. [Arduino Backlit LCD shield](#) In this tutorial learn how to make your own backlit-LCD Arduino shield. Let’s see how simple it is to make your own Arduino LCD shield. Sure – you can just buy one, but where’s the fun in that? Getting Started Our LCD is a two..... Listed under: [LCD Projects](#), [Projects](#)
1729. [Knight Rider Rides Again using an Arduino](#) This a Knight Rider Style LED Chaser Done with a Arduino Duemilanove with an ATmega328 chip. Step 1: Things you'll need: 6 LEDs (any color) 1 Breadboard 1 100 Ohm Resistor 12 Breadboard Jumpers 1 Arduino Duemilanove "or" Decimila 1 USB cable with A-type connector..... Listed under: [LED Projects](#), [Projects](#)
1730. [Simple Buck LED Driver with PWM Input](#) High-power LEDs over 1W are now quite inexpensive. I'm sure many of you are incorporating LEDs as light sources in your projects. However I realize that the finding and configuring the power supply is still not as simple as it can be; commercially available LED..... Listed under: [LED Projects](#), [PWM Projects](#)
1731. [Breadboard and LEDs \(lesson 3\)](#) Introduction You’ve started modifying sketches, and played a bit with the onboard LED (or if you have an NG, an LED you added). The next step is to start adding onto the hardware component of the Arduino. We will do this by adding a solderless breadboard..... Listed under: [LED Projects](#)
1732. [FaceBooth – One button to facebook photobooth](#) I wanted to make a photobooth for a Christmas party. I wanted it to be simple to operate and only be one click easy so that even a guest who was chemically uncoordinated could even operate it.I wanted a solution that would take a photo..... Listed under: [Internet – Ethernet – LAN Projects](#), [Video – Camera – Imaging Projects](#)
1733. [The Talking Breathalyzer using an Arduino](#) *** Additional info at <http://droidalyzer.com/talkingbreathalyzer/index.html> *** A customizable Breathalyzer that talks and tells you how much you’ve had to drink. It’s also open source and can easily be modified with your own text on the LCD screen and audio MP3 files. When tethered to a PC with..... Listed under: [Medical – Health based Projects](#), [Projects](#)
1734. [Arduino-controlled, Aluminum Archangel Costume Wings](#) I have always loved the Marvel character Archangel. When my brother, (Shameless plug alert) budding comic book artist David Fernandez, showed me pics of a cosplay convention he went to I thought "wouldn't it be awesome if someone made life-size archangel wings?". The idea sank into the..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1735. [Add a real-time clock to the Freetronics TwentyTen using Arduino](#) Let’s add a DS1307 real-time clock to our Freetr
18/03/2013 Now and again I find myself making another kind of clock or timing device using the Arduino system, Maxim DS1307 real-time clock IC. However..... Listed under: [Clock – Timer Projects](#), [Projects](#)

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1736. [Arduino Masterclass Part 1: Make your own hardware](#) The world is going nuts over the Raspberry Pi single-board computer (SBC) for being a whole system under \$50. In reality though the Pi isn’t actually the cheapest computing device available. If you want really cheap how does \$13.50 sound for a mini computer that..... Listed under: [Development Board – Kits Projects](#)
1737. [Turn a pencil drawing into a capacitive sensor for Arduino](#) Did you know? You can make pencil drawings reactive to touch for use with your projects! It's really easy, and gives you a lot of flexibility in making interfaces for whatever microcontroller project you're making. I put this together as part of my UnoJoy

project,..... Listed under: [Sensor – Transducer – Detector Projects](#)

1738. [The Arduino Synthesizer](#) The Arduino is able to output sound through a library that has been developed called the Tone Library. By creating an interface and a program that can call certain values to be output to an audio out, the Arduino Synthesizer is a robust tool for..... Listed under: [Sound – Audio Projects](#)
1739. [Arduino Breathalyzer: Calibrating the MQ-3 Alcohol Sensor](#) The MQ-3 is an alcohol gas sensor that is available for about \$5 from Sparkfun, Seeed Studio, and others. It's easy to use and has sparked the imagination of anyone who has dreamed of building their own breathalyzer device for measuring the amount of alcohol..... Listed under: [Sensor – Transducer – Detector Projects](#)
1740. [SD Card Data Readable Anywhere](#) This project started as many of mine usually do, as a honey-do. We have compiled an extensive list of our book and movie collections on our computer at home, but my wife wanted to be able to scan the list from the video store (yes,..... Listed under: [Memory – Storage Projects](#)
1741. [Arduino Powered Binary Clock](#) This instructable will help you to build an Arduino Binary Clock. The original idea for this instructable was designed by Daniel Andrade. My instructable uses surface mount components, but can easily be adapted to through-hole components if you wish. You can follow my other Instructable..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1742. [PCB Quadrotor \(Brushless\)](#) Quadrotors are the new Segway's: a mesmerizing, somewhat magical, self-stabilizing platform that every tech person wants to have. You can't ride a quadrotor (well, maybe you can), but they do fly, and you can build one yourself from scratch! I helped with a previous quadrotor..... Listed under: [Robotics – Automation Projects](#)
1743. [Build Your Own Arduino Board](#) Need more Arduino board? Do not spend more money for another one. Why not try to build your own DIY Arduino board? It is easy and simple. DIY Arduino Step 1 Get an Atmega328–PU or Atmega328P-PU (with bootloader inside). atmega328p A brief introduction on the..... Listed under: [Development Board – Kits Projects](#)
1744. [Arduino Electronic Instrument](#) This electronic instrument allows you to sequence and loop audio and MIDI data. Most of the time I use it to sequence drum samples so I can play around with different beats and rhythms. The really great thing about this instrument is that it is..... Listed under: [How To – DIY – Projects](#)
1745. [ANDROID+ARDUINOADK+RGB led](#) this is a project which makes an android app, then configure it to use it with android debug bridge or android accessory development kit. for making the android app we use android mode of processing. For hardware, I always choose Arduino. Here I have a..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1746. [Arduino Uno – Programming With A Serial Port](#) I'm working on an Arduino clone. The Arduino is essentially an ATMEGA328P development board with a bootloader pre-loaded. There are a lot of custom macros built into the programming interface that make it really easy to use, and even easy to build some powerful applications. Listed under: [Arduino Programmer Projects](#)
1747. [Arduino from Scratch Digital Thermometer](#) I have loved making projects with Arduinos, but at \$30 a piece your projects can get expensive. So I want to show you how you can make your own Arduino from scratch and save money doing it. Make your own Arduino for around \$8. For..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
1748. [BrainTap: the interactive arthritis and memory exercise game](#) I built this project at uni as a 3rd year project (with a couple of classmates) at the University of Technology, Sydney.It is aimed at Baby Boomers and targets a skill and level based memory and fine motor skills exercise game. The form is..... Listed under: [Game – Entertainment Projects](#)
1749. [LeoStick Getting Started Guide](#) The Freetronics LeoStick is a handy break-out board for the ATmega32U4 microcontroller. The board has a convenient USB stick format, and is based on the pinout and connections of the Arduino Leonardo reference design for compatibility with the Arduino IDE. Before you plug in your LeoStick..... Listed under: [How To – DIY – Projects](#)
1750. [Make A Wall Lamp Using Arduino Nano](#) So, I have always wanted a nice lamp by the side of my bed, Something simple with out any buttons. Of course this would mean it had to be wireless. I also wanted to use it from my bed but not getting out of my bed to..... Listed under: [Home Automation Projects](#), [LED Projects](#)
1751. [Sensor Less 3d Printed Robot](#) Tyree (he wears a tie and he has tires) actually smiles after he bumps into something (see video). Using an Arduino motor shield, he detects obstacles using the "more current into the motor means something is in the way" principle. Tyree started out as a..... Listed under: [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
1752. [Building an 8x8x8 LED Cube – The Driving Circuit](#) In this article we are going to take a detailed look at how to build the driving circuit for the 8x8x8 LED cube. In other words we are going to design and analyze the circuit which translates the signals coming from the Arduino to appropriate..... Listed under: [LED Projects](#)
1753. [ArduSensor Fun Pack Plug-In-Play Sensors For Arduino](#) ArduSensors are open source plug-in-play sensors for Arduino. These were originally made for beginners to get started with Arduino, a very cool electronics prototyping platform, but anyone can use them. I still play around with them all of the time, and I bet a ton..... Listed under: [Sensor – Transducer – Detector Projects](#)
1754. [TiDiGino, the Arduino-based GSM remote control](#) Using an ATmega 2560 and therefore the heart of Arduino, we have a GSM module. This allows us to control 2IN/2OUT, DTMF key, gate control and GSM thermostat activated remotely. We have implemented different functions. But now..... Listed under: [Phone Projects](#), [Radio Projects](#)
1755. [UltraSonic Arduino Video instructions How To – Parking your car with an Arduino](#) How To - Parking your car with an Arduino Code: // Back up Helper, by Kevin Darrah v4 #include <SoftwareSerial.h>// to read the data from the range finder on any digital pin SoftwareSerial sonar(5, 6); // RX, TX //we're only using the RX pin (5),..... Listed under: [Car Projects](#), [Projects](#)
1756. [Clock One – Digital plus Analog Clock An Arduino](#) For some strange reason I have a fascination with various types of electronic clocks (which explains this article). Therefore this project will be the start of an irregular series of clock projects whose goal will be easy to follow and produce interesting results. Our

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"Clock..... Listed under: [Clock – Timer Projects](#), [Projects](#)

1757. [Ardu-Bot-Tom – RF Link Controlled Robot](#) [su_box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" title="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] Ardu-Bot-Tom List of Materials Controller Parts: 1x - Arduino Uno 1x - 9V Battery 1x - 433Mhz TX Module 1x - SparkFun Joystick Robot Parts: 1x - Arduino Uno..... Listed under: [Robotics – Automation Projects](#)
1758. [Multiplexing with Arduino and the 74HC595](#) The 74HC595 is an easy and inexpensive (at about 60 cents apiece) way to increase the number of digital out pins on your Arduino. In this tutorial I'll show you how to drive up to 16 LEDs with one 74HC595 using a technique called multiplexing..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1759. [Arduino punk console](#) This is my first build using an arduino microcontroller. I wanted to create a simple tone output device along the lines of the 555-based Atari punk console, but using solely the mcu as the tone generator. Unfortunately, that was just too simple a task with a microcontroller to..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1760. [Perfduino: Build Your Own Arduino Microcontroller](#) This how-to takes you through all the steps of making your own arduino on a perfboard or perfduino! Arduino microcontrollers are great for learning about physical computing and are very useful for rapid prototyping. Arduino's simple programming language makes it a favorite of hobbyists and..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)
1761. [Arduino LED Flasher Circuit](#) In this project, we will go over how to build an arduino LED flasher circuit. We will use a standard arduino board, doesn't matter which, and connect it so that it flashes an LED a certain amounts of times on and off repeatedly to create..... Listed under: [LED Projects](#)
1762. [Touche for Arduino: Advanced touch sensing](#) Update: New interface - look at the last step. Credits: Arduino sensing done by DZL, Processing sketch and Instructable done by Mads Hoby. Disney Research Lab designed a novel way to detect touch. You can see a video of their demo here: I had the honor to meet..... Listed under: [Sensor – Transducer – Detector Projects](#)
1763. [Clock Three – A pillow clock using Arduino](#) Time for another instalment in my irregular series of irregular clock projects. In contrast with the minimalism of Clock Two, in this article we describe how to build a different type of clock – using the “lilypad” style of Arduino-compatible board and components designed for use in e-textiles..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#), [Projects](#)
1764. [Get Into the Kit Business: How to Build and Sell Your Own Arduino Shields](#) The DIY industry is booming, despite the desperate blackmailing of society by finance capitalists. Companies like Adafruit and Makerbot are grossing well over a million dollars a year, and Evil Mad Science Laboratories just recently dedicated themselves to running a full-time kit business. Making kits..... Listed under: [Development Board – Kits Projects](#)
1765. [Arduino Internet Controlled Desk Lamp](#) Step 1: What You'll need A linux web-server with PHP, an arduino, a relay and some other components. Step 2: Upload your code to the arduino Upload the following code to your arduino: void setup(){ Serial.begin(9600); } void loop() { if (Serial.available() > 0) { char inByte = Listed under: [Home Automation Project Ideas](#)
1766. [Arduino IR Transmitter & Receiver w/ LEDs Flickering Issue](#) I have an Arduino Uno connected to two IR transmitters and respective receivers. Basically, when one of the receivers detects a beam break, I have a strand of LEDs display a pattern. This all works in principle, but the problem is that when the IR..... Listed under: [LED Projects](#), [Radio Projects](#)
1767. [Intro to Model Airplane Autopilot](#) I am twenty years old. I picked up my arduino for the first time this Christmas, and I've been keeping busy on my arduino applications so that I can bring you this instructable. I hope that it helps!!! The purpose of this project was to..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#)
1768. [Making the Good Night Lamp using Arduino](#) Last March, Alexandra Deschamps-Sonsino registered a new limited company in London, and booked a booth at CES, the consumer electronics trade show, taking place 10 months later. She had no team, and only a dated prototype product that she had designed back in 2005. "I..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
1769. [Salvaging an LCD from a fax machine using an Arduino](#) I acquired an old fax machine that looked like a ripe source of parts, like steppers, IR sensors, micro switches and things. As it turned out, it was. It also had a nice looking 2 x 16 character LCD. However, after taking everything apart, I..... Listed under: [CNC Machines Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#), [Projects](#)
1770. [Arduino hardware hacking: Part 3](#) In our previous two tutorials (see here and here), we created a Simon-type game using the Arduino, a hardware platform for simple, and not so simple, electronics projects. We placed three buttons and three LEDs on to something called a breadboard, and wrote a small..... Listed under: [How To – DIY – Projects](#)
1771. [Arduino Solar Tracking Robot](#) This is a simple solar tracker which automatically orients itself towards the sun or any bright source of light like the sun .If you place solar panels on this robot it can increase their productivity by 90 to 95 %. At first creating a solar..... Listed under: [Robotics – Automation Projects](#), [Solar energy projects](#)
1772. [Arduino Esplora Accelerometer](#) This sketch shows you how to read the values from the accelerometer. To see it in action, open the Arduino serial monitor on your computer and tilt the board. You'll see the accelerometer values for each axis change as you tilt the board. Click here to get AI-based help ✕ [Instrument Projects](#), [Projects](#)
1773. [Arduino hardware hacking: Part 2](#) In part 1 of our Arduino tutorial series we covered the basics of how the Arduino works, and we're going to use that knowledge in a hands-on project and see how this open-source hardware programming environment works when we're actually trying to get something done..... Listed under: [How To – DIY – Projects](#)
1774. [The Revenge of the Yellow Drum Machine \(Arduino\)](#) I was inspired by Frits Lyneborg's Yellow Drum Machine. Watching the videos, it has such personality! I have also been thinking recently about sound and robotics. I did some research looking for a version of the robot that used the Arduino as a brain, but..... Listed under: [Sound – Audio Projects](#)

1775. [Theremin with Zapper,laser,Arduino](#) I created this Theremin like device after seeing this article in Make magazine: <http://m-cdn.dashdigital.com/make/vol15/?pg=69#pg67> While this looked pretty straight forward it turned out to be a bit much for me at the time. But after much effort, I got it to work pretty good. I..... Listed under: [Other Projects](#), [Projects](#)
1776. [Arduino hardware hacking: Part 1](#) Arduino is cool. It's cool because it's a tiny device - about three inches by two inches - that comes with a USB port and a programmable chip. It's cool because you can program it using a very simple programming language known as Wiring. But..... Listed under: [How To – DIY – Projects](#)
1777. [Fluid In.Flux 3D Wax Printing In Water](#) Fluid In.Flux is a 3D printing experimental machine which prints wax in water. The Machine was a semester-wide exploration as part of the Advanced Architecture Studio called "Creative Architecture Machines" by Professor Jason Kelly Johnsonand Michael Shiloh at the California College of the Arts, in San Francisco..... Listed under: [CNC Machines Projects](#)
1778. [How To Make An RC Rocket Launch System](#) This instructable will show you how to make an RC launch system for your Estes rocket, which can be operated with a TV remote. What it does is it allows you to press the center button on your TV remote, and it'll automatically launch your..... Listed under: [How To – DIY – Projects](#)
1779. [Controlling your trains with an Arduino](#) A quick introduction to the Arduino Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments. Arduino can sense the environment by receiving input from a..... Listed under: [How To – DIY – Projects](#)
1780. [Throwduino Basic – Light-Sensing Flashing Throwie](#) Throwies are great. They have a minimal parts count - 2 or 3 depending on whether you use a magnet - and produce a great effect. They are very cheap and easy but not highly efficient: 1) They are on all the time, so on..... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)
1781. [Arduino Online Thermometer Project](#) I have been researching a project which will help me with my understanding of electronics, networking, and programming. I decided to build an online thermometer which could be used in applications that need temperature monitoring. I currently work in a lab environment where I test, troubleshoot,..... Listed under: [Medical – Health based Projects](#), [Temperature Measurement Projects](#)
1782. [Pachube Client using Arduino](#) This example shows you how to answer a HTTP request using an Ethernet shield. Specifically, it connects to pachube.com, a free datalogging site. The example requires that you set up a pachube.com account, as well as a pachube feed (for more information on setting up..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
1783. [Graphing values in Arduino, the EASY Way!](#) Sometimes when you're testing a sensor or debugging a value in an Arduino project, you want to see something other than numbers flying by in the Serial Monitor. However, you want to get the sensor working quickly, and you don't want to take the time..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1784. [RGB Color Sensor on Arduino](#) The next board I want to show you is the ADJD-S371 Color Light Sensor Evaluation Board from sparkfun. It emits light and analyses the reflected color spectrum. The board can be controlled via I2C. The sleep and xclk pins were not used in this example..... Listed under: [Sensor – Transducer – Detector Projects](#)
1785. [Paperduino 2.0 with Circuit Scribe – Paper Arduino](#) What if making an Arduino, or wiring up an Arduino was as easy as printing one out? In this tutorial we printed our own Arduino Pro Mini board using a pen plotter and the Electroninks Circuit Scribe (a rollerball pen with highly conductive ink). Within..... Listed under: [LED Projects](#)
1786. [Daft Punk LED Matrix Breakout Board](#) I was always impressed by the Daft Punk Coffee Table. Being able to light up a bunch of LEDs and flash them in patterns has so many applications. It was one of the reasons why I bought an Arduino seeing how it could control a..... Listed under: [LED Projects](#)
1787. [LEARN! ARDUINO – A HANDS-ON APPROACH](#) INTRODUCTION This manual will show you how to use each of the components in the kit, and give you software Sketch examples for each one. Then you can combine some components to make examples of Automatic Systems such as a lighting controller. You're probably..... Listed under: [How To – DIY – Projects](#)
1788. [Alarm Clock Overkill Using Arduino](#) I don't get up at the same time every day, so I thought it'd be nice to have an alarm clock that would drag me out of bed at different times on different days. That was the initial idea: things got out of hand, of..... Listed under: [Clock – Timer Projects](#)
1789. [The Clamshell Stompbox](#) This is a DIY variable resistor I created as an interface for live performance-- like a stomp box. I designed it as a project my audio students could build with materials we already have in the classroom. The result is a variable resistor that can..... Listed under: [LED Projects](#)
1790. [Arduino and CueCat barcode scanner](#) I've had a cuecat barcode scanner sitting around for over 10 years. Basically it connects to a PS2 port (apparently there is a USB version) like a keyboard and spits out a barcode when scanned. Nice!. The annoying thing is that it is "encrypted". What..... Listed under: [Sensor – Transducer – Detector Projects](#)
1791. [Domotic Arduino](#) In this introduction I will show you a overview of this project whit Arduino Uno. The purpose of this instructable is make a electric yellow shutter by Arduino Uno. The prototype that I made is my first electronic project with Arduino and I hope this..... Li


