



# Use Arduino for Projects

## Arduino Project Lists

1. [Arduino Digital Output Project: Simple Output with LEDs](#) Simple Output with LEDs Arduino Digital Output Project introduces users to the Arduino software environment and basic digital circuit construction. By running example programs, users gain foundational knowledge of Arduino's capabilities. They then apply this knowledge to build and control a simple LED circuit. This..... Listed under: [LED Projects](#)
2. [Connecting the Electronics: Stepper Motor Control with Arduino](#) The wire diagram serves as the fundamental blueprint of the project, visually showing the pairwise connections between all components. It supports Stepper Motor Control with Arduino by clarifying how different parts interact, helping engineers or technicians assemble the system correctly and analyze problems effectively, as..... Listed under: [Motor Projects](#)
3. [3D Montage in Motion: A Drone-Ground Virtual Environment for Spatial Expression](#) Mobile Camera/Drone Interaction The project "Inspection" merges physical and virtual worlds by creating an evolving 3D photomontage using a Drone-Ground Virtual Environment system. A drone, ground robot, and ultrasonic sensors collect real-time data to build dynamic virtual spaces via the Voronoi Algorithm. This approach offers..... Listed under: [Robotics – Automation Projects](#)
4. [Coding Robotics with Arduino: Programming Microcontrollers with Arduino](#) It introduces the guide's main goal: to teach the basics of sensors and coding in a VEX robotics project using Programming Microcontrollers with Arduino, giving users a solid starting point for hands-on robot building and programming. Microcontrollers This paragraph explains that a microcontroller is a..... Listed under: [Robotics – Automation Projects](#)
5. [Simulating the Water Cycle in a Desert Using an Arduino-Controlled Pump](#) Simulating the Water Cycle in a Desert Particularly under desert-like conditions, this project focuses on creating an automated irrigation system fitted for succulent plants. Maintaining a consistent watering schedule devoid of human intervention is the fundamental purpose, therefore guaranteeing the plant gets water in regulated..... Listed under: [Motor Projects](#)
6. [How to Build a Finger Scanner Using Arduino](#) Biometric technologies have materially grown broader within the community of secure identity verification. Among these, Finger Scanner Arduino attracts attention on grounds of accuracy and uniqueness with a wide spectrum of applications. The crux of finger scanner Arduino project is that the user can register..... Listed under: [Security – Safety Projects](#)
7. [Smart Glove for Sign Language Translation using Arduino](#) Sign language is a beautiful and essential mode of communication, yet unfortunately, it is not widely understood. The Smart Glove for Sign Language Translation aims to bridge that communication gap. This innovative device translates hand gestures into text or audio in real-time, enabling those who..... Listed under: [Sensor – Transducer – Detector Projects](#)
8. [Arduino based 7 segment gps clock EDT time](#) We will guide to develop Arduino based 7 segment gps clock which will show EDT time. Accurate time is provided via synchronized clocks with the global positioning system (GPS). These clocks are ubiquitous and frequently found at bus stops, train stations, and airports. These are..... Listed under: [Clock – Timer Projects](#), [GPS Based Project Ideas](#)
9. [Google Docs and the Arduino Yún](#) Introduction This is the second in a series of tutorials examining various uses of the Arduino Yún. In this article we'll examine how your Arduino Yún can send data that it captures from the analogue and digital inputs and a real-time clock IC to an online Google..... Listed under: [Internet – Ethernet – LAN Projects](#)
10. [Arduino Compatible apc220 Wireless rf Module with Graphics LCD](#) 16 node mesh, up to 1000m between nodes, sample two analog voltages per node, link any node to any other node, display data on any node with either graphics or text display, turn on relays based on data at any node, fault tolerant with data..... Listed under: [RFID - NFC projects](#), [Wireless Projects](#)
11. [Arduino with ESP8266 – Reading Data from Internet](#) The ESP8266-01 has been a great module to quench all our thirsts for IOT projects. Since its release, it has developed a strong community and evolved into an easy to use, cheap and powerful Wi-Fi module. Another open-source platform which is much more popular is..... Listed under: [Wifi - Wlan Projects](#)
12. [Bucky Touch: Light-up Dodecahedron Instrument](#) About two years ago, I built a big 120 face LED geodesic dome that plays music with a MIDI output. However, it was a difficult build and the sensors weren't completely reliable. I decided to build the Bucky Touch, a smaller version of my geodesic dome that..... Listed under: [Development Board – Kits Projects](#)
13. [A web-based radio-controlled car using Arduino UNO R4](#) Introduction Remote control cars have been used for ag people enjoy the feeling of driving from the comfort of their homes. As children's toys radio-controlled Cars still play an informative role for all those willing to learn..... Listed under: [Car Projects](#)

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14. [Low-Cost Arduino Based TDS Meter for Water Quality Monitoring](#) Introduction However, the emphasis of this paper is on having to continuously assess water quality to provide good-quality drinking water. The aforesaid condition is total dissolved salts or TDS reflecting the concentration of salts and very small portions of organic matter in water. High TDS..... Listed under: [Other Project Ideas](#)
15. [DIY Arduino Turntable for Photogrammetry: Affordable Build](#) Welcome back to my deep dive into the creation of a low-cost DIY Arduino turntable designed for photogrammetry enthusiasts. In this continuation, I will share a detailed, step-by-step breakdown of the build process, highlighting the technical challenges and

solutions, while providing comprehensive resources to empower..... Listed under: [Other Projects](#)

16. [Exploring the Possibilities of the Arduino Sensor Kit-Base](#) An Introduction to the Kit The Arduino Sensor Kit-Base is defined as an educational tool for understanding how sensors and microcontrollers work. Arduino, an open-source hardware giant, designed this basic kit, and it is cheap compared to other kits out in the market and easy..... Listed under: [Arduino News](#), [News & Updates](#), [Sensor – Transducer – Detector Projects](#)
17. [Gravity Analog pH Sensor Kit: Affordable & Accurate Monitoring](#) Gravity's Innovative pH Monitoring Solution Analog pH Sensor –A meter kit from Gravity has been developed to provide a precise yet cheap way of measuring pH in different environments and for different uses. Because of its simplicity of use and versatility that results from serving..... Listed under: [Arduino News](#), [Blog](#), [News & Updates](#), [Other Project Ideas](#)
18. [Arduino PLC Starter Kit: A Gateway to Automation](#) PLCs or programmable logic controllers are among the most adaptable and common automation devices employed in industries and most equipment. While traditional PLCs are cost effective they are also somewhat costly and difficult to program, thus restricting their use in education and for hobbies. This..... Listed under: [Arduino News](#), [Arduino Programmer Projects](#)
19. [Arduino Switch \(case\) Statement, used with serial input](#) An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This guide..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
20. [Sleep Tracking using an Arduino](#) Background and motivation Two factors inspired this project: my struggle to wake up in the morning and my enjoyment of collecting and graphing data from daily tasks. My main problem with waking up in the morning is that feeling of grogginess along with an intense..... Listed under: [Home Automation Projects](#), [Metering – Instrument Projects](#), [Projects](#)
21. [u-blox Module Release, STMicro, and Arduino: IoT Communications News Brief Roundup](#) Introduction This commentary will provide an in-depth analysis of the key developments highlighted in the article titled "u-blox Module Release, STMicro, and Arduino: Please find the compilation of the latest news on IoT Communications below: The article is an account of the latest announcements and..... Listed under: [Arduino News](#), [News & Updates](#), [Other Projects](#)
22. [An In-Depth Look at the Arduino Plug and Make Kit](#) Introduction The Arduino Plug and Make Kit is an all-in-one starter kit for learning the basics of electronics and coding with Arduino. It contains everything needed to create interactive electronic projects without experience. In this greatly detailed commentary, I will examine the parts and characteristics..... Listed under: [Arduino News](#), [News & Updates](#), [Other Project Ideas](#)
23. [Arduino Nano Matter: Community Preview](#) Overview of the Project Arduino Nano Matter is the new project that is to be opened with the same main board and additional software based on the Arduino Nano microcontroller. The idea is to create a small-scale, affordable, and versatile platform for as many practices..... Listed under: [Development Board – Kits Project Ideas](#), [Other Project Ideas](#)
24. [Simple Event Counter](#) The miniscule event counter based on a microcontroller is built using the affordable Digispark Attiny development board. A benefit of this design is that it can be connected to its trigger input regardless of whether it is an active or passive switch. Every time the..... Listed under: [Metering – Instrument Projects](#)
25. [PS/2 Keyboard Or Mouse using Arduino](#) Arduino is not restricted to receiving data from sensors only; you have the ability to also link a full-size PS/2 keyboard and type as you would on a traditional computer. Attaching a keyboard to an Arduino may seem strange (since it's a small microcontroller), however,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
26. [Play Midi Files From an SD Card Using Your Arduino UNO](#) Save MIDI files on an SD Card and use an SD shield connected to your Arduino to play these songs on a MIDI device. This project demonstrates the development of a MIDI player using Arduino. The Arduino is connected to a DS1307 Data Logger Shield..... Listed under: [Other Projects](#)
27. [PIR Motion Sensor With Arduino in Tinkercad](#) We will learn how to detect movement in a space using a PIR motion sensor and Arduino's digital input. We will set up a circuit with a breadboard and use basic Arduino code to manipulate a solitary LED. We will utilize Tinkercad Circuits to replicate..... Listed under: [Sensor – Transducer – Detector Projects](#)
28. [Model Airplane Autopilot using Arduino](#) Hello everyone! My age is twenty years. I started using my Arduino for the first time during Christmas, and I have been busy working on Arduino projects to create this instructable for you. I trust that it will be beneficial! The purpose of this project..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
29. [Introduction to Arduino Using TinkerCAD Simulator: No Hardware Required](#) Context and Preparation Getting started with tinkering on Microcontrollers can often be hindered by the need to purchase hardware. In this tutorial, we offer an introduction to Arduino that requires no prior experience and no physical hardware. Instead, we will utilize an Arduino simulator called..... Listed under: [Other Project Ideas](#)
30. [How to use a Piezo element to detect vibration using Arduino](#) This tutorial shows you how to use a Piezo element to detect vibration, in this case, a knock on a door, table, or other solid surface. A piezo is an electronic device that produces a voltage when it undergoes physical deformation from a vibration, sound..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
31. ["HiFi" Online Radio: Internet Streaming With ESP32 and VS1053](#) Instructions on creating an Internet Radio Stream Click here to get AI-based help ✕ "VS1053". Numerous tutorials exist for a device like this online (many of which provided the information and ideas version as I had..... Listed under: [Other Projects](#)
32. [Beat the Heat: DIY Temperature-Controlled Fan Speed Regulator](#) This project is an independent fan speed regulator that automatically adjusts the speed of an electric fan based on real-time feedback. The use of embedded system technologies like a microcontroller and closed-loop control architecture enables successful and reliable temperature regulation. The ATmega8/168/328 microcontroller allows for..... Listed under: [Temperature Measurement Projects](#)
33. [Automatic Water Dispenser using Arduino](#) Automatic Water Dispenser using Arduino Approximately 71% of the Earth's surface is water, yet only a meager 2.5% of it is potable. Due to increased population, pollution, and climate change, it is anticipated that we will face year-round water scarcity as early as 2025. On.....

Listed under: [Home Automation Project Ideas](#)

34. [Automatic Pet Feeder using Arduino](#) Today we are constructing an Arduino-based Automatic Pet Feeder that can dispense food to your pet at scheduled times. It includes a DS3231 RTC Module to establish the feeding schedule for your pet with accurate time and date settings. Therefore, the device will automatically dispense..... Listed under: [Clock – Timer Projects](#)
35. [Automatic Missile Defence System](#) The Automated Missile Defense System is capable of neutralizing airborne threats such as planes, high-altitude ballistic missiles, and low-altitude cruise missiles. Having missile defense systems is crucial for India due to its surrounding hostile neighbors. A Surface to Air missile is a type of missile..... Listed under: [Security – Safety Projects](#)
36. [Arduino Sketch Rock Paper Scissors](#) This drawing showcases a rock-paper-scissors game that utilizes three pushbuttons for user input, two hobby servos instead of a human hand to show the countdown and selections, and tone feedback through a speaker. The code is designed to showcase a variety of techniques. non-blocking event..... Listed under: [Game – Entertainment Projects](#)
37. [Arduino Mosquito Repeller](#) In this tutorial, I will demonstrate how to create a mosquito repellent device with the help of an Arduino. The repellent comes in a shield form that can be connected to the Arduino board, allowing for easy modification of its frequency. This project is perfect..... Listed under: [Other Projects](#)
38. [Arduino – Control a DC motor with TIP120, potentiometer and multiple power supplies](#) A simple diagram demonstrating how to regulate the velocity of a DC motor using a potentiometer connected to your Arduino device. Additionally demonstrates the method of utilizing a TIP120 transistor for enabling the Arduino to manage a more powerful power source. Transistors consist of 3..... Listed under: [Metering – Instrument Projects](#), [Motor Projects](#)
39. [Arduino Button Mouse Control Code](#) With the Mouse library, an Arduino Leonardo, Micro, or Due can manipulate the onscreen cursor of a computer. This specific instance involves the use of five pushbuttons to control the movement of the cursor on the screen. Four buttons control direction (up, down, left, right)..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
40. [TMP36 Temperature Sensor With Arduino in Tinkercad](#) For this assignment, your goal is to transform the Arduino into a thermometer! Utilize a temperature sensor to track your skin's temperature and record the information using three LEDs. The Arduino, being a digital tool, is able to collect information from analog devices such as..... Listed under: [Temperature Measurement Projects](#)
41. [Power Quality Meter \( PQ Monitor\) using Arduino](#) Arduino UNO project, Power Quality Meter, someone would call it's PQ Monitor or PQ Analyzer. I had already published one blog devoted RMS voltage measurements on full band 20 – 20 000 Hz audio signals. ( Following my own style, I'd refer to already published..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
42. [PID Thermostat For The Arduino](#) PID Thermostat This PID thermostat is designed for the arduino platform. It provides separate tuning parameters for several hardware 'profiles', and features an autotune mode to calculate the PID parameters for a specific setpoint. Installation Hardware DS18-series (I'm using the DS18B20) temperature sensor Solid-state relay..... Listed under: [Sensor – Transducer – Detector Projects](#)
43. [Multiplexing 7 Segment displays with Arduino and Shift Registers](#) This guide will explain the basics of controlling multiple 7 segment displays using an Arduino and a couple of shift registers. This project is ideal for displaying numerical data or managing a set of LEDs. As a beginner, like me, I had no clue on..... Listed under: [Calculator Projects](#), [LCD Projects](#)
44. [MQ-7 Carbon Monoxide Sensor Circuit Built with an Arduino](#) In this project, we will go over how to build a carbon monoxide sensor circuit with an Arduino. The sensor we will utilize is the MQ-7 sensor for detecting carbon monoxide. This sensor is responsive to the impacts of CO. Carbon monoxide (CO) is a..... Listed under: [Sensor – Transducer – Detector Projects](#)
45. [Maze Solving Robot](#) In this guide, I will demonstrate how to construct a robot that can solve mazes. This is my third try at creating one. The initial attempt was a total flop. The second was proficient at reaching the maze's end but could not backtrack and take..... Listed under: [Robotics – Automation Projects](#)
46. [Interfacing Electronic Circuits to Arduinos](#) Interfacing Electronic Circuits to Arduino In this tutorial, I show how to link an Arduino to an ARINC 429 transceiver as an illustration of interfacing an Arduino with circuits, so you can use these methods for your projects. The ARINC 429 bus is commonly utilized..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
47. [How to make Arduino Laser Turret using Servo motors and Joystick](#) Arduino Laser Turret, Overview: In this endeavor, I will show how to construct an Arduino laser turret with servo motors and a two-axis joystick. I will supply the code needed along with a circuit diagram, along with a thorough explanation of the project. This will..... Listed under: [Motor Projects](#)
48. [Ethernet Switching – with Arduino](#) Aim: Switch relays from the ethernet or the internet, using your mobile, tablet or computer with a nice graphical user interface. Update V4.06 Please read the below steps to Step 2 if you are viewing this article for the first time. Please go to step..... Listed under: [Internet – Ethernet – LAN Projects](#)
49. [DIY Self Balancing Robot using Arduino](#) After seeing RYNO motors and Segway's self balancing scooters, I was always interested in creating something alike. After some consideration, I made the decision to create a Self Balancing Robot using Arduino. This way, I would understand the fundamental ideas behind the scooters and also..... Listed under: [Robotics – Automation Projects](#)
50. [DIY ESP32 Wifi Self Balancing Robot – B-Robot ESP32 Arduino Programing](#) <https://youtu.be/tZynIj1StpM> This article is proudly sponsored by PCBWAY. PCBWAY make high quality prototyping PCBs for people all over the world. Try it for your self and get 10 PCBs for just \$5 at PCBWAY with very great quality, Thanks PCBWAY. The ESP32 Balancing Robot Shield..... Listed under: [Robotics – Automation Projects](#)
51. [Create laser range finder using arduino](#) [su\_highlight bgcolor="ffbb00"]I have collected 2 methods to create laser range finder, one is very simple but for hobbieist the first one using arduino clock but it comes with errors. Its just to conceptualize how we can create range finder. The second one with the The 7558..... Listed under: [LED Projects](#)

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52. [Blink led example arduino with python](#) To blink an LED with an Arduino using Python, you will need to: Connect the LED to the Arduino board. You will need to connect the positive leg of the LED (the longer leg) to a digital output pin and the negative leg (the shorter..... Listed under: [How To – DIY – Projects, LED Projects](#)

53. [Arduino Datalogger](#) This tutorial will show you how to build a simple data recorder using Arduino. The aim is to understand the basic principles of using Arduino to collect data and show it on the terminal. This basic structure can be used for a variety of purposes..... Listed under: [Arduino Android](#)

54. [Arduino-Based Robotic Arm Controlled by Hand Gestures](#) Introduction Greetings to all, hoping everyone is in good health. We're thrilled to present our newest article about Arduino projects. This article discusses the development of a robot arm that is operated through hand movements with the help of Arduino UNO. To identify hand motions,..... Listed under: [Robotics – Automation Projects](#)

55. [Arduino RC Robot](#) <https://youtu.be/ytwDgwwSEc0> Description A durable, 3D printed, remote controlled Arduino based robot with several hundred meters range. A modular quick-connect motor scheme lets you rapidly prototype different robot designs without any tools. Perfect for robotics education for kids. Whats it all about? So you've just started..... Listed under: [Robotics – Automation Projects](#)

56. [Low Cost Bioprinter](#) The goal of this project is to develop a low-cost bioprinter to make bioprinting more accessible to research institutions. Currently, low-end bioprinters cost approximately \$10,000 while high-end bioprinters cost approximately \$170,000. In contrast, our printer can be built for approximately \$375. Supplies: Parts: Ramps 1.4: <https://www.amazon.com/HiLetgo-Control-Printer-Su.....> Listed under: [CNC Machines Projects](#)

57. [Motion Tracking Face](#) <https://youtu.be/Nqh3Ej8qfTU> Meet Chartreuse! Chartreuse's face follows you when you walk by. When she sees you, her eyes turn yellow and she gets a happy expression in her eyes. As you walk away, her eyes change to blue and she sadly turns away. Chartreuse is powered..... Listed under: [LED Projects](#)

58. [Steam Linked Display Shelf](#) Back Story My brother has Funko POP figures that represent his characters that his friends play most often in video games. We thought that it would be cool if they had a display case that would have LEDs in it to represent their status on..... Listed under: [LED Projects](#)

59. [Arduino Decoration](#) There's a lot of night lamps outside, but they can't customize to your favorite color. So, this project is to make a night lamp that you can choose your favorite color. Step 1: Step One: Electronics Needed Here are the electronics you need to make..... Listed under: [Other Projects](#)

60. [10 Million YouTube Subscribers Award LED PCB](#) <https://youtu.be/WhDgftYFQ5g> Summary This PCB (Printed Circuit Board) resembles the YouTube Play Button award that is given out to creators for reaching certain milestones such as 100,000, 1 million, and 10 million subscribers. When the switch is turned on, the user can scroll through 5 different..... Listed under: [LED Projects](#)

61. [Key Safe](#) <https://youtu.be/NLhxGl8CpGc> During weekdays, I seldom bring my key out, but this causes difficulty when my mother left the house. By having no other choices, my mom has to leave the key inside the cabinet beside the door, which has no guarantee of whether the key..... Listed under: [Security – Safety Projects](#)

62. [Iron Man's Arc Reactor That Pulses With Your Heart Beat](#) <https://youtu.be/bnX99E5VdHI> There are lot of DIY arc reactors out there that look pretty cool. Some look realistic too. But why build something that just looks like that thing and does not do anything. Well, this arc reactor is not going to protect your heart using..... Listed under: [Medical – Health based Projects](#)

63. [Secure IOT With AWS and Hornbill ESP32 Using Arduino](#). Security of connected devices is of paramount concern. There are several possible ways to make the devices secure. One of the most essential and widely used options is to use end to end encryption. The widely used Transport Layer Security (TLS) version 1.2 is the..... Listed under: [Other Projects](#)

64. [ISS Globe- Blinks When the ISS Passes Overhead](#) <https://youtu.be/CFkH0GL3vdY> Howdy! If you are interested in astronomy and always look up at the stars and not down at your feet, you'll surely know the ISS. The ISS or The International Space Station revolves around the earth around 16 times per day. Being an aerospace..... Listed under: [Other Projects](#)

65. [Betta Fish Feeder](#) I'm setting up a betta fish tank and wanted to make an automatic fish feeder so he never misses a meal. I've seen other DIY fish feeders that just shake a container but I wanted to be able to precisely control how much food he'll..... Listed under: [Motor Projects](#)


66. [Cat Whisker Sensory Extension Wearable \(2.0\)](#) This project is a continuation and reimagining of my former colleague's (metaterra) "Whisker Sensory Extension Wearable". The purpose of this project was to focus on the creation of novel, computationally-enriched "sensory extensions" that allow for augmented-sensing of the natural world. My major effort with this..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

67. [How to Make an Arduino Weather Station With DHT11 Temperature and Humidity Sensor](#) Recently I started playing around with DHT11 Temperature and Humidity sensor, at that time around, I had an idea to make a small yet effective Weather Station, so in this project inscrutable, we will use the DHT11 sensor from the previous tutorial and turn it..... Listed under: [Sensor – Transducer – Detector Projects](#)

68. [Alexa Controlled Dog Feeder](#) This is our dog Bailey. She's part Border Collie and Australian Cattle Dog so sometimes she's smarter than her own good, especially when it comes to telling time and knowing when she should be eating dinner. Typically, we try to feed her around 6 PM..... Listed under: [Medical – Health based Projects](#)

69. [Crocodile Solar Pool Sensor](#) This instructable shows how to build a rather special pool sensor measuring the pool temperature and transmitting it via WiFi to Blynk App and to a MQTT broker. I call it the "Crocodile Solar Pool Sensor".It uses the Arduino programming environment and an ESP8266 board (Wemos..... Listed under: [Solar energy projects](#)

70. [Monster Catcher Night Light](#) <https://youtu.be/iJaVelyJZwk> This nightlight doubles as a trap to catch monsters under the bed! Before you go to sleep at night, place it under your bed and it will catch any monster under there. It even keeps a light on all night to make sure new..... Listed under: [Other Projects](#)

71. [Infinity Gauntlet Controlled Home Automation](#) <https://youtu.be/-H7YejeUWbl> In my previous project i have made an infinity gauntlet that control a light switch. I wanted to use six stones and each stone can control appliance, door lock, or lighting.So, I made a home automation system using infinity gauntlet. In this
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project I used..... Listed under: [Home Automation Projects](#)

72. [Inverted Pendulum: Control Theory and Dynamics](#) <https://youtu.be/xwXPipYmJ9A> The inverted pendulum is a classic problem in dynamics and control theory that is generally elaborated in high-school and undergraduate physics or math courses. Being a math and science enthusiast myself, I decided to try and implement the concepts that I learned during my classes to..... Listed under: [Other Projects](#)
73. [Arduino Fireflies](#) <https://youtu.be/S8C5a9tcbgk> One of the things I look forward to with summers in Pennsylvania are fireflies in my backyard. I recently taught myself Aduino programming for the purpose of making this simple project. It's a great program to start with and is easy enough for any..... Listed under: [Other Projects](#)
74. [Unsafe Noise Level Alert System](#) The Oshman Engineering Design Kitchen (OEDK) is the largest makerspace at Rice University, providing a space for all students to design and prototype solutions to real-world challenges. To serve this purpose, the OEDK houses a number of power tools and large machinery that produce loud,..... Listed under: [Security – Safety Projects](#)
75. [How to Make a Self-Watering IoT Planter With a Mason Jar and an ESP32!](#) Introduction: On one of my weekly pilgrimages to Lowes (as any devout Kansan does), I found a sad little plant in the Gardening Department: a Janet Craig Compacta. The poor little guy looked lonely and dehydrated. We clicked right away and immediately I knew I..... Listed under: [Home Automation Projects](#)
76. [The Brachistochrone Curve](#) <https://youtu.be/1BdO8J0iynY> The brachistochrone curve is a classic physics problem, that derives the fastest path between two points A and B which are at different elevations. Although this problem might seem simple it offers a counter-intuitive result and thus is fascinating to watch. In this instructables one will..... Listed under: [Other Projects](#)
77. [DIY Geiger Counter With an ESP8266 and a Touchscreen](#) <https://youtu.be/rmFnbVB5gCM> I designed and built a Geiger Counter - a device that can detect ionizing radiation and warn its user of dangerous ambient radiation levels with the all-too-familiar clicking noise. It can also be used when scouting for minerals to see if the rock you..... Listed under: [Other Projects](#)
78. [ARDUINO PH METER](#) In this project, we will be making a benchtop pH meter using the gravity analog pH circuit and probe from Atlas Scientific and an Arduino Uno. Readings will be displayed on a liquid crystal display (LCD). MATERIALS 1 - Arduino Uno 1 - Gravity analog pH sensor..... Listed under: [Other Projects](#)
79. [Berry Racer – a Game Programmed in Arduino and Played on a Custom PCB](#) <https://youtu.be/C8lPaMI1wTk> Berry Racer is a game that I came up with and programmed using Arduino's Software. The game is run on a Teensy microcontroller which is connected through a custom PCB (Printed Circuit Board) to a Screen, a Joystick, four buttons, and a piezo speaker..... Listed under: [Game – Entertainment Projects](#)
80. [Upright Laser Harp](#) [https://youtu.be/\\_1oTBekbUT4](https://youtu.be/_1oTBekbUT4) Laser harps are musical devices with laser beam "strings." When the beam is blocked, a note is played by the instrument. Usually laser harps have the beams travel vertically in the shape of a fan or vertical lines. In this project, I built a..... Listed under: [Other Projects](#)
81. [The Simplest Buzzer Tutorial; Using Arduino](#) <https://youtu.be/pq3YFhjS-Wc> Hey Makers, Lets make a Simple Quiz Buzzer using Arduino! Step 1: What We Can Do With It? What we can do with it? >Quiz Game Buzzer >Play Tunes and lots more..... Step 2: Things Required >Arduino Uno (Buy From Amazon.in) (Buy From Amazon.com) >Buzzer (Buy From..... Listed under: [Other Projects](#)
82. [Arduino Bluetooth Car Controlled by Labview](#) This is a Arduino RC car, originally based off of a project made by Owen\_soo. It is very maneuverable, able to do quick turns, go backward and forward with just a flick of a switch. This was originally just going to be a very basic RC..... Listed under: [Bluetooth Projects](#)
83. [DIY Smart Follow Me Drone With Camera \(Arduino Based\)](#) Drones are very popular toys and tools these days. You can find professional and even beginner drones and flying gadgets in the market. I have four drones (quadcopters and hexcopters), because I love everything that flies, but the 200th flight isn't so interesting and starts..... Listed under: [Video – Camera – Imaging Projects](#)
84. [RFID Door Lock With Arduino](#) Here we are with the classic RFID door lock. It's classic in that whole, "We live in the future and take it for granted at this point" sense. In this tutorial, we will set up a door latch that can be opened with the swipe..... Listed under: [Security – Safety Projects](#)
85. [Print Conductive Circuits With an Inkjet Printer](#) This tutorial will teach you how to modify your average inkjet printer to be able to print electrically conductive circuits. This technology is fairly new but can provide a faster and safer prototyping option for DIY printed circuit boards. This project also acts as an..... Listed under: [Other Projects](#)
86. [Arduino Solar Tracker \(Single or Dual Axis\)](#) <https://youtu.be/5KlJnLkbgB4> If you've installed solar panels on a camper van to provide you with electricity on your camping trip or at home to supplement your electricity usage or take your home completely off grid then you probably know that the panels work the best when..... Listed under: [Solar energy projects](#)
87. [Arduino Data Glasses for My Multimeter](#) <https://youtu.be/lkl6yVauCKg> Video of the working device Trying to build a cheap Arduino Data Glasses for everybody. Why? I just wanted one. It's working, and now it can even help to avoid accidents. From the first idea to the working prototype, it took 4 Month The..... Listed under: [Home Automation Projects](#)
88. [Make Your Own GPS SMS Security Tracking System](#) In this project I will show you how to combine a SIM5320 3G n transducer as a shock sensor in order to create a security tracking system that will send you the location of your p. [Security – Safety Projects](#)

Click here to get AI-based help ✕
89. [Arduino Laser Harp](#) A couple of weeks ago I presented my culmination project, framed laser harp, at New York City College of Technology. Work on it was so interesting for me, that I decided to share it here. I am an Arduino amateur and don't have any professional..... Listed under: [LED Projects](#)
90. [Arduino Simple Memory Game](#) This project is all about creating a simple game to test your memory. I'll be using a Teensy 3.0 board. (If you want to know more about this board please click here to read a Getting Started Guide). This project is also 100% compatible with the Arduino..... Listed under: [Memory – Storage Projects](#)

91. [Motorized Pulldown Curtain \(Phone & Radio Controlled\)](#) <https://youtu.be/v0-TIGm9BxM> I pull my curtain up and down a couple of times a day. If I watch a movie I pull it down and then, I pull it up to get better lighting. I also pull it down when I go to sleep and I..... Listed under: [Radio Projects](#)

92. [Wearable Wireless Gesture Control With PHIRO Pro + Arduino + Pocket Code Smartphone App \(JEDI MODE\)](#) Once again, here we are with another tutorial to "Awaken the Force" within you! With the new Star Wars movie just around the corner, we thought it would be fun to use the force to control PHIRO. In this tutorial, we will be using PHIRO Pro with Arduino along with some awesome..... Listed under: [Wireless Projects](#)

93. [Arduino LED Matrix](#) <https://youtu.be/Eu9ExmHkklk> [https://youtu.be/\\_srC\\_gPAEP0](https://youtu.be/_srC_gPAEP0) In this short tutorial you will learn how to make an Arduino-powered LED matrix. Unlike several other designs, this one uses a "companion" computer to notify the Arduino which LEDs should be powered. I have provided the code for the Arduino, as well..... Listed under: [LED Projects](#)

94. [Arduino Thermometer](#) Its hot here in Los Angeles! Besides the massive drought California is in, Its not as cool around here lately. I wanted to build something to see just how hot it really was, and here it is! Read this instructable and Ill teach how you..... Listed under: [LCD Projects](#)

95. [Lettuce for Life – Arduino 101 Based Automated Controller for Hydroponics, Aeroponics, Aquaponics, Etc. Intel Curie](#) SUMMARY A device that can be used to control up to 4 different Hydroponic/Aeroponic Systems at once. The device will control the components of the system and will display notification to a LCD screen and allow the user to customize settings via Bluetooth. This system..... Listed under: [LCD Projects](#)

96. [InstaKISS : Networked Picture Frames](#) These frames are connected to the internet, which allows you to instantly send a kiss to a loved one. When my boyfriend and I were in a long distance relationship (for one and half years!), we communicated anyway that we could. We talked on the..... Listed under: [Internet – Ethernet – LAN Projects](#)

97. [Make Your Own Motorized Camera Slider](#) In this project I will show you how I repurposed two old camera tripods in order to create a motorized camera slider. The mechanical system consist mostly of aluminium and stainless steel which makes the slider sturdy and pretty decent looking. The electrical system consists..... Listed under: [Video – Camera – Imaging Projects](#)

98. [Electromagnet Superhero Glove](#) For a class assignment, I needed to make something fabric-based which took an Arduino, some programming, and at least two inputs and outputs. After sketching a few different ideas, I hit on this one: an electromagnetic glove for MagnetoGirl. It sprang to life for me,..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

99. [Bionic Iron Man Glove](#) One of our prime passions is to motivate the next great minds and ideas by posting informative step-by-step tutorials. To celebrate the launch of our fourth-generation muscle sensor, the MyoWare, we've revisited our most popular tutorial and simplified it down to just four major components! This Instructable..... Listed under: [Sound – Audio Project Ideas](#)

100. [Arduino Voting Machine](#) This instructable will teach you to build a simple Arduino based Voting machine using simple components such as push buttons and LCD. The highlighting feature of this system is that Serial Monitor in Arduino IDE is used to perform the polling operation no other external..... Listed under: [LED Projects](#)

101. [DRS Oil Container](#) An oil container that can automatically order new oil via Amazon DRS when the oil level in the container is low. Things used in this project Hardware components Arduino MKR1000 × 1 Ultrasonic Sensor - HC-SR04 (Generic) × 1 Jumper wires (generic) × 1 Software..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

102. [8 Best Arduino Starter Kit for Beginners](#) Best Arduino Starter Kit Arduino Starter Kit from Arduino Elegoo Uno Project Super Starter Kit with Tutorial for Arduino Vilros Arduino Uno 3 Ultimate Starter Kit SunFounder Project Super Starter Kit for Arduino Osoyoo Ultimate Starter Kit for Arduino with Mega2560 and UNO R3 Board..... Listed under: [Development Board – Kits Projects](#)


103. [Alexa Controlled Door Sign Demo](#) Use Alexa to tell your door sign what message to display. Things used in this project Hardware components Arduino MKR1000 × 1 Waveshare 200x200, 1.54inch E-Ink display module × 1 18650-Type Lithium Ion Battery (generic) × 1 18650-Type Battery Holder (generic) × 1 Breadboard (generic)..... Listed under: [Projects](#), [Wifi - Wlan Projects](#)

104. [Liquid Laundry Detergent DRS Sensor \(LaundryBot\)](#) Never run out of liquid laundry detergent again with this Amazon DRS enabled liquid laundry detergent sensor, a.k.a. LaundryBot. Things used in this project Hardware components Arduino MKR1000 × 1 Pololu VL6180X Time-of-Flight Distance Sensor Carrier with Voltage Regulator × 1 Adafruit Standard LCD -..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

105. [Did You Ever Want to Have a Video Doorphone?](#) Recycle your old cellphone to build one and connect it by a browser to your new phone, PC or tablet! Things used in this project Hardware components Arduino MKR1000 × 1 ICStation UNO × 1 2.8 TFT Shield for Arduino Uno × 1 Breadboard (generic)..... Listed under: [Home Automation Projects](#)

106. [Alexa, Put the Kettle On!](#) Make a smart kettle for under £60 using Alexa and Arduino. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Logic Level Converter - Bi-Directional × 1 Tefal Temperature Control Kettle × 1 Software apps and online services Arduino IDE Amazon Alexa..... Listed under: [Internet – Ethernet – LAN Projects](#)

107. [Amazon Alexa Enabled USB Fan](#) Amazon's Alexa is cool. USB fans are cool. Alexa enabled USB fan, even cooler. Th Amazon Alexa device, "Alexa, turn [insert your name here]'s fan on". The fan is also set to turn off automatically af.....



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[I2c -ISP\) Projects](#)

108. [Amazon DRS Promise: Never Miss Coffee Break Again!](#) Amazon Dash Replenishment Service Automatic coffee ordering robot using Arduino MKR1000. Never miss another coffee break again! Things used in this project Hardware components Ultrasonic Distance Sensor × 1 LED (generic) × 1 SparkFun Pushbutton switch 12mm × 1 Resistor 100 ohm × 1 Arduino..... Listed under: [Projects](#), [Robotics – Automation Projects](#)

109. [Connecting Anduino to IFTTT](#) Connect your anduinoWiFi to IFTTT. Control everything around you, or 'let go' and let random events in cyberspace control your surroundings! Things used in this project Hardware components Arduino Due × 1 Arduino Zero & Genuino Zero × 1 Andium Anduino WiFi × 1 Software.....

Listed under: [How To – DIY – Projects](#), [Wifi - Wlan Projects](#)

110. [Knife Sharpening Angle Coach With Bluetooth & Arduino](#) Precision sharpening skills aren't developed overnight! Here's a high-tech way to monitor your knife angle during sharpening, with the help of an absolute orientation sensor and bluetooth microcontroller. This project is a collaboration with Alex French Guy Cooking! This is an intermediate level Arduino project, so..... Listed under: [Phone Project Ideas](#)
111. [How to Install LEDs Under a Scooter \(with Bluetooth\)](#) Join me in creating ground effect lighting for my scooter using a bluetooth microcontroller and addressable LED strip. For this project I'm recycling two bits of pixel strip leftover from my old POV bike project tutorial. These are APA102s or DotStars, but you could totally..... Listed under: [LED Projects](#)
112. [how to measure home ac current 110v / 200v with arduino](#) The cool thing about an ACS712 is that current is measured is measured in two directions. What this means is that if we sample fast enough and long enough, we sure to find the peak in one direction and the peak in another direction. With..... Listed under: [Metering – Instrument Projects](#)
113. [Chinese Rings Puzzle With Arduino](#) Introduction Hello all, The Chinese Rings Puzzle with Arduino is my version of a centennial Chinese puzzle. It is very simple to play and it is an example of a combinatorial puzzle, and lots of patience and concentration is required to solve it. The objective..... Listed under: [Game – Entertainment Projects](#)
114. [Polar Heart Rate Monitor Interface + 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. When you start to talk about biometrics in electronics, heart-rate is usually the first thing to come up. And why not? I..... Listed under: [LED Projects](#)
115. [Sensing Capacitive Touch – MPR121 + Arduino](#) Every now and then you get sick of the typical push buttons and you want something cooler. And what is cooler than touch sensitive things? Remember that old lamp in your Grandma's that changed brightness just by touching the base? Yeah, that's right... We are..... Listed under: [Sensor – Transducer – Detector Projects](#)
116. [Bluetooth enabled Door locker using Arduino](#) DIY Arduino based lockers can be found plenty in the internet where keypad was used to feed lock input. But this Bluetooth enabled Door locker uses Bluetooth as a medium to connect with the locker and your smart phone to feed input credentials. This locker..... Listed under: [Security – Safety Projects](#)
117. [Remote controlled light effects using Arduino](#) Christmas is just around the corner and its time to start planning things to lighten up this festive season. Today you are about to see building of Remote controlled lights with adjustable lighting effects using Arduino. The coolest thing about this project is controlling the..... Listed under: [Other Projects](#)
118. [The Zambroombi: Roomba's Next Ultrasonic Competitor](#) The Zambroombi is the next step up from your neighbor's fancy Roomba. Set it and forget it! "It changed my life. I don't know where I'd be today without it. I used to just have to clean everything once, but thanks to The Zambroombi, I..... Listed under: [Other Projects](#)
119. [Make Your Own GPS Transmitter with the HC-12 Transceiver](#) The initial part of this series, titled Understanding and Implementing the HC-12 Wireless Transceiver Module, demonstrates using HC-12 for long-range data exchange between two Arduino Unos. This article utilizes two HC-12 transceivers, a GPS module, an Arduino, and Google Maps in order to develop a..... Listed under: [GPS Based Projects](#)
120. [The Santa Cam! An Arduino PIR Motion-Activated Camera System](#) The Santa Cam is sure to catch who is stealing your milk and cookies this holiday season! You can even use it for a photo booth this New Year's Eve! BOM: Arduino Uno DSLR camera with remote shutter jack 2.5mm TRS cable Rectifier diode Milk..... Listed under: [Other Projects](#)
121. [DIY Arduino Tutorial: How to Automate Your Curtains](#) This Arduino Curtain Automation project will let you automate your curtain blinds using just an Arduino and a stepper motor. I just moved to America pursuing my higher studies. Because my dorm is very dark, I wanted to brighten up my room when I wanted..... Listed under: [Other Projects](#)
122. [Create a Christmas Light Show with Arduino](#) The Christmas light show with Arduino is a project that controls a number of lights according to a song in sync with the music. It can be used to control stage lights and fog machines (that don't have DMX) with a computer to achieve wonderful..... Listed under: [Other Project Ideas](#)
123. [Arduino Servo Catapult: DIY Catapult using Arduino](#) Use an Arduino and a servo to shoot food to your cat! (Also works with other animals). Check out the video below to see how this Arduino Servo Catapult works. While maybe not the most practical application, this project will teach you the basics of servo motors..... Listed under: [Other Projects](#)
124. [Arduino Wheelchair Project: Motorized Controller Mount](#) This was an Arduino wheelchair project we developed for Principles and Practices of Assistive Technology (PPAT) in Fall 2016 at MIT. We made an Arduino-based motorized wheelchair controller mount for our client, Lisa. She lives at the Boston Home, a center for people with progressive..... Listed under: [Motor Projects](#)
125. [Amazon Kitchen DRS](#) The Project This project is a combination of the many smart fridges and pantry's of the past. Click here to get AI-based help   introducing Amazon's DRS system through Alexa and the Echo products as a bonus feature. The process will be.....
126. [Build A Speech Controlled Quadropod Using Arduino](#) This is my first post on Instructable and I am super excited to share my knowledge! My original robot post is here: Spryo SpoonTail which is just my robot showing some tricks but with a tethered control. In this Instructable I am going to show..... Listed under: [Bluetooth Projects](#), [Robotics – Automation Projects](#)
127. [Daox's diy arduino thermal differential controller](#) We have a great thread that contains lots of info on thermal differential controllers here. However, I wanted to start a thread dedicated to my own development of a thermal differential controller that I'll be using for my attic heat reclamation project. Tonight I setup..... Listed under: [Sensor – Transducer – Detector Projects](#)



128. [DIY Thermal Differential Controller – Part 4: Building Your Own](#) In our last episode, I explained how I redesigned the controller from what I first thought I was going to do. Now, I am going to explain how to make your own thermal differential controller based on mine. As it is, this setup will only..... Listed under: [How To – DIY – Projects](#)
129. [The LCDuino-1 I/O processor](#) News - April 25, 2010: All future announcements and updates for the LCDuino-1 and related app modules (δ1 relay-based attenuator, δ2 relay-based input/output selector, and others) have moved to the new AMB DIY audio forum. We have an entire forum category dedicated to the LCDuino..... Listed under: [LCD Projects](#)
130. [Fun With The Arduino Esplora: A Digital Picture Frame](#) With this article I kick off my series on the Arduino Esplora board. Today's project is a nice (and cheap!) little digital picture frame that uses the Esplora's TFT Screen add-on. Materials Needed In this section you will find the materials that you need to..... Listed under: [LED Projects](#)
131. [Make a swimming Robo-Snake Using Arduino](#) Sneel is the name of my snake / eel swimming robot. This is documentation of hardware, software and mechanical design of Sneel\_003. urethane flex tubing, microcontrollers, Zigbee wireless radio, hose clamps, wires, servo motors, titanium servo brackets, silicon, marine grease, epoxy, pond pump Sneel is..... Listed under: [Robotics – Automation Projects](#)
132. [Arduino-Controlled Robotic Drum](#) For years I have been telling anyone who listens that I was going to build a robotic drum. Most people kind of shrugged indifferently. Even as I built it, most people kind of glanced over at it and conveyed doubtfulness. It seemed like no one..... Listed under: [Robotics – Automation Projects](#)
133. [Sigh Collector](#) Sigh v. i. [imp. & p. p. {Sighed}; p. pr. & vb. n. {Sighing}.] 1. To inhale a larger quantity of air than usual, and immediately expel it; to make a deep single audible respiration, especially as the result or involuntary expression of fatigue, exhaustion,..... Listed under: [Other Projects](#), [Phone Projects](#)
134. [Automatic Garden Watering Device – Arduino](#) As part of the Content Creation course for my MLIS degree (Our class blog: <http://scumakers.wordpress.com/> ), I needed to come up with a final project and wanted to learn to use an Arduino. In the end I came up with this device to automatically sense..... Listed under: [Home Automation Projects](#)
135. [Project Suite Bros: Voice Activated LED Friendship Photoset \(Arduino, Bluetooth, Crafts\)](#) (and partner-in-crime, Abbie). Now, I'm off to the next stage of my life, so I decided to build this friendship photoset for Kevin and Briton to remember our golden era. We called ourselves: "The Suite Bros". This project is actually an extension of the "Voice..... Listed under: [LED Projects](#)
136. [Arduino Garage Controller](#) Although there are many garage door projects on Instructable using Arduinos, I needed/wanted something different. Last year, we had a warm summer and when I would come home after work, I would leave the garage door open about 1 foot so it could cool off..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
137. [The Arduino Mothbot](#) The purpose of this project is to design and build a simple light-following robot using an Arduino Duemilanove microcontroller board. I really wanted to share a robot project that was cheap, simple to build, and had a complete set of instructions for all of the..... Listed under: [Robotics – Automation Projects](#)
138. [How to Connect and Read a Keypad with an Arduino](#) n this project, we will go over how to integrate a keyboard with an arduino board so that the arduino can read the keys being pressed by a user. Keypads are used in all types of devices, including cell phones, fax machines, microwaves, ovens, door..... Listed under: [Development Board – Kits Projects](#)
139. [How to Build a Motion Sensor Light Circuit with an Arduino](#) In this project, we will go over how to build a motion sensor light circuit with an arduino. A motion sensor light circuit is a circuit in which a light turns on when motion is detected. With a PIR motion sensor integrated with an arduino,..... Listed under: [Sensor – Transducer – Detector Projects](#)
140. [Make A Touch-less Switch Using Arduino](#) Arduino Project – Touch Me Not I modified the Arduino project from the Arduino Starter Kit (Touch Sensor Lamp). Now it lights up an LED when your hand is close on the aluminium foil (without even touching it). This can be used as a 'Touch-less..... Listed under: [Sensor – Transducer – Detector Projects](#)
141. [Make an Ultrasonic Distance Calculator](#) Arduino Project – The distance calculator I have been playing with Arduino (micro-controller) for about 2 years now and I am becoming more and more passionate about circuits. For those who are not aware of Arduino, check out my article "Arduino – A Guide for..... Listed under: [Calculator Projects](#)
142. [Use Arduino to Interface with a Remote Controlled Power Switch](#) Update: check out the RFToy — an easy-to-use standalone gadget to control remote power sockets. Also, support for remote power sockets have been added to OpenSprinkler firmware 2.1.1. For a while I've been looking for a way to switch household power line (110V) devices. One of the simplest..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
143. [Automated LED stairs using arduino](#) After seeing the lovely LED stairs at interactivefurniture.de, I decided to make my own, open-source version. Here is a video of them in action. I am not an expert videographer and cannot do the stairs full justice, but they came out exactly as I wanted..... Listed under: [Home Automation Project Ideas](#)
144. [Control Your Robot Using a Wii Nunchuck \(and an Arduino\) using arduino](#) After wearing myself out playing Wii Bc could use this to control my robot, (looking to my left hand). Looking around the internet I found a bevy of people doing similar things, (links to everyone..... Listed under: [Robotics – Automation Projects](#)
145. [Control a RepStrap with Processing using arduino](#) This instructable shows how you can use many openly available projects together to build an interesting and complex system. It draws on several community projects including: RepRap, Arduino, Processing, Linux and, of course, Instructables! More specifically this intructable shows how to draw the path of..... Listed under: [CNC Machines Project Ideas](#)
146. [Make a wall avoiding Robot! using arduino](#) Objective: To create from scratch a working robot that is able to avoid walls and obstacles. Ever wanted to make a robot that could actually do something, but never had the time or knowledge to do it? Fear no more, this instructable is just for..... Listed under: [Robotics –](#)

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[Automation Project Ideas](#)

147.

[PUPPET CONTROLLER using arduino](#) Three kinds of motion: Human, Mechanical, Animation. Blend them together to build a puppet controller for the real and virtual world. Or, Pacman - three ways. This Instructable includes: - Using an adjustable resistor as input to the Arduino Micro-controller - Controlling two servo motors from..... Listed under: [Game – Entertainment Project Ideas](#)
148.

[How to Build an Arduino Powered Chess Playing Robot using arduino](#) Judging by the sheer number of chess related Instructables, I think it's safe to say the community enjoys the game. It can be difficult, however, to find someone who plays on the same level you do. To solve this dilemma, and to increase my playing..... Listed under: [Robotics – Automation Project Ideas](#)
149.

[AlarmingTweet Using Arduino](#) This project will add tweeting capabilities to the GE 45142 Choice-Alert Wireless Control Center Alarm system. The alarm system allows you to connect up to 16 different sensors across 4 zones and with the addition of the Arduino powered Alarming Tweet you can enable it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
150.

[Arduino ArduRoller balance bot](#) Caveat Emptor: (I don't want to put you off building one but I also don't want you to be disappointed.) This Instructable is now 2 years old. Many of the parts it uses are out of date (there's no drop-in replacement for the now-discontinued gyro,..... Listed under: [Robotics – Automation Project Ideas](#)
151.

[LASER Maze – Halloween Haunted House using arduino](#) The LASER Maze was our Processing and Arduino powered garage haunted house for 2011. A monitor sits outside of the garage, displaying "PRESS START." After the button is pressed, an intro video plays that instructs you to dodge the lasers and get your candy in..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
152.

[USB Biofeedback Game Controller using arduino](#) Building upon our last tutorial, which taught you how to build a muscle sensor, we've decided to give you a project that really showcases the power of our muscle (EMG) sensors. Advancer Technologies' "USB Biofeedback Game Controller" harnesses the power of electromyography to allow players to..... Listed under: [Game – Entertainment Project Ideas](#)
153.

[Sugru + Servos = Robot using arduino](#) Build a robot using a bag of Sugru and 5 mini-servo motors. Motivation:Build a robot using very few parts and very cheap servo motors. Steps: Parts list Build Wire Program Play! Outcomes of this project: Robot with 5 joints Arduino Code which is expandable Control..... Listed under: [Robotics – Automation Project Ideas](#)
154.

[Airmonica – a free-air musical instrument](#) improvise + harmonize + customize The airmonica is a easy-to-learn tweakable musical instrument that you can use to perform harmonic musical ditties by accompanying a tri-tone arpeggiator. There are endless opportunities to expand the airmonica in any way that will make it your your own..... Listed under: [Sound – Audio Projects](#)
155.

[Arduino Thermostat with TC74 sensor](#) Hello all! This is a quick guide on how to use an Arduino© to control whether a cooling fan and a heater is turned on depending on the detected temperature from a TC74 Arduino sensor. This is for a final project for an Electronics class..... Listed under: [Sensor – Transducer – Detector Projects](#)
156.

[DIY Amp / Watt Hour Volt Meter – Arduino](#) Major corrections and additions made 9/9/2014 For my off-grid Ham Radio and Solar projects, I needed a way to measure volts, amps, watts, amp hours and watt hours. There's a couple of commercial products that can do this, but not with the flexibility I wanted..... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#)
157.

[Hack Your Hasbro R2D2 With an IOIO Microcontroller](#) My wife bought me a Hasbro Interactive R2D2 Astromech Droid for my birthday a few years ago after I said how much fun it would be to hack it and I've finally managed to get inside and start playing!Although the built-in voice control functions are..... Listed under: [Robotics – Automation Projects](#)
158.

[Arduino PCR \(thermal cycler\) for under \\$85](#) This tutorial will show you how to make a thermal cycler from scratch for about \$85. In short, PCR (polymerase chain reaction) amplifies bits of DNA, creating millions of copies of a target sequence. You can use it to test a DNA sample for a..... Listed under: [How To – DIY – Projects](#)
159.

[SPEAKR \(Singing Portable Electronic Arduino Kite – Remix!\)](#) Nature has a way of speaking to us in a way that soothes and revitalizes. Sounds of the wind in various places create low volume tones that we barely hear. They have a certain beauty and randomness to them that are unique to nature. We've..... Listed under: [Game – Entertainment Projects](#)
160.

[Send and Receive MIDI with Arduino](#) This instructable will show you how to use an Arduino to send and receive a variety of MIDI messages so you can start building your own MIDI controllers and instruments. First I'll talk a little bit about MIDI protocol, if you're just looking for sample..... Listed under: [Sound – Audio Projects](#)
161.

[Make Your Hat With Full Of Stars Using Arduino](#) Top hats are cool; just like bow ties. Not only are they stylish, but they give you a lot of room for incorporating techno goodness. I recently had cause to buy a tuxedo, which necessitated a kilt, and then a top hat. You know how..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
162.

[HandSight: A Glove for the Blind to Feel Shapes and Navigate Obstacles](#) HandSight is a prototype glove to aid the of a surface with tactile feedback from a vibration motor for each individual finger. It can also sense distance from direction and distance..... Listed under: [Medical – Health based Projects](#)

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163.

[Paint Pulse: Digital Water Marbling](#) Paint Pulse is a project which seeks to build upon the water marbling crafts of Ebru and Suminagashi with digital behavioral additions. The idea is to design intricate, flowing patterns of paint directly on the surface of water which you can capture on the surface of paper. Expert..... Listed under: [Other Projects](#)
164.