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 Listed under: [Projects](#), [Projects](#)
1792. [Cylon Pumpkin Using Arduino](#) This has been done before. There are several good ways to do it: most use either a 555 timer chip and decimal counter chip, or an Arduino. Stefan and I used an Arduino (Boarduino, technically) which limited our scanner to 14 LEDs. No problem ---..... Listed under: [Game – Entertainment Projects](#)
1793. [Build Your Own Programmable LED Matrix](#) QR codes are addicting. Smartphones are smart enough to read them from virtually any angle or orientation. But imagine taking it a step further. I had dreams of a digital LED array that I could program with QR codes, and I wanted it really big!..... Listed under: [LED Projects](#)

1794. [Botanicalls Clone using an Arduino](#) During the past spring a good friend of mine bought me my first house plant, a Lady Palm, and I've found myself rather invested in keeping it alive. To that end I wanted to monitor the plant's environment so I could ensure that its needs..... Listed under: [How To – DIY – Projects, Projects](#)
1795. [Arduino-Controlled Physics Lab Fan-Cart](#) A "fan cart" is a roughly constant-force device used in introductory physics labs. It consists of a fan (usually a model airplane propeller on a brushed DC motor) mounted on top of a low-friction cart. Students use it to pretend they're learning something about force,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1796. [Arduino DDNS \(Dynamic DNS\) by Open-Electronics.org](#) This device captures the IP address of your network and it publish on site DynDNS.com. All without PC. It allow a remote access to your LAN even if the IP address of the connections changes. For logistics reasons the provider can not assign a IP..... Listed under: [Internet – Ethernet – LAN Projects, Projects](#)
1797. [Visualize data from sensors using Arduino + coolterm](#) Once you're getting some values from sensors, for example using Arduino, (see my previous instructable), sometimes it's nice to see the sensor data in a graph. Here's how in only a few steps! I made this particular Instructables using a sonar sensor (XL Max Sonar..... Listed under: [Sensor – Transducer – Detector Projects](#)
1798. [USB Game Pad With Tilt-accelerometer Mouse using an Arduino](#) Make a game pad with an accelerometer inside! This project tutorial will show you how you can convert a console game pad into a USB keyboard mouse for playing games on your PC. The USB game pad can be used with nearly any software, such..... Listed under: [Game – Entertainment Projects, Interfacing\(USB – RS232 – I2c -ISP\) Projects, Metering – Instrument Projects, Projects](#)
1799. [Improved Fan Cart Using Arduino](#) In an earlier post I described an Arduino-controlled fan cart. The driver I used was an L293D quad half-H chip, because I had one handy and was out of simpler parts at the time. It's always bugged me that I was just controlling speed on..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1800. [Singing plant. Make your plant sing with Arduino, touche and a gameduino](#) This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Making a plant sing has been a trick since the Theremin was invented. Here I am going to teach you how to do..... Listed under: [Game – Entertainment Projects, Home Automation Projects, Projects, Sound – Audio Projects](#)
1801. [BaW-Bot Part 2: Build the motor-controller & body](#) This is the second part of our BaW-Bot (Bells-and-Whistles Bot) build – 5 separate instructables that look into different Arduino-related technologies, combining to create a Bot with all the bells-and-whistles. Part 1: Build an Arduino on a Board Part 2: Build the motor-controller & body..... Listed under: [Motor Projects, Robotics – Automation Projects](#)
1802. [Remote key-switch operation Using Arduino](#) One of my colleagues, Dr. Shane Mayor, has built a very nice LIDAR system for atmospheric research. It's located at a remote site, at the end of a dirt road, and everything about the system can be controlled remotely except the main pump laser power..... Listed under: [Radio Projects](#)
1803. [Connecting a 12V relay to Arduino](#) To connect a 12V relay to the Arduino you need the following things: - 1 Arduino - 1 diode for example 1N4007 - 1 NPN transistor for example 2N2222 (in the US) or BC548 (in Europe) - 1 relay for example one with coil voltage..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
1804. [Arduino Flash Controller for Photography](#) Being a broke amateur photographer isn't easy. Film, chemicals and paper aren't cheap and a budget for some studio lights is non existant. So, I decided to, with the help of my trusty arduino, create my own sync controller to use with disposable camera flash circuits. By using a..... Listed under: [Video – Camera – Imaging Projects](#)
1805. [Super Secret Lock Box w/ Capacitive Touch](#) Hey everyone, I wanted to share a project I just finished up. I built a super secret locking box for my girlfriends little brother. He has a knack for creative lego building so I thought it would be a good idea to open him up..... Listed under: [Security – Safety Projects, Sensor – Transducer – Detector Projects](#)
1806. [Driving multiple Sparkfun 7-segment displays with an Arduino](#) I'm currently helping a couple of engineering students finish a senior project that didn't get finished last year. Long story... Anyway, it's a bicycle brake tester being built for Paul Components. The mechanical design is great, but they had trouble with the electronics. Part of..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1807. [Aquameterduino: Water meter plus Arduino](#) After a bad water damage (our cellar basically filled up whilst we were away for several days), I decided to monitor our water usage for anomalies. Enters Arduino... The idea of this project is to use an arduino to count every drop of water that..... Listed under: [Metering – Instrument Projects](#)
1808. [Wrap Beats – Capsense Arduino Instrument](#) Wrap Beats is an instrument that lets you string together notes in order to create different melodies and visual patterns. I constructed it using the Capacitive sensing library for Arduino and combining that with the music abilities of processing to create a dynamic instrument that..... Listed under: [Sound – Audio Projects](#)
1809. [Arduino datalogging accelerometer with μ-SD storage](#) Thanks to Will Greiman's Fat16 library for the Arduino, I finally got a useful version of this datalogger working! Here's the schematic: And here's the code. The code is highly configurable: it can save raw A/D values or converted values, it allows software defined gain, it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas, Memory – Storage Project Ideas, Meterir](#) Click here to get AI-based help ✕
1810. [ISP Clip for ATtiny44/84 \(or others!\)](#) I got my start in microcontrollers with the Arduino, as many of us outside of electrical engineering did. (And still do!) The ease of programming that little board makes it a great gateway... and like any gateway, sometimes you go through. Most of my projects..... Listed under: [Development Board – Kits Projects, Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1811. [RFI-DJ: MP3 Playing RFID Thing](#) The RFI-DJ is a USB device for playing MP3 files from your computer. You have a set of RFID cards, each one with a song name written on it. You choose a card and place it on the RFI-DJ, and your computer will play that..... Listed under: [RFID - NFC projects, Sound – Audio Projects](#)
1812. [Radioactive isotope decay simulation](#) My students need to learn LabVIEW —I know, it's proprietary software, and expensive, but until a viable open-source equivalent comes along we're stuck with it— and one of the exercises I have them do is to make a program to analyze radioactive decay. This gives..... Listed

under: [Radio Projects](#)

1813. [Make A Mood Lamp with Arduino](#) Hi! In this tutorial you will learn to make a mood lamp with Arduino. I know that you may have seen a lot of mood lamp projects with Arduino, but I wasn't very satisfied with them because they all change the color very abruptly. So,..... Listed under: [Home Automation Projects](#)
1814. [Using a quadrature encoder \(rotary switch\) with Arduino](#) I've found several sites and posts explaining how to use a quadrature encoder with an Arduino, but wasn't completely satisfied with any of the methods used. Perhaps part of the problem is with the encoder I'm using: it's part #COM-09117 at Sparkfun.com. This encoder has..... Listed under: [Arduino Programmer Projects](#)
1815. [Use xbees \(series 2\) to control a motor](#) Using two xbees, an arduino, an xbee explorer, and an h-bridge, wirelessly control a DC motor to spin in both directions (last video). Note: I used the xbee I linked to, but for a one to one communication, rather than a network of wireless devices,..... Listed under: [Motor Projects](#)
1816. [Simple Datalogger](#) Here's a simple Arduino-based datalogger I'm currently developing: This test-of-concept model is based on the Arduino Pro Mini (ATMega168). It runs on a 1.5-V battery, using a voltage up-converter from Sparkfun.com. For a sensor, it's using a 3-axis accelerometer on a breakout board, also from..... Listed under: [Development Board – Kits Projects](#)
1817. [BaW-Bot Part 3: Adding Sight and Touch to the Bot](#) This is the third part of our BaW-Bot (Bells-and-Whistles Bot) build – 5 separate instructables that look into different Arduino-related technologies, combining to create a Bot with all the bells-and-whistles. Part 1: Build an Arduino on a Board Part 2: Build the motor-controller & body..... Listed under: [Robotics – Automation Projects](#)
1818. [Building an Breathalyzer with MQ-3 and Arduino](#) During the First Meeting of Electronic Arts in Florianópolis, we built a Breathalyzer using the Alcohol Gas Sensor MQ-3 and a Arduino Board to use in the last day of the meeting, in which we gave a party. You can see a quick video two..... Listed under: [Medical – Health based Projects](#), [Projects](#), [Sound – Audio Projects](#)
1819. [Simple Arduino data-collection](#) At this year's "Arduinos in the Physics Lab" workshop at the AAPT meeting, one of the participants asked for a simple way of using the Arduino as a tethered A/D converter for data collection direct to a computer. This is my quick & dirty demonstration..... Listed under: [Metering – Instrument Projects](#)
1820. [Energino: an Arduino-based energy consumption monitoring shield](#) Energino is a plug-load meter that measures the amount of power consumed by whatever DC electrical appliance is plugged into its. It was originally designed to monitor the energy consumption of simple networking devices such as Ethernet switches and WiFi access points, but it can..... Listed under: [Metering – Instrument Projects](#)
1821. [More Humane Moisture sensor](#) Recently I got a project from Titan industries, who were in search of something as an interactive plant pot which could bridge this gap of emotional communication, in mins this reminded me of brilliant projects done by people where the plant could could tweet and..... Listed under: [Sensor – Transducer – Detector Projects](#)
1822. [Arduino-based event counter](#) I teach Modern Physics here at CSUC, and we occasionally use isotopes with half-lives of a year or less (such as Zinc-65 and Cadmium-109) for energy-calibration sources for a gamma-spectroscopy lab. I thought it might be fun to try measuring the activity of one of..... Listed under: [Calculator Projects](#)
1823. [Lithium Battery Solar USB – iPhone – Arduino Charger](#) One of the most fun and useful projects on instructables is to create your very own solar USB/ iPhone charger. They're not overly difficult to make, nor are the parts overly expensive or hard to find. For the most part they do a rather good..... Listed under: [Battery Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Phone Projects](#)
1824. [ATtiny85/45/25 LED dice \(Super Simple and CHEAP!\)](#) If you have looked at my 5 LED ATtiny85 POV display, we programmed the ATtiny with the Arduino. (If you haven't seen it, click here) We will be doing the same thing for this LED Dice project. The total parts cost for this project is..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LED Projects](#)
1825. [Morse-Code Trainer Using Arduino](#) My kids are learning Morse code this summer, so I threw together this little circuit to help them learn. And to make it more fun... It uses an ATtiny85 (\$2.26 at digikey.com) to drive a piezo beeper (≈ \$3.50 at Radio Shack.) The ATtiny85 takes..... Listed under: [Arduino Programmer Projects](#)
1826. [How To Make an Obstacle Avoiding Arduino Robot](#) Hello all! In this Instructable I'll be showing you how to make a robot similar to the "Mobile Arduino Experimental Platform" (MAEP) that I made. It is equipped with two motors that can steer the robot and the ability to see obstacles in front of..... Listed under: [Robotics – Automation Projects](#)
1827. [“Ayrduino” Single-Sided Arduino Clone](#) I'm teaching "Electronics for Scientists" this semester, and I wanted to allow each student to have their own Arduino to play with for microcontroller lab exercises and possibly use for their final projects. The Arduino is not very expensive at roughly \$30 per, but they..... Listed under: [Development Board – Kits Projects](#)
1828. [Build A Fijibot A Self-Charging Photovore Using Arduino](#) Fijibot is an autonomous, self-charging photovore. I built him using a 1.5 liter Fiji Water bottle, an Arduino Uno, 6v solar panel (plus various other parts) from Radio Shack, an Arduino Proto Shield (plus various other parts) from Adafruit, and the wheels and steering arrangement..... Listed under: [Robotics – Automation Projects](#)
1829. [Network-status indicator Using Arduino](#) I run a NFS/NIS network under a combination of OS's for the upper-division physics lab here at CSUC, and one source of irritation is when one machine goes down and nobody lets me know until suddenly that machine is absolutely necessary NOW! So I figured..... Listed under: [Internet – Ethernet – LAN Projects](#)
1830. [Make A 4x4x4 LED Cube Using Arduino](#) After seeing all the different instructables for Led cubes I was still left with a lot of unanswered questions. So after reading everything I could find this is what I got. I decided to make the instructable after building it...so ill try to recreate the..... Listed under: [LED Projects](#)
1831. [Quantitative Two-Dimensional Temperature Measurements](#) Lab Experiments involving the Heat Equation are usually one-dimensional exercises involving a copper pipe and a half-dozen thermocouples. But with DS18B20 "One-Wire" thermometer chips and an Arduino, it's possible to measure hundreds of

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temperature values simultaneously. Here's what my students Daniel Lund and Lawrence Lechuga..... Listed under: [Temperature Measurement Projects](#)

1832. [Build A Full Binary Clock Using Arduino](#) I was wandering the internet looking for a good Arduino tutorial on how to build a binary clock with seconds, but I could not find one. So now I am writing this for you to have a binary clock with seconds, minutes, and hours. What..... Listed under: [Clock – Timer Projects](#)
1833. [Universal clock suitable for visually impaired using Arduino](#) I was googling around looking for some sort of device I could make using arduino and stumbled upon eshop with devices for visually impaired. What really shocked me was the price. I mean-I do realize that such sorts of devices are not really mainstream, but..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1834. [Arduino Robot Arm – LarryArm v0.1](#) I have constructed a basic Arduino robot arm using 3 servos that cost me £15 in total plus a couple of hours in time to build and it's very simple that I think anyone can replicate and build this. I already had the Arduino Duemilanove..... Listed under: [Robotics – Automation Projects](#)
1835. [Cwik Clock v1.0 – An Arduino Binary Clock](#) Overview This is a guide to building an Arduino-powered clock that uses LEDs to display a 24-hour clock (hours and minutes) as binary digits, an analog meter to display the seconds, a switch to toggle between time-display and time-setting mode, and 2 knobs for setting..... Listed under: [Clock – Timer Projects](#)
1836. [Arduino: Controlling the Robot Arm](#) So the arm is wired into Arduino as per the previous post, Arduino: Modifying a Robot Arm and hopefully this has worked. In this next part I alter the Arduino sketch slightly and write the first Processing sketch to test control of the arm –..... Listed under: [Robotics – Automation Projects](#)
1837. [Clusterbot A Small Arduino Powered Robot](#) What is Clusterbot? He is a small, affordable, autonomous Arduino-powered robot. He can move, see, avoid obstacles, and makes a melodic chirping sound sometimes. Clusterbot was my first Arduino project, and I think he makes a great project for a beginner. While building Clusterbot you..... Listed under: [Robotics – Automation Projects](#)
1838. [4 Servo drive CellBot which can be remotely controlled using Arduino](#) I started with an idea of what I wanted to do from the beginning but one attempt after another I finally got to where I am now. This robot can be remotely controlled from anywhere in the world and driven around the house. I can..... Listed under: [Motor Projects](#), [Projects](#), [Robotics – Automation Projects](#)
1839. [Using Processing to Send Values using the Serial Port to Arduino](#) In this write-up, I'll show how to create a value in Processing and then send this value over the serial port to the Arduino. In the example I'm setting values of LEDs making them brighter or dimmed but this example can be extended to control..... Listed under: [Arduino Programmer Projects](#)
1840. [Over the Counter Kitchen Radio using Arduino](#) This project used the Si470x FM radio receiver and an arduino to make an over the counter kitchen radio. These parts had been purchased for a different build that unfortunately met a premature end. The concept for this project is simple. Play my favorite news..... Listed under: [Home Automation Projects](#), [Projects](#), [Radio Projects](#)
1841. [Box Scurity Package using Arduino](#) If you touch the package, it will scream and run away--changing its course when it strikes an obstacle. When you lift the gift tag, light strikes a photocell and operation commences. Motors and a sound module are controlled by an Arduino (and Arduino Motor Shield)..... Listed under: [Projects](#), [Security – Safety Projects](#)
1842. [Arduino + Processing – 3D Sensor Data Visualisation](#) So following on from my previous posts about visualising sensor data in Processing, I'm now looking at drawing 3D representations of the data recorded from the Sharp IR sensor – although can be any kind of range finder. I started by rigging 2 servos, one..... Listed under: [Sensor – Transducer – Detector Projects](#)
1843. [LED Cylinder using Arduino](#) This is a little art project I made with 95 RGB LEDs arranged in a 3D cylinder shape, sitting atop a microcontroller-based driver circuit. The LEDs are individually addressable, and when you power it on, the software cycles through a series of animations, e.g. various..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
1844. [Electrically Insulated Altoids Tin](#) Ah yes, it's time for another Instructable involving an Altoids tin... But this time it's not about what's inside the Altoids tin, it's about the Altoids tin itself. In all its greatness, the Altoids tin we all know and love has one rather major flaw..... Listed under: [Development Board – Kits Projects](#)
1845. [How To Interface a CDV 700 Geiger Counter to a PC Using an Arduino Video instrucitons](#) How To Interface a CDV 700 Geiger Counter to a PC Using an Arduino (Part 1) The second part of our video series of our project to interface to a CDV-700 radiation meter using an Arduino Uno! How To Interface a CDV 700 Geiger Counter..... Listed under: [Calculator Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1846. [Arduino + Processing – Make a Radar Screen – Part 3: Visualising the Data from Sharp Infrared Range Finder](#) So I had some luck with getting the Sharp Infrared range finder working and I've now plugged this on to my servo rig to see if I get better results on my radar styled display. Check out how to use the Sharp IR range finder..... Listed under: [LCD Projects](#), [Metering – Instrument Projects](#)
1847. [Using the Sparkfun Motor Driver 1A Dual TB6612FNG using Arduino](#) As a beginner myself, I struggled to find a one-stop set of instructions to get up and running with Sparkfun's Motor Driver 1A Dual TB6612FNG. This motor driver breakout board is exceptional value, is beautifully small, but does need a little more effort to get..... Listed under: [Motor Projects](#), [Projects](#)
1848. [Motion Controlled Robotic Arm](#) This instructable is not complete, I will post code soon The Arm: This instructable using servos, Arduino microprocessor, a gyroscope and multiple bend sensors. The user wears a glove containing the gyroscope and bend sensors which translate..... Listed under: [Robotics – Automation Projects](#)
1849. [Arduino traffic lights](#) I made this project on the same night that my Arduino Duemilanove arrived from Cool Components. After being an Instructables member for about a year I though it was time I should contribute. There is another Arduino traffic light project similar to this, but it..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
1850. [Arduino – Using a Sharp IR Sensor for Distance Calculation](#) Well, looks like my sonar sensor (SRF05) is a just a tad inaccurate for precise measurement as I found from my radar screen I made (Arduino Radar Sscreen). So I've got hold of a Sharp GP2Y0A02 series infrared distance sensor. It'll detect and measure anything.....