[Traffic Signal / Stop Light Wiring with Arduino Controller](#) I always wanted an old traffic signal and finally got one recently. However, it was very simply wired so that all the lights were fixed on. What fun is that? I also wanted to try out an Arduino controller and thought this would be a..... Listed under: [Other Projects](#)

165. [Earth Globe Rotating With Arduino Or Raspberry Pi Controlled Stepper Motor using arduino](#) This instructable describes how to upgrade your globe to a motorized version. It looks amazingly better on the shelf when it is slowly rotating, and any demonstration with your kids (to explain the day/night cycle or the seasons) will gain in interest. No need to..... Listed under: [Motor Projects](#)

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166. [Arduino Powered 3-zone thermostat](#) I was looking at all those swoopy-zoomy internet connected and controllable thermostats. "Self," I told myself, "we should make one of those." He didn't seem all that excited about that - I mean, what do we know about hardware, firmware, electronics or HVAC? Well, now's..... Listed under: [Temperature Measurement Projects](#)

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167. [Universal Remote Laser Tag Using Arduino](#) Blast away your friends for hours on end with this custom laser tag system. Who needs to pay to play in an arena when you can make your very own game? Best of all, no special equipment is required, because the "guns" are regular universal..... Listed under: [Game – Entertainment Projects](#)

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168. [Intermediate Arduino: Inputs and Outputs using arduino](#) Continuing from my Intro to Arduino post, this Instructable will go over some slightly more advanced topics with Arduino, specifically relating to controlling and managing many inputs and outputs. The next class covers how to connect the Arduino's inputs and outputs to MIDI. Parts List:..... Listed under: [LED Projects](#)

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169. [Arduino, Sensors, and MIDI](#) Now that you're up to speed on using Arduino's inputs and outputs, this Instructable will give you everything you need to get started using sensors to trigger MIDI notes from Arduino. This post is the last installment in a series of workshops I led at..... Listed under: [Home Automation Projects](#)

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170. [Beginner Arduino](#) The Arduino is a pocket-sized computer (also called a "microcontroller") that you can program and use to control circuits. It interacts with the outside world through sensors, leds, motors, speakers... even the internet; this makes it a flexible platform for lots of creative projects. Some..... Listed under: [Development Board – Kits Projects](#)

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171. [Sugarcube MIDI Controller Using Arduino](#) This project is a portable, Arduino-powered, grid-based MIDI controller that boots up into a variety of apps to do lots of things with sound. It has 16 backlit buttons, used as both inputs and outputs to give the controller some visual feedback. 2 potentiometers give..... Listed under: [LED Projects](#)

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172. [Sound Reactive LED Strip Using Arduino](#) THERE MAY BE 9 STEPS BUT I PROMISE THIS ONE IS QUICK AND EASY! In this Instructable I will be showing you how to create a light reactive LED system. In this clip, I used a single color LED strip, but you you can use..... Listed under: [LED Projects](#), [Sound – Audio Projects](#)

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173. [Build a Controllable Coffee Roaster from an Air Popcorn Popper](#) I have a passion for coffee. I also have a passion for electrical engineering. Why not combine them? This Instructable describes how I transformed a hot air popcorn popper into a completely controllable coffee roaster! Follow these instructions to re-purpose and hack your West Bend..... Listed under: [Home Automation Projects](#)

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174. [LilyPad Arduino Sensor Demo Mat](#) This tutorial shows you how to create a sensor demo mat for the LilyPad Arduino. I wanted a place where I could experiment with the different sensors, but also something that I could use to show examples of what can be done without constantly uploading..... Listed under: [Sensor – Transducer – Detector Projects](#)

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175. [Brushless Gimbal with Arduino](#) This is a Spring 2014 Electronics project at Pomona College created by Andreas Biekert and Jonah Grubb. Thanks to Professor Dwight Whitaker, Tony Grigsby and the Pomona Physics Department. Our goal with this project was to create a 2 axis brushless gimbal controlled solely by..... Listed under: [Video – Camera – Imaging Projects](#)

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176. [Smartphone controlled Arduino tank using Annikken Andee](#) Hi guys, I am Robin, one of the developers of Annikken Andee. Just a few weeks back we were invited to be a part of Arduino Day Singapore 2014. On the day of the event, we showcased a missile-firing lego-crushing smartphone controlled Tank built using..... Listed under: [Phone Projects](#)

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177. [Motion Sensing Digital Camera & Alarm using Arduino](#) Welcome to my instructable on how to make an Arduino-controlled motion sensing camera and alarm! The motivation behind this project, which I worked on in my electronics class at Pomona College, was the need to keep away varmints (particularly raccoons) that were digging up my..... Listed under: [Sensor – Transducer – Detector Projects](#), [Video – Camera – Imaging Projects](#)

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178. [Hack an old iPod using an Android and an Arduino](#) This tutorial shows you how to use an Arduino to turn that old dusty music player into a Bluetooth controlled docking station. Even if it has a cracked screen or a dead battery it can still be used. The following instructions will show you how..... Listed under: [Arduino Android](#)

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179. [Bass Master 3000 Carnival Game using arduino](#) The Bass Master 3000 is a game that I built for a work carnival along with a small and very talented team of co-workers. I've seen this type of game on the net, but I wanted to kick it up a notch with some Arduino..... Listed under: [Game – Entertainment Projects](#)

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180. [Build your own 4x4x4 RGB LED Cube using arduino](#) LED Cubes are awesome. The first one I created was a 8x8x8 blue led cube. It still works like a charm. But being able to display every colour in the spectrum is much more spectacular. Let's start with a small and simple 4x4x4 RGB LED..... Listed under: [LED Projects](#)

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181. [DIY FPV RC Tank V2 \[2km RANGE upgrade!\] using Arduino](#) Lets build An FPV tank that could be controlled within 2 kilometers! With the help of my best friend ASCAS I was able to borrow his old parts for this updated version. Ok So Roverbot version 2 is a highly educational project. [Click here to get AI-based help](#) ✕  
under: [Game – Entertainment Projects](#)

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182. [DIY GPS Tracked Bike Lock using Arduino](#) Having just purchased a half decent bicycle, and living in a city with a bike theft rate almost as high as New York, I wanted to have some peace of mind that if a thief with an angle grinder were to cut through my U-lock..... Listed under: [Car Projects](#), [GPS Based Projects](#), [Security – Safety Projects](#)

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183. [Critter Twitter Trap using Arduino](#) Havahart traps are really nice if you have pests to rid your home of but you don't feel the need to do this through means of killing the animal. The problem we are faced with is constant monitoring of the trap. If you forget to..... Listed under: [Internet – Ethernet – LAN Projects](#)

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184.

[Laser Cut Sphere-O-Bot using Arduino](#)

The Sphere-O-Bot is a simple 2 axis CNC machine that can draw on most spherical surfaces. You can use it to decorate ping pong balls or eggs.This design is based on the 3D printable Sphere-O-Bot. By building your Sphere-O-Bot using a laser cutter, you can..... Listed under: [Robotics – Automation Projects](#)
185.

[Arduino Powered Autonomous Vehicle](#)

A few months back I started playing around with Arduino micro controllers as a learning exercise (and for fun); this project is the culmination of that. The goal of the project was to create a vehicle that can autonomously navigate through a series of waypoints..... Listed under: [Car Projects](#)
186.

[Simple Basement Security System using Arduino](#)

In this project I will show you how to build a very simple security system for all kinds of rooms. It might be simple but still effective. It is based around an Attiny85 and uses a reed switch and a key switch as inputs to..... Listed under: [Security – Safety Projects](#)
187.

[NFC Ring Lock Box using Arduino](#)

Hi everybody! Welcome to my first instructable! I apologize in advance for my poor level in English. In this step-by-step guide I am going to teach you how to build a simple and very cheap NFC Ring Lock Box ! Step 1: What you'll need..... Listed under: [Security – Safety Project Ideas](#)
188.

[Hacking my RC Car using Arduino and Android Smart Phone](#)

Have an old toy car? I hacked mine using Arduino and an H bridge circuit to control the motors, used my Sony Z1 Android phone to control it with the recent 1Sheeld I got from Kickstarter. I thought to use the Gyroscope sensor in to..... Listed under: [Arduino Android](#), [Car Projects](#), [Phone Projects](#)
189.

[4x4x4 LED Cube \(Arduino Uno\)](#)

In this tutorial I'll show you how to make a 4x4x4 LED cube for around \$15.00. The cube has 64 green LEDs which make up it's 4 layers(positives) and 16 columns(negatives). These are all wired to a Arduino Uno. An Arduino is a single-board microcontroller,..... Listed under: [LED Projects](#)
190.

[DIY navigation device for blind people using Arduino and Android smart phone](#)

In this project you can cover your eyes and let your smartphone navigate you to avoid obstacles, the application is mainly a DIY navigation device for blind people. I knew that 1Sheeld is about to launch a new text to speech shield, and so I..... Listed under: [Arduino Android](#), [Home Automation Projects](#), [How To – DIY – Projects](#), [Medical – Health based Projects](#), [Phone Projects](#)
191.

[Word Clock in German using Arduino](#)

While in Germany last year, I saw a world clock in a store similar to this one in a store that was priced at 900€. I read several instructables online on how to create a World Clock so I decided to give it a shot..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
192.

[Pimp My Zoomobil using Arduino](#)

I recently put together the Playmobil Zoomobil for my kids. As I was busy snapping all the pieces together, I became more and more convinced that this cart had been made to have lights. It's hard for me to believe the original product designers at..... Listed under: [Game – Entertainment Projects](#)
193.

[Smart Homer Web-enabled TV remote using Arduino](#)

Smart Homer, a Web-enabled TV remote puppet Smart Homer is a Web-enabled puppet that turns on your TV when Simpsons is on. As Homer is too lazy to browse the Web himself, a script in the cloud checks the online TV program for him. If..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
194.

[Arduino-Based Blue Box \(Phone Phreaking\)](#)

History and Story In the 1950s, 1960s, 1970s, 1980s and even up into the 1990s phone phreaking was an amazingly cool way to explore an unknown world of phone switching networks. To "phreak" a telephone switch, can be done by using frequencies, or tones to..... Listed under: [Phone Projects](#)
195.

[Home Automation: Drapes using Arduino](#)

Hate having to manually open and close your drapes? Hate getting back from work/school and your room is dark and dreary? Do you want curtains that open and close themselves? Then you need Dr. Drape! Dr. Drape is an easy DIY project using an Arduino..... Listed under: [Home Automation Projects](#)
196.

[Programmable Temperature Controller + Hot Plate](#)

Heating things up is one of the most performed tasks in a lab. Quite a lot of times it is not enough to simply hold something at a certain temperature, but the rate at which something is heated and for how long is just as..... Listed under: [Arduino Programmer Projects](#), [Metering – Instrument Projects](#), [Temperature Measurement Projects](#)
197.

[Beach Buddy: 3-in-1 Solar Phone Charger, Boombox, and Sunburn Timer Calculator](#)

Imagine the ideal beach trip. The sun is shining, the skies are blue, the water is warm, and the humidity is low. You and your friends have everything you need to soak up the sun, sand and surf: a cooler filled with drinks and snacks,..... Listed under: [Battery Projects](#), [Solar energy projects](#)
198.

[Interactive Stereoscopic Installations: visual rupture with the Diplopiascope](#)

What is it? This is an ongoing project that i've been working on to see the potential of interactive stereoscopic installations in examining the perceptual process. I use a setup that i've called a Diplopiascope to investigate this. The Diplopiascope has gone through a few..... Listed under: [Video – Camera – Imaging Projects](#)
199.

[DinoCalc Version 1.0](#)

(Arduino Pro Mini Protoboard Version) Latest Release: <http://code.google.com/p/dinocalc/> Development: <https://github.com/WeaselJones/DinoCalc> This is a calculator without a LCD that tells you if your math answer is right or wrong, without giving you the answer. This instructable will show you how to make this simple math checking..... Listed under: [Calculator Projects](#)
200.

[FuzzBot](#)


The FuzzBot is an awesome, fast, fully autonomous small Arduino robot that everyone loves!!! It uses the compact Pololu ZumoBot Chassis kit for a great drive system, and uses a Parallax Ping sensor to sense proximity, to make the FuzzBot fully autonomous. I like to ..... Listed under: [Robotics – Automation Projects](#)
201.

[Qtechknow Robot Obstacle Course using Arduino](#)

Have you ever thought of controlling your FuzzBot wirelessly? Do you want to make a real - life video game? Do you want to learn about the tech behind NFC and RFID? - the Qtechknow Robot Obstacle Course How - To Guide is for you!..... Listed under: [Robotics – Automation Projects](#)
202.

[Making the TFF: a dress that gets excited when tweeted](#)

The idea of this dress comes from a series of tweets with online friends @shineslike and @arduino-girl. @shineslike and I had taken a half day Arduino workshop given by @arduino-girl at the MCN 2011 conference. I was immediately inspired creatively by the sensory and interactive opportunities..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Internet – Ethernet – LAN Project Ideas](#), [Sound – Audio Projects](#)

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203. [3D Printed Arduino Controlled Eggbot/Spherepot](#) First off this project was a combination of of two great online resources. I had been looking into building an eggbot for a while and since I had a lot of ping pong balls on hand after one of my other videos the time was right for..... Listed under: [Robotics – Automation Projects](#)
- 
204. [Your Image on an Arduino! – TFT LCD Screen Guide](#) Have you ever heard of TFT LCD screens? They are great ways to display information from your Arduino, or display pictures. The Arduino team just released an official TFT LCD screen with their new Robot at Maker Faire 2013. It's very easy to get started..... Listed under: [Video – Camera – Imaging Projects](#)
- 
205. [Arduino-controlled RGB LED Infinity Mirror](#) Update 11/22/2013: Thanks to everyone who voted for this project in theMicrocontroller Contest! It was one of three first-prize winners. Update 9/17/2013: Thanks to everyone who voted for this project in the Arduino contest (I was one of ten "second prize" winners)! If you want to try..... Listed under: [LED Projects](#)
- 
206. [Bluetooth Weather Lamp](#) This was a 2 hour project I whipped up in order to learn how to use a new Bluetooth LE 4.0 module I picked up at redbearlab.com, called a BLE Mini. I've since thought of several much simpler ways (and more dependable) to accomplish the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#), [LED Projects](#)
- 
207. [DIY Skee Ball Machine](#) The skee ball machine is a wonderful thing. The simple experience of rolling a ball into a target is so freakishly satisfying that I used to play as much as I could as a kid at the local amusement park/mini-golf course. The sound of the..... Listed under: [How To – DIY – Projects](#)
- 
208. [LED Shoulder Pads](#) For this project, I was inspired by my best friend. She had been wanting some disco-fabulous armor-inspired wearable technology for music festivals and costume parties for some time. I took a pair of construction/gardening knee-pads and turned them into glitterific shoulder pads that shine bright..... Listed under: [LED Projects](#)
- 
209. [Homemade Arduino Friendly Pulse Sensor](#) I saw the Open Hardware Pulse Sensor at thought I'd try to make it at home. Took me awhile, but here's my bumbling process. Step 1: Pulse Sensor -- Overview I've been working on re-making the the Open Hardware Pulse Sensor so it'd be "easy" to send off to..... Listed under: [Medical – Health based Projects](#), [Sensor – Transducer – Detector Projects](#)
- 
210. [How to Create an Arduino Compatible Bluetooth 4.0 Module](#) I had been looking for a cheap alternative to some of the Arduino Bluetooth devices I'd seen, which in my opinion are overpriced. Redbear's Mini: \$39.95 (Note: This is a uC and BLE combo). Redbear's Uno Shield: \$29.95 BLEduino: \$19.95 (if part of Kickstarter) Bluegiga..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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211. [DIY Robotic Hand Controlled by a Glove and Arduino](#) This project idea came to me when I was sitting on a bed on a hotel room on vacation. I thought: "It'd be really neat to have a robotic hand that I can control with my own hand!" Upon returning home, I embarked upon a..... Listed under: [Robotics – Automation Projects](#)
- 
212. [BARC Jeep – An XBOX Controlled Power Wheels](#) Make a power wheels jeep that is controlled by an XBOX controller. This particular build is using Power Wheels® Jeep® Hurricane with Monster Traction™ but should be usable across many different types of power wheels with small adjustments. I wanted to do this project so I could..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#)
- 
213. [Make A Multitouch Music Controller Using Arduino](#) This project is an Arduino-powered infrared touchscreen / coffee-table interface that I've been using to control various music and graphics applications on my computer. This is an old project that I've recently had time to go back and document/fix up; this project is a little..... Listed under: [LCD Projects](#), [Sound – Audio Projects](#)
- 
214. [Make A Worms in Space Board Game Using Arduino](#) Story: NASA has taken worms to the ISS on their own special capsule. There was an accident aboard the station and the worm astronauts have to navigate to the escape capsule to return to Earth. The airlock to the escape capsule has been damaged but..... Listed under: [Game – Entertainment Projects](#)
- 
215. [Make A Low Cost LED Grid Using Arduino](#) There are a number of great Instructables on LED grids out there. This is a low cost version - not quite as polished, but easy to make. This project uses a couple of sheets of foam core, a fluorescent fixture cover from the local home..... Listed under: [LED Projects](#)
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216. [Aqua Garduino Mini @hydroFishAqua82](#) Arduino Powered Micro Aquaponic System with Pi Camera and Twitter Feed We are creating an automated aquaponic system with mobile updates via Twitter. Sensors and motors will be controlled from an Arduino while the entire system, including mobile updates, will be orchestrated by a Raspberry..... Listed under: [Home Automation Projects](#)
- 
217. [RGB LED Color Selector / Picker / Chooser](#) One Challenge with working with RGB LEDs is getting the right Red, Green and Blue values to match a color you are trying to display. You can start with web colors, and then sometimes need to adjust them since the LEDs don't look quite the..... Listed under: [LED Projects](#)
- 
218. [Light Painters Palette aka Light Box](#) Today I'm going to show you how I made my "light painters palette" aka light box. If your into electronics and photography than this is probably something you are going to like. Supplies: -Arduino (I'm using a arduino pro mini which requires a ftdi basic to program,..... Listed under: [LED Projects](#), [Video – Camera – Imaging Projects](#)
- 
219. [Arduino-Controlled Chemical Foam Spewing Pumpkin](#) If the thought of dozens of trickier-or-treaters in gross-out costumes breathing down your door makes you want to spew, have we got the pumpkin for you! Every time the Arduino-Controlled Chemical Foam Spewing      Click here to get AI-based help ✕      ur doorstep, it spews burning chemical foam..... Listed under: [Game – Entertainment Project Ideas](#)
- 
220. [How to Program the Vexplorer Using Arduino](#) This instructable will be about using arduino to control the revell vexplorer. Later you can add as many sensors you want. If you don't have most of the parts already this will cost you about \$200 dollars. Most of the electronic bits you can find..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
- 
221. [Tilt Sensing Bracelet using Arduino](#) A bracelet decorated with six conductive fabric petals and a thread of beads with a metal bead at the end, makes for a simple six point tilt detection. It is also designed so that the metal bead will make contact with two petals if it..... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
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222. [Twitter garage door using the GE Choice ALERT system & Arduino](#) You know that feeling of driving away from your house almost getting to work and saying "Now Did close the garage door?" . I hate that feeling and seeked out to resolve it in the simplest/cheapest way I could. The starting point was of course..... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#), [Security – Safety Project Ideas](#)
223. [Analog VU meter and Clock using Arduino](#) This project brings back the old time Analog VU Meter, with the added functionality of a neat looking clock! When you turn off your music the meters automatically swing into to clock mode. Behind it all is the popular and easy to use Arduino. This..... Listed under: [Calculator Projects](#), [Metering – Instrument Projects](#), [Projects](#)
224. [Quiz Game Controller using “Lights and Sounds Buzzers” and Arduino](#) Jeopardy style quiz games are favorites for creating excitement and educational instruction at the same time. Teachers, summer camp counselors, and even industry educators find this type of game to help generate interest and involvement from the participants. The idea behind the game is simple,..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)
225. [Audio Input to Arduino](#) The easiest way to connect an audio signal to your arduino, is to build a simple 3 components (2 resistors plus cap) circuitry shown on the first drawings on right side. Disadvantage: there is no amplifier, and consequently sensitivity would be low, hardly enough to..... Listed under: [Projects](#), [Sound – Audio Projects](#)
226. [ARDUINO Laser 3D Tracking or Range Finder](#) The idea of using triangulation for distance measurements is well known since Pythagorean time, when his brilliant formula become available for mathematicians. What is new in this design, is lasers power control via “blooming” effect of CMOS camera. Here this “negative” effect was put to..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
227. [Audio VU meter with Extra wide Dynamic Range 69 dB using Arduino](#) O’K, after having some fun with stereo version of the VU meter I described in my previous blog-post, now it’s time to do a serious stuff. Studio grade VU meter !!! 24 steps, equally spaced every 3 dB, covering Extra wide Dynamic Range from -63 up to..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sound – Audio Projects](#)
228. [Spectrum Analyzer, Arduino project with FFT algorithm](#) The basic idea was to create color organ / spectrum analyzer on arduino board, trying to minimize quantity of external components, like analog filters, LED display drivers, etc. Spend a lot of time in search on internet I was able to find only two !..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
229. [Combo Blocks using an Arduino](#) Project by CU Boulder Thinks That Think students: Michelle Bourgeois, Charles Dietrich, and Ben Link Imagine having a safe in which the combo is any small object of your choosing. Perhaps it's your favorite coffee mug, or a bat man figurine. This project is based..... Listed under: [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)
230. [Arduino Touch Screen Room Control](#) Hey everyone, I finally finished my touch panel for my bedroom wall and am here to show you how i made it. Unfortunately its not installed in my wall yet as I might be moving and don't want to make anymore holes in my walls,..... Listed under: [Home Automation Projects](#), [Projects](#)
231. [Bug-Catching Spider in Web using Arduino Part 2](#) This project is a collaboration between idesigner4 and bhasudha(me), students in the Fall 2012 course Things That Think (CSCI 7000) at The University of Colorado - Boulder. The story of our bug-catching spider automaton goes like this: A giant evil spider resides in a big..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Security – Safety Projects](#)
232. [Arduino R/C Lawnmower](#) What this is: This instructable will show you how to make your Arduino into an R/C interface that you can use for just about anything requiring remote control. I will also show you how I built an R/C lawnmower using my Arduino, a cheap R/C transmitter and..... Listed under: [Home Automation Projects](#), [Projects](#)
233. [Plantduino Greenhouse using an Arduino](#) This summer I wanted to combine my two loves of plant science and engineering. Thus I am constructing my very own greenhouse in my backyard. I am an undergrad, and as any former student knows, this means I move around constantly, and I am not..... Listed under: [Home Automation Projects](#), [Projects](#)
234. [Motion Triggered Fog Machine using an Arduino](#) Fog machines can be unruly beasts. Especially the non-professional models you buy for halloween. With low duty cycles, causing massive amounts of fog when you don't need it, and no fog when you do. Wouldn't it be nice to have fog only when people come..... Listed under: [Other Projects](#), [Projects](#)
235. [Turn your Arduino into the best gift of all](#) Please vote for me in the Holiday Gift contest and the Make it Glow contest! First, this started out as a gift, and not an instructable. So please excuse some hand waving here and there as I do not have any pictures of the etching and drilling portions. Second,..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
236. [Interfacing a Digital Micrometer to a Microcontroller](#) We had a project that required connection to a digital micrometer with a data output jack. The idea was to connect a microcontroller to the micrometer, to read the measurements and make decisions based on the readings. The micrometers that we used are made by..... Listed under: [Metering – Instrument Projects](#)
237. [Intro to Arduino](#) An Arduino is an open-source microcontroller development board. In plain English, you can use the Arduino to read sensors and control things like motors and lights. This allows you to upload programs to this board which can then interact with things in the real world..... Listed under: [Development Board – Kits Projects](#)
238. [Carduino- A simple Arduino robotics platform with its own library](#) This is, as the title says, an Arduino-based robot "standard" model comes with two back motors, two omni-wheels in the front, and a distance sensor mounted on the front. It also has breadboard space on top for adding whatever..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
239. [Self-Watering Plant using an Arduino](#) Plants liven up any space by adding a sense of airiness and life. That is - of course - when you don't forget to water them, and they shrivel up and die. I am very bad at remembering to water plants. That is why I..... Listed under: [Home Automation Projects](#), [Projects](#)
240. [Twitter Controlled Pet Feeder using an Arduino](#) A great project for busy pet owners. This Twitter-Controlled pet feeder automatically dispenses food in response to activity on your Twitter account. The project is controlled by an Arduino and uses the Arduino Ethernet shield to receive data from Twitter. I hacked this

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automatic Pet..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