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Listed under: [Sensor – Transducer – Detector Project Ideas](#)

1851. [RGB flashing iPod dock from an old speaker](#) Using an Apple Pro speaker, I made a flashing RGB LED iPod dock for about \$35. I recommend reading the entire 'ible before starting. Also, note that the volume is control from the iPod. It consumes minimal power in shutdown mode, and is controlled by..... Listed under: [Sound – Audio Projects](#)
1852. [Arduino + Processing: Make a Radar Screen to Visualise Sensor Data from SRF-05 – Part 2: Visualising the Data](#) This is where all the work is done to read an interpret the values from the servo and the sensor. If the readings are to erratic then you won't have nice shapes. Also if you don't allow enough time to the signals to be sent..... Listed under: [LCD Projects](#), [Sensor – Transducer – Detector Projects](#)
1853. [An 8-Bit Waterfall using Arduino](#) So far my Arduino projects have all needed only a small number of output pins. In a previous post I talked about moving some of the logic off the Arduino and into other integrated circuits in order to free up pins on the Arduino. While..... Listed under: [Other Projects](#), [Projects](#)
1854. [Vibration Motor Foam Speaker Using Arduino](#) Concept: Very simple, using an Arduino and the play melody basic program, create a music playing speaker out of a vibration motor and a piece of flexible foam. Instead of pulsing signal to a speaker, signal is pulsed to a motor varying how fast it..... Listed under: [Sound – Audio Projects](#)
1855. [Arduino + Processing – Make a Radar Screen to Visualise Sensor Data from SRF-05 – Part 1](#) First things first, we need to build our circuit. This is the easy bit! We'll be using the Arduino to control a servo that will rotate our sensor around 180 degrees. The Arduino will then send the value from the distance sensor along with the..... Listed under: [LCD Projects](#), [Sensor – Transducer – Detector Projects](#)
1856. [Police Lights using an Arduino](#) **DISCLAIMER** I do not and will not take responsibility for anyone who gets in trouble for this, by either imitating emergency personnel, or using without a permit/lisence. Updates! -I have shortened the code -Changed 16 LED's to 8 -Changed/added more flash patterns -Renamed variables As..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
1857. [Honey, I Shrunk The Arduino](#) As you might be able to tell from recent posts, I've been doing quite a bit of work with an Arduino. I've now got at least one project that I'd like to make a little more permanent, rather than it just being a bunch of..... Listed under: [Other Projects](#), [Projects](#)
1858. [Build A Color Changing LED Tree Using Arduino](#) Ever wanted an LED tree? Well now you can have your LED tree and eat it too (no, wait, you probably shouldn't).. Step 1: Gather the parts You will need: 1x ATtiny85 10x male header pins Solid core wire, 2 colors A bunch of LEDs..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LED Projects](#)
1859. [Arduino – Basic Theremin meets Processing!](#) My last theremin involved a small speaker. Now I've replaced the speaker with my PC, using processing to pick up the values from the SRF05 ultrasound sonar distance sensor and play different notes accordingly – which gives multiple possibilities and far better sounds. So to..... Listed under: [Sound – Audio Project Ideas](#)
1860. [Brute force attack a BIOS with Arduino](#) The goal of this experiment is to convert the Arduino board into an USB keyboard plus a VGA sniffer to crack the password of a standard BIOS using the brute force attack method. There are no advantages in using this method, in fact this can..... Listed under: [Memory – Storage Projects](#), [Projects](#)
1861. [Arduino – A Basic Theremin](#) Theremins are cool. Fact. You may also have heard of them as either aetherphone/ etherophone or termenvox/ thereminvox. Essentially its an electronic music instrument that plays a certain note depending on the position of your hand and its distance from an antenna. Building a very..... Listed under: [Sound – Audio Projects](#)
1862. [Tweetosapien: Hack a Robosapien With Arduino to React to Tweets](#) A really fun project sent into us by Thomas Meghe. He's translated it all from his native French, which is a technical achievement itself. If you'd like to see the original, you can find it here. Bored of your favorite Twitter client ? No problem,..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1863. [Walleye using Arduino](#) Walleye is an interactive light installation which engages users in temporal gestural and bodily play. It generates temporal light propagation patterns, or a large scale very low resolution pixilated image (depending on how you look at it) based on the realtime movement of visitors in..... Listed under: [Other Projects](#), [Projects](#)
1864. [How to build your own sugru robot – Fixbot](#) So you saw our video and you've fallen in love with Fixbot, have you? That's okay, it's understandable. We've fallen in love with it too. We have some great news! You can build your own Fixbot too, provided that you're okay with getting your hands..... Listed under: [Robotics – Automation Projects](#)
1865. [Arduino – Basic Persistance of Vision](#) I think this'll be the start of a few more projects for me. I've seen some cool LED PoV stuff (Persistance of Vision) with mounting displays on bikes, so hopefully I'll get round to doing something like that. Anyway as a start I've got 5..... Listed under: [LED Projects](#)
1866. [How to make a servo leg using Arduino](#) This instructable will show you how to create a simple servo leg that can be controlled by buttons on an arduino or via serial. Here is a video of the leg in action http://www.youtube.com/watch?v=Q8i1nrPIJvo Leg Materials: Popsicle sticks-make sure that all of them are flat..... Listed under: [Motor Projects](#), [Projects](#)
1867. [A Study in Non-Standard Distributed Computer Architecture using Arduino](#) In the following tutorial, directions are DoHas (Distributed Optical Harvard Architecture System). After constructing two of these nodes, a small distributed computer can be implemented which uses one node for sending instructions, mimicking input and the instruction..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [RTOS – OS Projects](#)
1868. [Arduino – Getting my LCD Screen to work](#) I've gotten hold of what I assumed was a compatible 16x2 LCD screen with my Arduino board – it's a Powertip PC1602F and uses a compatible display driver for the Hitachi HD44780 display chip. This is essentially what the Arduino LCD libraries are built around,..... Listed under: [LCD Projects](#)
1869. [Hacked roomba and arduino snowballs into a Eurobot 2013 entry](#) It all started as a weekend project with my kids and soon enough I got sucked into a 4 month project with their school ! The idea was to get a small group of kids aged 6 to 9 to participate to a robotics contest..... Listed under: [Projects](#), [Robotics –](#)

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Automation Projects

1870. [DIY Driving Simulator using an Arduino](#) If you haven't noticed, as soon as you clicked into this instructable, you are now following me if you weren't already, you Favorited the instructable, and you voted for this instructable in all contests it is entered in. Then the buttons all dissappeared. It's okay..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [How To – DIY – Projects](#), [Projects](#)
1871. [BIKEDUINO – Stopping Point Predictor for bike riders](#) The project consists in a Arduino that gets the speed of the bike from a dynamo and it controls a laser which points always to the point where the bike is gonna stop if it continues going at the same speed. Used Hardware: Arduino mini..... Listed under: [Car Projects](#)
1872. [Version 2.0 Arduino Controlled Car Tracking System based on SMS](#) This system is upgraded version of previous project... You will be able to track your car after you build this system, you will call the device then it will send you an sms which includes LAT, LON and Google Map link for just one touch..... Listed under: [Car Projects](#), [Phone Projects](#), [Projects](#)
1873. [Building a Doodle Bot kit from DAGU](#) Doodle Bot is a very simple beginners robot that can write messages using white board markers, jumbo chalk or crayons. The kit comes with all parts including an Arduino compatible controller and a screwdriver. You will need to supply 4x AAA batteries and a suitable..... Listed under: [Robotics – Automation Projects](#)
1874. [larryBot – Arduino robot versions 0.1 to 0.5 lessons learned](#) So I've decided to build a robot using Arduino to control the sensors. Here's my progress so far – I am hoping that my mistakes here and over the coming posts will guide people in more detail about what to avoid. Also I won't provide..... Listed under: [Robotics – Automation Project Ideas](#)
1875. [Construct An Algorithmic Noise Machine Using Arduino](#) This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. You can use bit-shifting as an alternative way of creating "music". This principle enables you to squeeze as much processing power as..... Listed under: [Sound – Audio Projects](#)
1876. [Arduino & Processing – Getting values from SRF05 ultrasound sensor & serial port](#) I've started to delve into Processing and passing values between Processing and Arduino. If you're wondering what Processing is, basically its an open source programming language for vizualising data that can interface with Arduino either by reading values/ pins or by setting them. Just remember..... Listed under: [Sensor – Transducer – Detector Projects](#)
1877. [SMS controlled Wireless Irrigation System using an Arduino](#) UPDATE 02/13/11 : Voting has started for the Sparkfun Microcontroller Contest. Please VOTE for me! UPDATE 02/26/11 : I won a second prize!! Huzzah! Thanks for all the votes guys! UPDATE 03/17/11: I would love to win a Laser cutter in the Epilog challenge as..... Listed under: [Phone Projects](#), [Projects](#)
1878. [Tissue Box Guitar – Light Strings using Arduino](#) the idea of anything can be an instrumental music has been always in my mind so i made a wooden tissue box that i installed inside it a guitar of light strings Step 1: Building Box i made this wooden tissue box Step 2: Wiring..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)
1879. [123D Scanner – Home made 3D Scanner](#) Hey - have a look at my new project HERE In this project I built a 3D Scanner, that enables generating 3D models of physical objects. The files can later be viewed in 3D software (GLC Player, Sketchup, Rhino, or sites such as http://3dfile.io) and..... Listed under: [How To – DIY – Projects](#)
1880. [Arduino – making a basic drum machine](#) Had a quick look round at turning a piezoelectric speaker in to a sensor that will detect a tap or knock. I also then had a search around for setting the output of a speaker to a different note. Combining this has given me a..... Listed under: [Sound – Audio Project Ideas](#)
1881. [Mint Tin Hero using Arduino](#) A friend at work proposed a friendly competition between a few co-workers: to make something cool out of a Trader Joe's green tea mint tin. Anything – whatever our creative hearts desired. The prize? Nobody cared – we'd figure that part out later. I thought..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1882. [Track Honeybees With Temperature](#) Data analysis coming soon! My school is kind of strange. We don't have a cafeteria, but we do have a four week course on "The Simpsons." We don't have a jungle-gym on the elementary playground, but we do have a half-buried firetruck. We don't have..... Listed under: [Temperature Measurement Projects](#)
1883. [Arduino – \(Very\) Basic motion tracking with 2 PIR sensors](#) Took me a little while to get started but I've managed to wire 2 PIR infrared sensors with an Arduino to sense motion either on the left or on the right side. The result will trigger an LED to represent each PIR sensor then I..... Listed under: [Sensor – Transducer – Detector Projects](#)
1884. [Pachube Client using Strings with Arduino](#) This example shows you how to answer a HTTP request using an Ethernet shield. Specifically, it connects to pachube.com, a free datalogging site. The example requires that you set up a pachube.com account, as well as a pachube feed (for more information on setting up..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1885. [Making a Better Mouse Trap Using Arduino](#) There are a lot of things this world needs at the moment. One of them is a better mouse trap. Mice are getting smarter every day and if we're not careful we'll end up with Planet of the Mice. Luckily, with the help of a..... Listed under: [Click here to get AI-based help](#) 
1886. [Arduino – motion triggered camera](#) So having worked out that I can make a remote for my Nikon D80 to do some timelapse photography. I started thinking of things I can do to trigger the remote, below video shows it working but you'll need sound to hear the shutter going..... Listed under: [Sensor – Transducer – Detector Projects](#), [Video – Camera – Imaging Projects](#)
1887. [Accelerometer Table using Arduino Esplora](#) This example simplifies the task of collecting data from the Esplora's accelerometer and graphing it with your computer. The Esplora sends keypresses to a connected computer about the state of the accelerometer. If you open a spreadsheet application, you can log the data from the..... Listed under: [Development Board – Kits Projects](#), [Metering – Instrument Projects](#), [Projects](#)

1888.

[Arduino Esplora Kart](#)

This example demonstrates how to turn your Esplora into a customized computer game pad. It uses the analog joystick and the four switches as inputs to a video game. The Esplora will appear to the computer as a standard keyboard, the computer will see joystick..... Listed under: [Development Board – Kits Projects](#), [Game – Entertainment Projects](#), [Projects](#)
1889.

[Arduino – IR remote/ intervalometer for Nikon D80 DSLR](#)

I'm cheap and skint, yet I want to do timelapse photography with my Nikon D80 DSLR. Unfortunately that requires spending some cash on an intervalometer for time lapse photography which will set me back a sizeable chunk of cash. Or I could get a remote..... Listed under: [Video – Camera – Imaging Projects](#)
1890.

[Arduino – Sonic range finder with SRF05](#)

A guide to using the SRF05 Distance Sensor with Arduino in order to calculate distances from objects. In this case I'm also altering the output of an LED with PWM according to how close an object is to the sensor. So the nearer you are..... Listed under: [Metering – Instrument Projects](#)
1891.

[Arduino Esplora Temperature Sensor](#)

This sketch shows you how to read the Esplora's temperature sensor. You can read the temperature sensor in Farhenheit or Celsius. Circuit Only your Arduino Esplora is needed for this example. Connect the Esplora to your computer with a USB cable and open the Arduino's..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
1892.

[Arduino Analog Inputs](#)

This week is all about analog inputs for the Arduino. I'll show you how you can use a voltage divider circuit (see episode 3) and a variable resistor to make an analog sensor. [su_box type="note" color=" #202020 " bg=" #ffbb00 " font="verdana" fontsize="14" radius="20 " border=" #000"..... Listed under: [Projects](#), [PWM Projects](#)
1893.

[Knock Block using an Arduino board](#)

Knock Block: a modern knocking framework Man has long wrestled with Time. Also, with knocking on things and not getting the time of day. We propose a knocking platform through which these fundamental needs are met. This is illustrated with the Knock Block KUI and..... Listed under: [Home Automation Projects](#), [Projects](#)
1894.

[Intervalometer for Sony NEX 5n](#)

This intervalometer used infrared LED To built intervalometer you need: Arduino Nano (or Arduino-compability). I used Nano V3 Serial LCD Joystick Module IR Led and resistor ~200 Ohm Switch Push Button Plastic enclosure Battery 9V Schematic is very simple Step 2: Connection Serial LCD has..... Listed under: [Metering – Instrument Projects](#)
1895.

[Fart Operated Random Channel TV Remote using an Arduino](#)

OK, I know that sounds weird, but bear with me for a moment. My Pops really enjoys two things; 1) channel surfing and 2) farting. So one day I was over at <http://hackaday.com/> and read about a guy who used his Arduino to turn a..... Listed under: [Home Automation Projects](#), [Projects](#)
1896.

[Haptic Proximity Module \(HPM\) for Low Vision users](#)

The Haptic Proximity Module (HPM) seeks to enable people with low vision, or other vision impairments, to engage with their direct surroundings through vibration feedback from a range detector, and do so cheaply with readily available components. The aim of this instructables is to share..... Listed under: [Development Board – Kits Projects](#)
1897.

[Control a DC motor with Arduino and L293D chip](#)

This is a quick guide with a bit of extra info (pin configurations etc..) that I've learnt along the way on how to use the L293D with the Arduino, showing that we can: A) Use a supplemental power source to power the DC motor B)..... Listed under: [Motor Projects](#)
1898.

[Reaction Timer using an Arduino](#)

I am new to Arduino and wanted a project which would teach me different things. This got me involved with sound and the use of a LCD. This project is based on the Instructable posted by bertus52x11 which you can find here <http://www.instructables.com/id/After-Dinner-Reaction-Time-Tester/> . While..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1899.

[Buzz Wire Alarm Clock Using Arduino](#)

Does it happen to you to slide your finger across your phone's screen and turn the alarm off ... just because you have automated this task and don't even need to open your eyes? Well, let me present to you the alarm clock that WILL..... Listed under: [Clock – Timer Projects](#)
1900.

[Making a 9v Battery DC power supply](#)

Rather than use the USB to power my Arduino board with a handy trip to the electronics store with some more knowledgeable people than I, I have constructed a 9Volt DC power supply. Taking a 9 volt battery, a 9v battery holder and a 2.1mm..... Listed under: [Battery Projects](#)
1901.

[Simple Ipod Controller using an Arduino](#)

This instructable will help you understand the iPod serial protocol, and how to send commands to an iPod using an Arduino. This instructable is only meant to show the basics of the protocol and is by no means complete. I only had enough hardware space..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1902.


[3 LED Crossfade with PWM and Arduino](#)

This ones quite simple, just mix/ crossfade 3 separate LEDs using Phase Width Modulation (PWM) and Arduino. You will need 3 LEDs, I'm using a 5mm Red, Green and Blue so I can make the full light colour spectrum (When all combined they make white..... Listed under: [LED Projects](#), [PWM Projects](#)
1903.

[Making a Mayan Tzolkin Calendar](#)

OK, I will admit that I am a little obsessed with things Mayan at the moment, which explains why I wanted to make a Mayan Tzolkin calendar. I modeled the general layout and fabrication on the very nice Sleek Word Clock by scottbez1 which you..... Listed under: [Clock – Timer Projects](#)
1904.

[Small form factor DIY Arduino on stripboard](#)

This board needs FTDI cable to program it. It is not Arduino compatible in the meaning of taking shields (but like every small form factor board isn't). But it has all the same pins (exept 3.3V power and Vin*) available as female headers. [Click here to get AI-based help](#) ..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)
1905.

[Build A Robot Snake Using Arduino](#)

Purpose This project was built for the Things that Think undergraduate/graduate class CSCI 4830-7 and CSCI 7000-7 for the University of Colorado at Boulder. Our group consisted of one graduate and two undergraduate students. We worked on the project for 8 weeks, most of the..... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)
1906.

[Controlling a Servo with Arduino](#)

Very simple basics of building a circuit to control a servo using Arduino and PWM For this you will need: Arduino Board – I'm using a Duemilanova ATMEGA328 Arduino Sketch software – I'm using version 0015 Arduino Servo Library found here [save it to lib/targets/libraries](#)..... Listed under: [Motor Projects](#)

1907. [Use your android phone sensors on the arduino](#) Hello, this is my very first step-by-step instructable, and today, we're going to learn how the sensors in your android smartphone can communicate with your arduino. In modern smartphones, there are a lot of useful sensors for an ingenious arduino project. I have a motorola..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1908. [Two ways to reset arduino in software](#) If you want to RESET Arduino from the beginning without manually pressing the RESET button, there are a few ways. Here are two ways, using minimal wiring / circuitry. Step 1: Using 1 wire connected to the RESET pin 1. electronically, using only 1 wire..... Listed under: [Arduino Programmer Projects](#)
1909. [Siduri – An Arduino Control Smart Coaster](#) Siduri named after the Sumerian god of happiness and merriment, is a smart coaster for your drinks. It recognizes when a glass is near empty and then glows yellow to alert waiters that you will be in need of a refill soon. Designed specifically for..... Listed under: [Home Automation Projects](#)
1910. [How I'm building my bi-copter with Android and Arduino](#) Last year I was fascinated by the "How to build your own Quadrocopter" by Lenz Grimmer and decided that somehow I should try to do a similar thing. This talk is about the way I'm building a bi-copter using lessons learned for last year's talk..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)
1911. [Discreet Data Logger using Arduino](#) There is no better way to hide a covert device than to stick it inside a larger conspicuous device. That said... Essentially, this is a guide for making a data logging system for use with the breathalyzer microphone. To accomplish this, an Arduino and a..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#), [Projects](#)
1912. [A DVD Player Hack](#) This is a description of an open source/open hardware project of a remotely controlled Arduino (Freeduino) based clock/thermometer utilising power supply and VFD panel from a broken DVD player in a custom made acrylic enclosure. The aim of the project was to demonstrate what could..... Listed under: [Video – Camera – Imaging Projects](#)
1913. [Texting mat using arduino](#) Lusha and May created a "Text-Mat". This surface can allow the user to write and send messages using one's feet. This text-mat is designed to send secret messages during meetings or classes. The design utilizes conductive fabric and thread, as well as a flora-board. The..... Listed under: [Home Automation Projects](#)
1914. [The KITT-duino, DIY Larson Scanner with an Arduino](#) IMPORTANT: CODE IS NOW UPDATED. FIXES INCLUDE ADDING AN INTEGER VALUE TO MANIPULATE TIMING AND FIXING A DOUBLE-BLINKING LED. Thanks. It is my understanding that many Larson Scanners can only pulse from side to side. I felt that that needed to be changed, seeing as..... Listed under: [CNC Machines Projects](#), [How To – DIY – Projects](#)
1915. [Low cost digital microscope with automated slide movement using arduino](#) This is an easy-to-implement product modification that will be extremely useful for clinicians, pathologists, researchers or other microscopy enthusiasts interested in capturing whole slide images or creating virtual slides for later use. The device allows one to take multiple images of the slide under high..... Listed under: [Medical – Health based Projects](#)
1916. [Obstacle avoidance Arduino robot – build your own larryBot](#) So after 5 previous versions that had various flaws, I now have an Arduino robot that actually works and although basic is very cheap – although there a probably a few more flaws so please point them out to me but this is a good..... Listed under: [Robotics – Automation Projects](#)
1917. [Water Tank Depth Sensor using Arduino](#) Water is a precious resource in many parts of the world, and many people rely on water tanks to supplement their water supply by storing collected rainwater or water pumped from a well or bore. But how do you measure how full a tank is?..... Listed under: [Sensor – Transducer – Detector Projects](#)
1918. [Arduino Dragon Wings](#) Hello World!! I am making this Instructables on how to make arduino controlled dragon wings. XD I planned on wearing these dressed as Smaug to 'The Hobbit Desolation of Smaug' premier but I didn't complete the entire outfit in time, but I will continue working..... Listed under: [Game – Entertainment Projects](#)
1919. [Augmenting Plant Behavior Through Robotics using Arduino](#) The PhytoBot is a semi-intelligent plant which responds to external stimulus (light intensity and light location) and responds to it as a phototropic plant would. Essentially it is designed as a piece of interactive artwork for operation over a long period of time. The motivation..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1920. [Rabbit Ears on a Cap using Arduino](#) We are students from Singapore Polytechnic. After looking at the famous Necomimi Arduino Cat Ears, we decided to give it a try to help us familiarise ourselves with the accelerometer and the arduino. Using the materials that we had on hand, we managed to produce..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1921. [Geoweaver: A Walking 3D Printer Hexapod using arduino](#) Geoweaver is a student designed (team members Jia Wu, Mary Sek, and Jeff Maeshiro) robot created in the Creative Architecture Machines advanced options studio at the California College of the Arts (CCA) in San Francisco, California, taught by Jason Kelly Johnson of Future Cities Lab..... Listed under: [CNC Machines Projects](#)
1922. [Programmable auto filter interface for C64 using Arduino](#) Overview A software / hardware combo that allows for control of the analog filter inside a Commodore 64 that is running Cynthcart from a host computer (eg, Macbok, PC). Software • 16-step filter sequence • Set the speed of the filter sequence (with intervals between..... Listed under: [Arduino Programmer Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Pro](#) Click here to get AI-based help ✕
1923. [Control Access of Arduino YUN with MySQL, PHP5 and Python](#) Hello Friends! Well, as you know, in September the new premiere shield of Arduino, Arduino YUN. This little friend has a Linux embedded system with which we can run anything you can think of (at least so far). While there is very little information on..... Listed under: [Robotics – Automation Projects](#)
1924. [All in one Remote using Arduino](#) Introduction August, 2007 One of my other hobbies is photography, and, about a year ago, I purchased a new digicam - a Panasonic FZ30. I joined the Panasonic forum on the dpreview site. One of the posters, a programmer and electronic hobbyist, designed a nifty wireless..... Listed under: [Projects](#), [Radio Projects](#)

1925. [Simple Arduino Wing Shield](#) I buy a lot of these stackable Arduino header sets because they are handy for a lot of things. I make some breakout boards with them, I use them to add some clearance between a taller shield and the next shield that I am stacking..... Listed under: [Development Board – Kits Projects](#)
1926. [Polar Plotter on Arduino and MakerBeams](#) The project A polar plotter is a plotter with a rotating, extendable arm. Its characteristics differ greatly from those of a traditional plotter, which in most areas have a superior design. You could say the polar plotter is more portable or something, but mainly I..... Listed under: [CNC Machines Projects, Projects](#)
1927. [Build the Remote Control Bobble-head Bobbler! using arduino](#) Bobble-heads!!! Every sports fan loves em, but they're kind of boring, just sitting frozen on your shelf 😞 I thought it might be fun to create an Automatic Bobble-head Bobbler something that can wake that old bobble-head up and get him nodding away. I finally found..... Listed under: [Robotics – Automation Projects](#)
1928. [Clock with Meggy Jr RGB using Arduino](#) There is a saying: "If all you have is a hammer, everything looks like a nail". Well, when I see a display, I think of clocks 😊 I will show you here how to easily make a simple digital clock by hacking Meggy Jr RGB..... Listed under: [Clock – Timer Projects, Projects](#)
1929. [Let's cook: 3D scanner based on Arduino and Processing](#) Ever wonder of cypypaste method, usable in real life, not only in virtual reality? Me too. It is 21th century, and those are nearer than most of all can imagine! This is possible thank to 3d scanners and printers. So let's try to scan something!..... Listed under: [How To – DIY – Projects](#)
1930. [Motion Sensing Eye using arduino](#) I have always wanted to make something with my LED dot matrix display, and so when I found a old alarm motion sensor I knew just what to make, a Motion Sensing Eye! This instructable will hopefully finish with you having a working dmd, that..... Listed under: [LED Projects, Sensor – Transducer – Detector Projects](#)
1931. [Make An LED Clock Using Arduino](#) A 24-hour clock with hour, minute, and second indicators. Here's the catch, despite being a digital media (LED's) it is still displaying using an analog method (circles!). I finished making this clock months ago but did not bring it with me to school so I..... Listed under: [Clock – Timer Projects, LED Projects](#)
1932. [Arduino Webserver Control Lights, Relays, Servos, etc...](#) In this project using only an Arduino with an Ethernet shield. I'll be controlling one LED and a servo, but you can apply this method to control a DC motors, buzzers, relays, stepper motors, etc.. Overview: When you upload the the code provided in this..... Listed under: [Internet – Ethernet – LAN Projects](#)
1933. [Vehicle Telemetry Platform using Arduino](#) Ever wondered what goes on under the hood of your car? Wish you could peek inside the engine management system and read values from it? Annoyed that your dashboard displays a cryptic "Check Engine" light (yep, the engine is still there) but gives absolutely no..... Listed under: [Car Projects](#)
1934. [Weather Station Receiver using Arduino](#) The incredible popularity of home weather stations shows that it's not just farmers who are interested in the weather. Many people want to be able to track and record weather events within their local environment rather than relying on a state or national weather service..... Listed under: [Sensor – Transducer – Detector Projects](#)
1935. [Arduino Beer Pong Arcade](#) We are going to be making a flashy beer pong table. The table lights up as cups are eliminated and old style arcade sounds are played. This games elevates the subtle art of BEER PONG to a new level. A sporting level. A competitive,..... Listed under: [Game – Entertainment Projects](#)
1936. [Lunch Decider Wheel using arduino](#) The lunch decider wheel is basically a carnival-style wheel that spins every day at 11:45am and selects what is for lunch. It came about on account of my perpetual indecision on this very important culinary matter. In fact, this device does more than just decide..... Listed under: [Game – Entertainment Projects](#)
1937. [Arduino: Making a set of traffic lights](#) THIS PROJECT IS STILL A WORK IN PROGRESS FEEDBACK APPRECIATED!!!!This tutorial will step you through the process of creating a set of controlable and configurable traffic lights whilst also teaching you the basics of Arduino. Some knowledge is needed and I highly recommend reading and..... Listed under: [Car Projects, Projects](#)
1938. [Brickduino \(2. Parallel connector\)](#) This instructable is part of the "Brickduino" series. [Brickduino 1. LED] - I expect that you did the Brickduino LED before you start with this instructable - Mainly this instructable is the same as the Brickduino LED! So if you want to skip all the..... Listed under: [Arduino LED Project Ideas](#)
1939. [3D Printed Webcam Controller](#) The camera controller box is an easy way to rotate a webcam from a PC or remotely through the internet. Step 1: Materials and 3D files In this project I used a Teensy 2.0 micro-controller since it was available, but you can use any other MCU like an ATtiny85..... Listed under: [Internet – Ethernet – LAN Projects, Video – Camera – Imaging Projects](#)
1940. [Woooshing leds – Rotated animation by arduino](#) This project allows you draw in the air letters, symbols or other shapes - as you like. Controlled by the Arduino, the 7 simple leds blinking on and off - creating the illusion of floating text in the air. This combination of simple components with..... Listed under: [LED Projects](#)
1941. [UnDecima Audio Output from Arduino](#) I already have one project where arduino outputs audio signal to USB speakers via software 10-bits PWM. In first, I was not satisfied with quality of sound generated via PWM. There are just not enough speed in arduino engine to run PWM well. For example for..... Listed under: [Projects, Sound – Audio Projects](#)
1942. [Security / Automation Sensors using Arduino](#) Security system sensors such as motion detectors, reed switches, pre beams, and conductive film can be very handy for all sorts of things including home automation systems, interactive art installations - and sometimes even security systems! Almost all security system sensors..... Listed under: [Security – Safety Projects, Sensor – Transducer – Detector Projects](#)
1943. [Interval Long Exposure Camera](#) There's a real beauty in long exposure photography. Hours and days and weeks and months and even years can be condensed onto a single frame, and that frame will catalog the constants in our fast paced and forever changing lives. However, the issue is that..... Listed under: [Video – Camera – Imaging Projects](#)
1944. [Lego Technic Car with Arduino + XBee Wireless Control](#) I was perusing Instructables one fine winter Saturday, when my 8 yo son came in and peered over my shoulder and saw this: <http://www.instructables.com/id/RC-Lego-Car/> by sath02. My son is a huge fan of all things Lego, and loves robots and cars, and this was

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right..... Listed under: [Game – Entertainment Projects](#)

1945. [Visual Navigator Making it MOBILE using Arduino](#) Obstacle avoiding vehicle, continue in “3D Laser Range Finder” series (project 1, project 2). The basic idea is the same, measuring distance using red laser pointers, CCD analog camera and Arduino UNO. Modification was made in geometry. Two lasers were set for “far field” Listed under: [Game – Entertainment Project Ideas](#), [Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
1946. [The Adventure of Electricity: An interactive light diorama](#) Where does electricity come from? Who invented the light bulb? How do cities use this technology today? These are just a few questions that we hope to address in this interactive diorama, The Adventure of Electricity! This project was designed for educational purposes so that..... Listed under: [Game – Entertainment Projects](#)
1947. [8x8x8 LED Cube with Arduino Mega \(+Sound +PS controller +Game\)](#) This is a instructable which is based on the Cube by Chr, (<http://www.instructables.com/id/Led-Cube-8x8x8/>) by SuperTech-IT, (<http://www.instructables.com/id/CHRs-8X8X8-LED-Cu...>) and by das-labor.org, (http://www.das-labor.org/wiki/Borg3d_Bauanleitung...) but i think its better and easier. I started this Project without any skills from soldering toprogramming. First of..... Listed under: [Game – Entertainment Projects](#)
1948. [Tears of Rainbow using an Arduino](#) It’s time to release new updates for my first (ever) project with Arduino, “Color Light Music”. From artistic perspective, VU BarGraph style (IMHO) is the best one for spectral dynamic representation, and not much could be improved on this side. But this time, it cross my..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1949. [Joystick controlled Camera using Arduino](#) Hi, First of all, my English is not perfect =) I've seen many projects with Arduino that describes how to control 2 servo's with a joystick or use a lcd screen. All of the projects that i have seen are all seperate things. So i..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)
1950. [Arduino IR Musical Stairs](#) This is a small scaled musical stairs! It was a project that had a deadline; had only two days to build it. So, it is a very small scaled project, but still serves its purpose! IR Sensor (receiver) that I used is TSOP38238 from Adafruit,..... Listed under: [Home Automation Projects](#)
1951. [Gyro Camera for Motorcycle using Arduino](#) As seen in MotoGP Race, the rider is seen riding through corners while laying aside his bike to the left and right. But there is an interesting moment when the motor looks to collapse sideward, the front views remain horizontally. How could that be? Such..... Listed under: [Car Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)
1952. [Building a device that clips to your belt](#) Our goal in this step-by-step instructable is to build a device you can clip to your belt and wear throughout the day. This device will log data that, when downloaded to a back-end server system, will provide a report showing the location history of your..... Listed under: [Clock – Timer Projects](#)
1953. [Hidden Wall Outlet Safe \(w/Arduino Lock\) using arduino](#) Stash your valuables where no one will ever suspect. Wall outlets are perfect for stashing valuables since you have tons of them at home. You must be crazy enough to search every household outlet for a secret stash. Probably, no one would even think of..... Listed under: [Home Automation Projects](#)
1954. [Power Arduino with a cellphone](#) Old cellphones are easy to acquire and they have built in lithium charging circuitry. What a wonderful base for a power supply for small mobile things. I hooked up a cellphone to the arduino with the ability to charge the cellphone when you plug the..... Listed under: [Phone Projects](#)
1955. [EL Wire Hat: Sequenced and Sound Activated with Remote Control](#) Welcome to the Instructable guide of my EL Wire hat with some fun features. The concept is an EL Wired hat with 8 sequenced EL wires controlled by a wired remote. Multiple speed controllable sequence modes are pre-programmed into an Arduino UNO, including a sound..... Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)
1956. [Construct A TV Remote Controlled Car Using Arduino](#) Nothing is worse than loosing the controller that came with your remote control car. Replace that sucker with an Arduino and the one remote that always seems to be around, the TV remote! Step 1: Materials The materials for this project are pretty straight forward..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#)
1957. [Arduino Solar Cell Tester](#) When I'm building Solar Shrubs and other solar-powered creations, I often scavenge cells from various off-the-shelf devices such as solar garden or security lights. But these cells are rarely labeled as to their voltage, current, and power output. So it's off to my bread-boarding station. First, I put each cell under..... Listed under: [Battery Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Solar energy projects](#)
1958. [Capteur temperature choix du type de degres par infrarouge using arduino](#) ENGLISH VERSION HERE Dans ce programme nous allons voir comment capter une température et afficher sa valeur sur un lecteur LCD en choisissant si on veut l'afficher en°C ou °F grâce à une télécommande infrarouge. Dans ce tuto j'utilise: - Une carte SainSmart (similaire à Arduino..... Listed under: [LCD Projects](#)
1959. [Attiny serial monitor using arduino walkthrough](#) Alllllllllright dudes and dudets. Here is whats up, we're going to make attiny and arduino bestest of friends. If you have ever worked with capacitive switches you know how much it makes you want to smash your face into a wall...Now imagine you have no..... Listed under: [Development Board – Kits Project Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1960. [A World of Possibilities with Java ME + Bluetooth + Arduino](#) "This presentation shows how to easily go from user stories to automated integration tests that themselves read like user stories. You can accomplish this by using custom domain-specific languages. Too often c Click here to get AI-based help X ing and intimate technical knowledge of our systems,..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1961. [Smart Snow Globe \(gives snow day alerts\) using arduino](#) What does a smart snow globe do? It tells you if tomorrow's going to be a snow day! Is it snowing tonight? Will you have the day off from school or work tomorrow? Put this snow globe next to your bed when you go to..... Listed under: [Radio Projects](#)
1962. [4x4x4 interactive LED-cube with Arduino](#) To explain my 4x4x4 interactive LED-cube published before, a bit more clear, I will try to make my first step by step instructable. This 4x4x4 cube is interactive by using the top four corner LEDs both as LEDs and as sensors that will react on..... Listed under: [LED Projects](#), [Projects](#)