241. [Reginald: a UDP surveillance bot; control via the Internet using Arduino](#) Reginald started from the simple, yet bold idea to control a bot from anywhere in the world with a live video feed. What I wasn't expecting was for Reginald to develop into an involved, feature rich project. With my work and money, I was able..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)
242. [Audio Output using an Arduino](#) Generate sound or output analog voltages with an Arduino. This Instructable will show you how to set up a really basic digital to analog converter so you can start generating analog waves of all shapes and sizes from a few digital pins on an Arduino..... Listed under: [Projects](#), [Sound – Audio Projects](#)
243. [DIY Arduino Motor Shield](#) Today, I'm going to show you how to make an Arduino motor shield (driver) at a low cost. It works splendidly, its posses almost all the characteristics of the original Arduino motor shield. It's almost considered as a clone. The original Arduino motor shield has the..... Listed under: [How To – DIY – Projects](#), [Motor Projects](#), [Projects](#)
244. [Proximity sensing mouse wheel scroller using Arduino](#) List of tools: 1. Exacto 2. Arduino Nano / USB chord (Mini-B) 3. Dremel / Drill 4. Paper & Pencil 5. Sharp IR Sensor (2Y0A21 F) 6. Hot glue gun 7. Solder gun / Solder 8. A small mirror Ok so you might ask, why..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
245. [Big Ball Maze Game using Arduino](#) This project was the result of an urge to contribute something to the Creative Games section of my kids' elementary school fair. The kids loved it for it's simple old-school game aesthetic mixed with Wii-style and Kinect-style video game control. It's a spin-off project of..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
246. [10 Useful Arduino Projects to Complete This Year](#) If you are new or experienced in DIY electronics, you probably know about the Arduino. Arduino is an excellent option for microcontrollers; its products are reliable, open-source, affordable, and efficient, with high flexibility. The list shown displays the extensive variety of options available in Arduino..... Listed under: [Projects](#)
247. [Spinning or Rotating LED Display using Arduino POV](#) Designing a Spinning/Rotating LED Display In this project, we will demonstrate how to create a basic "Rotating LED Display" (commonly referred to as Spinning LED Display) using Arduino. The idea to start this project sparked in my mind after I noticed a product in the..... Listed under: [LED Projects](#)
248. [How to make a LED 7-segment display with or without Arduino](#) I will demonstrate how to create a 7 segment display using LEDs. Use Arduino in conjunction to make countdown timers, basic text displays, and additional features. I enjoy creating unique projects. I looked through all of instructables and couldn't find anything similar to this. Actually,..... Listed under: [LED Projects](#)
249. [Internet Radio Using an ESP32](#) Dear friends welcome to another Instructable! Today we are going to build an Internet Radio device with a big 3.5" display using an inexpensive ESP32 board. Believe it or not, we can now build an Internet Radio in less than 10 minutes and with less than 30\$..... Listed under: [Radio Projects](#)
250. [How to Make a PIP-Boy using an Arduino](#) You may be wondering, what is a PIP-Boy exactly? If you don't know, a PIP-Boy is a tool used by the main character in the well-liked Fallout video game series for navigating, detecting radiation, storing/playing data, and managing inventory. As a huge enthusiast of the..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
251. [ESP32 Internet Radio](#) The affordable MP3 VS1053 codec processor available on aliexpress.com is said to have the ability to decode different music formats such as Ogg Vorbis/MP3/AAC/WMA/MIDI audio. VS1053 can also record in Ogg Vobis file, but the available guidance online is mainly for proprietary boards or ESP32-IDF,..... Listed under: [Radio Projects](#)
252. [Efficient Plant Care: Arduino-Based Automatic Watering System](#) Greetings to all, we are glad to have you back on our website! This time around, we are showcasing a superb project: the automated plant watering system. With this project, we use technology to help plants grow on their own. After one month of being..... Listed under: [Motor Projects](#)
253. [DIY FSK RFID Reader using Arduino](#) This page explains how to build an RFID reader with just an Arduino (Nano 3.0 was used in testing, but other models may be compatible), a wire coil made by hand, and various affordable common components. Credits The hardware and software designs for this project..... Listed under: [How To – DIY – Project Ideas](#), [Projects](#), [RFID - NFC projects](#)
254. [Custom Large Font For 16x2 LCDs using arduino](#) I started learning Arduino a couple of years ago and started playing around with a 16x2 LCD display that uses the Hitachi HD44780 chipset. I soon found out that the screen provides 8 character slots that are customizable. I found a project in which someone..... Listed under: [LCD Projects](#)
255. [Game & MINTIA](#) This instructables show how to use a tiny sweet box to make a NES console. <https://youtu.be/-ehaDDSYJaE> Supplies TTGO T7 v1.3 <https://www.aliexpress.com/af/Ttgo-t7-v1.3.html?d=...> 1.54" ST7789 IPS LCD <https://www.aliexpress.com/af/1.54-st7789.html?d=y...> Lipo 303040 <https://www.aliexpress.com/af/lipo-303040.html?d=y...> MAX98357 I2S DAC audio breakout board <https://www.aliexpress.com/af/max98357.html?d=y&or...> 10\*18 mm speaker <https://www.aliexpress.com/af/1018-speaker.html?d=...> Thin Prototype PCB <https://www.aliexpress.com/af/lipo-303040.html?d=y...> Four..... Listed under: [Game – Entertainment Projects](#)
256. [Build a transistor circuit board for controlling Air Conditioner remote control with Arduino](#) I was supporting a group of people who were experiencing some of the difficulties they faced was on controlling an A/C unit with Arduino microcontroller. The first experiment we tried to work it out was by record the A/C remote control beam signal for..... Listed under: [Home Automation Projects](#), [Projects](#)
257. [Compact 3-in-1 Stripboard DIYduino with Integrated Sensor and L298N Motor Shield](#) I am presenting a compact design of a stripboard Arduino board (DIYduino) that includes a 2A motor driver and has additionally the functionality of a sensor shield. The 2-channel version cost approximately \$29.43 and is more affordable compared to \$39.00 for a commercially available system..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

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258. [Complete Arduino-based 3D-printed Battery-powered Mini Retro Arcade Machine](#) It's been a while since I've published my last Instructables. I'm back, and I'm 3D-printed-powered! Enjoy this mini retro arcade machine. It's literally my first complete end-to-end 3D-printed project: I made the design, printed it, assembled the electronics, programmed it, and now to the tutorial..... Listed under: [Battery Projects](#)
259. [Controlling an RGB LED With an Android Smartphone Using Arduino and Bluetooth Module](#) The very first project of my channel is about controlling an RGB LED using annoying push buttons.... I feel that the project was not a good one to learn about micro-controllers, because most of the micro-controllers uses are not fully utilised in that project.... So, This is..... Listed under: [LED Projects](#)
260. [Designing and building an synthesizer with Meeblip and Arduino, added videos!](#) For my internship at Create Digital Music/Meeblip I've created quite a fun little synthesizer. This thing is meant to be more flexible than other synthesizer by making it completely independent; it is battery powered, has its own amplifier/speaker and is controlled by a manually operated sequencer. Inspiration..... Listed under: [Sound – Audio Projects](#)
261. [DIY Arduino Project ARDUINO SERIAL COMMUNICATION TO PROCESSING, ARDUINO WITH ETHERNET SHIELD, ARDUINO WITH GPRS](#) INTRODUCTION This DIY Arduino project explores various ways to enable communication and connectivity between an Arduino board and external devices or networks. Specifically, it focuses on three components - Arduino serial communication to Processing, Arduino with Ethernet shield, and Arduino with GPRS. The Arduino is..... Listed under: [GPS Based Projects](#)
262. [Dazzle Your Eyes with a Twinkling LED Symphony: Learn to Create Your Own LED Display](#) This circuit demonstration showcases a random LED flasher controlling twenty lights. LED flashers and sequencers are commonly employed in decorative lighting applications to produce aesthetically pleasing color patterns. Rather than steadfast illumination, these systems cycle LEDs on and off in either a predetermined sequence or..... Listed under: [LED Projects](#)
263. [DIY Flex sensor using Sugru and graphite powder \(Resistencia flexible usando Sugru y polvo de grafito\)](#) Este es el primero de 5 instructables que surgieron del Instructables & Sugru build night (and day en nuestro caso) que hicimos en el Laboratorio de Juguete, el 20 de julio del 2013: una Resistencia Flexible o Flex Sensor hecha con Sugru y polvo de grafito:..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)
264. [Drive a webpage in real-time using Arduino, SensorMonkey and Processing.js](#) Remote visualization of real-time sensor data. This tutorial describes in detail how to use the free SensorMonkey service to push real-time sensor data from an Arduino to a webpage for visualization using Processing.js. No server-side coding or Ethernet shield is required. A standard, run of the mill..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
265. [Driving two Nixie tubes with an Arduino via a shift register and two SN74141s](#) Nixie tubes are really cool looking and are becoming quite popular for their 'retro' look. Although there are a number of tutorials out there on using nixie tubes and some nice pre-packaged units (see these nice ones from ogilumenand ArduiNIX) I hadn't seen a simple tutorial..... Listed under: [Development Board – Kits Project Ideas](#)
266. [GoFly – paragliding/hangliding/gliding altimeter-variometer from Your car navigation using Arduino](#) GoFly is a project based on PNA (car navigation devices with Windows CE), LK8000 tactical fligh computer software and variometer (altimeter) external input based on Arduino board and pressure sensor. Why? -You can build this for about 150\$, -Your ordinary PNA (Personal Navigation Assistant) changes..... Listed under: [Car Projects](#), [Metering – Instrument Projects](#), [Projects](#)
267. [HALLOWEEN DIY CANDY DISPENSER WITH RIDDLE, 7-SEGMENTS & PUSHBUTTON, ARDUINO & 3D PRINTED | ELISAVA](#) In this project we use an Arduino Uno along with some simple components to create an interactive, scary and playful decoration for Halloween to impress all your guests. Our idea is basically designing a candy dispenser that only provides the user with a few candy..... Listed under: [Other Projects](#)
268. [Home Automation \(or Robot Butler called Geoffrey\) – iPhone controlled, arduino based](#) Being able to control everything from your pocket has long been a dream shared by many. Previously we've had universal remotes that can both control our TVs and radios, then we had wireless wall sockets. Both great things, but how likely is it that you're..... Listed under: [Home Automation Projects](#), [Phone Projects](#), [Robotics – Automation Projects](#)
269. [How to control arduino board using an android phone and a bluetooth module](#) In this tutorial you'll learn how to use a bluetooth module and MIT's app inventor to create a wireless serial link between an android phone and an arduino board. Here is a short video showing an example app I created. I'll describe how to do..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
270. [How to Make a Basic Computer Mouse Using the Joystick Module and Arduino Uno](#) This instructable will show you how to make a joystick controlled mouse using Arduino Uno and the joystick module. Supplies You will need- One Arduino Uno 5 jumper wires One Joystick Arduino IDE Python Step 2: Make the Circuit Make this circuit shown using your..... Listed under: [Development Board – Kits Projects](#)
271. [How to Make a Infrared \(IR\) Remote Controlled Car With a TV Remote for University Project, Science Fair and Robotics Competition](#) Follow the instructions below to build the remote control car. This project is ideal for science fair, robotics competition and university projects. The design is highly adaptable, you can modify it easily and add your own components. Table of contents Step 1: video demo Step..... Listed under: [Other Projects](#)
272. [IoT Set-up to Operate/control 220-240 Volt AC Bulb/Device; NodeMCU Amica + 5V Relay + MQTT + Arduino IDE + Web Browser \(HTML + JavaScript/jQuery\)](#) What are we messing with? IoT (Internet of things) set-up to operate/control 220-240 Volt AC Bulb/Device NodeMCU Amica + 5V Relay + MQTT + Arduino IDE + Web Browser (HTML + JavaScript/jQuery) WARNING!! – THIS PROJECT INVOLVES WORKING WITH HIGH VOLTAGES THAT CAN CAUSE SERIOUS..... Listed under: [Other Projects](#)
273. [Internet/cloud Controlled Home Automation Using Esp8266 \(aREST, MQTT, IoT\)](#) Step 1: COMPONENTS REQUIRED      Click here to get AI-based help ✕  
NODEMCU or WEMOS D1 mini or any esp8266 wifi development board2. RELAY (5V or 6V)3. ULN2003 or UNL200.  
else solder it!!) The main structure of the project is..... Listed under: [Internet – Ethernet – LAN Projects](#)
274. [Arduino Step Sequencer Drum Machine](#) Overview As enthusiasts of audio, we aimed to use our recent understanding of microcontrollers to create an exciting consumer gadget. Our project is a drum machine that functions as a step sequencer. The user can create a 16-step percussion sequence with various percussion instruments on..... Listed under: [Sound – Audio Projects](#)
275. [Arduino Row-column Scanning to control an 8×8 LED Matrix Code](#) LED displays are commonly packaged as arrays of LEDs organized in rows with shared positive terminals and columns with shared negative terminals, or vice versa. Here is a standard illustration, along with its diagram: These exhibits can be very

useful. To control a matrix, you..... Listed under: [LED Projects](#), [Projects](#)

276. [LIQUID FLOW SENSORS OFFER HIGH-ACCURACY, LOW-MAINTENANCE REPLACEMENT FOR MECHANICAL TURBINE DEVICES](#) Cost-Effective MEMS Sensors Deliver Increased Performance and Reliability, Even in Unstable Pulsatile Flow and Low-Flow Conditions Posifa Technologies introduced its new PLF2000 series of liquid flow sensors. Designed to replace mechanical turbine flow sensors, the cost-effective devices deliver increased accuracy and reliability, even in unstable..... Listed under: [Sensor – Transducer – Detector Projects](#)
277. [Arduino Knight Rider Code](#) Arduino Knight Rider light effect, a simple variation of blink code. Parts List; 1) 5x 5mm red LED 2) 1x Arduino 3) 5x 330Ω resistor 4) Jumper wire Instruction; 1) Connect all LED as diagram below, make sure cathode lead of LED at ground..... Listed under: [LED Projects](#), [Projects](#)
278. [Make your own Custom Electronic Widgets, like my Arduino LED Day/Night Widget](#) This is just a brief run down on how easy it has become to make your own circuits complete with your own PCB's. Have you ever wanted to make something custom that suits your needs? Of course you have!! For me it really started when..... Listed under: [LED Projects](#)
279. [Making the Maker Hub: Printing a 3d printer, Arduino and construction pics](#) RepRap Update [caption id="attachment\_86378" align="aligncenter" width="600"] 3D printed parts for a new 3D printer![/caption] I have finally printed all the plastic parts for the Griffin Open Source 3D printer I'm building, and they look fantastic! The remaining components should arrive soon, and then I can..... Listed under: [Other Project Ideas](#)
280. [Master the Art of Bootloader Burning with Arduino as ISP: A Comprehensive Guide](#) Introduction For many electronics projects, AVR microcontrollers are commonly used. However, as a beginner, uploading or flashing code to an AVR can be challenging to understand. When other programming hardware is unavailable, an Arduino board can help burn bootloaders onto AVRs. It also enables creating..... Listed under: [Arduino Programmer Projects](#)
281. [Matrix sound machine: Generative music with a particle system 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. Creating emergent patterns that can be converted into sounds fascinates me. So this is my first experiment in building an arduino platform for..... Listed under: [Projects](#), [Sound – Audio Projects](#)
282. [Arduino Cyclone Reaction Time Game](#) In this instructable, we walk through how I made a "Cyclone" - type arcade game using an Arduino. This game also includes a reaction timer mode. Let's get started! A list of things you will need: Arduino Uno LCD Screen MCP23017 serial port expander 2..... Listed under: [Game – Entertainment Projects](#)
283. [Arduino Based Real-Time Oscilloscope](#) Arduino Based Real-Time Oscilloscope The Oscilloscope is an essential instrument for the workbench of every electronics engineer or maker. It is primarily used for monitoring waveforms and analyzing voltage levels, frequency, noise, and other signal characteristics that can change over time at its input. Embedded..... Listed under: [Development Board – Kits Projects](#)
284. [Mr. Indecision – a small felt version of yourself that turns its head and looks at you using Arduino](#) This is a tutorial on how to use 123D Catch to get a 3D scan of your whole body. Once you have the scan or "catch" the tutorial will take you through a technique to clean it up and manipulate it ready for 123D Make..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
285. [Automating A Home Snowmaker Using An Avr Microcontroller](#) Before describing how the automated system functions, it is important to describe the science of snowmaking in general and to define a few key terminology that will appear often in the remaining sections of the text. Although the science of snowmaking is complex, for the..... Listed under: [Home Automation Projects](#)
286. [Autonomous Control of RPM of Engine Using Feedback System From a IR Based Tachometer](#) There is always a need for automating a process, be it a simple/monstrous one. I got the idea to do this project from a simple challenge that I faced while finding methods to water/irrigate our small piece of land. The problem of no current supply lines and costly..... Listed under: [Other Projects](#)
287. [Armadino – an Arduino Gameboy, Clock, Electronic Lab, TVout Console and More...](#) Some years ago, I came across Mignon and Meggy Jr RGB, and was intrigued enough to want to make something similar, but with a wider screen, more possibilities for experiment and play, and with few parts. I called it Armadino, after seeing an armadillo logo on the spine of..... Listed under: [Game – Entertainment Projects](#)
288. [Arduino Based 3-Way Traffic Light Controller](#) We all know about Arduino. It is one of the most popular open source micro controller board which is highly useful for doing DIY projects. This Arduino based 3-Way Traffic Light Controller is a simple Arduino DIY project which is useful to understand the working of..... Listed under: [Arduino LED Project Ideas](#)
289. [Arduino Automatic Watering System](#) INTRODUCTION & OBJECTIVES: I am a basic system that utilizes Arduino for automating the watering of small potted plants or crops. This system monitors soil moisture levels by using LEDs for indications and emitting an alarm beep if the soil is dry. If the soil..... Listed under: [Home Automation Projects](#), [Projects](#)
290. [Reading pulses from meters with pulse outputs.. using arduino](#) A note on what this document covers The key addition to the wealth of online information about pulse counting is the method of counting pulses from multiple sources (up to 12) using continuous sampling and direct port manipulation in an Arduino sketch instead of interrupt-based..... Listed under: [Temperature Measurement Project Ideas](#)
291. [Quiz Game Show Buzzer using Arduino](#) My close friend, who works as a teacher, was conducting quizzes in her class. This caused some students to complain about not getting a chance to answer even though they had raised their hand. Listed under: [Game – Entertainment Projects](#)

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292. [LCD & Keypad Shield Quickstart Guide using arduino](#) The 16x2 LCD And Keypad Shield is easy to use as it works seamlessly with the Arduino "LiquidCrystal" library. With just a few lines of code, you can set up the LCD and show messages on it. Additionally, you have the option to create more..... Listed under: [LCD Projects](#)
293. [Arduino Based Vehicle Accident Alert System using GPS, GSM and Accelerometer](#) In our previous tutorials, we have learned about How to interface GPS module with Computer, how to build a Arduino GPS Clock and how to Track vehicle using GSM and GPS. Here in this project, we are going to build a Arduino based



vehicle accident alert..... Listed under: [GPS Based Project Ideas](#)

294. [Drawing an Arduino Circuit Diagram](#) I've been in possession of an Arduino Duemilanove for a couple of weeks. If you are unfamiliar with the Arduino, it is defined as "a platform for creating electronics prototypes using adaptable, user-friendly hardware and software". The setup consists of a small microcontroller, a USB..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
295. [DIY wattmeter with an Arduino](#) DIY wattmeter with an Arduino Measuring power and energy using regular multimeters can be challenging or even unfeasible at times. In order to conduct such a precise and reliable measurement, a specific wattmeter is necessary. Due to their high cost, an alternative option is introduced..... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#)
296. [Custom OBD II Gauge in With OEM Look using arduino](#) <https://github.com/stirobot/arduinoModularTFTgauges> I built a custom OBD II (on board diagnostics version 2 [http://en.wikipedia.org/wiki/On-board\\_diagnostics](http://en.wikipedia.org/wiki/On-board_diagnostics)) The clock in my Subaru BRZ (GT86, FRS) was a popular feature, and many people asked me to make one for them. This is how you can construct your own. My spouse is..... Listed under: [Arduino Car Project Ideas](#)
297. [CT sensors – Interfacing with an Arduino](#) To connect a CT sensor to an Arduino, you need to adjust the CT sensor's output signal to match the Arduino's analog input requirements: a positive voltage ranging from 0V to the ADC reference voltage. Note: This page shows an example of an Arduino board..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
298. [Musical Exercise: Workout Shirt MP3 Player Powered by Exercise using Arduino](#) People love listening to music while exercising. Music provides the motivation needed for individuals to keep exerting energy and get in shape. So, because people enjoy listening to music while exercising, what if an MP3 player only played an individual's music while they are active?..... Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)
299. [Arduino Wattmeter: Measure Voltage, Current and Power Consumption](#) Being electronics engineers, we consistently rely on meters and instruments to gauge and study the functionality of a circuit. From basic multimeters to advanced power quality analyzers or DSOs, each device serves specific purposes. Many of these gauges are easily accessible and can be bought..... Listed under: [Metering – Instrument Projects](#)
300. [Arduino Stepper Motor Control](#) Hardware Preparation Stepper Motor Driver Board Arduino Board (UNO) If you bought the Arduino Board from ZTW, we have already installed the g-code library for you. If you have your own Arduino Board, you have the option to download the grbl Arduino library from the..... Listed under: [Motor Projects](#)
301. [Arduino + MLX90614 IR Thermometer](#) Having the ability to feel temperature is exciting... However, being able to detect the temperature of an object without any physical contact is truly amazing. The MLX90614 is a sensor with the capability of achieving that. This person can detect temperatures ranging from -95 to..... Listed under: [Temperature Measurement Projects](#)
302. [Arduino Based Fire Fighting Robot](#) The NCRB stated that more than 120,000 fatalities in India were linked to fire mishaps from 2010 to 2014. Despite the many safety measures implemented for fires, they still happen from time to time. In the event of a fire, we must use personnel who..... Listed under: [Robotics – Automation Projects](#)
303. [26-Way MIDI DRUMS](#) His creation is a 26-key drum pad setup that combines MIDI and USB connectivity, featuring a fixed velocity byte for 10 drum switches alongside a 16-key velocity-sensitive circuit. This system utilizes piezo sensors to achieve a complete velocity range from 0 to 127. The drums..... Listed under: [Other Projects](#)
304. [WATER LEVEL MEASUREMENT USING ARDUINO UNO R3 AND WATER SENSORS](#) Greetings, welcome back. Today, we will demonstrate the process of creating a water level detector utilizing an Arduino Uno and water sensors. There are numerous water level sensor tutorials available online, but this method stands out. To begin with, let's talk about the components required..... Listed under: [Metering – Instrument Project Ideas](#)
305. [RGB Color Detector Using TCS3200 Sensor Module](#) This Color Detector utilizes an Arduino Uno R3 and TCS3200 color sensor module. Color identification and detection can be beneficial for food-processing units, color printer applications, paint-mixing applications, and other industrial applications such as robotics. This project is designed to identify basic colors (red, green,..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
306. [RFID cat door using Arduino](#) Intro: RFID Cat Door Only the pet with the correct RFID tag can unlock this specific cat door/flap. Arduino is responsible for overseeing the process. It features a custom antenna large enough to function as a gate, enabling the animal to easily and consistently activate..... Listed under: [Projects](#), [RFID - NFC projects](#)
307. [ESP32/ESP8266: Seamless Data Integration with MySQL and PHP](#) This project involves creating a device with either an ESP32 or ESP8266 that can connect with a server from a distance. The gadget will function as an HTTP client by sending POST requests to a PHP script. The aim of these requests is to transmit..... Listed under: [Other Projects](#)
308. [Automatic Irrigation System \(Arduino\) With Usb Type DC Submersible Water Pump](#) This mini project is involved to use Arduino to control submersible watre pump when soil reach below or above predefined moisture level. How it works ? 1. Soil moisture sensor is reading analog signal which transmit to Arduino. 2. Arduino control submersible water pump ON..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
309. [Arduino Spectrum: Building a DIY Spectrophotometer](#) The environment shows a range of light colors, each moving and changing. A Spectrophotometer Project based on Arduino aids in revealing the hidden language of light. This project provides spectroscopy. It allows the..... Listed under: [Motor Projects](#)
310. [Arduino Projects: Audio VU Meter](#) Displayed is an audio meter based on Arduino that utilizes a liquid crystal display (LCD). A VU meter, also known as a standard volume indicator (SVI), is a tool that shows the signal level in audio equipment. This project involves displaying the intensity of left..... Listed under: [Metering – Instrument Projects](#)
311. [Interfacing Flame Sensor with Arduino to Build a Fire Alarm System](#) This tutorial discusses how to connect a Flame Sensor to an Arduino and create a Fire Alarm System using the same components. The flame sensor module utilizes a photodiode for light detection and an op-amp to regulate sensitivity. It is utilized for

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fire detection and..... Listed under: [Sensor – Transducer – Detector Projects](#)

312. [Wireless Weather Monitoring: Arduino NRF-Based System](#) Hello tech fans! We're thrilled to present our newest project created to help in a range of environments such as households, workplaces, and beyond. Introducing our weather monitoring system that utilizes Arduino as the main controller to carry out commands. This system accurately monitors ambient..... Listed under: [Wireless Projects](#)
313. [Top 10 Best Simulators for Arduino](#) In this article, I will discuss the best 10 Arduino simulators that are currently on the market. The most popular software for simulating circuits and embedded systems with the Arduino microcontroller development board. In previous writings, I discussed the simulation of Arduino-based circuits using Proteus..... Listed under: [Development Board – Kits Projects](#)
314. [Simple Arduino Audio Player and Amplifier with LM386](#) Incorporating sounds or music into our project will reliably increase its attractiveness and make it more visually appealing. If your Arduino has many pins to spare, you can easily incorporate sound effects into your project by using an extra SD card module and a standard..... Listed under: [Sound – Audio Projects](#)
315. [RFID Blocking – How Secure Are Our RFID Cards? How Can We Protect Them Further? – an Experiment](#) NOTE: Vocab RFID Reader - The box-like object that can be activated by an RFID tag RFID Tag/RFID Card - The card or tag that activates the reader. I took apart one and is displayed in the pictures above. RFID System - The tag and..... Listed under: [Arduino RFID Project Ideas](#)
316. [Password Based Door Lock System Using Arduino SIMULINO UNO](#) Security presents the primary challenge in today's modern society. Anyone has the ability to enter your personal residence at any moment in order to steal your belongings. In order to keep your home safe from burglars, you must ensure it is secure. A motor is..... Listed under: [Security – Safety Project Ideas](#)
317. [Smart Electricity Meter with Energy Monitoring and Feedback System for Theft Detection](#) The project is basically to detect the theft from the energy meter used in households as well as in... Description The project is basically to detect the theft from the energy meter used in households as well as in the commercial sector. There is two..... Listed under: [Metering – Instrument Projects](#)
318. [Spotted Gecko Habitat Temperature Monitor/Thermostat W/Arduino & ESP8266 ESP12](#) Soooo....Wifey decided that it was time for a new pet. Spin the wheel....A Spotted Gecko!! Well, Geckos are apparently very temperature sensitive creatures so we invested in a UTH (Under Tank Heatpad) for those of us that are new to the world of reptiles. The purpose..... Listed under: [Temperature Measurement Projects](#)
319. [How to Use the RPLIDAR 360° Laser Scanner With Arduino](#) I enjoy creating sumo robots and am constantly searching for innovative sensors and materials to improve the speed and intelligence of my robots. I discovered the RPLIDAR A1, available for \$99 on DFROBOT.com. I mentioned my interest in testing the sensor, and they offered me..... Listed under: [Other Projects](#)
320. [Synchronized 2-Axis Motion With Variable Speed \(Arduino + LEDs + 28BYJ-48\)](#) [https://youtu.be/liEz\\_sJd45E](https://youtu.be/liEz_sJd45E) This tutorial shows how to move two stepper motors so they will synchronously arrive at defined destination point. There are many sophisticated solutions for doing this such as GRBL or Marlin. Using an Arduino, there are also dedicated “Multi Stepper” libraries that can support you. However, we will use..... Listed under: [LED Projects](#)
321. [Telecommunication and Computer Networks: Speed Regulation of DC Motor Using DTMF Keypad](#) Introduction In the realm of telecommunication and computer networks, the application of Dual Tone Multi-Frequency (DTMF) technology has extended beyond traditional telephony into diverse fields, including industrial automation and control systems. One intriguing application of DTMF technology is in the speed regulation of DC motors..... Listed under: [Motor Projects](#)
322. [How To Build Arduino Thermal Camera](#) I recently worked on an Arduino project to create a low-cost thermal camera using an IR sensor and pan/tilt hardware. When observing the device image on the left, you will notice an acoustic range finder attached to the top as well. The tool functions by..... Listed under: [Projects, Video – Camera – Imaging Projects](#)
323. [Teensy MIDI USB foot controller for controlling Mobius Looper using Arduino](#) Motivation: Playing in a 2 piece band, with the drums and lots of other samples being played back as backing tracks, there was a need to use a looper to add in more elements to the tracks. A hardware based looper fails in this respect,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
324. [Arduino-based Ultrasonic Radar System via IOT](#) Abstract RADAR is a system that detects objects by using radio waves to measure the distance, height, position, or velocity of objects. Radar systems are available in a range of sizes and come with various performance specifications. Certain radar systems are employed for managing air..... Listed under: [Medical – Health based Projects](#)
325. [Controlling a clock with an Arduino](#) Update: The Arduino system is fine; the only thing you have to take into consideration is the 9.54 hour rollover event, which Rob Faludi has provided an excellent solution for here. I made up a nice little over-analysis of the issue, available here. For a..... Listed under: [Clock – Timer Projects, Projects](#)
326. [TinyML: Slope Control for Robots With Arduino Pro. Building an Inclination Estimator System With Nicla Sense ME and Neuton](#) The vacuum cleaner robot is one of the most useful inventions of the last decade and anyone who says differently means that he does not have one! This fantastic household appliance is a concentration of technology: a complex embedded system composed of some microcontrollers, many..... Listed under: [Robotics – Automation Projects](#)
327. [Arduino-Powered Smart Water Heater: A DIY Project](#) Greetings to all, we welcome you back to Techatronic. During development of a smart water heater project that involves Arduino and DS1820B temperature sensors. If you're in heater for the winter, then this..... Listed under: [Temperature Measurement Projects](#)