1963. [IR Remote Controlled Color Changing Cloud \(Arduino\)](#) CLICK HERE FOR THE UPDATED INSTRUCTABLE: <http://www.instructables.com/id/IR-Rainbow-Cloud-ver-1/> This is a project I created for a Digital Art and Installations class. The class covered basics of several types of programming, and our projects were meant to be an interactive cross between art and technology. This was a fun..... Listed under: [Game – Entertainment Projects](#)
1964. [A Voice Shield for Arduino Board](#) The objective of this project is to build an Arduino voice shield to empower thousands of voice related applications! All this mostly thanks to an integrated ISD1790PY chip. This particular voice/TTS feature can be useful to integrate voice messages in alarm systems, to implement generic..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1965. [Open Bitcoin ATM using arduino](#) The world's first completely open-source Bitcoin ATM for Education and Experimentation. <http://openbitcoinatm.org> for more information. Step 1: Fabricate Box and Faceplate Out of a piece of 12"x12" aluminum sheet metal, cut two rectangles and drill six rivet holes and four holes to attach the bill acceptor..... Listed under: [Robotics – Automation Projects](#)
1966. [Arduino Wii nunchuck and Wii motion plus with updated code for IDE 1.0.2 and LEDs](#) So, I was trying to hack my Wii nunchuck because I want to control motors and lights with the Wii nunchuck. The first problem that I found was how to connect the control without an adapter, I was planning to make one, but when I..... Listed under: [LED Projects](#)
1967. [LED Dawn / Sunrise Alarm Clock, Nightlight & Security Light – Arduino Compatible](#) As the nights gradually lengthened in autumn 2011, I discovered the joys of Arduino and thought that it would be a great way to implement something that I have wanted for a long while - a gentle way to wake up on a winter's morning. Listed under: [LED Projects](#), [Security – Safety Projects](#)
1968. [Programming the Arduino I/O pins](#) Overview The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header,..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
1969. [Stripboard Arduino](#) In this, my first Instructable I'm going to show you how to make a stripped down Arduino for a fraction of the price, using Stripboard/Veroboard. Material List: 1x Atmel ATmega168 = $\text{€}2.65$ 1x Stipboard = 72p 1x 7805 Voltage regulator = 26p 2x LEDs =..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1970. [Control an Arduino With a Wristwatch \(TI eZ430 Chronos\)](#) The watch The Texas Instruments eZ430 Chronos is a cool gadget. It has bidirectional radio communication, and a whole bunch of sensors: temperature, pressure, acceleration.In fact, it is a development kit for the MSP 430 (a low-power microcontroller), that TI packaged as a watch (pure..... Listed under: [Clock – Timer Projects](#)
1971. [SuperScope: Circuit Simulation through Arduino-Processing Interface](#) nto the program where you can physically manipulate them. Arduino tests for the value of the component (a capacitor, inductor, resistor, or waveform of specific frequency) then sends the data to Processing. Imported components can then be plugged into circuit schematics. SuperScope builds upon the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1972. [Improved Simple Wing Shield using arduino](#) Not too long ago, I made my own version of the popular Wing Shield out of some spare parts and scraps of perf board I had laying around. Instead of the screw terminals that the regular wing shield uses, I used some female headers that..... Listed under: [Home Automation Projects](#)
1973. [A credit card sized Ethernet Arduino compatable controller board](#) I love the Arduino as a simple and accessible controller platform for many varied projects. A few months ago, a purchased an Ethernet shield for my Arduino controller to work on some projects with a mate of mine - it was a massive hit -..... Listed under: [Development Board – Kits Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1974. [Make Your Own GRBL CNC Pendant](#) So you just finished your DIY CNC machine, set up GRBL and even cut your first part. Now what? Well, did you know that as of GRBL v0.8 there are pinouts some really useful commands such as Cycle Start, Feed Hold and a Soft Reset?..... Listed under: [CNC Machines Projects](#)
1975. [How to access 5 buttons through 1 Arduino input](#) Using this method, I'll show you how you can access 5 (or even more) inputs through 1 Arduino pin. These buttons will only be read correctly if only one is pushed at any time though. As we go through it I'll explain whatever background info..... Listed under: [How To – DIY – Project Ideas](#), [LED Projects](#), [Projects](#)
1976. [LittleBitty Joe using arduino](#) Say Hello to littleBitty Joe! Joe is my school's mascot! Speak to Joe and watch his eyebrows lift, whiskers vibrate, eyes illuminate, heart spin and hear him ROAR! Not only does his roaring affect work with our project, but it can definitely work with your..... Listed under: [Game – Entertainment Projects](#)
1977. [Digispark DIY: The smallest USB Arduino](#) Digispark is an ATtiny85 based microcontroller development board come with USB interface. Coding is similar to Arduino, and it use the familiar Arduino IDE for development. Digispark is copyrighted by Digistump LLC (digistump.com) and the full license is here: <http://digistump.com/wiki/digispark/policy> Specification: Support for the Arduino IDE..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1978. [3D-Printed Biologically-Inspired Robotics](#) I have been spending the last few months doing research into biologically inspired robotic structures. While my approach may seem formalistic in nature, these devices were simply a means for ultimately conducting social research. This device stems from my experience building Simple Bots, and their..... Listed under: [Robotics – Automation Projects](#)
1979. [Light Clapper using arduino](#) This is a project that I quickly made one night because I wanted to 'clap' to turn off and on the light in my room! I have a small room for myself, so I basically have no other noise around. So, I was able to..... Listed under: [Home Automation Projects](#)
1980. [RC Car Anti-Crash System Using Arduino](#) Hi guys! So for my electronics class this year we were tasked with creating some kind of electronic gadget in order to demonstrate what we learned over the semester. Being a car-loving type of guy, I decided to get a cheap RC car and see..... Listed under: [Car Projects](#), [Projects](#), [Security – Safety Projects](#)
1981. [Arduilay is An 8 Channel AC Relay Box For Use With Arduino](#) Arduilay is an 8 channel AC relay box for use with Arduino, Max/MSP, Processing, etc. I designed this system as an alternative to the USB>DMX 4 channel relay option. While DMX gives you dimming control, the setup is easily 5 times as expensive as this.....

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1982. [Cheap and effective Sous Vide cooker \(Arduino powered\)](#) Sous-vide cooking is a great new way of cooking food. I will not explain why and how it works here... for great recipes and explanations, you can check out those guys : <http://modernistcuisine.com/2013/01/why-cook-sous-...> Unfortunately, a good (and I mean precise to the half °C) sous-vide..... Listed under: [Home Automation Projects](#)
1983. [2 player Pong using Arduino](#) I started with the Instructable from Kyle Brinckerhoff; <http://www.instructables.com/id/Ardu-pong-the-Arduino-based-pong-console/> Thanks Kyle! and the following at Make magazine <http://blog.makezine.com/archive/2007/08/arduino-pong.html> and I see the original code is attributed to Pete Lamonica Thanks Pete!! I am using the paddles instead of the joy stick and I have made..... Listed under: [Game – Entertainment Projects, Projects](#)
1984. [ASCII Table using Arduino](#) Demonstrates the advanced serial printing functions by generating a table of characters and their ASCII values in decimal, hexadecimal, octal, and binary. For more on ASCII, see asciitable.com Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page None, but the Arduino has to..... Listed under: [How To – DIY – Projects, Projects](#)
1985. [A Simple and Very Easy Inverted Pendulum Balancing Robot](#) Let's make a simple inverted balancing robot, and operate it. You need only half a day to do them, if you have an arduino and some materials. [a video of a robot you would make] introduction: After a few work with arduino, I have thought..... Listed under: [Robotics – Automation Projects](#)
1986. [Wii Nunchuck Arduino Spirit Level](#) Thanks to: <http://jeonlab.wordpress.com/> Since I have read an article on todbot blog, I bought a couple of Wii Nunchucks from ebay. I don't remember how much I paid for them, but it was much cheaper than buying the accelerometer breakout boards. With the nunchuck data reading..... Listed under: [Development Board – Kits Projects, Projects](#)
1987. [Construct Nama Instrument 1.0 Using Arduino](#) A motion sensing soft-circuit interface. The following instructable will guide you through the construction of your own personalized Nama Instrument. I'd love to hear some feedback. Hope you like it and it serves you somehow! :) Access <http://www.viraseres.com/nama> to download the project's open source..... Listed under: [Game – Entertainment Projects, Home Automation Projects](#)
1988. [Wex, the One Eyed Watcher using an Arduino](#) Wex detects your location with ultrasonic sensors then follows you with his one flashing eye. His red "heartbeat" can be seen through his mouth. Step 1: Parts needed include: Arduino Two ping ultrasonic sensors Futaba s3103 servo Radio Shack 276-0016 7 color led Radio Shack Listed under: [Projects, Robotics – Automation Projects](#)
1989. [OpenSquare – Write big with a RC car](#) Hi there, You're going to transform any RC toy car into a big message writer that can be used to transform your city squares into witty messages, political statements or beautiful drawings, and for less than 20\$. The idea is to drop a trail of..... Listed under: [Car Projects](#)
1990. [Building a Sentry Gun with Laser Trip Wire System and Arduino](#) *NOTE* THIS PROJECT IS DONE BY A GROUP OF STUDENTS FROM SINGAPORE POLYTECHNIC. Concept: Trigger gun when laser is blocked by intruding object. Note: Tilting is included for expandability but not used in this project. Skill Level: Basic soldering and basic metal works Things You..... Listed under: [Home Automation Projects, Projects, Security – Safety Projects](#)
1991. [I Just Wanna Hold Your Hand](#) Conducting energy through people to stimulate tangible public interactions <http://ijustwannaholdyourhand.com/> <http://vimeo.com/56350598> What did we do? We put together an Arduino, some wire, a Mac mini and a DLP Projector, then created a pair of hands out of aluminum. We additionally 3D printed some wall plates..... Listed under: [Game – Entertainment Projects](#)
1992. [How to Control a Ton of RGB LEDs with Arduino & TLC5940](#) This video explains how to use the 16 channel PWM controller TLC5940 The CODE: `//Texas Instruments TLC 5940 with Arduino //www.kevindarrah.com #include <SPI.h> //Serial Peripheral Interface Library byte ch=0, chbit=0, spibit=0, spibyte=0; // variables used by tlc sub routine int SINData; //variable used to shift data to the.....` Listed under: [LED Projects, Projects, PWM Projects](#)
1993. [Forget Me Not- Remote Flower Watering](#) Hi everyone, Lucy Matchett, Nicole Yi Messier, and Joselyn McDonald (Snax_and_Macs) made a remote flower-watering device so you can water your loved ones' plants when you water your own. We used Arduinos, a photoresistor, a servo, Arduino and Processing sketches, Spacebrew, and a little elbow..... Listed under: [Home Automation Projects](#)
1994. [How to build an Arduino synth](#) This is a super simple and easily customizable little synthesizer. This is my first time using the Arduino and also with acrylic, both I found very fun to work with though. This is also my first Instructables so hopefully I have explained this well enough..... Listed under: [How To – DIY – Projects, Projects](#)
1995. [Smart Distance Measuring Tape v2](#) After posting up the v1 of my project many people requested an more detailed instructable. So i decided to start with a new one with a little upgrades to my previous instructable. What does this thing do? Well its quite simple it is just an..... Listed under: [Metering – Instrument Projects](#)
1996. [2 Ways to Papercraft Stopmotion](#) Good morning, please take a seat and watch that tofu wobble. This is not CGI, it is honest work of a papercraftsman. These are, in fact, 16 different papercubes that switch places in each frame. That technique is commonly known as replacement stopmotion. Problem: It only..... Listed under: [Game – Entertainment Projects](#)
1997. [Building an Open Archival Scanning Robot Using Python and Arduino](#) Project Gado is an initiative which aims to create an open source archival scanning robot which small archives can purchase for \$500 and use to autonomously scan their photographic collections. This tall

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 under: [Internet – Ethernet – LAN Projects, Projects, Robotics – Automation Projects](#)
1998. [Bird cage LED daylight simulation system](#) Sometimes you get a chance to combine helping out your family with a nice hobby project.. In this case my father in law was looking for a lighting system for his bird breeding cages. A daylight simulation system to be exact. He asked me to..... Listed under: [Home Automation Projects, LED Projects](#)
1999. [Arduino Solar Shield – A DIY solar source for your projects without waiting for PCBs](#) This instructable is a basic version of Bley Joel's ("It's nine o'clock on a Saturday, the regular crowd shuffles in") Solar Shield, and it should work for most arduinos. I've tested it with SparkFun's Arduino Pro, and the new Leonardo. Myself and the other Solar..... Listed under: [How To – DIY – Projects, Projects, Solar energy projects](#)

2000. [Burn Arduino Bootloader on Atmega-328 TQFP and DIP chips on Breadboard](#) Parts required (Hardware) Arduino Uno Board (1) TQFP 32 to DIP 28 Adapter (1) Link Atmega TQFP 32 pin chip (1) Atmega DIP 28 pin chip (1) 10K resistor (1) 16MHz crystal (1) 18pf - 22pf capacitor (2) Tact Switch (1) Jumper wires (few) LED..... Listed under: [Development Board – Kits Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
2001. [Ariadne – a 1st person maze on a 16×2 LCD using Arduino](#) This game is a homage to Ariadne, the maze-generator from Inception 😊 If you haven't seen the movie yet - watch this video again after you do (you can also watch it now - it's not a spoiler, it's just funnier for inception-vets). The nice thing about..... Listed under: [Game – Entertainment Project Ideas](#), [LCD Projects](#), [Projects](#)
2002. [Arduino Control DC Motor via Bluetooth](#) Hi guys, In this project we will control a DC motor with a smartphone via bluetooth. This project is great to learn more about: -DC motor -Interfacing Arduino with your smartphone -Bluetooth module -L293D you can visit my website for more electronic projects, interesting news..... Listed under: [Internet – Ethernet – LAN Projects](#), [Motor Projects](#), [Phone Projects](#), [Projects](#)
2003. [DIY BioPrinter With Biological Materials Using Arduino](#) Bioprinting is printing with biological materials. Think of it as 3D printing, but with squishier ingredients! There's a lot of work being done at research labs and big companies like Organovo on print human tissues and human organs, with an eye towards drug testing, and..... Listed under: [How To – DIY – Projects](#)
2004. [Simple RC car for beginners \(Android control over Bluetooth\)](#) This is a simple project of Android Bluetooth Car with Bluetooth control. Arduino controller is used To control the car used Android-device with a built-in accelerometer. Tilt forward - car goes forward, tilt to the left - car turns to the left, tilt back - car..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#)
2005. [Arduino Digital 7-Segment Thermometer](#) This a guide for an Arduino version, but I am working on a mini ATtiny84 version. Once I get that working, I will post another Instructable on how to make it. I'm sure you could make this same thermometer with an LM35 also, if that's..... Listed under: [Temperature Measurement Projects](#)
2006. [Wi-Fi Body Scale with Arduino Board](#) In this post we present the design of a scale that connects to the Internet and automatically sends weight info on a Google Document. The project is composed of Arduino Uno board Wi-Fi shield additional shield that we used to manage data collection and I/O with..... Listed under: [Internet – Ethernet – LAN Projects](#), [Medical – Health based Projects](#), [Projects](#)
2007. [Playing Wave file using arduino](#) This is a simple circuit to play wav files using arduino Nano V3.0 ,it consist from 4 buttons ,each one play specific wav file loaded to SD card. Step 1: Parts 1- Arduino Nano V3.0 (I used the chines version called Funduino Nano). 2- SD..... Listed under: [Sound – Audio Projects](#)
2008. [Bubblesteen Bubble Machine using an Arduino](#) Is it a 3D Spherical Atmosphere Encapsulated Phosphorous Printer? YES! Is it a CNC Anti Gravity transparent Orb Machine! YES! Its The Bubblesteen Bubble Machine! The spherical miracle that kids and cats have been waiting for. It comes complete with robotic edge detection(when a bubble hits an..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2009. [Cheap and Easy MP3 Shield for Arduino](#) This is a follow up to an earlier Instructable for attaching the guts of a cheap clip MP3 player to an Arduino. <http://www.instructables.com/id/MP3-Interface-for-Arduino-Cheap-and-Easy/> The previous Instuctable showed how to use the Arduino to control all of the functions of the MP3 player: volume increase and decrease,..... Listed under: [Projects](#), [Sound – Audio Projects](#)
2010. [Charlieplexed Arduino 8×8 LED Grid Display Shield made and simulated in 123D Circuits](#) edit: Wow, this won an awesome prize! Very many thanks guys! Charlieplexing (<http://wealoneonearth.blogspot.nl/2013/03/design-note-charlieplexing-led-matrices.html>) is a powerful method for driving a large number of LEDs from a relatively small amount of IO pin and without using any extra components. The technique makes use of the fact..... Listed under: [LED Projects](#)
2011. [How to make a multi-layered acrylic and LED sculpture with variable lighting levels using Arduino](#) Here you can find out how to make you very own n as made for the exhibition www.laplandscape.co.uk curated by art/design group Lapland. More images can be seen at flickr This exhibition runs from Wednesday 26 November - Friday 12 December 2008 inclusive, and had..... Listed under: [LED Projects](#), [Projects](#)
2012. [Remote control via GPRS/GSM SMS\(Arduino\)](#) Remote control, especially when this no ethernet or Wifi in the outdoor, has been a very profound things in the past. When I was a child, I always image that I have an equipment which can control all home appliances. Now, this becomes a reality,with..... Listed under: [Home Automation Projects](#), [Phone Projects](#)
2013. [Fairly Simple Simon – the evolution of an Arduino game](#) Important notice: Final (i.e. relevant) version is at the last step of this instructable. If you want to build a Simon, that is the recommended version. The rest of the steps show how this evolved from a bare-bones game for LED 13 and Serial (i.e..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2014. [LilyPad Arduino Totoro Plush with Umbrella](#) Materials: For Totoro: Felt: 1 black, 3 grey, 1 white, 1 beige Needle Black Thread Poly-fil stuffing Cardstock Scissors Pins Pen or chalk DIY Totoro Plush Tutorial HERE Totoro Pattern HERE For Umbrella: 3 or 4 different types of fabric Felt: 1 grey, 1 black..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
2015. [Arduino GSM shield](#) This is a very low cost and simple Arduino GSM and GPRS shield. We use the module SIMCom SIM900 . It's the cheaper module now available in the market. The module is not simple to mount by an hobbyist, so we use the Breakboard TDGGSM_900..... Listed under: [Development Board – Kits Projects](#), [Phone Projects](#)
2016. [Dogduino:The Automatic Dog Feeder using Arduino](#) Tired of having to find the dog food to feed the dog? Tired o attack you for his food? Are just plain lazy? If you answered yes to any of these questions, this instructable is for..... Listed under: [Arduino Programmer Projects](#), [Projects](#), [Sound – Audio Project Ideas](#)
2017. [Easy Programmable EL-Wire Wall Art Project with Cool-Neon using arduino](#) Blank space, what to do?, what to do? Our hackerspace has a blank brick wall above the fireplace. It's been a cold winter so we've had a fair number of fires, but there is just something wrong about a blank brick wall. Well in this..... Listed under: [Home Automation Projects](#)
2018. [The Arduino OctoSynth](#) What is the OctoSynth you may ask? The octosynth is a polyphonic synthesizer that is able to produce eight Pulse Width Modulated tones that form together a musical scale. In English terms, it is a 8 key electronic organ that can play more than one..... Listed under: [Projects](#), [Sound – Audio](#)

Projects

2019. [Microcontrolled AC switch using arduino](#) Always wanted to take total control of your electric appliances even without being at home? Well, thanks to this instructable you will be able to do that and much more. Some friendly suggestions before starting: Electricity is very dangerous, read and follow the "DANGER:" advices..... Listed under: [Home Automation Projects](#)
2020. [Representing audio through vibration with Arduino](#) This project functions to display sound using vibration. You plug your iPod, computer, or TV into it and get tactile feedback representing the loudness of the audio. It can help deaf people to experience sound. Stuff you need: Arduino USB Cable Computer running Arduino software..... Listed under: [Sound – Audio Projects](#)
2021. [How to Build a Robot – The BeetleBot](#) Welcome! I have been in robotics since I was a kid and I am very passionate by robotics. I learn BEAM robotics around 1997-98 and started building robots for a science faire project call "Insectroides" in 2001. <http://robomaniac.solarbotics.net> (they change server and the website..... Listed under: [Robotics – Automation Projects](#)
2022. [Psycho Scooter Scramble using an Arduino](#) Psycho Scooter Scramble is a blind-driving electric wheelchair game. It consists of two riders, strapped into electric wheelchairs, and two blindfolded pilots, who remotely control the wheelchairs from the sidelines based on information given over headset by their driver. The basic mechanic is simple: players..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2023. [Mug Music: Turn Water Into an Instrument with Arduino and Chuck](#) What if you could turn any conductive surface into an instrument? Like, say...a mug of water? Best of all, it's cheap; you'll only need \$1 worth of extra electrical components (not including the Arduino). For this project, my friend Harvest and I combined Disney's Touché..... Listed under: [Home Automation Projects](#)
2024. [Making Robots Using Android and Arduino](#) udar Muthu gives a talk on Making Robots Using Android and Arduino at Droidcon India 2011 by HasGeek. ... Listed under: [Arduino Android](#), [Projects](#), [Robotics – Automation Projects](#)
2025. [PORTABLE FORCED-AIR COOLING UNIT](#) here is growing interest in the commercial production of high-value specialty fruit such as strawberries, blackberries, raspberries, and blueberries. Much of the small fruit grown in North Carolina is currently marketed through pick-your-own establishments or roadside stands. A strong demand for these small fruit items..... Listed under: [Home Automation Projects](#)
2026. [Perfboard Hackduino Arduino-compatible circuit](#) Never again will you have to dismantle a finished project just to reuse an Arduino board! This tutorial will go through the steps involved in fabricating your own Arduino-compatible circuit using just ~\$8 of parts (this includes the ATmega chip!). This is perfect for installing and embedding..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
2027. [A solar tracking automatic motorized window blind retrofit using Arduino](#) Buildings account for 20-40% of total energy use in developed countries. Window shades (or blinds) can help to reduce building energy use and improve visual comfort (i.e., reducing glare and increasing daylighting). A recent study showed that occupants are fairly inactive when operating manual roller..... Listed under: [Motor Projects](#)
2028. [Flashlight tag using an Arduino board](#) You probably know the game of flashlight-tag. You just run around in the dark on a campsite. You hold your flashlight and try to shine it on one of the other kids, without the other kids shining their lights on you. I wanted to make..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2029. [Fish Sensing](#) Overview Once again, my project was motivated by my curiosity to explore interesting and unfamiliar territory. I decided to see if I could make my own capacitive sensor and then use it in a project of some sort. After numerous fiascoes with Arduino and computers, I was..... Listed under: [Sensor – Transducer – Detector Projects](#)
2030. [StopIt! LED Game \(powered by arduino\)](#) This project was inspired by this video from YouTube and the Pendulum Challenge Kit from Makershed.com. Its a simple game consisting of five LED lights and one pushbutton switch. The LEDs flash in a sequence and the player must press the button when the middle..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
2031. [Arduino 3-axis Mini Lazer Paper-Cutter](#) Updated : 16/3 Add step 4, about using the stage. Updated : 18/3 Add photos (cutting vinyl adhesive sheet) Updated : 19/3 Add step 5, acting as pen plotter Updated : 20/3 Add laser engraving video (Wood) and photo Updated : 22/3 Add 2 drawings..... Listed under: [Home Automation Projects](#)
2032. [Arduino: an easier way to work with seven segment displays](#) Ever have trouble programming code for seven segment displays? Well they made the 4511 to make things a whole lot easier. What the 4511 does is takes a 4 digit binary input value (ones and zeros), and converts it to a decimal value on a..... Listed under: [LCD Projects](#), [Projects](#)
2033. [Buddy the on-screen seal Robot](#) I've made a video documentation of my midterm project for my 544 class. To keep it shorter, I didn't detail in the video that this is only a completed phase of a larger project: an autonomous robot seal. I was originally going to incorporate a..... Listed under: [Robotics – Automation Projects](#)
2034. [Arduino Joystick Breadboard with LCD Output](#) Want to be able to control a couple of servos with a thumb-joystick? But don't know where to start? I don't have servos, but I can put you on the right track on how to do stuff when you move the thumbstick around. This instructable..... Listed under: [Game – Entertainment Projects](#), [LCD Projects](#), [Projects](#)
2035. [LilyPad Arduino Stuffed Fox Toy](#) For a class on technology in libraries, I had to create a project that used the LilyPad Arduino, and I chose to create a stuffed animal that sings "Jesus Loves Me" while lights flash with the notes. I made a fox, but the pattern to..... Listed under: [Home Automation Projects](#)
2036. [PCB on a Box using Arduino Board](#) Sorry, but I hate cleaning windows, is one of my unfinished business as usual, but I had to do (at least) every time I wanted to etch a circuit board printed by traditional (and perhaps unorthodox) of stick it in cellophane and let natural light..... Listed under: [Development Board – Kits Project Ideas](#), [Projects](#)
2037. [Make A Arduino Candygrabber Machine](#) I've seen a lot of ways to communicate to Arduino over the net, but none of them could handle pushing back the messages from Arduino to the client(you) in real time and vice versa. In this instructable you will learn how to connect to your..... Listed under: [Game –](#)

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[Entertainment Projects](#), [Projects](#)

2038. [Arduino Hardware PWM for stepper motor drives](#) With our new project, JustAddSharks, we are very keen to support the development of open source control software for laser cutters. We are more than happy for people to modify our laser cutters, replace the control system with something suitably open source and then let..... Listed under: [Motor Projects](#)
2039. [How to build your very own Time Fountain using Arduino](#) We have all seen the sweet videos on the tube! You know the magical water fountains that seems to "freeze" the water droplets in mid air, or even make them go backwards! I've been fascinated by these "magical" thingamabobs for quite some while now, and a..... Listed under: [Clock – Timer Projects](#), [How To – DIY – Projects](#)
2040. [Arduino MMAE Graduate Robotics](#) This page provides general information to students enrolled in the EML 6808 course, Analysis and Control of Robot Manipulators. Prerequisites for the course are: EML 4312C, EML 5271, or C.I. Kinematics and dynamics of multibody systems. The topics to be covered include: basic components of..... Listed under: [Robotics – Automation Projects](#)
2041. [Control your motors with L293D and Arduino](#) After long research and trial and error, I have came up to a new walkthrough regarding this nice chip, the L293D. Each project is one project and each one has its own unique power configurations, so you must be aware of the best battery choice..... Listed under: [Motor Projects](#), [Projects](#)
2042. [Barista championship brewing stopwatch • Introduction using arduino](#) Upon the needs of the (2014) World Barista Championship Rules and Regulations, an adequate and precise time measuring is needed during the competition. These measurements are usually done by regular stopwatches with all the benefits (ease of use, common availability) and drawbacks (two stopwatches needed..... Listed under: [Home Automation Projects](#)
2043. [Arduino browser based remote control \(linux\)](#) We have kids. I love them to bits but they keep hiding the remote control for the satellite and TV when they put the children's channels on. After this happening on a daily basis for several years, and after my darling wife allowing me to..... Listed under: [Home Automation Projects](#), [Projects](#)
2044. [Tiich System – Prototype Final Report](#) Introduction: Our main goal with the Tiich system is to design a teaching aid/tool which would replace the conventional whiteboard in a classroom environment. We want our system to be used as an electronic based white board, having all the written information easily be saved..... Listed under: [Sensor – Transducer – Detector Projects](#)
2045. [Lilypad Arduino Rocket Ship Cape](#) I am taking a Children and Technology course for my MLS this semester, and one of our assignments is to create a toy using the LilyPad Arduino development board. The LilyPad Arduino is used to create e-textiles that you can program to do various things..... Listed under: [Home Automation Projects](#)
2046. [Web-controlled Twittering Roomba using an Arduino](#) I wanted to see if I could operate my Roomba remotely and get it to report its status via Twitter while I was away from home. I also wanted to make the device independent of a computer. This is the solution I came up with..... Listed under: [Internet – Ethernet – LAN Project Ideas](#), [Projects](#), [Robotics – Automation Projects](#)
2047. [DIY Arduino Nebulophone Synth](#) I originally wanted to purchase a Nebulophone but, my El-Cheapo price range didn't like the tag. I realized that I could program my own AtMega 328 by using ArduinoISP Then I found out that if the code was Arduino compatible, why not just use the..... Listed under: [How To – DIY – Projects](#), [Phone Projects](#), [Projects](#)
2048. [Make An Social Alarm Clock Using Arduino](#) What it is: Sometimes we want to send special messages to the ones we love but they are sleeping. Soci Alarm Clock allows you to record a message from your browser and send to your beloved's alarm clock. They just have to put it near..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
2049. [Cookies adminitrator box \[Electronics only\] using arduino](#) At home the cookies disappear relatively fast. ¿Why? Well, principally because of me and my father. That's why my mother and my sister have to hide some to eat them later. It's embarrassing, I know, but it's because we are like "Oh, I want to..... Listed under: [Home Automation Projects](#)
2050. [Arduino Fart-O-Meter](#) OH NO! He didn't! Yes I did! My project is simple: Farting in a chair and sending the signal wirelessly to a panel that shows the intensity of the fart! Words of caution: Please do not force yourself to fart, you might shit in your..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
2051. [One Touch Wardrobe using an Arduino](#) I use Arduino Duemilanove With Motor Driver Shield Microcontroller ATmega168 Operating Voltage 5V Input Voltage (recommended) 7-12V Input Voltage (limits) 6-20V Digital I/O Pins 14 (of which 6 provide PWM output) Analog Input Pins 6 DC Current per I/O Pin 40 mA DC Current for..... Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
2052. [Controlling an LED using a switch](#) Concepts So you know what a switch is, but what can you do with it? One of the uses of a switch is to tell the controller to activate/deactivate different components. In this case we are going to use the switch to turn on and..... Listed under: [LED Projects](#)
2053. [Nursery Rhyme Hat using arduino](#) I created the Nursery Rhyme Hat for a class on youth and technology. I'm new to instructables and e-textiles, so please bear with me! This is the first time I have used the Lilypad Arduino or any kind of soft circuit technology, so my coding..... Listed under: [Home Automation Projects](#)
2054. [Rainbow Mega Pong Clock using Arduino](#) This is my take on the clasic Pong clock with an RGB back light that cha thanks to mrnick1234567 and his http://www.instructables.com/id/Pong-Word-Clock/ I did want the light to change randomly through the day but it made a mess of..... Listed under: [Clock – Timer Projects](#), [Projects](#)
2055. [Artist's Machine](#) Tutorial 1 Part One Materials needed for tutorial Working BBB, RBBB, Arduino, or other Arduino compatible (BBB shown in photos) Solderless breadboard 22 gauge solid wire for use with breadboard 3 6mm momentary switches 8 LED's, any color 8 1k resistors, (470 ohm or 220..... Listed under: [Video – Camera – Imaging Projects](#)
2056. [LilyPad Arduino e-Reader Case](#) For a youth and technology class, we were assigned the creation of an Arduino LilyPad project. I liked the idea of connecting the LilyPad project to literacy, so I chose to make a Kindle case that would play music [Hedwig's Theme from the Harry Potter..... Listed under: [How To – DIY –](#)

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Projects

2057. [NESBot: Arduino Powered Robot beating Super Mario Bros for the NES](#) This guide will take you through the steps to build an NES playing robot You will need: An Arduino Duemilanove (other boards will probably work, but you will have to adjust the steps for your device) Working NES Console Super Mario Bros. (Note: this must..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)
2058. [Arduino V-Twin Flux Capacitor](#) I SHALL CALL HIM " PEE-WEE " Personal Electronics Entertainment With Embedded Education. Basically a project that is fun and I learn a hole lot of stuff from it. . This project started out as just a small robot so I could learn more about..... Listed under: [Robotics – Automation Projects](#)
2059. [Tweeting Cat Door using an Arduino](#) Note: to see everything on one page, please go to: [www.tweetingcatdoor.com](#) After receiving many emails requesting Instructions and Kits for building the "Tweeting Cat Door ", I decided to make a version that is stand-alone and doesn't need a computer to be run and that..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
2060. [The Photometric Camera and the CCDs](#) The Photometric System The photometric camera for the SDSS consists of two TDI scanning CCD arrays, one, using 30 Tektronix/SITe 2048 x 2048 CCDs in a 5 by 6 array for five-color photometry, and the other using 24 2048 x 400 chips for astrometry and..... Listed under: [Video – Camera – Imaging Projects](#)
2061. [Mechanical Led Matrix Display](#) First of all we would like to thank everybody that helped organizing the 2nd edition of Arduino Jam, and especially the Jo3ri, who supplied us with some quite cool goodies and kept us safe during the weekend. (Video will come soon!) This project is a..... Listed under: [LCD Projects](#)
2062. [Simple and Impressive Business Card Printer](#) At some point most tinkerers and makers have to take the plunge into the real world - the world of suits and dividends and business cards. Without going completely "American Psycho" on your asses: business cards are important. In many ways they are our keys..... Listed under: [How To – DIY – Projects](#)
2063. [Interactive Logo using an Arduino](#) first of all we would like to thank the organisation and especially the main sponsor, Capgemini, which made all of this possible. This project is a contribution to the first belgian Arduino Jam (2012). During the Arduino Jam 2012, me and two other colleagues put our heads together..... Listed under: [LED Projects](#), [Projects](#)
2064. [Vacuum form an Arduino/Electronics Enclosure](#) If you have access to a vacuum former, or have constructed a DIY one to use, simply vacuum form a compact case to house your standalone electronics or Arduino project. I made this at techshop! [www.techshop.ws](#) Step 1: Bill of materials Material to vacuum form..... Listed under: [How To – DIY – Projects](#), [Projects](#)
2065. [Scratch 4 Arduino and Cybot Control \(Rover basics\)](#) I've had a couple of Cybots as well as the Tom robots for a number of years - every so often they get dragged out and tinkered with. Now is this years turn. I have decided to try my hand at Arduino control of the..... Listed under: [Robotics – Automation Projects](#)
2066. [\[Arduino\] Linefollower with photoresistors](#) I built a linefollower robot that could be used in many different ways, and I summed up my project in some steps. To begin with, all you need is the following parts: Step 1: Robot frame Parts List: -Robot frame -Two wheels -Two DC motors..... Listed under: [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
2067. [Gas Cap using an Arduino board](#) Since you've gotten into electronics, haven't you wondered if there is a fart sensor out there? I sure did. I discovered that if you use a methane sensor, especially the MQ-4, even at very low concentrations, it reads farts. What if you combined that into..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
2068. [CrEST](#) Let's Set Up Your Arduino and Breadboard! Yep, for real: Let's Set Up Your Arduino and Breadboard! (use the instructions here, or flip to page 12 in your book) Step one: Dig through your kit and pull out your: Arduino Wooden Base Breadboard and Jumper..... Listed under: [Other Projects](#)
2069. [New animatronic Eyes: Rock On!](#) Someone had seen Peter Penguin or my Instructables on Animatronic Penguin Torso or Animatronic Eyes, and was working on a sculpture. He wanted to animate the sculpture when someone walked into the room and asked if I could do it. I thought about it for..... Listed under: [Game – Entertainment Projects](#)
2070. [Multifunction Digital Thermometer using an Arduino](#) This instructable will show you how to create a multifunction platform with a thermometer, chronograph (count up timer), count down timer, and light display. It is also intended to be a platform for other analog sensors or any other functions you can think of. Multifunction_Digital_Thermometer.zip71..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
2071. [Bedtime Board using LilyPad Arduino](#) For a class on youth and technology, we were assigned to a project using the LilyPad Arduino, a microcontroller board for making e-textiles. I decided to make a hanging board with a starscape that would light up and play a lullaby. I used cardboard, black cotton..... Listed under: [Game – Entertainment Project Ideas](#)
2072. [Singing Olaf Bag \(Frozen\) Using Arduino](#) For my children and technology class, we were challenged to make a product using a Lilypad Arduino. I am currently obsessed with the movie Frozen, so I decided to create something using one of the most iconic characters of the movie, Olaf. I used a..... Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)
2073. [Arduino MicroControllers, Card Readers, 3D Printing, GS4, Flip Camera!](#) Episode 3 of AndroidTec, Formed by meml Computer Whiz (Jim) and introducing GuyCothal, who discusses about the amazing abilities of Arduino micro con. Androids! Jason also made a guest appearance!... Listed under: [CNC Machines Projects](#), [Development Board – Kits Projects](#), [Memory – Storage Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)
2074. [Randomized Arduino Drum Machine](#) I like drum machines. However they are not always the easiest to build. I wanted one that is: A. Simple, Yet Powerful-If it uses lots of components then it is too complicated B. Sound-It's not a a drum machine if it "beeps" C. Easily Modifiable-If..... Listed under: [Projects](#), [Sound – Audio Projects](#)
2075. [Arduino Automatic Temperature& Humidity Controller for Pets](#) Jack and Jose, a pair of beautiful hamster, has accompanied me over 100 days and nights. Their soft white fur makes me quiet and warm, especially when I coding in the winner. But the very tragic things happened in the last week. As the cold..... Listed

under: [Temperature Measurement Projects](#)