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328. [Arduino Magic: Driving Stepper Motors using ULN2003 Driver](#) Introduction Hello everyone, I hope all of you are doing well. This article gives guidance on constructing a circuit to control a stepper motor using an Arduino UNO and the ULN2003 motor driver. Listed below are three circuit diagrams along with their corresponding codes. You..... Listed under: [Motor Projects](#)
329. [Transform Your Home into a Futuristic Hub with This DIY Real-Time Clock and Temperature Display](#) This project demonstrates building a real-time clock (RTC) with temperature display using an Arduino, DS3231 RTC chip, and SSD1306 OLED display (128x64 pixels). The DS3231 RTC chip provides more accuracy than the


DS1307 and incorporates an onboard temperature sensor. It maintains timekeeping even without the..... Listed under: [Clock – Timer Projects](#)

330. [Ultimate Mosquito Swatter Mod for Gamer: Add Kill Counter, Sound, Rechargeable Battery](#) Where I live, from spring to autumn we have to compete for territory against tiger mosquito. Local stores offer a impressive list of anti mosquito devices, candles, including sophisticated traps sold a few hundred euros, I even found one sold 2000€ - this give you..... Listed under: [Game – Entertainment Projects](#)
331. [Using Temperature, Rainwater, and Vibration Sensors on an Arduino to Protect Railways](#) In modern-day society, an increase in rail passengers means that rail companies must do more to optimize networks to keep up with the demand. In this project we will show on a small scale how temperature, rainwater, and vibration sensors on an arduino board can..... Listed under: [Temperature Measurement Projects](#)
332. [Arduino ATtiny2313 Programming Shield](#) Today, I constructed a compact 3x3x3 LED cube utilizing an ATtiny2313 that I acquired around 2 weeks ago. Every time I wanted to update the LED cube with better patterns, I had to bring out my breadboard, reconnect everything following ATtiny2313 pin-outs, and upload the..... Listed under: [Arduino Programmer Projects](#), [Development Board – Kits Projects](#), [Projects](#)
333. [High-Power Control: Arduino + N-Channel MOSFET](#) Eventually you are going to find yourself holding a 12v solenoid, motor, or light and wondering “How the heck am I supposed to control this from my Arduino?” And we have covered this in the past. Today we are going to talk about another way..... Listed under: [Other Projects](#)
334. [Creating a DIY device for monitoring power consumption using ESP32](#) Electrical appliances, such as smartphones chargers and room heaters, play a crucial role in our everyday routines. This includes larger devices like air conditioners and washing machines. With the ongoing worldwide energy crisis, it is essential to understand the electricity usage of these devices. Although..... Listed under: [Other Projects](#)
335. [Wireless Communication of Multiple Variables Between 2 Arduinos Using HC-12](#) In this tutorial, I will show you how to achieve wireless communication of variables between 2 Arduinos using the HC-12 module, that operates from 433,4-473 Mhz. HC-12s are wireless modules for arduino to arduino communication, because they can send multiple variables over long distances-ones up..... Listed under: [Wireless Projects](#)
336. [Aergia: Android controlled TV Remote\(with Speech Recognition\) using Arduino](#) Have you ever faced this situation while sitting on your favorite spot on the couch or recliner, comfortably watching your favorite TV program? You're snugly tucked under the blanket, the air conditioning is pleasantly cool, the sun outside is shining it's delicate warm golden rays..... Listed under: [Arduino Android](#)
337. [Getting Started With the ESP8266 ESP-01](#) The ESP8266 ESP-01 is a module for Wi-Fi that enables microcontrollers to connect to a Wi-Fi network. This module is an independent SOC (System On a Chip) that does not require a microcontroller for managing inputs and outputs like you would typically do with an..... Listed under: [Wifi - Wlan Projects](#)
338. [Sound Localization using Arduino](#) In theory, it is quite simple to perform sound localization by measuring the phase difference of signals received by two microphones that are far apart in space. The devil is always in the details. I have not come across any project made for Arduino like..... Listed under: [Projects](#), [Sound – Audio Projects](#)
339. [Arduino Starter Kit Multi-language](#) Introduction The Arduino platform has lowered the entry barrier for physical computing and IoT development. However, learning to code is also key. The Arduino Starter Kit Multi-language addresses this with an all-in-one solution for exploring Arduino through multiple programming languages. Included Hardware The kit includes..... Listed under: [Other Projects](#)
340. [SITWAY](#) You are never to old to learn and try new things. I think one of the best days in my life was the day I discovered the Instructables web site. It opened up a whole new world to me. This is my third instructable ..... Listed under: [Robotics – Automation Projects](#)
341. [Arduino Weight Measurement using Load Cell and HX711 Module](#) Today, we will be measuring weight by connecting a Load Cell and HX711 Weight Sensor with Arduino. Weight machines can be found in various stores, and they show the weight when an item is placed on the weighing platform. Thus, we are constructing a weighing..... Listed under: [Metering – Instrument Projects](#)
342. [VivoGame](#) VivoGame (something like "liveGame" in english) is a funny 2 players game whose goal is hit a target with a automated dart. One player wear a "glasses" that doesn't let him see the target. 3 leds that replace each lens, allow the other one, who..... Listed under: [Game – Entertainment Projects](#)
343. [Sweep](#) Sweeps the shaft of a RC servo motor back and forth across 180 degrees. This example makes use of the Arduino servo library. Hardware Required Arduino Board (1) Servo Motor hook-up wire Circuit Servo motors have three wires: power, ground, and signal. The power wire..... Listed under: [How To – DIY – Projects](#), [Motor Projects](#)
344. [Old Sole](#) Old Sole interrupts normal youthful days to force young people to interact with their environment in a different way. If the young shoe-wearer takes significantly more steps than the elderly individual with the walker, the shoes light up and vibrate uncomfortably, reminding the young person..... Listed under: [Other Projects](#)
345. [Flip](#) Flip Intro There is something kind of magical about swimming when you are a child. Do you remember growing up and watching your shadow as you swam in the pool, trying to mimic a perfect dolphin kick and imagining you were a mermaid rather than..... Listed under: [Other Projects](#)
346. [DeCart](#) Description DeCart is an attachment to a shopping cart that uses social pressure to make the shopping a n society as a whole. List of Materials Although the entire premise of the project is simple, the implementation, however, is not and..... Listed under: [Other Projects](#)
347. [BOXZ](#) BOXZ is is an open source robot platform for interactive entertainment! We connected Arduino, Plexiglass(or cardboard) Origami and your idea together, so we can easily and quickly build a remote robot by ourself! You can assembled it like LEGO! We can use it to playing..... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)
348. [How to Build a Vibration Motor Circuit](#) This project will demonstrate the process of creating a circuit for a vibration motor. A vibration motor is a motor that will vibrate once it receives enough power. It is a motor that truly vibrates. It is highly effective for making objects vibrate. It has..... Listed under: [How To – DIY – Projects](#)

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[Projects](#), [Motor Projects](#)

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349. [A Guide to Building Your Own Single-Axis Solar Tracking System](#) Introductions of single axis solar tracker: A commonly favored Arduino project is a solar tracker system that follows the intensity of sunlight. It is divided into two primary categories: the single-axis solar tracker and the dual-axis solar tracker. The solar tracker with only one axis..... Listed under: [Solar energy projects](#)
- 
350. [Yet Another Daft Punk Coffee Table \(5x5 LED Matrix\) using arduino](#) Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. I built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built..... Listed under: [LED Projects](#)
- 
351. [Wireless nunchuk controlled animatronic doll](#) This instructable will attempt to show you how to make an animatronic doll controlled by a wireless nunchuk. This doll can only move its head though. I'm sure there are plenty of people out there who can take this and expand on it and make..... Listed under: [Game – Entertainment Projects](#)
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352. [Wireless nunchuk controlled animatronic doll using Arduino](#) This instructable will attempt to show you how to make an animatronic doll controlled by a wireless nunchuk. This doll can only move its head though. I'm sure there are plenty of people out there who can take this and expand on it and make..... Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
- 
353. [Wireless Doorbell Receiver](#) This project describes the second part of the following two projects: A wireless doorbell transmitter as described in the Wireless Doorbell Transmitter Instructable. This Instructable also gives some introduction to these projects. A wireless doorbell receiver described in this Instructable. The wireless doorbell receiver will make a..... Listed under: [Wireless Projects](#)
- 
354. [Turn your Arduino into a 4 voice wavetable synth](#) Multiple synthesizer projects have been done for the Arduino, but few have been able to utilize the full power of the Arduino processor. DZL from GeekPhysical wrote a 4 voice wavetable synthesizer that is one of the more advanced software based synths for the Arduino..... Listed under: [Sound – Audio Projects](#)
- 
355. [The CoaTracker using Arduino](#) Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you..... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
- 
356. [Switch Statement used with serial input using Arduino](#) An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you..... Listed under: [How To – DIY – Projects](#), [Projects](#)
- 
357. [Step-by-step guide for making a very simple temperature and humidity meter with 7-segment LED displays](#) In this blog post, I am providing you step by step instructions to build a very simple temperature and relative humidity meter for indoor use. All you need to build this project are an Arduino Uno or compatible board, a DHT11 sensor, and a MAX7219..... Listed under: [LED Projects](#)
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358. [Standalone Arduino chip on breadboard](#) If you're like me, after I got my Arduino and performed a final programming on my first chip, I wanted to pull it off my Arduino Duemilanove and put it on my own circuit. This would also free up my Arduino for future projects. The problem..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
- 
359. [SmartMesh – Arduino and Android Controlled Pneumatic Facade](#) This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Design (CAAD) and the Media Computing Group of RWTH Aachen University. For more Smart Skins, please check this page: [http://hci.rwth-aachen.de/m3\\_ss14](http://hci.rwth-aachen.de/m3_ss14) During this project, the students were asked to..... Listed under: [Arduino Android](#)
- 
360. [Self-Contained 7x7x7 LED Cube](#) LED cubes are true 3D displays that work by lighting up points in a 3D lattice of LEDs. On the 3D display you can produce some truly mesmerizing animations. This Instructable will walk you through creating an LED cube for yourself that is completely self-contained and powered..... Listed under: [LED Projects](#)
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361. [Self-Contained 7x7x7 LED Cube using Arduino](#) LED cubes are true 3D displays that work by lighting up points in a 3D lattice of LEDs. On the 3D display you can produce some truly mesmerizing animations. This Instructable will walk you through creating an LED cube for yourself that is completely self-contained and powered..... Listed under: [LED Projects](#), [Projects](#)
- 
362. [Program your Arduino with an Android device](#) Hi, in this Instructable I want to show you, how you can program your Arduino with your Android device. It is very simple and cheap. Also it allows us to program our Arduino where ever we want, this is usefull for permanently installed Arduino boards,..... Listed under: [Arduino Android](#), [Electronics News Updates](#)
- 
363. [Palm Arduino Board V3](#) I design and create this Palm Arduino V3 prototype PCB, as I was tired of recreating Arduino Compatible on perf board every time I prototyping a new project, especially when I had to spend a lot of time tracing the wiring to see that I..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
- 
364. [Monitor – Thinking Skins using Arduino](#) This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Design (CAAD) and the Media Computing Group of RWTH Aachen University. For more Thinking Skins, please check this | [Click here to get AI-based help](#)  even were small shared space containers for 6/8..... Listed under: [LED Projects](#)
- 
365. [Mini BillBoard](#) Designing a Mini BillBoard using LED Lights(different colors) , Arduino and Bread Board. Thought of creating a mini billboard, that could display my name ("Josh") . This is for one of the build nights (required us to use LED lights). This billboard would blink in..... Listed under: [LED Projects](#)
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366. [Mini BillBoard using Arduino](#) Designing a Mini BillBoard using LED Lights(different colors) , Arduino and Bread Board. Thought of creating a mini billboard, that could display my name ("Josh") . This is for one of the build nights (required us to use LED lights). This billboard would blink in..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
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367. [Making Music with Makeblock](#) Makeblock is an aluminum extrusion based construction system that provides an integrated solution for aspects of mechanics, electronics and software design. With Makeblock you can make professional robots, toy machines or even art-ware. It's super easy-to-use and helps bring your creations to life. The only..... Listed under: [Sound – Audio Projects](#)
- 
368. [How to Make a Makeblock Music Robot with the Music Robot Kit \(NEW\)](#) Makeblock is an aluminum extrusion based construction system that provides an integrated solution for aspects of mechanics, electronics and software design. With Makeblock you can make professional robots, toy machines or even art-ware. It's super easy-to-use and helps bring your creations to life. The only..... Listed under: [Robotics – Automation Projects](#), [Sound – Audio Projects](#)
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369. [Make A G Meter using Arduino](#) I have a late 80's VW and the gauge cluster has 5 dummy LED locations underneath the other warning lights. Well I was tired of the m not doing anything, so I decided to do something about it. I came up with the idea to..... Listed under: [Metering – Instrument Projects](#)
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370. [Internet Devices for Home Automation](#) This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast..... Listed under: [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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371. [Internet Devices for Home Automation using Arduino](#) This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
- 
372. [iAndroidRemote – Control Android mobile using an Apple Remote](#) I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😊 ) Also this is my entry to the..... Listed under: [Internet – Ethernet – LAN Projects](#)
- 
373. [Hookup an LCD to an Arduino](#) Adding an LCD display to Arduino projects can add real value but the cost of doing so can be significant. Not a financial cost - you can pick up 16 (characters) x 2 (rows) LCD for as little as £3.50. The cost is the pin..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#), [Projects](#)
- 
374. [Hookup an LCD to an Arduino in 6 seconds with 3, not 6 pins](#) Adding an LCD display to Arduino projects can add real value but the cost of doing so can be significant. Not a financial cost - you can pick up 16 (characters) x 2 (rows) LCD for as little as £3.50. The cost is the pin..... Listed under: [LCD Projects](#), [Projects](#)
- 
375. [Homemade Dual H-Bridge – L298 Breakout Board using Arduino](#) This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials COMPONENTS: 1 x perf board 13x26 holes (3,5 x 7,0 cm) 2 x..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
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376. [Daft Punk Coffee Table 5x5 LED Matrix using an Arduino](#) Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. I built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
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377. [Control Android mobile by an Apple Remote using Arduino](#) I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😊 ) Also this is my entry to the..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
- 
378. [A compact, Arduino altimeter for RC Planes](#) Please vote for this Instructable if you think it deserves it! Thanks! The Ultimate Altimeter is a super-compact, Arduino controlled altimeter capable of measuring the altitude with an accuracy of 0.3 meters, and saving the highest and lowest values it has measured. It is powered..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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379. [CoaTracker Using Arduino](#) Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you..... Listed under: [Sensor – Transducer – Detector Projects](#)
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380. [Cell phone text using an Arduino](#) Arduino text'in. Key Features: 24 relays controlled by 4 I/O lines! Cell phone text using your Arduino. This project hacks a cell phone to text using normally open relays. After investigating cellular modules on the internet I decided it looks not only rather pricy, but..... Listed under: [Phone Projects](#), [Projects](#)
- 
381. [ARDUINO RF power & SWR meter](#) This drawing will display RF power and SWR readings from any SWR bridge, such as the 'monimatch' type. Since this type of bridge, called 'monimatch,' varies with frequency, the meter needs to be adjusted for each bandwidth. My main focus was on VHF/UHF/SHF, so I..... Listed under: [Metering – Instrument Projects](#)
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382. [Arduino text'in](#) Arduino text'in. Key Features: 24 relays controlled by 4 I/O lines! Cell phone text using your Arduino. This project hacks a cell phone to text using normally open relays. After investigating cellular modules on the internet I decided it looks not only rather pricy, but..... Listed under: [Phone Projects](#)
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383. [Arduino Sound Alarm](#) I've just completed my second Arduino project, a sound level detector which sets off an "alarm" when there's the sound level is too high for too long. I built it for use in a school that wants to provide visual feedback to students when they..... Listed under [Click here to get AI-based help](#) ✕ = [Audio Projects](#)
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384. [Arduino Sketch RemoteStation](#) This sketch demonstrates Internet-based remote communication using a companion 'bridge' program running on the attached host which sends and receives messages via an online MQTT server. This allows connecting one Arduino to another over arbitrary distances, which we can use as a starting point for..... Listed under: [Other Projects](#)
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385. [Arduino Sketch Remote User Interface](#) This sketch demonstrates Internet-based remote communication using a companion 'bridge' program running on the attached host which sends and receives messages via an online MQTT server. This allows connecting one Arduino to another over arbitrary distances, which we can use as a starting point for..... Listed under: [LED Projects](#)
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386. [Arduino Lens Controller – Synchronized Zoom/Focus with Wii Classic Controller](#) My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I..... Listed under: [Video – Camera – Imaging Projects](#)
387. [Arduino camera Lens Controller](#) My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
388. [Arduino Board Sound Alarm](#) I’ve just completed my second Arduino project, a sound level detector which sets off an “alarm” when there’s the sound level is to high for too long. I built it for use in a school that wants to provide visual feedback to students when they..... Listed under: [Projects](#), [Security – Safety Projects](#)
389. [Android talks to Arduino](#) This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android..... Listed under: [Arduino Android](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#), [Phone Projects](#), [Projects](#)
390. [Android talks to Arduino board](#) This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
391. [Physical Computing and DC Motor Control](#) Managing a DC motor through an Arduino is a straightforward task. Beyond employing a basic electric switch, there are diverse approaches to engage with a motor. Moreover, the conventional electromechanical relay can be readily substituted with a carefully chosen transistor, enabling software-based speed control. This..... Listed under: [Arduino Motor Project Ideas](#)
392. [Creating Mini Digital Roulette Games with Arduino.](#) Crafting straightforward electronic games becomes effortless with the Arduino. Within the scope of this chapter, I will demonstrate the possibility of constructing an interactive mini casino game using fundamental digital electronic circuits within a mere two-hour timeframe. By leveraging just nine distinct electronic elements and..... Listed under: [Game – Entertainment Project Ideas](#)
393. [The NetP Project: Creating a Network of Processors with Arduino Mini Pro Boards](#) Narrative Arduino is truly remarkable; I have a deep fondness for it. It can be likened to the "Lego" of the electronics and automation world. Presently, I'm engrossed in a project where numerous MCU boards are orchestrated to form an interconnected network of processors, aptly..... Listed under: [Blog](#), [Development Board – Kits Projects](#)
394. [BO Motor With Encoder Gives Precise Movement](#) For precise BO motor control or for crafting budget-friendly projects utilizing PID, the integration of such encoders with motors holds great promise. Story Geared DC motors find extensive application in hobby projects, such as constructing robotic cars and moving robotics. Yet, for meticulous movement, the..... Listed under: [Arduino Motor Project Ideas](#)
395. [Ez Arduino 12 DOF Quadruped Robot – Robot Dog Lassie](#) Since Boston Dynamics presented their quadruped robot named Spot, everybody wants their own robot dog. There have been several efforts to create a robot with the same features. Many are costly and quite challenging to understand and create. This guide aims to provide a do-it-yourself..... Listed under: [Robotics – Automation Projects](#)
396. [Dual Axis Solar Tracker Arduino Project Using LDR & Servo Motors](#) Salutations and thank you for visiting The IoT Projects. This guide is intended to show the ways of building the Dual Axis Solar Tracker Arduino Project using LDRs and Servo Motors. The publication can be divided into seven parts, which can determine an extensive guide..... Listed under: [Motor Projects](#)
397. [Sinewave Inverter Circuit Using Arduino](#) The article demonstrates the construction of a basic sinewave inverter circuit utilizing PWM signal from an Arduino Uno, also exploring a sinewave 3 phase inverter with Arduino input. Mr. Raju Visswanath was the one who requested the concept. Technical Specifications UPDATE: Please also refer to..... Listed under: [PWM Projects](#)
398. [Measuring PPM from MQ Gas Sensors using Arduino \(MQ-137 Ammonia\)](#) Since the industrial age, we humans have been progressing quickly. As we make advancements, we simultaneously harm our environment, leading to its eventual degradation. Currently, the issue of global warming is a concerning danger and even the quality of the air we breathe is becoming..... Listed under: [Other Projects](#)
399. [Interfacing LabVIEW With Arduino](#) Interfacing LabVIEW With Arduino In previous article of Getting Started with LabVIEW, we have seen about LabVIEW and how it can be graphically programmed and executed in computer (software level). Now in this article we learn about How to Interface LabVIEW with Arduino Board. Requirements To interface..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
400. [Arduino-Powered Fire Fighter Robot: A Step-by-Step Guide](#) Greetings to all, we are glad to have you back at Techatronicon. You may have heard of a fire-fighting vehicle before. Today, we are unveiling a groundbreaking breakthrough - the Firefighter Robot. This machine is specifically created to function independently, thereby fitting the definition of..... Listed under: [Robotics – Automation Projects](#)
401. [Arduino Nano Tutorial – Pinout & Schematics](#) Arduino Nano Pinout The Arduino Nano is indeed small in size but is packed with all the features of a regular microcontroller and can also be connected to the breadboard. The Nano board proposed herein is approximately 7 grams in weight and 4. 5 cm by..... Listed under: [Pinouts](#)
402. [Arduino Leonardo Pinout Diagram](#) Arduino Leonardo Introduction: Arduino Leonardo is a microcontroller board with 8051 compatible ATmega32U4 microcontroller chip. Most of these include twenty digital I/O pins out of which seven can be used as PWM outputs and twelve can be used as analog inputs, sixteen mega..... Listed under: [Pinouts](#)
403. [Arduino Projects: Digital Audio Recorder](#) Being able to capture sound, store it and play it over and over again never fails to leave me in awe of its pioneers, from Thomas Edison to Alan Blumlein, the British electrical engineer who, in 1931, invented ‘binaural recording’ – what we now call..... Listed under: [Sound – Audio Projects](#)
404. [Toll Tax System using Arduino: Ultrasonic Sensor with Servo Motor](#) Toll Tax System Project: Hello to all readers, our goal is to create a Toll Tax System using Arduino, Ultrasonic Sensor, and Servo Motor. The steps to create an automated toll tax system with an Arduino Uno will be outlined in this article. We



provide..... Listed under: [Motor Projects](#)

405. [An FM Stereo Broadcaster PLL using Arduino](#) I own two excellent AM transmitters - one is homemade with a single 6888 Tube and the other is a restored old KnightKit Broadcaster. Additionally, I have a high-quality solid state transmitter from SSTRAN that I use to broadcast music to my collection of repaired..... Listed under: [Projects](#), [Radio Projects](#)
406. [Arduino-Based Smart Parking System with IR Sensor Integration](#) Good day, ElectroDuino community! We are delighted to have all of you back to our site. In today's session we will be learning the Smart Parking System Project based on Arduino, IR Sensors and servo Motors. The above considerations of explaining the project concept, thinking..... Listed under: [Sensor – Transducer – Detector Projects](#)
407. [Arduino DC-DC Boost Converter Design Circuit with Control Loop](#) This article will discuss the process of utilizing an Arduino Uno to effectively manage a boost converter with a power output of at least 10 watts. By utilizing only a few components such as an inductor, capacitor, diode, and a FET, it is possible to..... Listed under: [Other Projects](#)
408. [Arduino Mega Pinout Diagram](#) Arduino Mega Introduction: An Arduino Mega is an electronic circuit board known as a microcontroller that uses ATmega1280. This offers 54 pins, which can be set to input and output variations, and 14 for analog and pulse output signals. There are also 16 analog input..... Listed under: [Pinouts](#), [Projects](#)
409. [esp32 devkit v1 pinout](#) GPIO pins of ESP32 DEVKIT As previously stated, the chip on this board contains 48 GPIO pins, although not all pins are reachable via dev boards. The ESP32 devkit features a total of 36 pins, with 18 pins located on each side of the board,..... Listed under: [Pinouts](#)
410. [Open source multi-channel EEG/ECG/EMG](#) Introduction Electrodes on the skin are used to detect muscle (EMG), brain (EEG), and heart (ECG/EKG) functions. These electrophysiological measures are commonly utilized for clinical use, research investigations, and even by enthusiasts such as those intrigued by brain computer interfaces. Numerous commercial systems are categorized..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
411. [IoT for coins](#) Need to organize your coins? Get some help with this project. Things used in this project Hardware components Arduino MKR1000 × 1 ATX Power Supply × 1 Adafruit coin acceptor × 1 Adafruit Proto Screw Shield × 1 Adafruit GRAPHIC ST7565 POSITIVE LCD (128X64) WITH..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Tutorials](#)
412. [Simple Arduino Wireless Mesh](#) Create an inexpensive basic wireless mesh network with arduinos and long range APC220 radio modules. Wireless mesh networks have the ability to accommodate non-functioning individual nodes and are resilient in challenging environments like forests and hills, where direct data transmission between points may be limited..... Listed under: [Wireless Projects](#)
413. [The DIY Arduino Telescope GOTO control project](#) Why make your own Arduino control system? Once I finished building my homemade telescope mount, I installed a Meade DS motor kit to power it. This system was very sluggish, lacking in power, and untrustworthy. I couldn't modify the programming or upkeep the system either..... Listed under: [How To – DIY – Projects](#)
414. [ARDUINO LIBRARY FILES PROTEUS](#) The Proteus simulation software is most effective for evaluating microcontroller projects, although it offers limited insight. Proteus libraries for Arduino include models for Arduino Mega1280, Arduino UNO, and Arduino Pro in Proteus. Projects that involve electronics, Arduino library files in Proteus - "Arduino projects." The..... Listed under: [Arduino Programmer Projects](#)
415. [Small Arduino DMX controller](#) In this article, we demonstrate how to create a compact and practical Arduino DMX512 controller that can be used to operate a smoke machine with DMX or for testing purposes. Arduino Mega, Arduino UNO, and other similar devices can be utilized with minor modifications. Only..... Listed under: [Sensor – Transducer – Detector Projects](#)
416. [ESP32-WROOM-32 \(ESP-WROOM-32\)](#) This guide describes the pinout of the ESP32 development board and concentrates on ESP32 devkit, in particular. Actually, the ESP32 devkit comprises of the ESP-WROOM-32 which actual implementation we shall be implementing throughout the two main modules. It is worth admitting that there are several..... Listed under: [Pinouts](#)
417. [Exploring the Fusion of Physical Computing and Creative Expression](#) What is physical computing? Physical computing involves constructing physical interfaces that interact with the analog world. This entails assembling circuits using microcontrollers, wires, sensors, LEDs, motors, and similar components, which are then controlled by customized software. For example, one might program the software to activate..... Listed under: [Other Projects](#)
418. [Random Sensor Project KY-027 Magic Light Cup Module](#) Sensor Description The KY-027 Magic Light Cup module consists of two boards, each equipped with an LED and a mercury tilt switch. By utilizing PWM to control the LEDs on both modules, you can simulate the visual effect of light "magically" transferring between them when they..... Listed under: [Arduino LED Project Ideas](#)
419. [Surveying Altimeter for Water System Design](#) Project Background Designing a water system necessitates estimating water pressure throughout, often referred to as "head," which denotes the vertical column of water height producing that pressure. Pump specifications typically detail the head, indicating a pump with 150 feet of head can lift water vertically..... Listed under: [Other Projects](#)
420. [BOOST CONVERTER USING ARDUINO](#) 1. Introduction As the portable electronics industry has advanced over the years, various requirements have emerged including longer battery life, smaller and more affordable systems, brighter full-color displays, and increased talk t Click here to get AI-based help ✕ and for power systems has made power consumption..... Listed under: [How To – DIY – Project Ideas](#)
421. [Flex-It: The Ultimate Flex Sensor Showdown](#) If you and a friend have ever wondered who is better at flexing a flex sensor just right, you can now settle it with Flex-it. Flex-it is my second original project using the SparkFun RedBoard. Flex-It: The Flex Sensor Game The Flex-It is a small..... Listed under: [Game – Entertainment Project Ideas](#)
422. [Arduino Sketcher: Drawing with Processing & SparkFun Redboard](#) This project, dubbed the Arduino Sketcher, is a straightforward device designed for drawing pictures on your computer screen. Utilizing a processing code and the SparkFun Redboard, it simplifies the process of creating digital art. Device Description and Functionality The device consists of four push buttons:..... Listed under: [Development Board – Kits Projects](#)