2076. [9 Volt battery adapter for Arduino](#) This is super simple but very useful if you are in a hurry or just like to do things yourself and on the off chance you didn't know, this is about the easiest way to add mobile power to your Arduino. After looking at a..... Listed under: [Battery Projects](#)
2077. [Touch Sensitive Audio Desk Trays- Arduino](#) After having completed my first Arduino project (which can be found here) I wanted to try and create something that had more of a practical use. My idea behind this project was a way of aiding the visually impaired. By the end of this project..... Listed under: [Sensor – Transducer – Detector Projects](#)
2078. [RGB lamp with Custom Moodlamp Library using Arduino](#) I wanted to have an easily programmable RGB light to toss into a Jack 'O Lantern for Halloween. Who really wants a dull pumpkin in these days of pumpkin pimping madness. So I set to work building a pocket tin sized RGB lamp that could..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
2079. [Homemade Magic Lamp Card Box using an Arduino](#) A robot is a virtual or mechanical artificial agent. In practice, it is usually an electro-mechanical machine which is guided by computer or electronic programming, and is thus able to do tasks on its own (<http://en.wikipedia.org/wiki/Robot>). Well, today you will learn exactly how to build..... Listed under: [Home Automation Project Ideas](#), [How To – DIY – Projects](#), [Projects](#)
2080. [High Five Camera Using Arduino](#) Can I tell you a secret? I don't like handshakes. I really don't. Handshakes just make me feel dirty. It's too impersonal. It's a gesture with no soul and reeks of a corporate entity. Why must we limit ourselves to this one boring interaction? Of..... Listed under: [Game – Entertainment Projects](#), [Video – Camera – Imaging Projects](#)
2081. [Twitter Mention Mood Light using Arduino](#) Twitter Mention Mood Light -- a mood light that alerts you when @username is mentioned on Twitter. This is a simple intro in how to control your Arduino from Twitter. If you are new to Arduino Twitter / Arduino Processing Twitter / Arduino Python Twitter..... Listed under: [Internet – Ethernet – LAN Projects](#)
2082. [Arduino makes 2D Level](#) This is a project for Arduino to make a 2D Level, aimed at beginners. Arduino draws a circle on an LED Matrix that moves around according to readings from a 2D Accelerometer. Objectives: * Learn how to draw a circle using simple Math's * Learn..... Listed under: [CNC Machines Projects](#), [LED Projects](#), [Projects](#)
2083. [CSCE 236 Embedded Systems](#) 1 Instructions This is a group assignment for you to work on during class. You only need to hand in one copy of this, but make sure that the names of all of your group members are on this sheet to receive credit. Complete all of..... Listed under: [Other Projects](#)
2084. [Arduino Etch-A-Sketch Clock](#) I've seen various Arduino driven Etch-A-Sketch clocks on the web , but none with instructions (is it some kind of secret? Is someone planning on making it rich in the Etch-A-Sketch Clock global market?). I've used Arduino, but never used stepper motors, real time clocks,..... Listed under: [Clock – Timer Projects](#)
2085. [Blinky Fish using an Arduino](#) Assembly instructions for an add-on board for the Arduino. **** FOR INSTRUCTIONS FOR MARCH 2013, KICKSTARTER PROJECT GO HERE <http://www.instructables.com/id/Blinky-Fish-Kickstarter-Project/> ***** It has some LED's and a button. It connects to digital pins 9-13 and ground. My hope is that this will be useful to people that want to..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
2086. [Second degree equation solver with Arduino](#) This instuctable is about making sort of a calculator that enables the user by using an analog 12-digit keyboard and 4 buttons to input the a,b,c variables into a equation and get the solution for it if there is any.(well if u don't know what..... Listed under: [Calculator Projects](#), [LCD Projects](#), [Projects](#)
2087. [Home Alert: Arduino + Cloud Messaging On A Large Display](#) In the age of mobile phones, you would expect that people would be responsive to your call 24/7. Or... not. Once my wife gets home, the phone stays buried in her hand bag, or its battery is flat. We don't have a land line. Calling..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
2088. [Make A Simple Arduino Book clock](#) This book clock was inspired by florinc and the impressive selection of clocks like the wise clock3 etc <http://www.instructables.com/member/florinc/> My girlfriend likes reading books and there is always a pile of them around the house, however to be able to build this for her birthday..... Listed under: [Clock – Timer Projects](#), [Projects](#)
2089. [DNA Melting Part 2: Lock-in Amplifier and Temperature Control](#) In Part 2 of the DNA Melting Lab you will make revisions to allow greater control of your instrument and to reduce the effects of noise. You will add a pulse-width modulation (PWM) heater controller to enable careful control of the heating and cooling rates..... Listed under: [Temperature Measurement Projects](#)
2090. [Control Any Circuit With a TV Remote \(and an Arduino\)](#) Most of the buttons on a remote control are never used. So why not use them to control appliances and other electronics around your house. In this project, I am going to show you how to use an Arduino to decode the signal from your..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#)
2091. [ElectroFried electronic shock game using Arduino](#) The ElectroFried is a game with a shocking fun level. ElectroFried is developed for the Global Game Jam 2011 in Antwerp in design center the winkelhaak. The Team Jekkos/ Cinezaster decided to make a simple game based on colliding electrons with a particle side effect, a..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2092. [Hacking a Powerglove using Arduino](#) First of all lets get this out of the way... It's so bad This is going to be showing how to hack the Nintendo Powerglove. By hack I mean tap into the flex sensors and use the buttons and d pad and add anything you want. In..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
2093. [Chur-Robot](#) Electrical Components The electrical components are the five motors and their associated circuits, the buttons, and the thermocouple. The Circuit We are controlling two stepper motors, three servos, a thermocouple, and a set of buttons using an Arduino. Our final circuit diagram looks like this:..... Listed under: [Robotics – Automation Projects](#)

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2094.

[Build a Complete AVR System and Play Mastermind using Arduino](#)

The game Mastermind has been around a long time, and I remember getting a board version with colored pegs when I was a kid. I love this game, as it is solvable simply by pure logic. One player (or a computer/microcontroller) chooses a sequence of..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2095.

[Sensor Arduino Lab 2013](#)

This lab most recently revamped by Edgar Berdahl and Wendy Ju. Chris Carlson, possibly Bill Verplank, and others have likely contributed. For this lab you need your Satellite CCRMA kit, a laptop computer with Ethernet adaptor to program it, and some headphones with a mini..... Listed under: [Sensor – Transducer – Detector Projects](#)
2096.

[Arduino from Evil Mad Scientist ATmegaxx8 Target Board](#)

I have been making my own Arduino's on strip-board but recently bought some of the Evil Mad Scientist ATmegaxx8 Target Boards. While they weren't designed as an Arduino board they are perfect to use as they have: - places for the crystal and capacitors (XTL..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
2097.

[Computer Controlled Aiming Method](#)

Design: The rotational motion produced by the motor is transformed into linear motion through the use of a standard 1/2"-13 threaded rod as a lead screw. To account for angular misalignments in the rod the motor is not attached to it directly, but rather through..... Listed under: [CNC Machines Projects](#)
2098.

[Arduino based Etch A Sketch Laser Cutter](#)

In this project I take an Arduino Mini Pro connect it to a custom made Etch A Sketch panel and use it to control a Blacknose laser cutter. The result is hours of crazy laser cutting fun, which we will be taking round most of..... Listed under: [CNC Machines Projects](#)
2099.

[Roll-A-Way Rover using an Arduino](#)

Age Group: 13 - 18 My experimental rover that I built from a Roll-A-Way alarm clock that was on clearance for \$5. It can be controlled via the numeric section of a keyboard when the serial port is connected to a computer or a Wii..... Listed under: [Clock – Timer Projects](#), [Projects](#), [Robotics – Automation Projects](#)
2100.

[The Pick and Place Machine for Surface Mount Devices](#)

¿What questions need to be resolved? ¿How to recognize the origin of the table? -- The table is the piece of the machine where you place your board, and is critical for the pick and place operation. I've thinking in a limit switch system. Will..... Listed under: [Other Projects](#)
2101.

[Design of small scale smart home system](#)

DESIGN OF A SMALL SCALE SMART HOME SYSTEM Gabriel Johnson and Chance Kelsoe INTRODUCTION Design of a smart home system with a LabView/Arduino interface In this project we made use of an Arduino Duemilanove and LabView to design an easy to use graphical interface to represent..... Listed under: [Home Automation Projects](#)
2102.

[Arduino WiFi Garage Door Opener](#)

Ever come home in the rain to find the door locked and your keys elsewhere? No? Lucky you then! For those who have had such an experience or never wish to, this project will let you open your garage door with nay but a smartphone/tablet/laptop/WiFi-thing..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
2103.

[Auduino Lo-fi Synth for Arduino](#)

Hello again. Today I'd like to show you the Auduino. That's right, the Auduino is a Lo-fi Granular Synth that works on arduino. It uses some analog pins and a digital pin. I had loads of fun making and playing with it so I'd love..... Listed under: [Projects](#), [Sound – Audio Projects](#)
2104.

[Ambient Etch-a-Sketch](#)

We built a pseudo Etch-A-Sketch emulator that modifies its appearance based on the user's environment – the temperature and light conditions. Instead of only drawing horizontal and vertical lines, we can draw curved lines by changing the slope of the current line to be drawn..... Listed under: [Game – Entertainment Projects](#)
2105.

[The iDial – Critical Making Personal Identity Augmentation Device](#)

In this critical making project, we will be making a personal iDial, which will give you, the wearer, the ability to reflect on your personal identity in a private space, and then spatially and temporally dislocate your 'private self' into public conversation! You might be..... Listed under: [Sensor – Transducer – Detector Projects](#)
2106.

[Using a laser pointer and a matrix LED as a two-dimensional input device](#)

Laser Command is a game which I build using a 8x8 matrix LED and an Arduino Mini. This game was developed as a "sample" class project in S10-05833 Gadgets, Sensors and Activity Recognition in HCI. The class is taught by Scott Hudson at Carnegie Mellon..... Listed under: [LED Projects](#)
2107.

[Arduino Model Rocket Launcher for 3D Printed Rockets](#)

When I was a kid, I loved playing with Estes Rockets, so I decided to get back into the hobby but using all of my maker skizzls. So here's a really cool Arduino Rocket Launcher launching 3D Printed rockets from my MakerBot Rep2! Enjoy! Fully..... Listed under: [Game – Entertainment Projects](#)
2108.

[LED Super Mario Piranha Plant using an Arduino](#)

We are going to make an Arduino control LED Piranha Plant :) Step 1: What you'll need Arduino Uno 9 Resisters 9 LEDs - Red, Yellow, Orange is best since they need less amperage PIR sensor 9v battery arduino wall plug (you'll be cutting the connection..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2109.

[THE CUBE: A 3D Vibration Jigsaw Puzzle](#)

"THE CUBE" is a 3D jigsaw puzzle, with the added feature that a puzzle piece vibrates for approximately a second when it is placed in the correct place in the puzzle. We accomplished this by building an electrical design such that a circuit delivering power..... Listed under: [Game – Entertainment Projects](#)
2110.

[DIY handmade Hexapod with arduino \(Hexdrake\)](#)

Hello, I'm David and in this instructable I'll show how I made this:

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 X was 16 I became interested in electronic and later in robotics. After getting some level and programming skills usi under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#)
2111.

[Arduino Relay Motor Control Circuit](#)

Connect the Arduino outputs with 5 volt power to the relay coils. Use a separate 9 or 12 volt battery for powering the motor. Connect the 9 or 12 volt power to the relay contacts and the motor. Be sure to avoid connecting the 9..... Listed under: [Motor Projects](#)
2112.

[NFC Computer Unlocker](#)

Quit pulling your hair out over incorrect passwords. Using an Arduino Leonardo and Adafruit's NFC shield, you can unlock your computer with an NFC card. The Arduino reads the NFC card's unique identifier and once it receives the correct one, it uses the Arduino Leonardo's..... Listed under: [Arduino Programmer Projects](#), [RFID - NFC projects](#)

2113. [I2C Communication With An Infrared Temperature Sensor](#) Introduction Contents [hide] 1 Introduction 2 What You'll Need to Know 3 Things You'll Need 4 Connect the temperature sensor 5 How the Temperature Sensor Works 6 Install the External Libraries 7 Program the Microcontroller 8 Conclusion In this lab, you'll see synchronous serial communication in..... Listed under: [Internet – Ethernet – LAN Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#), [Temperature Measurement Project Ideas](#)
2114. [Arduino Mini-Shields](#) This is a set of simple, small form-factor, mini-shields that I created almost by accident. As I made more and more of them, I realized that they could be really useful. What started out as a way to use some spare parts, turned into a..... Listed under: [Development Board – Kits Projects](#)
2115. [Making a program start using a switch](#) Connecting the Switch To connect the switch to the Arduino, you will need the switch, two jumper wires, and a 10kΩ (brown-black-orange) resistor. Once you have all the required parts, you will need to wire the switch to the Arduino using the breadboard. NOTE: The..... Listed under: [Arduino Programmer Projects](#)
2116. [ArduinoISP Bootloader/Programmer Combination Shield](#) I started recently to get interested in building Arduino based robots. Since it is a traumatizing process to take any creation apart, I am opting to keep mine alive and kicking. To lower the cost of this strategy it seems obvious to switch from the..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
2117. [Arduino Light Following Robot](#) Overview This instructable will use three photoresistors (light dependent resistors) and an Arduino to control the motion of a robot. Any common robot chassis can be used for the robot. The light sensors will be mounted on the left side, right side and front of..... Listed under: [Robotics – Automation Projects](#)
2118. [A wireless voice-controllable household system](#) Motivation top We design a smart home control system which allow people control their home devices by voice command at home. This is a wireless, voice control system. People could control almost all the facilities at home including lights, fans or even back ground music..... Listed under: [Home Automation Projects](#)
2119. [Arduino desktop application on java in LAN](#) Description: here we have created an java desktop application using neatbeans. this application turn on led on arduino. this application also work in your LAN. Step 1: Assigning MAC and IP to Arduino board UPLOAD THIS PROGRAM TO ARDUINO. ALSO CHANGE YOUR MAC AND IP..... Listed under: [RTOS – OS Projects](#)
2120. [Magpi: The Micro Arduino Gaming Platform Interface](#) Here's a retro hand-held gaming console I built with my son. It uses an Arduino micro-controller, a small LCD screen, push-buttons, a 3D printed case and home-grown "PC" board. It's really pretty easy to solder and put together. My son & I wrote two games..... Listed under: [Game – Entertainment Projects](#)
2121. [Arduino Double Dice Jewelry Box w/ Secret Switch](#) This was a fun project. Push the red button, watch the dice " ROLL " then stop on a random roll most every time. The hart of this game is the ATMEL ATmega328P on a stand alone board. Powered by 4 AA NiMD batteries. Can you..... Listed under: [Arduino Programmer Projects](#), [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)
2122. [D.I.Y Pneumatic Linear Actuators](#) The D.I.Y. movement has many implications for the future of creativity and commerce. The impact of inventing what one needs rather than purchasing it promises to be empowering, fun, and inspirational. In a long term effort to develop dynamic computer controlled surfaces, I began exploring..... Listed under: [How To – DIY – Projects](#)
2123. [Flashing LED Top Tube Pad for your bike using Arduino](#) Well it's that time of year again. That's right, the sun is going down early, and it's getting hard to avoid logging some miles on your bike after dark. You likely have great lights front and rear already, but what about on the sides of..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
2124. [Fun Shway Display using an Arduino](#) Build a nice looking LCD display with buttons for mounting on the wall. Key Features: 2 line by 24 character LCD display controlled with 4 I/O's (74HC164). Back light control of LCD. 6 Buttons connected to 1 analog pin. LM335 and LM334Z temp sensors. Adjustable..... Listed under: [LCD Projects](#), [Projects](#)
2125. [Build Your Own Sourcemeter Using Arduino](#) This is an explanation and set of building plans for a USB-powered sourcemeter with a personal computer interface. The sourcemeter uses an open-source Arduino microprocessor and the user interface uses the open-source Processing environment. The sourcemeter was designed as a homemade current-voltage (IV) tester to measure the IV..... Listed under: [Metering – Instrument Projects](#)
2126. [Xtreme Buzzwire-4-2 Arduino Jam project](#) This project is part of the Arduino Jam 2012. First of all we would like to thank the organization and especially the main sponsor, Capgemini, which made all of this possible. At the Arduino Jam, during the brainstormsession, we came with the idea to make a classic..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
2127. [ESM – External Serial Monitor Using Arduino](#) Sometimes I needed an external serial monitor like the Serial Monitor in the Arduino Editor, to see what is going on. So I made one. The first picture shows an example how could be it designed. For the ESM I used an Atmel Atmega328 (based..... Listed under: [LCD Projects](#)
2128. [Arduino USB](#) LOG: Made a correction/modification Step 3 and added a picture step 5. So many Arduino users have RBBBs(Really Bare Bones Board (Arduino)) or Anarduinios or Boarduinios that could use a USB interface to program and power them but don't want to spend \$15-20 for a..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
2129. [Control TV functions using Analog input and Arduino](#) Have you ever wanted to use a good old knob to control yo pushing? Or make it controlled by light? Do you want your remote to be replaced by an awesome arduino and let it do the hard work..... Listed under: [Home Automation Projects](#), [Projects](#), [Radio Projects](#)
2130. [DC Motor Control Using an H-Bridge using arduino](#) Overview In this tutorial, you'll learn how to control a DC motor's direction using an H-bridge. To reverse a DC motor, you need to be able to reverse the direction of the current in the motor. The easiest way to do this is using an..... Listed under: [Motor Projects](#)
2131. [Digital Clock Design Using Arduino](#) Introduction This design project utilizes an Arduino MEGA2560 with an ATMEGA1280-16AU microcontroller to create a digital clock. The clock will be able to save time when disconnected from power, and it can be powered from a USB connection or from the wall outlet. The

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clock..... Listed under: [Clock – Timer Projects](#)

2132. [AVR Programming Tutorial](#) This tutorial introduces programming for AVR microcontrollers. It uses the ATmega328p found on Arduino boards, but works with straight AVR C and a bare microcontroller. It covers the basic information you need to get started, whether or not you've used Arduino or other microcontrollers previously..... Listed under: [Arduino Programmer Projects](#)
2133. [Power your Arduino with a Hand-Cranked Battery](#) If you've ever wanted to power your Arduino or AVR from a battery for development testing (batteries have different power delivery qualities than, say, transformed AC or even a regulated wall wart in DC) testing but were tired of going through batteries (Hey, I admit..... Listed under: [Battery Projects](#), [Projects](#)
2134. [Heat-Seeking Desk Fan \(using Arduino\)](#) Summary: The following is a step by step guide on how to make a Heat-Seeking Desk Fan from an Arduino microcontroller, a computer fan, a servo, and an infrared temperature sensor. The device scans the room periodically, automatically pointing itself in the hottest direction (ideally towards..... Listed under: [Home Automation Projects](#)
2135. [Make a Desktop Tamagotchi Using Arduino](#) One day I was sitting behind my desk at work and I got that weird need to build something, after looking around for a bit I got my eye on an LED matrix and that sparked an idea in my head : "I WANNA MAKE..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
2136. [Twitter Enabled Text to Speech using an Arduino](#) Let the world know what you're eating for breakfast with an 80's style vocal synthesizer! This project uses an Arduino to send your Twitter stream to a voice generator chip called the SpeakJet. The setup that I use here can also be extended to other..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sound – Audio Projects](#)
2137. [Microcontrollers: The Basics](#) Different kinds of computers are designed for different purposes. The computer at the heart of your laptop is optimized for different puprposes than the one in your phone or the one in your mouse. The simplest computers are those that are designed to take inout..... Listed under: [Development Board – Kits Projects](#)
2138. [Raspberry Pirate Radio](#) This simple hack turns your Raspberry Pi into a powerful FM transmitter! It has enough range to cover your home, DIY drive-in movie, a high school ball game, or even a bike parade (depending on the stragglers). PiFM software not only boldly enhances the capability of..... Listed under: [Radio Project Ideas](#)
2139. [Arduino Lilypad Slipper Automatic Foot Massager](#) I made a little automatic slipper foot massager with the Lilypad Arduino and some of the Lilypad Vibe Boards for the actual massager. The sensor it uses is a Lilypad Accelerometer that I'm only using as a basic tilt sensor. Essentially it detects when the..... Listed under: [Home Automation Projects](#), [Medical – Health based Projects](#)
2140. [Holiday Dreidel Light Display for Roof using Arduino](#) This Instructable details how to build a holiday dreidel display for your roof. It uses coat hanger wire, rope light, and an Arduino controller to control a fading demo mode and a "spin" mode. In the demo mode, the symbols fade in and out, going..... Listed under: [Home Automation Projects](#), [Projects](#)
2141. [LEGO + Arduino = Brickduino \(1. the LED\)](#) I know LEGO has the Mindstorms-set that probably is great, but wouldn't it be even better (and cheaper) to hack your regular bricks into your own micro controller controlled LEGO? Well I think so! I had this idea for a long time, but to many..... Listed under: [Arduino LED Project Ideas](#)
2142. [John Doherty's Lab Notebook](#) January 9, 2013 (1 hour): Met as a team after class to discuss preliminary project proposal. January 10, 2013 (2 hours): Met as a team after class to finish writing preliminary project proposal. WEEK 01 SUMMARY Accomplishments: Submitted preliminary project proposal. Weekly Work Total: 3..... Listed under: [Internet – Ethernet – LAN Projects](#)
2143. [Arduino Robot V2 \(Fast\) Also Voice Controlled](#) This is my second version of my arduino robot after "Build your first robot". My Second version is slightly complicated as compared to my first one but offers better features. In this instructable I'm going to show you how to build a fast robot which..... Listed under: [Robotics – Automation Projects](#)
2144. [Breathalyzer Microphone using an Arduino](#) The breathalyzer microphone is a system for the inconspicuous collection of blood-alcohol content level data sets. In other words, you can measure a person's sobriety with a device, that for all intents and purposes, looks no different than a standard microphone. This tool adds new..... Listed under: [Medical – Health based Projects](#), [Projects](#), [Sound – Audio Projects](#)
2145. [PowerBox: The Safe AC Power Meter](#) Introduction We designed a device that measures and graphs various aspects of AC power and acts as a computer-controlled remote switch. With the recent push for green energy and environmental friendliness, more and more people are concerned about their personal daily power usage. We developed..... Listed under: [Motor Projects](#)
2146. [Make an Oscilloscope Using the SainSmart Mega2560 with the TFT LCD shield and the 3.5 "color touch screen](#) This instructable will show you how to build a portable Touch Screen Oscilloscope for less than 40 U\$! The oscilloscope is one of the most powerful electronic instruments that is available to electronics hobbyist, experimenters, and engineers. It is mainly used to measue time-varying signals..... Listed under: [LCD Projects](#), [Medical – Health based Projects](#)
2147. [Talking Darth Vader Binary Clock](#) In this instructable I am going to show you, how to paint a black and white image of Darth Vader and bring it to life by adding a binary clock and making it talk. If you are not a big Star Wars fan, don't worry..... Listed under: [Clock – Timer Pro](#) Click here to get AI-based help ✕
2148. [Robot shield for Arduino Board](#) The idea behind this post is to bring together some robot designs and trasform them in a new device with new hardware and standard software (arduino of course) and so easier to use. These robots have three things in common: a mechanical structure, the hardware..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
2149. [Small DC Motor Pwm Speed Controller](#) The photo depicts a speed controller, wired on a breadboard which allows you to vary the resistance in the potentiometer in order to, in effect, control the speed of the small DC motor. The big picture problem is creating an efficient PWM motor controller that..... Listed under: [Motor Projects](#)