423. [Tweet-O-Temp: Tweeting Temperatures with SparkFun Redboard](#) The Tweet-O-Temp includes a temperature sensor that continually monitors its surroundings. It operates by measuring the voltage and converting it to degrees Celsius. Since I reside in the United States, where Fahrenheit is commonly used, it also converts the temperature from Celsius to Fahrenheit. Additionally,..... Listed under: [Temperature Measurement Projects](#)
424. [System for detecting objects using Arduino](#) Project Abstract I've been exploring the idea of creating a robot using Arduino technology for a while now. This project marks the initial phase of this ongoing hobby endeavor. The aim is to construct an object detection system that can be integrated into a semi-autonomous..... Listed under: [Sensor – Transducer – Detector Projects](#)
425. [Building an Accelerometer-Controlled Cart](#) The accelerometer cart marks my second intermediate project creation. Essentially, it's a compact robot designed to interpret signals from a triple-axis accelerometer, adjusting its movement direction accordingly. Building the Accelerometer Cart The Accelerometer Cart employs a triple-axis accelerometer to determine the direction in which the..... Listed under: [Robotics – Automation Projects](#)
426. [Building and Programming a Snake Game with Gameduino](#) For my physical computing class, I completed a final project using the SparkFun Redboard. I named it "Gameduino Snake" because it is a compact, handheld device that enables users to play a Snake game on an LED matrix. Project Overview: Gameduino Snake The game features..... Listed under: [Game – Entertainment Project Ideas](#), [Game – Entertainment Projects](#)
427. [Arduino microcontroller based laser diode controller](#) 1. Introduction & Background Theory 1.1 Objective The objective of this project is to research, analyze, design, fully implement, and program an Arduino Uno microcontroller board to achieve PI control of the output power of a laser diode. Laser diodes require variable current sources for..... Listed under: [Other Projects](#)
428. [Portable GPS Watch: Revolutionizing Fitness Tracking](#) My Idea Whenever I go for a run, it bothers me to carry my phone just to track my activity. Those arm bands people use to hold their phones seem awkward to me. If you want to track your runs without carrying a phone, you..... Listed under: [GPS Based Project Ideas](#)
429. [DESIGN OF A NAIL MAKING MACHINE SUITABLE FOR THE LOCAL COTTAGE INDUSTRY](#) Chapter 1: Introduction 1.1. Nails, Nail making and nail making machine 1.1.1 Nails Nails, slender pin-shaped objects crafted from hard metal or alloy, serve as fasteners in various applications. Typically composed of steel, they are often treated with coatings to resist corrosion in harsh environments..... Listed under: [CNC Machines Project Ideas](#)
430. [Arduino's Explosive Growth: Powering Innovation Worldwide](#) Introduction Since its inception in 2005, the Arduino Project has witnessed the sale of over 500,000 boards globally. Unofficial clone boards likely surpass this number, suggesting a presence of over a million Arduino boards or their variants worldwide. Its popularity is on the rise as..... Listed under: [Other Project Ideas](#)
431. [Real-Time Body Temperature Tracking via IoT and LoRa Networks Using Arduino](#) Featured Application The research project described in the paper seeks to develop a real-time human body temperature tracking system using the Internet of Things (IoT) and LoRa wireless network technologies. Specifically, an Arduino microcontroller is used to interface with a body temperature sensor and transmit..... Listed under: [Temperature Measurement Projects](#)
432. [Design and Implementation of an Arduino-Based Solar Tracking System](#) 1. Introduction (1) Purpose A conventional solar panel typically converts only 30 to 40 percent of incident solar irradiation into electrical energy. To ensure a consistent output, an automated system capable of continuously adjusting the solar panel's orientation is necessary. Addressing this need, the Sun..... Listed under: [Solar energy projects](#)
433. [How to Make PCBA for High/Low Voltage Protection](#) Sometimes voltage fluctuations occur in the main electricity supply in our homes offices etc. These fluctuations can occur due to the interruption of heavy load, lightning and switching impulses. This can lead to the electronics part damage and sometimes causes major accidents. Voltage fluctuation or..... Listed under: [Metering – Instrument Projects](#)
434. [Empowering Innovation: An Arduino Seminar](#) Arduino interface boards serve as enchanting tools for individuals with a flair for innovation. They empower engineers, artists, designers, hobbyists, and tech enthusiasts to transform their concepts into reality. These accessible boards provide an economical gateway into the realm of electronics. Envision crafting interactive artifacts,..... Listed under: [Other Projects](#)
435. [IoT Based Smart Mine Safety System Using Arduino](#) Significance Addresses critical safety concerns in mining which is inherently hazardous work Leverages IoT and Arduino to develop a comprehensive safety monitoring system Has potential to significantly reduce accidents and improve standards if implemented widely Methodology [caption id="attachment\_84755" align="aligncenter" width="391"] Fig. 1 Block Diagram of..... Listed under: [Security – Safety Projects](#)
436. [Arduino Microcontroller Guide: Getting Started with DIY Electronics](#) 1 Introduction 1.1 Overview The Arduino microcontroller, a user-friendly yet robust single-board computer, has garnered significant popularity in both hobbyist and professional circles. Being open-source, Arduino boasts affordable hardware and freely available development software. This guide is tailored for students enrolled in ME 2011 or..... Listed under: [Motor Projects](#)
437. [Crafting Your Unique Arduino Creation: A DIY Project Guide](#) Build Your Own Arduino Using affordable components and a solderless breadboard, you have the ability to swiftly and effortlessly construct your own Arduino setup. This approach proves invaluable for prototyping new design concepts or when avoiding the need to dismantle existing setups for Arduino usage..... Listed under: [Arduino Programmer Projects](#)
438. [Remote Control: Interacting with an Arduino via Web Interface](#) Upon acquiring my initial Arduino board, my immediate aspiration was to administer it through a web interface. However, lacking an Ethernet shield initially, I deferred the idea. Recently, spurred by curiosity, I procured a shield from Amazon to explore the possibilities. The foremost step entailed..... Listed under: [LED Projects](#)
439. [Exploring Arduino: How it Operates and its Versatile Applications](#) Arduino is an open-source hardware platform consisting of a board equipped with a microcontroller and a development environment (software). It is specifically crafted to simplify the integration of electronics into diverse interdisciplinary projects. Today, we'll delve into understanding Arduino and its defining features. Arduino stands..... Listed under: [Arduino Programmer Projects](#)
440. [Mastering I2C: Interfacing Arduino Boards for Seamless Communication](#) In this project, we will establish I2C communication between two Arduino boards. Additionally, we will revisit some fundamentals of Arduino I2C communication, serving as a concise recap of what we've previously covered in detail in an earlier Arduino I2C Tutorial. We will explore all three..... Listed under: [Other Projects](#)

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441.

[Arduino SoftwareSerial Mastery: Harnessing Multiple Serial Ports](#)

Description: This article delves into the Software Serial library, a commonly utilized resource in Arduino programming. It explores its significance in programming for Arduino Uno or Arduino Nano and provides insights into when and why to employ this library. Through the aid of a Proteus..... Listed under: [Other Projects](#)
442.

[Using Arduino as an ISP: Burning Bootloaders onto AVR Microcontrollers](#)

Introduction At times, incorporating AVR microcontrollers into electronic projects becomes necessary. However, beginners might encounter challenges in comprehending the process of uploading or burning code onto an AVR IC. Burning bootloaders onto AVR microcontrollers can be facilitated with the assistance of an Arduino board, particularly..... Listed under: [Development Board – Kits Projects](#)
443.

[Arduino Uno Projects: Entry-Level Innovations for Beginners](#)

The Arduino UNO, developed around the ATmega328P microcontroller, boasts a versatile array of features. With 14 digital I/O pins, including 6 PWM outputs, along with 6 analog inputs and a 16 MHz quartz crystal, it offers ample flexibility for various projects. Additionally, it comes equipped..... Listed under: [Arduino Android](#)
444.

[Harnessing Monitoring Capabilities: Rasp Pi 3B Network Adapter](#)

The Raspberry Pi 3B+ (as well as all other Raspberry Pi models currently available) comes equipped with built-in WiFi functionality. The "wlan0" interface serves as the default connection gateway alongside Ethernet, yet it lacks the capability to enter "monitoring mode." In this guide, we'll demonstrate..... Listed under: [Internet – Ethernet – LAN Projects](#)
445.

[Building a DIY Digital Voltmeter with Arduino: A Beginner's Guide](#)

Creating a straightforward digital voltmeter with an Arduino and a 16x2 liquid crystal display (LCD) is a straightforward process. Measuring voltages with an Arduino is relatively uncomplicated. The Arduino provides multiple analog input pins that link to an internal analog-to-digital converter (ADC). The Arduino ADC,..... Listed under: [Development Board – Kits Projects](#)
446.

[Arduino's Dynamic Drive: Exploring 6 Projects with Motor Magic](#)

Choosing the Right Arduino Motor This guide on Arduino motors aims to provide fundamental information essential for selecting a motor for your project. If you've been engaged in DIY electronics for some time and feel confident in your skills, you might be seeking a more..... Listed under: [Motor Projects](#)
447.

[From Arduino to Atmega32: A Programmer's Journey with ISP](#)

A discourse of "embedded systems" Whether you are cognizant of it or choose to overlook this undeniable fact, you are either in possession of or have utilized an electronic device. This could range from a phone, an ATM machine, a radio, a laptop computer, a gaming..... Listed under: [Arduino Programmer Projects](#)
448.

[Enhancing Projects with Serial Connectivity Between Arduino Boards](#)

Description: Serial communication between two Arduino boards - This tutorial covers the process of establishing serial communication between two Arduino boards. While the Arduino Uno or Arduino Mega typically suffices for various projects such as CNC machines or 3D printers, instances arise where a single..... Listed under: [Arduino Programmer Projects](#)
449.

[Particle Photon Email Integration for Arduino Innovations](#)

Introduction This tutorial is brought to you by BreakoutBros.com. Access the complete version by following this link. Having explored the Particle Photon, I felt inclined to revisit one of our tutorials and introduce IoT (Internet of Things) capabilities using the Photon. In this guide, I..... Listed under: [LCD Projects](#)
450.

[Mastering Motor Control: 6 Innovative Arduino Projects](#)

Choosing the Right Arduino Motor In this guide on Arduino motors, we'll delve into fundamental details essential for selecting the right motor for your specific project. If you've been immersed in the realm of DIY electronics for some time, feeling assured of your skills, you..... Listed under: [Motor Projects](#)
451.

[Smart Home Automation Using Arduino: A Comprehensive Guide for Engineers](#)

Arduino serves as a foundational device for constructing electronic projects. It comprises a pre-programmed microcontroller or integrated development environment for coding and uploading onto the physical board. These devices facilitate the creation of interactive objects, receiving input from diverse sensors and managing motors, lights, and..... Listed under: [Home Automation Projects](#)
452.

[Arduino Pathways: How to Make Informed Decisions](#)

My initial encounter with Arduino through this assignment marked my first independent experience. Reflecting on the challenges I faced during the in-class tutorial, I harbored reluctance towards reengaging with the breadboard. Consequently, I made an early decision to opt for a more uncomplicated circuit. While..... Listed under: [Other Projects](#)
453.

[Implementing Automation: TSOP 1738 Sensor and Arduino Applications](#)

Introduction Hello, tech enthusiasts! Welcome once again to Techatronic. We trust that you're familiar with the concept of automation, which happens to be quite popular these days. In this piece, we'll delve into the process of automating three LEDs utilizing a TSOP 1738 sensor module..... Listed under: [Sensor – Transducer – Detector Projects](#)
454.

[IoT Air Quality Sensor](#)

In this Instructable, I will walk you through the steps to build an IoT Air Quality Sensor. This is an inexpensive air quality sensor with reasonable accuracy and is accessible to internet through WiFi. This project is to integrate 3 sensors that detect different kinds..... Listed under: [Sensor – Transducer – Detector Projects](#)
455.

[Arduino Frequency Counter Tutorial for Electronics Enthusiasts](#)

In this guide, learn to construct a frequency counter device utilizing an Arduino UNO board. This device showcases signal frequency values on a 1602 LCD screen. It is designed specifically to measure the frequency of PWM signals that have a peak voltage of 5V. Hardware..... Listed under: [LCD Projects](#)
456.

[Android App-Enabled WS2811 LED Control with Arduino via Bluetooth](#)

Hello everyone, welcome back to Techatronic Today, we're diving into an exciting project centered around illuminating effects. You might have come across RGB and pixel lighting in various settings such as stage lighting, architectural lighting, and even in home decor. Click here to get AI-based help ✖️. Our focus today is on working with WS2811..... Listed under: [Bluetooth Projects](#)
457.

[Arduino-Based Smartphone-Controlled Light System](#)

Hello everyone, welcome back to Techatronic. Currently, phone-controlled lighting has become quite prevalent and easily available in the market. However, today, we'll demonstrate how to create a similar system at a significantly lower cost. This phone-controlled lighting setup is versatile and can be utilized anywhere..... Listed under: [Phone Projects](#)
458.

[Arduino-Based Medication Alert System with RTC Integration](#)

Greetings everyone, welcome back to Techatronic. In this latest article, we're presenting a highly beneficial project known as the Medicine Reminder. This particular creation aims to assist individuals who require medication. Essentially, it comprises a box equipped with multiple drawers, three of which have the..... Listed under: [Medical – Health based Projects](#)



459. [Arduino-Powered Bidirectional Counter with IR Sensor](#) Hello everyone, welcome back to Techatronic. Today, we're diving into a highly practical project – the Bidirectional Counter. Our goal with this project is to tally individuals passing through the sensor. Bidirectional counters have become increasingly prevalent, especially aiding us during the pandemic. They find..... Listed under: [Sensor – Transducer – Detector Projects](#)
460. [Creating a DIY Laser-Based Room Security Alarm](#) A laser security alarm stands out as a highly effective system designed to detect any object or individual's presence. Within a designated room, multiple laser beams are often employed. Reflective mirrors are commonly utilized to create a laser grid. When any object intersects these beams,..... Listed under: [Clock – Timer Projects](#)
461. [Arduino-Powered Door Automation with Motion Sensor](#) Introduction Hello enthusiasts, welcome back to Techatronic. Have you ever encountered an automatic door that seamlessly opens and closes on its own? In this guide, we'll demonstrate how you can craft your very own automatic door opener using a sensor and Arduino UNO. Typically, these..... Listed under: [Sensor – Transducer – Detector Projects](#)
462. [How To Make An Arduino Game Controller](#) Introduction Creating your own game controller using an Arduino board can be an exciting and rewarding project for both beginners and experienced hobbyists. With the widespread popularity of gaming, custom controllers offer a unique and personalized gaming experience. This step-by-step guide will walk you through..... Listed under: [Game – Entertainment Projects](#)
463. [Exploring Arduino: LED Control using Rotary Encoder](#) Introduction Hello everyone, welcome back to Techatronic. Within this article, we'll be creating an Arduino LED project using a rotary encoder and a 16x2 LCD module. To ensure ease of understanding, we've included circuit diagrams and detailed connection descriptions for each setup. The rotary encoder..... Listed under: [LED Projects](#)
464. [Mastering Arduino Servo Control: A Comprehensive Tutorial](#) Introduction Hello enthusiasts, welcome back to our latest post featuring Arduino UNO. In this article, we'll demonstrate how to create your own Arduino servo control remote system. This setup involves utilizing an IR remote control for wireless signal transmission, coupled with a TSOP IR receiver..... Listed under: [Motor Projects](#)
465. [Arduino GSM Communication: Calling and Messaging Tutorial](#) Introduction Hello everyone, welcome back to our latest post. Are you familiar with a GSM module? In this article, we'll explore making calls and sending messages using Arduino and the GSM module. If you're new to understanding how a GSM module operates with Arduino, we..... Listed under: [Other Projects](#)
466. [Enhancing Safety: Arduino-Based Smart Helmet for Accident Detection](#) Hello everyone, welcome back to Techatronic. The smart helmet encompasses a range of functionalities including navigation, call management, accident detection, alcohol sensing, and various other features aimed at transforming the helmet into a smart device. Prioritizing the safety and security of the rider, this helmet..... Listed under: [Medical – Health based Projects](#)
467. [ROBOTIC ROSE OF ENCHANTMENT DROPS PETALS ON COMMAND](#) In Disney's 1991 film Beauty and the Beast, an enchantress curses the young (10 or 11-year-old) prince to beast-hood for spurning her based solely on her appearance. She gives him a special rose that she says will bloom until his 21st birthday, at which time..... Listed under: [Robotics – Automation Projects](#)
468. [Arduino UNO LCD Game: An Entertaining Display Project](#) Introduction Mastering Arduino programming is a straightforward endeavor. All you require is a computer and a bit of time. Among the significant Arduino programming simulators available, Wokwi stands out. Why, you ask? Find out here. This article demonstrates the process of interfacing the LCD1602 with..... Listed under: [Game – Entertainment Projects](#)
469. [Innovative Keyless Bike Technology: Arduino and Android App Integration](#) Interested in starting your bike without a traditional key? Absolutely! We've developed a project tailored for tech enthusiasts eager to incorporate advanced technology into their bikes. Through our keyless bike project, you gain full control over your bike, including engine start and ignition. Additionally, you..... Listed under: [Other Projects](#)
470. [Ultimate Control: NRF 24L01 Remote for RC Cars and Planes](#) Hello, welcome back to Techatronic, fellow enthusiasts. Today, we're excited to showcase our latest project: the NRF Remote Control designed specifically for RC cars. This innovative remote is capable of controlling various car models. Additionally, it requires an accompanying device installed within the car or..... Listed under: [Other Projects](#)
471. [Exploring the Best: Top 10 Arduino Projects That Define Creativity](#) The Arduino platform has gained immense popularity, especially among newcomers to electronics. Unlike previous programmable circuit boards, Arduino simplifies the process by eliminating the need for additional hardware to load new code; just a USB cable is all that's required. If you're keen on delving..... Listed under: [Other Projects](#)
472. [Hands-On Arduino Uno Projects for Engineering Beginners](#) The Arduino UNO, powered by ATmega328P, stands as a microcontroller equipped with 14 digital I/O pins, among which 6 facilitate PWM output. Additionally, it features 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header, and a reset..... Listed under: [Development Board – Kits Projects](#)
473. [Arduino Magic: Building an Easy EMF Detector from Scratch](#) The EMF detector showcased in this video utilizes a minimal number of components, making it straightforward to construct without the need for any tuning. It functions excellently right from its initial power-on, requiring no adjustments. Project description An EMF (electromagnetic field) meter serves the purpose..... Listed under: [Other Projects](#)
474. [Illuminate Your Space: Crafting an Arduino Sunflower](#) Introduction Arduino isn't solely for complex projects; it can also serve as a platform for simpler ones, imparting valuable skills to beginners. Our aim is to demonstrate the fun side of electronic components, educating others about circuits and components. In this tutorial, let's embark on..... Listed under: [Other Projects](#)
475. [Arduino IDE: Transforming Digital Electronics in PHYS 432](#) Introduction This guide provides a concise overview of initiating Arduino microprocessor programming through the Arduino Integrated Development Environment (IDE). While these instructions cater specifically to the Arduino Nano board utilizing the ATmega328 microprocessor, a similar process should be applicable to various Arduino boards. Please note..... Listed under: [Other Projects](#)
476. [Sound Off: Silencing Noise Pollution with Arduino and IoT](#) Increasing noise levels have become a major issue in many urban areas today due to factors like population increases, urban development, and technological advancements. Moreover, excessive noise from a neighbor or colleague can seriously impact one's well-being and quality of life. Conversations conducted at high..... Listed under: [Sound – Audio Projects](#)

[Click here to get AI-based help](#) 