2150. [Capacitive Sensing + Open Frameworks + SPACEBREW](#) This is a step-by-step on how to connect Arduino to OpenFrameworks using Spacebrew. More specifically our project focuses on the awesomeness of Capacitive Sensing to alter OF projections to create an awesome tactile experience! What the process will involve: Arduino -> Processing -> SpaceBrew ->..... Listed under: [Sensor – Transducer – Detector Projects](#)
2151. [Arduino Personal Soundtrack Hoodie](#) This was inspired by Raj's personal soundtrack shirt in Big Bang Theory S3, E16, "The Excelsior Acquisition". You can now buy them online but it's much more fun to make your own and it's possible now that buttons designed for use in electronic clothing are..... Listed under: [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)
2152. [Charliexpixed LED Clock – Arduino](#) One of my clocks stopped working – and it happened to be a clock my wife likes a lot. Went to the repair shop and the guy said that he didn't have the spare parts and could not repair this. So – I thought –..... Listed under: [Clock – Timer Projects](#), [LED Projects](#)
2153. [Star Jar Geiger counter triggered LED decoration using Arduino](#) This instructable builds on top of the Geiger counter triggered LED decorations I made last year. This version powers the Geiger counter from the Arduino (itself now powered from a mains adaptor, so I no longer need to keep feeding them batteries) and the LEDs..... Listed under: [Calculator Projects](#), [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
2154. [Arduino Cat Detector SD Card Logger](#) I used: an Arduino Uno a Parallax PIR Motion Sensor and a Seeed Studio SD Card Shield Arduino, shield, sd card, logging shield, storage, logger Check out This instructable on PIRs in case you didn't know what it is: <http://www.instructables.com/id/PIR-Motion-Sensor-Tutorial/> Step 1: Connect your PIR..... Listed under: [Memory – Storage Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)
2155. [Physical Computing with Arduino](#) Digital pins 1-7 are generally used as input pins and Digital pins 8-13 are used as output pins. Digital pins 9-11 can be used as analog output pins. That is, they can send they can send signal of variable voltage. 5/15/2012 Getting started with Arduino..... Listed under: [Calculator Projects](#)
2156. [Pi...In A Single Digit using an Arduino](#) Ah yes. It has been a long time since I posted an Instructable...well here goes: It has been a while since I have been otivated to write an 'ible. During this idle time I have been writing, rewriting and editing code as well as designing..... Listed under: [LED Projects](#), [Projects](#)
2157. [Printer to vinyl cutter hack](#) Vinyl cutters are used in the sign writing industry, and are great for making stickers, signs and graphics. I would like to thank Instructable members silverjimmy and Groover for their fantastic laser cutter instructables, without which I would not of been able to complete this..... Listed under: [CNC Machines Projects](#)
2158. [Auto reset stuff with Arduino](#) Have a problem with my wireless bridge. It works for a some time then, despite it saying everything it fine, refuses to connect wirelessly. All it needs is to be turned off and on again and it works again (for a while!). I decided that..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
2159. [Automatically water your small indoor plant using Arduino + pump](#) Have you ever wanted a little plant to brighten up your desk or home, but you're afraid that you'll forget to water it? Fear no longer! Using an Arduino, a scavenged wall-wart, and a peristaltic pump, you can set up your plant to be watered..... Listed under: [Home Automation Projects](#), [Motor Projects](#)
2160. [Solar Module Using Either Arduino UNO or TI Launchpad](#) This page maintains the necessary documentation (hardware & software) for recreating the Solar Hardware Module ("Solar Module") using either Arduino UNO or TI Launchpad. Prior to creating the solar module, we performed several experiments using a custom built solar panel fixture. For more information on..... Listed under: [Solar energy projects](#)
2161. [Arduino-Powered Vocal Effects Box](#) This Arduino-powered vocal effects box pitch shifts and distorts incoming audio signals to produce a wide variety of vocal effects. This project is my first experiment with real-time digital signal processing using Arduino. It samples an incoming microphone signal at a rate of about 40kHz, manipulates..... Listed under: [Projects](#), [Sound – Audio Projects](#)
2162. [Momentary Switch as Digital Sensor](#) In many cases switches are just switches. They directly control the flow of electricity to an appliance, flashlight or mains-voltage lamp. An example of this is the switch on the wall in your living room. In many cases nowadays however, switches are digital sensors, meaning..... Listed under: [Sensor – Transducer – Detector Projects](#)
2163. [Simple and reasonably accurate pedometer system](#) Our final project for ECE 4760 provides a simple but effective exercise monitoring system of the user's walk or run. With an increase of the number of health conscious individuals hoping to remain fit, we designed a system that allows the user to keep track..... Listed under: [Metering – Instrument Projects](#)
2164. [Smart Thermal + Arduino](#) Many times we are faced with a heat containing coffee and don't know if the fluid is at the proper temperature and it is impossible to know just by looking at the bottle ended up losing time with a coffee that is cold and we..... Listed under: [Temperature Measurement Projects](#)
2165. [Bacon Alarm Clock – Arduino](#) This is a project I came up with that was inspired by my love for bacon! This is an alarm clock that is designed to wake you up with the smell of bacon. With the help of an arduino the alarm clock will already have..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
2166. [Arduino controlled webcam panner](#) This is an instructable to show how to mount a webcam on a servo in a meccano frame and controlling it via an Arduino board. For a while now I was looking to do something more than blinking LEDs with my Arduino. This idea came..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)
2167. [Robotic Arm Trifecta \(Science Olympiad\)](#) In the fall of 2012, we set out to construct a robotic arm for the Science C of performing the required set of tasks efficiently and to perfection. This instructable will attempt to guide you through the thought processes used..... Listed under: [Robotics – Automation Projects](#)
2168. [Interactive Magic Mirror with Candy Dispenser](#) For Halloween 2012 I created an interactive Magic Mirror. The Magic Mirror has a sonar (PING))) sensor that detects when kids are are close. Then the mirror says a few random phrases and automatically drops candy to the bucket. I repurposed my Automatic Candy Dispenser from..... Listed under: [Game – Entertainment Project Ideas](#)
2169. [Arduino FIO Tutorial](#) Overview The Arduino Fio is a microcontroller board based on the ATmega328P (datasheet) runs at 3.3V and 8 MHz. It has 14 digital

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- input/output pins (of which 6 can be used as PWM outputs), 8 analog inputs, an on-board resonator, a reset button, and holes..... Listed under: [Battery Projects](#)
2170. [The Motivational Moody Workout T-Shirt using an Arduino](#) I call this project "The Motivational Moody Workout T-Shirt" . Basically what I wanted to do was a t-shirt that makes you want to get out in the open and work out. To make that work, I sewed a LilyPad arduino onto a t-shirt and..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
2171. [Self-Balancing Robot Using Arduino](#) First of all I want to apologize for my English, if you don't understand something, please, ask. I know that a self-balancing robot is not new, but when I started this project I found a lot of information, but never in the same site, I..... Listed under: [Robotics – Automation Projects](#)
2172. [Interface and Application Programming](#) My sensors have not been functioning too well with my computer, as every time I try to connect the hello.light or hello.mic boards and run python through my terminal, I either get the error "resource busy", or my computer completely freezes! Therefore, I decided to..... Listed under: [Arduino Programmer Projects](#)
2173. [Artemis & Apollo: Dancing with Arduino and light detection](#) According to Ancient Greek mythology, Artemis and Apollo were immortal twins born ages ago on a rocky island in the Aegean Sea. Artemis, her hunting bow poised and fleet feet padding the forest floor, reigned as Goddess of the Moon. Her twin brother, Apollo, strummed..... Listed under: [Game – Entertainment Project Ideas](#)
2174. [Arduino+Stepper Motor Camera Slider](#) This is a trial and error / design and development process which I followed in developing a camera slider for creating time-lapse video clips on my DSLR camera. The idea came from using standard Aluminium extrusions I have available at hardware stores, and create a..... Listed under: [Motor Projects](#), [Video – Camera – Imaging Projects](#)
2175. [Urban Sensing Networks using Arduino](#) Often government data sets available to us online are taken from major nearby metropolitan areas or infrastructural centers. With an easy to follow introduction to new softwares and technologies the "urban sensor kit" allows anyone to obtain location specific information and share that information with..... Listed under: [Sensor – Transducer – Detector Projects](#)
2176. [FINAL Touch sensor with arduino](#) The tutorials we used. <http://www.instructables.com/id/Touche-for-Arduino-Advanced-touch-sensing/?ALLSTEPS> <http://www.instructables.com/id/Calm-Relaxed-Interaction-Plant-Plus-1/?ALLSTEPS> Download arduino software and the processing software. From their respective websites. Processing.org arduino.cc All of the supplies we used: (we didn't include the water bottle as a sensing object, and used an inductor instead of a coil) Arduino..... Listed under: [Sensor – Transducer – Detector Projects](#)
2177. [Arduino powered Lucky Cat as physical Webcounter](#) Everybody wants to know how many pageviews your own website has. But see what's happening you need some analytics code and stuff like this. I wanted to be connected to the wold when I'm sitting on my couch so I connected my Lucky Cat to..... Listed under: [Game – Entertainment Project Ideas](#)
2178. [RFID touch screen Automated Bar – Barduino v2.0 with Facebook Integration!](#) Got an Arduino? Like parties / alcohol? Can't be bothered to make your own bar quality cocktails? Make a Barduino! Its back, with new features in v2.0: Facebook integration - Facebook registration Page to track and graph drink consumption Touchscreen with gesture support RFID user..... Listed under: [Internet – Ethernet – LAN Projects](#), [RFID - NFC projects](#), [Sensor – Transducer – Detector Projects](#)
2179. [Stripboard Arduino shield for programming ATtiny45 and ATtiny85](#) This instructable (entered in the Arduino Challenge contest - you can vote for it above) shows how to make a stripboard Arduino shield for programming either ATtiny45 or ATtiny85 microcontrollers with an Arduino, as per these tutorials from the High-Low Tech group at MIT: Arduino..... Listed under: [Arduino Programmer Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
2180. [Schematic Entry and PCB layout](#) In this lab you will be using a program to enter a schematic and lay out a printed circuit board (PCB) that will then be manufactured. At this point of the semester you don't know enough to design your own circuit, so I am giving..... Listed under: [How To – DIY – Projects](#)
2181. [IMP-ERSONATOR: Electric Imp + Arduino + Wave Shield = Remote Sound File Player](#) This Instructable will demonstrate how to make a remotely activated sound file player. It uses an Electric Imp, an Adafruit Wave shield and an Arduino Uno The Electric Imp enables you to quickly connect devices (including arduinos) to the internet through your Wifi network. The..... Listed under: [Sound – Audio Project Ideas](#)
2182. [Binguino: An Arduino-based Bingo Number Generator](#) Bingo! My granddaughter enjoys playing Bingo, so I went out and bought her a cheap set at a local discount store. The cards and the markers are fine, but the spinner disk for selecting the numbers is a piece of garbage. It flew apart about..... Listed under: [Clock – Timer Projects](#), [Projects](#)
2183. [Intuitive Vibrotactile Feedback Educational Feedback Devices](#) The goal of the project is to come up with an affordable yet generic vibrotactile feedback device to be used for educational purposes. A chemistry learning environment is developed to demonstrate a specific application of our device, in which users can manipulate ions and feel..... Listed under: [Internet – Ethernet – LAN Projects](#)
2184. [Bird Proof Squirrel Feeder & Solar Powered Camera using Arduino](#) The Solar Powered-Bird Proof Squirrel Feeder w\ Camera will allow squirrels to retrieve seeds, nuts, and corn kernels without worrying about those pesky birds stealing all their food. While your squirrel enjoys the spoils of your feeder, you'll enjoy lovely digital photos to entertain and..... Listed under: [Home Automation Projects](#), [Video – Camera – Imaging Projects](#)
2185. [How To Build A Arduino Mood Lighting](#) This instructable will show you who to build a rgb lighting system with an Arduino. You can also control it with an iPod/iPhone/iPad using touchOSC. In my previous instructable I showed how to control one rgb led in this you can [Click here to get AI-based help](#)  [Projects](#), [Projects](#)
2186. [Combination Circuit for Digital and Analog](#) Goals Understand the Analog Signals and use your knowledge to program your Arduino and let it play music Get known of the Seven-segment display and use your Arduino Board together with the Shift Register to control the number. In the Second Week you will be..... Listed under: [CNC Machines Projects](#)
2187. [Animatronic Tentacles with Arduino](#) ***Disclaimer***This instructable is documentation for a work in progress. Although the project is not yet complete, it has reached a place where I believe it can begin to be beneficial to other makers. The concept for this project was spawned when a friend suggested I..... Listed under: [Game – Entertainment Project Ideas](#)

2188. [Build Your Own BARBOT using Arduino](#) Ever wanted a robotic liquor server? I purchased a Lynxmotion robotic arm last year and an Arduino (deci) to play around with. I had it serial controlled with a joystick and it was a great way to start in robotics. More recently I wanted to..... Listed under: [Robotics – Automation Projects](#)
2189. [Highly maneuverable search and rescue robot](#) Finalized Prototype Shown below is the finalized prototype. The purpose of the prototype was to demonstrate the feasibility of a small, highly maneuverable search and rescue robot. As such, the completed prototype was successful. Capabilities include a ground speed of 10 inches per second, battery..... Listed under: [Medical – Health based Projects](#), [Robotics – Automation Projects](#)
2190. [How to make and use the arduino as an Isp for an ATtiny85](#) In this instructable I will show you how you can make your own Atting programming shield for the arduino and then use the arduino as a programmer. Usually If you don't have a shield you can do a breadboard version to program the ATtiny. (Step1)..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
2191. [DIY Super Bright LED Skate Lights](#) You might remember my first set of lights that I put on my dad's skates. Well those weren't bright enough and they were a lot of work because I didn't know how to make PCBs. In this i'ble I'll cover how to make your own..... Listed under: [LED Projects](#)
2192. [Interactive LED box Using Arduino](#) Project Goal The goal of this project is to create a low resolution display of graphical art that interacts with people who are handling it. My basic idea is to create such a "magic box" with a LED matrix on one side. It should be..... Listed under: [LED Projects](#)
2193. [RoboDolly](#) The Birth of RoboDolly The conception of the RoboDolly can be traced back to my senior year of high school. This aluminum ornament evolved from housing a few flashing lights to displaying a fully handmade LED matrix. The final product was awarded to my robotics..... Listed under: [Robotics – Automation Project Ideas](#)
2194. [Plush toy, singing with Mommy's voice](#) This Instructables is about upgrading a plush toy to give it the ability to sing when baby presses its belly. Most importantly : it will not play a stupid pre-recorded music, but actually sing mommy's songs, with mommy's voice ! This project started with two..... Listed under: [Game – Entertainment Project Ideas](#), [Sound – Audio Project Ideas](#)
2195. [Biometric Sensing Computer Mouse](#) In the past five weeks, we have considered and built three projects, ranging from: optical sensing, electromyography (EMG), and galvanic skin response detection. Initially, our project was using an optical sensor and EMG to detect finger movement for applications, such as: playing piano and Morse..... Listed under: [Sensor – Transducer – Detector Projects](#)
2196. [BabyTracker](#) I found a pressure sensor matrix that we could adapt to a pressure sensor patch on the stomach of the women in labor on this webpage (see below). It gives instructions how to build a pressure sensor by using two pieces of cloth and conductive..... Listed under: [Medical – Health based Projects](#)
2197. [Mechanical Bull for Dolls](#) This mechanical bull was created as a weekend hobby. The creation process was simple and did not last more than two hours. The materials I already had at home. For those who wish to make an equal, will be a good opportunity to recycle materials..... Listed under: [Game – Entertainment Project Ideas](#)
2198. [Custom Arduino Shield and Sensors](#) Overview: This instructable will construct a series of custom sensor modules and an Arduino shield. Such modules are available from many different sources, but fans of the Instructables website would probably find satisfaction in making their own. Each module will be a set size of..... Listed under: [Sensor – Transducer – Detector Projects](#)
2199. [How To Make The Easiest Breadboard Arduino-Compatible Sanguino-Equivalent](#) Okay so the Title is indeed a bit of a mouthful lol ! Ive been needing to mess around with a desire for MORE Input/Output pins than the Arduino UNO and nowadays the UNO uses an Atmega328 microcontroller, & its limited to only about 20..... Listed under: [Development Board – Kits Projects](#)
2200. [Head Mouse – Game controller or disability aid using Arduino](#) My kids wanted to have a head controlled mouse for playing Minecraft - they wanted to move their heads and have the field of view move. I decided that was a challenge I couldn't resist, so I decided to build a movement controlled mouse using..... Listed under: [Game – Entertainment Projects](#), [Medical – Health based Projects](#)

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