477. [Enhance Home Security with a DIY Arduino Window Alarm Annunciator](#) This project demonstrates an Arduino Uno-based window alarm annunciator system. Annunciators are commonly employed in industrial settings like manufacturing facilities, power plants, and other process operations to monitor changing plant conditions. The annunciator alerts operators to any abnormal or deviant parameter readings that require attention..... Listed under: [Security – Safety Projects](#)
- 
478. [Craft Your Own Wireless Frequency Meter with Arduino: A DIY Guide](#) This project details the development of a wireless Arduino frequency meter capable of determining the frequency of AC sinusoidal waveforms between 50Hz and 3kHz. Figures 1 and 2 depict the prototype hardware constructed for the transmitting and receiving functions. Figure 1 shows the transmitting circuit..... Listed under: [Wireless Projects](#)
- 
479. [Track Your Valuables with the Unbeatable Power of Arduino and GPS!](#) It is common for parents to feel concern for their children when they are apart. Questions arise around whether the kids made it safely to school, if they are alone at home, or playing with friends at the park. Ensuring a child's well-being when..... Listed under: [GPS Based Projects](#)
- 
480. [Grab Control of Industrial Automation with This DIY Joystick System](#) This system allows remote control of up to four industrial devices using a joystick and Arduino Nano microcontroller board. Figure 1 presents a block diagram of the joystick-controlled industrial automation setup. Key components include: An Arduino Nano which processes signals from the joystick and outputs..... Listed under: [Other Projects](#)
- 
481. [Smart Washroom: Experience Hands-Free Lighting with IR Sensors](#) This Arduino Uno and IR sensor-based system automatically controls the lighting in a bathroom connected to AC mains power. The IR sensors detect when a person enters or exits the room. Upon detection of entry, the light bulb or tube light is immediately switched on..... Listed under: [Sensor – Transducer – Detector Projects](#)
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482. [Bluetooth 5.3 SoC: The Future of Wireless Connectivity](#) Description The BlueNRG-LPS is an ultra-low power programmable Bluetooth Low Energy wireless system-on-chip (SoC) solution from STMicroelectronics. It includes highly optimized 2.4 GHz radio IPs for excellent radio performance and minimal power consumption, allowing for exceptional battery life. The BlueNRG-LPS supports Bluetooth Low Energy 5.3,..... Listed under: [Bluetooth Projects](#)
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483. [Arduino Programming with .NET and Sketch](#) Introduction Arduino serves as a development platform for creating embedded applications, incorporating a variety of sensors and actuators. It relies on open-source hardware, offering a range of Arduino models for your development needs. This book is tailored for developers, particularly those proficient in .NET, who..... Listed under: [Arduino Programmer Projects](#)
- 
484. [Ultrasonic Security System](#) This tutorial provides a straightforward guide for crafting a small security device with an Arduino. Step 1: Assemble Materials Step 2: Setup Attach a red wire from the 5V pin on the Arduino to the positive segment of the breadboard. Establish a connection with a..... Listed under: [Security – Safety Projects](#)
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485. [Sensors Guide](#) The intention behind this guide is to furnish valuable insights into the typical sensors employed in the RAD SLDP. It's worth noting that sensors produced by various manufacturers might have slight variations compared to the ones outlined in this guide, but comprehensive documentation for all..... Listed under: [Sensor – Transducer – Detector Projects](#)
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486. [17 Cool Arduino Project Ideas for DIY Enthusiasts](#) Arduino is a versatile platform that seamlessly integrates open-source software and hardware, enabling individuals to effortlessly develop interactive projects. You can acquire single board computers compatible with Arduino and employ them to craft practical inventions. Beyond the hardware, proficiency in the Arduino language and utilization..... Listed under: [Other Project Ideas](#)
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487. [Awesome Arduino Projects for Engineers and Students](#) Are you in search of intriguing and innovative Arduino project ideas? Look no further! Below, you'll find an assortment of captivating and distinctive project concepts that can be pursued with Arduino. These projects span a broad spectrum of applications, including home automation, the creation of..... Listed under: [Temperature Measurement Projects](#)
- 
488. [Create a PCB light panel with touch capacitive technology for managing a NeoPixel LED strip](#) In this guide, we will illustrate the process of crafting a touch capacitive PCB with an ATmega328P IC, designed to oversee Neo-Pixel LED strips. Our PCB boasts versatile capabilities, encompassing music-reactive, random animation, and RGB control modes. Building on our prior exploration of touch capacitive..... Listed under: [LED Projects](#)
- 
489. [Compact Soil Moisture Monitoring Device for IoT with Low Power Consumption](#) Many soil monitoring sensors are available, compatible with Arduino and other embedded modules, making them suitable for programming in different project domains, including Smart Agriculture Monitoring Systems. However, a challenge arises due to the lack of a standardized, versatile module that can be easily adapted..... Listed under: [Other Projects](#)
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490. [Machine for Cutting Resistor Reels Utilizing Arduino Technology](#) Introduction In advanced electronics PCB assembly lines, pick and place machines are typically used to retrieve components from an SMD reel and position them on a PCB. However, this becomes impractical for medium-scale production or when employing THT (through-hole type) components on your PCB. This..... Listed under: [Other Projects](#)
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491. [Creating an Animatronic Eye with Arduino Using 3D Printing](#) Introduction In this endeavor, we're embarking on the construction of an Arduino-based animatronic eye. The inspiration for this project was born during my online quest for innovative project ideas, and this concept instantly captivated my interest. Firstly, its aesthetic appeal combined with a straightforward mechanism..... Listed under: [Robotics – Automation Project Ideas](#)
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492. [Exploring Arduino: An Open-Source Platform for Creative Electronics Prototyping](#) Introduction Arduino represents an open-source electronics prototyping platform built upon versatile and user-friendly hardware and software components. Its purpose is to cater to artists, designers, hobbyists, and individuals keen on crafting interactive objects or environments. Getting Started with Arduino UNO The Arduino platform offers a.. [Click here to get AI-based help](#) ✕
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493. [Importance of Sensors in Robotics and Interfacing with Arduino](#) Sensors are essential for the functioning of senses. Within the field of robotics, the fundamental senses rely on basic sensors, such as mechanical switches that detect object contact, and photosensitive resistors and transistors that identify the presence or absence of light. Remarkably, a robot can..... Listed under: [Robotics – Automation Project Ideas](#)
- 
494. [Temperature Measurement and Control](#) In addition to its roles in controlling motors, LCDs, and LEDs, the Arduino also possesses the capability to gauge temperature measurement. By connecting an analog temperature sensor to the Arduino, it can function as an electronic thermometer. This section will guide you through the process..... Listed under: [Blog](#), [Temperature Measurement Projects](#)
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495. [Temperature Control of a Lightbulb](#) Required Equipment lightbulb (incandescent, LED, CFL, etc.) AC solid-state relay (hockey-puck type, etc.) temperature sensor (TMP36, etc.) Arduino board (e.g. Uno, Mega 2560, etc.) In this example, the temperature of the lightbulb is gauged using a TMP36 sensor. This sensor is cost-effective, reasonably accurate, and..... Listed under: [Temperature Measurement Project Ideas](#)
496. [Keypad Input Processing: Basic Procedure and Applications](#) Keypad Description The Significance of Keypads as Input Devices and their Role in Various Applications Keypads serve as essential input peripherals for data entry, similar to how keyboards are crucial to computers. Numerous applications heavily rely on users providing fundamental inputs, much like those available..... Listed under: [Other Project Ideas](#)
497. [Voice-Controlled LED System Using HC-05 Bluetooth Module and Smartphone](#) Summary In this undertaking, we'll employ an HC-05 Bluetooth module alongside a smartphone for transmitting vocal instructions to oversee LEDs and to accept voice directives. Our approach involves utilizing an "Arduino Bluetooth Voice Controller" Android application, readily downloadable from the Play Store. The microphone captures..... Listed under: [Bluetooth Projects](#)
498. [Gesture Sensor Control Using Arduino](#) The DF Robot Gravity sensor now combines gesture controls and touch switches, offering an expanded array of combinations to manage the ON/OFF switch. Narrative This sensor module combines gesture recognition and touch detection capabilities into a single unit, offering an adaptable detection range spanning from..... Listed under: [Sensor – Transducer – Detector Projects](#)
499. [Creating a Fire Detector with Omniverse Replicator and Arduino Nicla](#) This project serves as a proof-of-concept, showcasing the utilization of TinyML and a synthetic dataset for the purpose of fire detection. Story The threat posed by fires is of utmost concern to humanity, emphasizing the crucial need for reliable detection. Current flame sensors are constrained..... Listed under: [Other Project Ideas](#)
500. [\[Password Box\] Arduino One Touch Password Input \(USB Keyboard Hack\)](#) Today is the world of internet social. We have many social platform Email, Facebook, Instagrams, Twitter, Instructables and etc.For security issue we should not use the same password for these platform and some platform enforce us to create password that difficult to remember. It is..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
501. [Lane Tech PCL Amazon Alexa PC Boot and Heater start](#) Initiate the activation of a computer and the operation of a space heater using either Amazon Alexa or the associated app, and subsequently employ a temperature sensor to control and maintain the heater's temperature. Story The Idea Located near a bay window in my basement,..... Listed under: [Other Project Ideas](#)
502. [General Purpose Relay Timer](#) Story Throughout my years of experience, I've created numerous timers and encountered a plethora of mobile apps. However, when I found myself in need of a straightforward solution to seamlessly automate the on-off cycle of a circuit I was actively developing, none of the available..... Listed under: [Other Project Ideas](#)
503. [Remote control of a multi-light chandelier with Arduino](#) Story: It all began with a seemingly simple intention – replacing the bulbs in the chandelier adorning my bedroom. As you can observe in the accompanying image, the chandelier boasts an elegant design. Yet, a minor predicament emerged. To begin with, the fixture comprises a..... Listed under: [Blog](#), [LED Projects](#)
504. [Utilizing the W5300 TOE Shield with Arduino IDE and STM32 Nucleo-F429ZI: A Comprehensive Guide](#) Narrative 0. Preface This guide is dedicated to instructing you on the utilization of the W5300 TOE Shield in tandem with the Arduino IDE, particularly when paired with the STM32 Nucleo-F429ZI board. Within this document, we shall furnish a comprehensive, step-by-step tutorial encompassing the configuration..... Listed under: [Blog](#), [Other Project Ideas](#)
505. [Recommended Approach to Programming and Hardware Development: C++ and Arduino Framework](#) Story Rapid Overview of the Seed Studio Grove Kit Frequently, people inquire about the optimal approach to delve into programming and hardware development. The response consistently points to the C++ language and, notably, the Arduino framework. While the software aspect is well-defined, what about the..... Listed under: [Blog](#), [Other Project Ideas](#)
506. [Introduction to the Arduino Project: An Open Source Experimental Aircraft PFD Manual](#) The Open Cockpit Arduino 4.3 Version 1.0 Beta The Arduino project is a PFD (Primary Flight Display) for experimental aircraft, built on Arduino's open-source platform. Its purpose extends to both educational and experimental contexts. Further enhancements are anticipated, aiming to provide an affordable backup instrument..... Listed under: [Blog](#), [Other Projects](#)
507. [Objective of the Experiment: Arduino Microcontrollers Applications with Switches and Sensors](#) I. Objective The main goal of this experiment is to familiarize oneself with the utilization of the Arduino microcontrollers for monitoring switches and sensors. Additionally, the objective is to trigger devices like LEDs or a speaker based on specific sensor output values. II. List of..... Listed under: [Blog](#), [Sensor – Transducer – Detector Project Ideas](#)
508. [Making Sounds with Arduino](#) The limited funding and job opportunities in the humanities field make it challenging for emerging scholars to pursue additional knowledge. As scholars must acquire extensive knowledge within their respective disciplines, they must also create coherent projects within an academic context. This situation creates difficulties for..... Listed under: [Sound – Audio Projects](#)
509. [Controlling DC Motors and Servo Motors with Arduino and Processing GUI](#) The workshop demonstrates how to control motors using Arduino and Processing In today's workshop, participants will learn how to control two types of motors, namely DC motors and servo motors, using the Arduino board. The workshop will make use of firmata and a Processing to..... Listed under: [Motor Projects](#)
510. [Biomedical Device](#) Introduction and Overview Biomedical engineering, a highly interdisciplinary field within STEM, offers opportunities for engineering and computer science students to engage in its endeavors. It involves the application of biology and engineering principles to create novel devices aimed at enhancing healthcare and medical options. Prominent..... Listed under: [Medical – Health based Projects](#)
511. [Experiment Objective: Utilizing Arduino Microcontroller for Switches, Sensors, LEDs, and Speaker Control](#) I. Experiment Objective The main goal of this experiment is to gain proficiency in using the Arduino microcontroller to observe switches and sensors and to trigger devices like LEDs or a speaker based on specific sensor output values. II. Required Components List This experiment will..... Listed under: [Blog](#), [Sensor – Transducer – Detector Project Ideas](#)
512. [Gameduino Snake – Final Project](#) For my physical computing class, I created a project utilizing the SparkFun Redboard. I've named it the Gameduino Snake, as it's essentially a compact handheld gadget that enables users to enjoy a game of snake on an LED matrix. The game incorporates a basic 8x8..... Listed under: [Game – Entertainment Projects](#)

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513. [DSP Shield](#) The objective of the DSP Shield project is to enhance the accessibility of Digital Signal Processing (DSP) concepts and applications, particularly by introducing DSP as a teaching tool for signal education at the undergraduate level or even earlier. The project aims to bridge the gap..... Listed under: [Other Projects](#)
- 
514. [Extra inputs for Arduino with a keyboard](#) The Arduino is perhaps the coolest thing on earth. There are many types, the Uno, the Mega, the Pro, the Pro Mini, etc. etc. But one thing that often can be a problem is that you only have a limited number of inputs and outputs..... Listed under: [Game – Entertainment Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
- 
515. [Analyzing The Arduino Developer Community](#) Paraphrased: "Arduino creates open source hardware and software, specifically focusing on microcontrollers, for educational and prototyping endeavors. Those familiar with me are aware of my passion for exploring Arduinos and Raspberry Pi. While I don't aspire to be an electrical engineer, I'm primarily drawn to..... Listed under: [Development Board – Kits Projects](#)
- 
516. [Introduction to Arduino: A Versatile Physical Computing Platform](#) Arduino Interfacing Introduction to Arduino: Arduino serves as a medium for engaging with the physical world through sensors. It constitutes an open-source physical computing platform centered around a straightforward and affordable micro-controller board, accompanied by a development environment tailored for writing software compatible with the..... Listed under: [Arduino Battery Project Ideas](#), [Other Project Ideas](#)
- 
517. [Easy Electronics Organization using Arduino](#) Like many other electronic enthusiasts I need to have a constant supply of materials in order for us to keep building, hacking, or just playing around with electronics. However as probably any of us have come to realize we need a lot of space and..... Listed under: [Home Automation Projects](#)
- 
518. [A Planar 2-DOF Haptic Device for Exploring Gravitational Fields](#) For our project, we built a planar, 2 degree-of-freedom haptic device for educational use. The design is based on a 5-bar mechanism. We wanted to build a device that would have the versatility to teach various concepts, but would still be relatively affordable (as the..... Listed under: [Sensor – Transducer – Detector Projects](#)
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519. [X-Track – Wireless music visualization and tracker](#) X-Track is a prototype wireless device which connects you to the music, by providing entertainment with its bright beat-synched LEDs and tracking your moves so that you can later learn how much you enjoyed the night, and which parts were especially moving you. Remote wireless..... Listed under: [Sound – Audio Project Ideas](#)
- 
520. [Make a Musical Bench using Arduino](#) The Musical Bench is an exhibit which makes music when people touch, kiss, or hold hands. It uses a micro-controller to detect changes in resistance, via the copper armrests, and plays high or low notes depending on how much current flows through you and a..... Listed under: [Sound – Audio Projects](#)
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521. [Portable Haptics System Hardware](#) Mobile Phone There is a wide selection of mobile phones on the market. For our development, we chose Nokia 6210 Navigator due to its ability to run Java, accompanied by Bluetooth communication, and its small form factor. The phone mainly acts as a remote control..... Listed under: [Sensor – Transducer – Detector Projects](#)
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522. [Robo-Mobile – A Homemade Bluetooth Robot using arduino](#) Background This robot is one I built to learn. Before this project I did get my feet wet with a few small scale Arduino projects like an ultrasonic robot, (that would move backwards until it was a certain distance away from the wall,) and I..... Listed under: [Robotics – Automation Projects](#)
- 
523. [Knockdown Warning Indicator \(Redux\)](#) This week I continued developing a device that warns of the potential of a knockdown – the process by which an over-canvased sailing ship is lain over on her beam-ends during a squall. The potential for sinking at this point is high, especially if there..... Listed under: [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)
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524. [Bitcoin Price Ticker \(almost\) from scratch using Arduino as ISP](#) Hello everyone! I decided to create this tutorial on how to make a Bitcoin Price Ticker. Well, this is only a prototype and I will make a smaller edition with a more pleasant design and some other features at a later time. However, this serves..... Listed under: [Internet – Ethernet – LAN Projects](#)
- 
525. [First Solo Experience with Arduino and Choosing a Simple Circuit with IR Remote and Sensor](#) CHOOSING A DIRECTION For this assignment, I embarked on my inaugural solo experience with Arduino. After facing some challenges during the in-class tutorial, I felt apprehensive about dealing with the breadboard once more. Consequently, I made an early decision to work on a simpler circuit..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
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526. [Passive Sensors – Detecting Light and Motion](#) Equipment: Arduino UNO microcomputer, PC with Arduino IDE installed, and a USB cable. CdS PhotoSensitive Resistor(s), 10K Ohm Resistor, and Parallax PIR Motion Sensor Passive sensors detect some physical phenomena and provide some amount of information about it that can be used for action..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
- 
527. [Arduino Project Challenge: Exploring Sensor Readings and Component Control](#) HW9 – Arduino The Task: In our Arduino project challenge, we were free to create anything of our liking, with the only requirement being that the circuit must either read a sensor or control an active component. During a class session, a practice example was..... Listed under: [Blog](#), [Sensor – Transducer – Detector Projects](#)
- 
528. [Machine Design Using Arduino](#) The assignment for this week is to automate the machine assembled two weeks ago. For this Devanna milled the Arduino's shield for controlling the steppers, but Alejandro found that we haven't all the components for stuffing, specially t Click here to get AI-based help ✕  
Listed under: [How To – DIY – Projects](#)
- 
529. [Redesigning the RA-02 Breakout board module](#) Story The RA-02 Breakout module includes level converters The RA-02 Breakout Module is designed to be beginner-friendly and compatible with breadboards. Many of them may possess one or more RA-02 Breakout modules. For those who do, they are undoubtedly aware of the challenges associated with..... Listed under: [Development Board – Kits Projects](#)
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530. [Ultrasonic sensor HC-SR04 arduino project with code](#) Many times, when parking our cars in the garage, we accidentally scratch them against the walls or cause damage due to a lack of visibility regarding the remaining distance between the car and the wall. To address this issue, we can create a straightforward electronic..... Listed under: [Sensor – Transducer – Detector Projects](#)
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531. [Tracking Cat Eyes via Kinect using Arduino](#) This instructable was made as part of the CS graduate course "Tangible Interactive Computing" at the University of Maryland, College Park taught by Professor Jon Froehlich. The course focused on exploring the materiality of interactive computing and, in the words of MIT Professor Hiroshii Ishii,..... Listed under: [Game – Entertainment Projects](#)
532. [Build Simon Game Using Arduino](#) High Level Description: For part 3 of the lab, our group decided to build a “Simon” game. Our game setup uses 3 buttons and 4 LEDs. Each button corresponds to one LED and the 4th LED is used to indicate an error. The game starts..... Listed under: [Game – Entertainment Projects](#)
533. [Our Personal Favourite Arduino Projects for you to Try in 2023](#) In the realm of do-it-yourself (DIY) electronics and robotics projects, Arduino stands as a prominent open-source microcontroller platform. It boasts a user-friendly nature and enjoys a vast community of users who actively contribute their projects and provide assistance to fellow enthusiasts. Throughout the year 2022,..... Listed under: [Arduino Programmer Projects](#)
534. [ANDROID BASED ROBOTICS](#) While the field of robotics is continuously expanding at a remarkable rate and better performing robots are created every year, robotics still remains out of reach for many students and researchers. The main reasons for this difficulty are the high complexity of the hardware and..... Listed under: [Robotics – Automation Projects](#)
535. [Bird Feeder Monitor using Arduino](#) This is a project to monitor the number of birds that visit my bird feeder, as well as record the amount of time spent feeding. I used an Arduino Yún and a capacitive touch sensor, Adafruit CAP1188, to detect and record the birds feeding. On..... Listed under: [Home Automation Projects](#)
536. [5x5x5 LED Cube – Orientation Independent 3D Display](#) Introduction Our project, in one sentence, is an orientation independent 3D LED display. We were inspired by various videos on youtube of similar cubes but also by the idea of creating an interactive 3-dimensional display. We built a 5x5x5 LED cube display and controller..... Listed under: [LED Projects](#)
537. [Talking Arduino Heart Rate Monitor](#) My partner and I wanted to make heart rate monitor that does more than simply measure a user's heart rate. Our heart rate monitor talks! Each button gives a verbal description of its functionality and makes the measurements visible on the screen. This monitor will..... Listed under: [Medical – Health based Projects](#)
538. [Creating A SoundBox Using Arduino](#) Ideas and Sketches Squat Coach – Detects the depth of your squats and assesses your form. Flex sensor is positioned to run up the back of knee joint Etch-A-Sketch – Arduino version of Etch-A-Sketch game. Users control stylus with 2 rotational potentiometers Adaptive Lighting –..... Listed under: [Sound – Audio Projects](#)
539. [Digital I/O with Arduino Boards](#) Readings in Physical Computing Ch 6. pgs 87-136 (this week and next week) Ch 7: Serial Communication [137-143; 149-150; 153-161] Before the lab You should have already successfully installed the Arduino environment on your laptop, built the LED circuit, and successfully load/run the “blink” program to..... Listed under: [Development Board – Kits Projects](#)
540. [The Creepy Doll using Arduino](#) Here at Mikamai, we often organise events and hackathons. After the last hackathon, someone left an old doll, and it was kinda creepy... so why not make it even creepier? I decided to put two red LEDs instead of the eyes, and a vibration sensor..... Listed under: [Game – Entertainment Projects](#)
541. [IoT based health monitoring system | Arduino Project](#) An Arduino and a generic ESP8266 are utilized in an Internet of Things (IoT) patient health monitoring system. The project's concept involves gathering and transmitting the health information of patients. Project description The term "IoT-based patient health monitoring system" refers to a broad category of..... Listed under: [Medical – Health based Project Ideas](#)
542. [Open Source Camera Quadcopter](#) Introduction When our team was initially assigned the task of transforming this project from a cinematography quadcopter to a more practical sensor quadcopter, we made the decision to redesign the frame. This decision was not taken lightly, but it was concluded that one of the..... Listed under: [Video – Camera – Imaging Projects](#)
543. [Catchin’ time using Arduino](#) This tutorial will show you how to build an interactive toy for children. This toy wants to give a boost to children to move and play with friends at home or in a park, instead of watching TV and playing videogames. Catchin' time is a..... Listed under: [Game – Entertainment Projects](#)
544. [Sleep n’ Tweet](#) Step 1: The Sleep n' Tweet Now I am lucky enough to work at the greatest company in the world as a University of Waterloo, co-op student. It might not even be a company you’ve heard of yet. They’re named Upverter and we are trying..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
545. [Password access with arduino](#) ~~ The complete kit for this tutorial is now for sale at [www.razvantech.com](#) Get one! ~~ This instructable will show you how to make a pass-code lock system using the Arduino Mega board. Whenyou type the right code, an LED lights up an the servo..... Listed under: [Security – Safety Projects](#)
546. [SOLAR TRACKER ARDUINO PROJECT](#) Overview: The solar tracking device is designed to ensure that a flat panel with a solar cell is constantly aligned with the movement of the sun across the sky. It utilizes two light dependent resistors (LDRs) positioned on opposite sides of a fin to measure..... Listed under: [Solar energy projects](#)
547. [Make Your Pet Dishes Tweet Using Arduino](#) You give your pets everything: Food, water, a home, toys, and love. What if you could give them a Twitter account? This project allows you to monitor your pets' eating habits and receive alerts when their supplies are low. It's also a cut 

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[Ethernet – LAN Projects](#)
548. [Animatronic Green-Winged Macaw Papercraft](#) Hello everybody! This macaw was part of a work of biology at the college of my daughter, who was attempting to educate people not to buy wild animals. This beautiful animal, natural tropical forests of South America, is highly coveted by smugglers. In captivity, unlikely..... Listed under: [Game – Entertainment Projects](#)
549. [USB Mouse Made Out Of A Wii Nunchuck](#) This instructable will describe how to convert a Nintendo Wii Nunchuck controller into a USB 2-button mouse using a Teensy USB. The Teensy USB is a very user-friendly development board that can be programmed in an Arduino environment. The Teensy USB development board and necessary..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)

550. [Reddit Controller, USB Upvote/Downvote button](#) Not too long ago I saw the “Awesome Button” video on the Make Magazine podcast. In the video Matt Richardson shows how you can take a Teensy development board and turn it into a simple USB keyboard. In his example everytime a button is pressed..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
551. [Make A Electric Turtle Robot Using Arduino](#) Be sure to check out my new instructable , the 'little Tank'! Really nice tracked design complete with cut files! update: I've had so much response on this instructable, thanks to all. If you end up making one, please let me know! I'd love to..... Listed under: [Robotics – Automation Projects](#)
552. [LED Microcontroller Debug Module](#) When it comes to debugging a microcontroller circuit, there aren't a lot of simple options. Since a microcontroller circuit might have multiple things going on at the same time, measuring voltages with a DMM isn't an option. Using an computerized In-Circuit-Debugger solution is expensive and..... Listed under: [Development Board – Kits Projects](#), [LED Projects](#)
553. [Wise Clock 3 – Arduino-based geeky alarm clock](#) Wise Clock 3 is an open-source, highly hackable geeky clock that shows a lot more than the time. Its main function is to display user-editable quotations retrieved from an SD card (like those used in photo cameras). In addition, Wise Clock 3 can show the..... Listed under: [Clock – Timer Projects](#)
554. [Make A Giant Leaf Planetarium Using Arduino](#) Have you ever wanted a mini-planetarium for your room? Well now you can! This instructable will help you create a fairly portable planetarium leaf that you can put over a bed, a couch, or anywhere else in your house. All you need is an IKEA..... Listed under: [Game – Entertainment Projects](#)
555. [Universal Gripper – Syringe Powered](#) The “universal gripper” developed by researchers from Cornell University, the University of Chicago, and iRobot inspired me to create my own version. The YouTube video is quite impressive. The gripper can form around very asymmetrical and smooth shapes and still pick up the object. I..... Listed under: [Robotics – Automation Projects](#)
556. [The Touch module – a robotic dog toy](#) The idea was to invent an Arduino-based, robotic toy that my dog could interact and play with. One that could record scores, automatically deliver treats, and grow more advanced as the dog learns to play with it. I wanted to find a task to test..... Listed under: [Robotics – Automation Project Ideas](#)
557. [Arduino Project Board](#) The Arduino Project Board is basically a board to transer your ATMEGA168/328 to when you have completed your project and no longer need to use the Arduino as a development board. Simply transfer the programmed chip from the Arduino board to the Arduino project board..... Listed under: [Development Board – Kits Projects](#)
558. [Turn your Arduino Uno into an USB-HID-Mididevice](#) While building an Arduino Uno based Midi-Controller for Ableton Live, I came across the HIDUINO project ( <http://code.google.com/p/hiduino/> ). It allows you to turn your Arduino Uno (or any other device using an AVR-USB chipset like the 8u2) into a driverless HID/Midi device. It's much..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sound – Audio Projects](#)
559. [Arduino Air Quality Sensor](#) Summary The issue of poor air quality is a significant concern that impacts the well-being of numerous communities, particularly individuals with health conditions. The ability to measure air quality accurately is of utmost importance. In this module, you will have the opportunity to construct a..... Listed under: [Sensor – Transducer – Detector Projects](#)
560. [Rave Rover – Mobile Dance Stage](#) Rave Rover was designed and built to be a portable dance platform for parties, raves, and any other trouble we can get into! I will go into as much detail as I can explaining the entire build process, and where to find parts and other..... Listed under: [Game – Entertainment Projects](#)
561. [How to hack EEG toys with arduino](#) i had heard a few years back about the ability of hooking up toy EEGs so you can interface them with your computer. I was reminded of this for a project i wanted to do for a class (instructable coming soon ;-)), and i also..... Listed under: [Game – Entertainment Projects](#)
562. [Building a Portal Turret with motion controlled audio and lighting](#) In this Instructable I'm going to show you how I went about building my very own life size talking Portal Turret from start to finish. This is a fairly in depth project that will cover every stage of construction and all the techniques I used..... Listed under: [Sound – Audio Projects](#)
563. [Pan/Tilt Motion System for Control Education](#) Pan/Tilt Motion System for Control Education Ricardo G. Sanfelice, University of Arizona Project supported by Mathworks Website developed by Colin Lasharr, University of Arizona Contents Introduction Instructions for Building the System Installation Instructions The Arduino Board Simulink Initial Parameter Identification System Identification for Zenith..... Listed under: [Arduino Programmer Projects](#)
564. [Hack the Nabaztag using Arduino](#) This is a Nabaztag - Armenian, apparently, for "hare". It's an adorable bunny rabbit packed with sensors and communication devices.... and it's completely unusable. There's people who wrote some interesting software to hack it, and I applaud them: however, I could never actually get my..... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)
565. [DIY Parking Sonsor using Arduino](#) The last time I was home visiting my parents I noticed bumper imprints caused by my mother suburban on the stairs leading up from the garage. Their garage it turns out is just barely long enough to fit their gigantic vehicles. So I decided it..... Listed under: [Car Projects](#), [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)
566. [Using Mozzi Library with 5 potentiometers using arduino](#) Getting Started The goal of this project was to create filt that is being generated through an Arduino. Normally Arduino can only generate simple tones that are not useful and..... Listed under: [Metering – Instrument Projects](#)
567. [Arduino Quilting Machine](#) The Arduino Quilting Machine combines the mechanics of a sewing machine, CNC technology and Arduino as an operating system. The project is designed to translate a vector file from a computer into G-code and subsequently into Arduino language which then moves the machine. The project..... Listed under: [CNC Machines Projects](#)
568. [Diy Xbox wireless controller adapter for Pc](#) This instructable will go over the steps to connect a RF module from an RROD xbox to your computer so you can use a wireless controller with your computer. \*\*\*\*\*DISCLAIMER\*\*\*\*\* DONT TRY THIS IF YOU DONT HAVE ANY EXPERIENCE WITH ELECTRONICS/SOLDERING OR

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COMPUTERS IM NOT..... Listed under: [How To – DIY – Projects](#), [Internet – Ethernet – LAN Projects](#)

569. [Make a digital “meow” from analog clock using arduino](#) Is your analog clock just not doing enough stuff? Want to do digital things with an analog clock? This tutorial will show you how to make a Kit Cat Clock play a “meow” sound clip, at precise time intervals, using the Atmega 328P-PU via the..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
570. [DIY Telepresence Documentation](#) This is the documentation page for the Spring 2012 DIY Telepresence project. Here you will find schematics, software, and guides for the robot. The goal of the project was to design a low-cost, easy to build telepresence robot. Some of the features include: Segway based..... Listed under: [Robotics – Automation Projects](#)
571. [Total Recall- Arduino Simon Says on steroids](#) Total Recall is a Simon based game for the Arduino. Your basic Arduino Simon Game consists of 4 buttons, 4 LEDs, an Arduino, some code and maybe a speaker and sound effects. Total Recall takes things a step further by adding an LCD display and..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
572. [Voice Activated LED Lighting with Arduino](#) This project is an extension to the Speech Recognition with Arduino by leandro4b (<http://www.instructables.com/id/Speech-Recognition...>). However, instead of using 3 separate colored LEDs, I used a multicolor 4-channel RGBW LED Emitter. I had the opportunity of working at LED Engin last summer, which is why I..... Listed under: [LED Projects](#)
573. [The Wondrous Weather Cube Using Arduino](#) We created an Internet-enabled companion cube for your computer, which displays different kinds of information by glowing red or green. Depending on its orientation, and which labeled face is oriented upwards, our companion cube displays either stock readings of the NASDAQ or the outside temperature..... Listed under: [Home Automation Projects](#)
574. [Laser Pointer Switch using arduino](#) This instructable will detail how to make a switch that uses an arduino to sample light. When the light sample reaches a threshold it will trigger a relay that can be used to turn on/off a small appliance (light, radio, fan, etc...) The parts for..... Listed under: [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
575. [FabECG: a simple electrocardiogram board](#) Technologies for rudimentary physiological sensing are getting cheaper and easier to implement. Consider, for instance, these non-contact sensors from UCSD which can be used to take an EEG through hair or an ECG through a T-shirt! One can even make a simple oscilloscope to digitize,..... Listed under: [Medical – Health based Projects](#)
576. [Arduino controlled Rotary Stewart Platform](#) This instructable is about building a Rotary Stewart Platform. It allows to position its moving platform in six degrees of freedom. This specific platform is designed to be able to position a DSLR or any other digital camera. This version of Stewart Platform uses instead..... Listed under: [Video – Camera – Imaging Projects](#)
577. [DC Motors Relays Using Arduino](#) Let's get the math over right off the bat. There are a LOT of attempts to describe how Ohm's Law works, each one nerdier than the last. Here' one I like. Warning: SFWBN (safe for work but nerdy). V = voltage measured in volts -..... Listed under: [Motor Projects](#)
578. [ATtiny85 POV Display using arduino](#) The first time I saw a POV (Persistence Of Vision) display was on a show called FAQ on TV. The POV display consisted of an oscillating shaft with 6 LED's mounted on the end of the shaft. Since then I have always wanted to make..... Listed under: [LED Projects](#)
579. [Making art Interactive Using Arduino](#) Unfortunately, due to my need to reclaim my Arduino and breadboards, we don't have photographic documentation of our circuit. However, the structure of it was rather self-evident. Although we arranged the circuit in a such a way that we could program other functions, but we..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Phone Projects](#)
580. [Control Keyboard & Mouse Android app via Arduino](#) This instructable will show you how to control your computer's keyboard and mouse with an Android app via bluetooth to an Arduino BACKGROUND Ever wanted to control your computer's mouse/keyboard functionality without having to actually sit in front of it? I do all the time..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
581. [Augmented Water using arduino](#) The Augmented Water device helps you save water by turning red after one Liter. The device, built by @tamberg during a water hackathon, is made from an Arduino, a flow sensor and coloured LED pixels. Video <https://www.flickr.com/photos/tamberg/14346321456/> (thanks kiilo) In case you want to build..... Listed under: [Home Automation Projects](#)
582. [Blind Maze Navigation using 2-DOF Haptic Joystick](#) The domain of haptics has immense potential as a technology to assist visually-impaired individuals with their navigation of the physical world. In this project, we sought to develop a 2-DOF haptic joystick to provide force-feedback to a user as she attempts to navigate a maze..... Listed under: [Game – Entertainment Projects](#)
583. [Temperature Displayed on 4 Digit 7 segment using Arduino](#) In this project I'll display the temperature in a 4 digit 7 segment display (common anode). The sensor is the cheapest you can find so actually the temperature changes pretty easily which makes the display to show always different temperatures. But the idea is to..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
584. [Wiring Harness for the LCD Panel](#) Assembly of the Female Connector Block The wiring harness has a male and female end. The gender of electrical and mechanical parts is described on this Wikipedia page. The header pins that are soldered into the circuit board for the LCD panel are plugged into..... Listed under: [LCD Projects](#)
585. [Android Accessories Made Easy With Arduino](#) The Android Open Accessory Protocol makes it possible for you to create custom Arduino-based accessories for your Android phone or tablet. Attend this session to learn how to get started, the hardware & software required and how Handbag makes development easier. Content will be useful..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
586. [Huge Arduino Animatronic LED Eyeball using arduino](#) I'm currently in the process of making a Halloween contraption that has a few components that are worth documenting. The Huge Arduino Animatronic LED Eyeball is one of them. Background Most animatronic eyeball projects that I found were more or less life-size. They were usually..... Listed under: [LED Projects](#)

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587. [Brain-Computer Interface](#) Introduction Our goal was to build a brain-computer interface using an AVR microcontroller. We decided that the least invasive way of measuring brain waves would be using electroencephalography (EEG) to record microvolt-range potential differences across locations on the user's scalp. In order to accomplish this,..... Listed under: [Medical – Health based Projects](#)
588. [Happy Androids with Arduino Video instructions](#) Arduino + Android Normally smartphone events are tightly coupled to your phone device itself. When your cell phone is ringing, your phone speaker plays a ringtone. When you get a new text message, your phone displays it on its screen. Wouldn't it be thrilling to..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
589. [Finalized Prototype Using Arduino](#) 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 life of..... Listed under: [Development Board – Kits Projects](#)
590. [Line Following Robot using arduino](#) This is a Line Following Robot. It follows a black line that is drawn. It is able to detect the black line through one photocell and one analog light sensor. There is an LED in between the two sensors that gives off red light when..... Listed under: [Robotics – Automation Projects](#)
591. [AC Dimmer Circuit](#) Overview Simple AC Dimmer circuit for incandescent bulbs. 128 levels of brightness. Parts are relatively cheap! How it Works This is an AC Chopping Circuit. The dim level sets where the AC waveform gets chopped on. More of the cycle makes the bulb brighter, less..... Listed under: [Development Board – Kits Projects](#)
592. [The DIY Photobooth with Lighting Control using Arduino](#) This is a tutorial on how to build your own Photobooth. My friend had a wedding coming up and was in need of a Photobooth. Photobooth rentals go anywhere from \$500 - \$1500 so we decided to do our own & hence another DIY Photobooth..... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)
593. [Make a High-Altitude Balloon Tracker \(Arduino\)](#) One of the coolest projects I have done so-far with my kids is a "near-space" balloon. That's not quite into space itself (100Km+) but so high that the sky looks black and you can start to see the curvature of the earth below you. The..... Listed under: [Other Projects](#)
594. [Balancing Instructable Robot using arduino](#) In this Instructable I wanted to show to you how to make a self balancing robot. What makes it unique is that its exterior is made to look like the Instructables Robot. Internally it works in the principle of PID, it is a very popular..... Listed under: [Robotics – Automation Projects](#)
595. [Bidirectional Motor Control Using Arduino](#) One of the simplest ways to get a motor to turn in both directions is by using a double-pole, double-throw (DPDT) relay. Along with the relay, this hookup requires two transistors and two Stamp pins, one for on/off control and the other for direction control..... Listed under: [Motor Projects](#)
596. [Fab Lab Barcelona SuperNode](#) Add an output device to a microcontroller board and program it to do something. Class syllabus: [http://academy.cba.mit.edu/classes/output\\_devices/index.html](http://academy.cba.mit.edu/classes/output_devices/index.html) [what i learned /am learning] \_ Relearned Arduino installation. \_ Work with DC motors and H-Bridge IC with Arduino; and its general concepts. \_ About the various Fab..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
597. [LED Matrix Bike Safety Backpack using arduino](#) Biking around cars can be a frightening thing, and staying visible at night is crucial for your safety. This tutorial will teach you how to make a custom LED Matrix Backpack that is much larger and brighter than traditional rear bike lights. Parts You'll Need:..... Listed under: [LED Projects](#)
598. [An FTIR Touchscreen Device](#) The DJ Touch is a portable turntable touchscreen and interactive LED display. Our end goal was to produce a low cost touchscreen device, and demonstrate its application in a common consumer application. Out of an interest in electronic music, and with the knowledge of deejaying's..... Listed under: [Sensor – Transducer – Detector Projects](#)
599. [Arduino Scouting Robot](#) Summer Project: Arduino Scouting Robot [video id="P6PVLhjQ5FY" type="youtube"] Arduino Scouting Robot Part 1 \* 12,9,5 volt power supply recharge it with a 12-volt charger keep power switch on to charge \* 2 DC motors operate at 7.2V with a maximum current draw of 3 amps..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
600. [Rubik's Cube Solver using arduino](#) This robot that can solve a Rubik's cube using Arduino. I learned how to solve a Rubiks cube last year, and I was also into Arduino, so eventually I ended up with an idea to make my own Rubik's cube solver. Like many people searching..... Listed under: [Robotics – Automation Projects](#)
601. [Connecting an IR Sensor Using Arduino](#) Schematic Since the IR Sensor uses a light sensor, the schematic is very similar to that of the light sensor. The only difference is the addition of an IR LED and that the IR detector requires connection to 5V and ground. Breadboard Setup To setup..... Listed under: [Sensor – Transducer – Detector Projects](#)
602. [Learn how to use 7-Segment LED Display using Arduino](#) 7-Segment LED Display is a very useful component, but also a very confusing and difficult piece to use for beginners. It won't be difficult once you get it working for the first time. This is what you will get at the end of the tutorial (part..... Listed under: [LED Projects](#), [Projects](#)
603. [L293 Motor Driver and H-Bridges](#) The most common method to drive DC motors in two directions under control is by using a motor driver. H-bridges can be built from scratch with bi-polar junction transistors (BJT) or with field effect transistors (FET)..... Listed under: [Motor Projects](#)
604. [How to connect a servo to the Arduino](#) Servo Cable The continuous rotation servos that come with the BOE Shield-Bot have a 3-wire cable for connecting it to the power and controller. The black wire is the ground, the red wire is the power (positive) and the white wire (sometimes yellow, depending on..... Listed under: [Motor Projects](#)
605. [Conversational Gloves using arduino](#) This is what came out of my attempt at combining some of my favorite tools and themes...Grasshopper, 3D printing, kinetic motion, and linguistics. I put these gloves on my friends, asked them to tell me a story, and used Grasshopper to record the data from..... Listed under: [Radio](#)


[Projects](#)

606. [Pneumatic Inverted Pendulum](#) Construction Mechanical structure Compressed air comes from air compressor and goes in the proportional valve. Coming out from the proportional valve, there are two branches of air flow (one is compressor air, the other one is exhausted air) which connect to the air cylinder (pneumatic..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
607. [Arduino Robot With PS2 Controller \(PlayStation 2 Joystick\)](#) In this tutorial, I'll show you how to use a wireless PlayStation 2 (PS2) controller and an Arduino Uno pilot a robotic tank. Story An Arduino Uno board was used at the core of this project. It receives commands from the wireless controller and sets..... Listed under: [Robotics – Automation Project Ideas](#), [Robotics – Automation Projects](#)
608. [Make your own TV ambilight using Arduino](#) This is a very easy project. Here is the result I won't go into too much detail how each part works, because I have written some information on my blog. But you should be able to make it work with the information given on this..... Listed under: [LED Projects](#)
609. [How to Build a Midbar ESP8266 Version](#) A while ago, I made the ESP32 version of Midbar which later evolved into a multi-user Cipherbox. While developing the Cipherbox, I realized that even the Lite version of it might be too expensive and too redundant for some people, so I "resurrected" the single-user Midbar project and made an..... Listed under: [Other Projects](#)
610. [Programming an ATTiny13A using Arduino & servo interpreter](#) So there I was, browsing eBay, looking for some cheap deals on Atmel chips when i came across a pair of ATTiny13 chips for £2.50. I just had to have them! After all, how hard can it be? I needed a small chip to read..... Listed under: [Arduino Programmer Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#)
611. [Retablillo de las Maravillas v1.0](#) 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, actually as on-off switches. While standing in its..... Listed under: [Robotics – Automation Projects](#)
612. [How to control a Servo using Arduino](#) In this one, servo is programmed to be controlled by two buttons, one turns servo to the left and the other one turns it to the right. When the servo is turning, corresponding LED will be switched on to indicate the operation. Result: Because Arduino..... Listed under: [Motor Projects](#), [Projects](#)
613. [IoT Using ESP8266-01 and Arduino](#) Ever asked how to control any device from any place in the world? In this tutorial, we'll learn how to control things wirelessly over WiFi. Story Introduction Today, we will build a device that connects to the internet and allow the user to control his/her..... Listed under: [Other Projects](#)
614. [Desktop Fist Bumper using arduino](#) This simple device sits on your desk at work, ready to give you fist bumps throughout the day as you need them. A 3D printed "fist" is moved by a servo attached to a rack and pinion mechanism. An ultrasonic range finder detects when you..... Listed under: [Battery Projects](#)
615. [Arduino Basic Wifi Project using ESP8266 wifi module](#) Overview ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained Wi-Fi networking solution, allowing it to either host the application or to offload all Wi-Fi networking functions from another application processor. ESP8266..... Listed under: [Internet – Ethernet – LAN Projects](#)
616. [\\$1.50 Arduino TV Annoyer](#) Hey Arduino fans! Here is an 'ible for making a device that turns TVs on when you want them off, and off then you want them on! If you hide it in something inconspicuous, it would make a great April Fools joke or gag gift..... Listed under: [Home Automation Projects](#), [Projects](#)
617. [Making a Smart BLE Receiver for My Dumb Garage Door](#) My garage door comes with a motor and a 433MHz remote that I don't always carry with me because it is quite bulky and in the way. Because of that, sometimes when I am in front of it and I want to open it, I..... Listed under: [Other Projects](#)
618. [Katrina And Maya](#) bOunce is a haptics-based learning game system that teaches the concepts behind wave dynamics, and in particular, resonance. The bOunce device (an adaptation of the Haptic Paddle) allows a user to "bounce" a ball in a virtual environment. By feeling the haptic force feedback from..... Listed under: [Robotics – Automation Projects](#)
619. [Stereo Audio with an Arduino](#) Recently I've been posting a lot of projects that use an 8 bit resistor ladder digital to analog converter(DAC) and an Arduino to make sound. (see the Arduino vocal effects box, the Arduino drum sampler, and my audio output tutorial). The technique I've been using to make these DACs is..... Listed under: [Projects](#), [Sound – Audio Projects](#)
620. [3D Printed EMG Prosthetic Hand](#) If you've ever looked at prices for prosthetic hand, you may have noticed that they can cost upwards of \$5000, with more advanced myoelectric controlled arms priced at over \$20,000. Such prices are not ideal considering that over 80 percent of amputees are from developing..... Listed under: [Robotics – Automation Projects](#)
621. [Arduino All-In-One Remote](#) Now you can have all the remotes of your house in a device that fits in your hand with Arduino, never fight for who has the TV remote again! To make it you will need: Arduino (I used a cheap copy of the arduino UNO)..... Listed under: [Robotics – Automation Projects](#)
622. [Just Veggin with an Arduino Beetbox](#) Bring Touch Control to the Arduino. Use interesting touch sensors like Carrots or Beets to make a "Beetbox". In this instructable you will learn: \* How to use the Cap Sense library to make Arduino responsive to touch \* How adding a Motor Shield (and ..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
623. [MOTOR SWITCH LED Using Arduino](#) Here is how to connect a motor, a switch and an LED to your Arduino and how to do some checking to make sure that everything works. The strategy is to get the circuit going in stages, testing each part as you go. Once everything..... Listed under: [LED Projects](#), [Motor Projects](#)
624. [How to Use the TM1637 Digit Display With Arduino](#) In this tutorial, I am going to show you guys how to control the TM1637 4-Digit 7-Segment displays using an Arduino. If you want to displays sensor data, temperature and humidity, or want to design a clock, timer or counter, you will need this 4-Digit..... Listed under: [Other Projects](#)
625. [Arduino Controlled Lighthouse](#) Overview: I've often thought that a lighthouse would make a great project for an Arduino, and so I decided to give it a try using

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one of the local lighthouses here in Erie, Pennsylvania as inspiration. I chose the North Pierhead Lighthouse that guards the..... Listed under: [LED Projects](#)

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626. [Working with a Load Cell and an Arduino](#) We built a system that uses eight air-clamping cylinders (McMaster-Carr 62185K64) to push down on a piece of glass to seal it to a sidewall. A number of times, the glass has cracked. So, this project is an attempt to come up with an inexpensive..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
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627. [LittleGoal: World Cup Match Notifier using Arduino](#) [ This Instructable was made at the Taipei Hackerspace littleBits Instructables Build Night. ] Can't watch the World Cup football games, but want to know when important game events (ie. goals) happen? Then littleGoal is for you! The littleGoal setup will monitor the game's progress,..... Listed under: [Game – Entertainment Projects](#)
- 
628. [Arduino ESPWroom02 Breakout Board](#) Hey, what's up, everyone? So here's something useful: a custom breakout board for using the ESPWROOM02U module for tinkering and testing. The ESP-WROOM-02U Breakout Board is an ESP8266EX-based microcontroller that offers the same features as its predecessor, the ESP Series, but is way smaller, making..... Listed under: [Other Projects](#)
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629. [Pololu Dual MC33926 Motor Driver Shield for Arduino](#) This shield makes it easy to control two brushed DC motors with your Arduino or Arduino-compatible board. Its dual MC33926 motor drivers operate from 5 to 28 V and can deliver a continuous 3 A per motor. These great drivers also offer current-sense feedback and accept ultrasonic..... Listed under: [Motor Projects](#)
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630. [Stepper Motors](#) Stepper motors are not smooth - they move in "steps". Different motors have a different number of steps to make one complete rotation. You use software to step the motor forward or backward at different speeds. There are two kinds of stepper motor bipolar and..... Listed under: [Motor Projects](#)
- 
631. [Capture the image of a falling object using Arduino](#) The aim of this project is to create a setup to capture the image of a falling object or any object in motion at a precise time using a DSLR and Arduino microcontroller. It can be done in many different ways, but the method I..... Listed under: [Video – Camera – Imaging Projects](#)
- 
632. [LED Binary Clock using an Arduino](#) A Binary Clock! I was recently looking at some binary clocks and I felt like Why not? I have everything to make one and I don't have a clock in my room. So I decided to build one and here it is. Hope you Like..... Listed under: [Clock – Timer Projects, Projects](#)
- 
633. [Wiring of the Solenoid Valves](#) Overview of Wiring for the Salinity Sensor Other pages describing fish tank wiring: Connect electrical power to the pump and the breadboard Connect the salinity sensor to the breadboard and Arduino Connect the solenoids to the cascade control circuit (this page) Return to the main..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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634. [Cheap wireless transmission between two Arduinos with Infrared](#) Hi all, For a project, I was looking for a cheap solution to send data from an Arduino to an other one. The serial port was already taken, and my transmission (unidirectional) needed to be wireless. My researches has brought me to discover these kinds..... Listed under: [Internet – Ethernet – LAN Projects](#)
- 
635. [Hack a TowerPro Micro Servo to Spin 360 / Continuous Rotation](#) Hey guys! Since I've got my servos, I've had two that I set aside for hacking. So, coming to my favorite website for help, I was sorely disappointed when I couldn't seem to find any instructables on how to mod a micro servo. After viewing..... Listed under: [Motor Projects](#)
- 
636. [IR DOMED LEDS DELIVER UP TO 5.0A PULSED RADIANT POWER OVER 50°](#) Lumileds has added new LEDs to its Luxeon IR Domed Line with a significant increase in both DC and pulse drive current—up to 1.5A and 5.0A, respectively. The new emitters deliver radiant power of 1350mW at 850nm wavelength (slightly visible) or 1450mW at 940nm (invisible..... Listed under: [LED Projects](#)
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637. [RGB LED Tutorial \(using an Arduino\) \(RGL\) using arduino](#) LEDs are great. But with any project there comes a point where flashing is simply not enough. For these cases an RGB (Red, Green, Blue) LED is the answer. With an RGB LED you'll be able to produce any colour glow your heart desires. At..... Listed under: [LED Projects](#)
- 
638. [Darkness Map Data Collection Device](#) The Darkness Map encompasses both data collection and visualization of nighttime light levels. You can add to the map by downloading the app for iPhone or Android, but you can also contribute data by creating your own data collection device. This tutorial will cover how..... Listed under: [Sensor – Transducer – Detector Projects](#)
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639. [Say Hello with My Roommate Mouse with Arduino](#) I live alone in a small house in Shenzhen, and I really love this graceful and dynamic city. As a software engineer, I have no girlfriend yet, and usually nobody visits my room, I really love this because I do not need to clear..... Listed under: [Game – Entertainment Project Ideas](#)
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640. [Arduino-based line follower robot using Pololu QTR-8RC line sensor](#) UPDATE FEB 2012: This guide is featured on Adafruit's blog <http://www.adafruit.com/blog/2012/02/14/arduino-based-line-follower-robot/> This is Faz3a II, my first line-following robot, which I also hope to use for maze-solving. I used the Arduino Uno, Adafruit motor shield, Pololu's QTR-8RC line sensors and motors. You can build a..... Listed under: [Projects, Robotics – Automation Projects, Sensor – Transducer – Detector Projects](#)
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641. [RGB LED Rainbow Fader using an Arduino](#) Introducing the RainBoard: A simple RGB LED Rainbow fader using an Arduino Uno and a few simple components. Believe it or not, we will control 45-channels of RGB LEDs at 32 brightness levels using only 3 digital pins from the Arduino Uno. [Click here to get AI-based help](#)  [ler:](#) Listed under: [Game – Entertainment Projects, Home Automation Projects, Projects](#)
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642. [Window Painting Robot \(arduino, processing, accelerometer\)](#) The idea for this project came from one of my favorite hobbies: the polargraph. I loved the drawing style and thought how cool would it be to do this on the side of a building? Unfortunately the challenges to setting up such a large polargraph..... Listed under: [Home Automation Projects, Robotics – Automation Projects](#)
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643. [Kaleidduino: A Battery Powered Arduino LED Kaleidoscope](#) Hello everyone, and welcome to my Instructable! This instructable will show you how I made the first ever DIY Arduino controlled "LED Kaleidoscope"! What is an LED kaleidoscope? Well, our traditional kaleidoscopes used 3 mirrors joined as a triangle with stuff like sequins and stolen..... Listed under: [Battery Projects, LED Projects](#)
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644. [Using The PCF8575 i2c i/o Expander To Read Inputs With Arduino](#) This Instructable will show you just how easy it is to add extra inputs to your Arduino. You can use this technique to add hundreds of extra inputs to your Arduino with only two wires by using a fancy communication protocol called i2c (eye-squared-see). What I..... Listed under: [Sensor – Transducer – Detector Projects](#)
645. [Arduino Robotic Spider V8](#) I needed a project that would use all my servos, so I decided to make the do-nothing, worthless spider. If you have fischertechnik and servos to waste, this is the project for you! Really, this flopping spider makes for a great learning project. The main..... Listed under: [Robotics – Automation Projects](#)
646. [Arduino controls cheap RC car transmitter](#) OBJECTIVE Cheap Chinese RC toy cars can be had for about 5 Euros in the local market. The wireless brains behind the majority of these cheap RC toys is a pair of very cheap ICs the TX2 and the RX2. Yup, that's what they are called. So this..... Listed under: [Car Projects](#), [Radio Projects](#)
647. [Arduino Ping Ultrasonic Range Finder Code](#) The Ping))) is an ultrasonic range finder from Parallax. It detects the distance of the closest object in front of the sensor (from 2 cm up to 3m). It works by sending out a burst of ultrasound and listening for the echo when it bounces..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
648. [How to Make an Interactive Sound Wave Print](#) In this tutorial we are going to show you how to make an interactive sound wave print within a picture frame, so you can see and hear your favourite song at the same time! When you touch the print through the glass of the frame,..... Listed under: [Sound – Audio Projects](#)
649. [Piano for Campus School Project With Arduino Nano RP2040 + MPR121](#) Hi! My name's Jack and I'm a senior at Boston College studying Computer Science and Finance. This semester, I'm taking Physical Computing with Professor Gallagher. We've been following a flipped classroom model and I made this project utilizing Professor Gallagher's Circuit Python YouTube tutorials. For my..... Listed under: [Other Projects](#)
650. [Arduino based Bi-color LED Matrix Audio Spectrum Visualizer](#) After we came up with the Bi-color LED Matrix Driver Module kit, we have been looking around for interesting projects to work with it. You may be interested in some of the projects we have put up at instructables using this LED Matrix kit. Instructable..... Listed under: [LED Projects](#), [Sound – Audio Projects](#)
651. [Digital Dice With Arduino](#) Have you ever tried to play a game only to find out you don't have any dice? That's not a problem anymore! Now you can create your very own digital dice using LEDs and your Arduino board. This is a beginner-level project. This project will..... Listed under: [Other Projects](#)
652. [Magic Light Capacitance Sensor using an Arduino](#) 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: [LED Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
653. [LED Flipbookit: full color and brightness control with an Arduino](#) Step 1: Gather the materials Materials: - addressable RGB LED strip : I used a new variety of three conductor WS2811 strips. - an Arduino : I used a Arduino Leonardo. Any 5vdc Arduino should be adequate. - 4 AA batteries and a battery holder..... Listed under: [LED Projects](#)
654. [Arduino – Solar MPPT Battery & Phone Charger](#) I always wanted to make a PCB and this is my first professional circuit board attempt. So before you decide to start this project you should know there could be some mistakes or it could be more reliable and compact. This design is not the..... Listed under: [Solar energy projects](#)
655. [Infinity Mirror Clock using Arduino](#) Ever since my addressable RGB LED strips (WS2812B) came from Aliexpress, I've been fascinated with LED projects. Following up on my success with my Charlieplexed LED clock, I wanted to create something with more Jazz.. While browsing google images, I came across an instructable for..... Listed under: [Clock – Timer Projects](#)
656. [Experimenters Guide for Arduino as Performed at OIT](#) Resources Adafruit ARDX - v1.3 Experimentation Kit for Arduino Experimenters Guide for Arduino (PDF) Bread Board Layouts (PDF) Arduino Tutorial Bundle (Instructable) This Arduino Tutorial is going to be very similar to the Arduino Tutorial Bundle Instructable but because we are working on this in..... Listed under: [Other Projects](#), [Projects](#)
657. [Calming Book Box \(Arduino\)](#) In moments of hypo- or hyperarousal, when the thinking brain is offline, this Arduino-based Calming Book Box will prompt self-regulation with a wave of the hand. Inspired by Tinkercad's Crystal Ball project and Instructable user cah65's Arduino Powered Fortune Teller, a liquid crystal display reveals a series of nervous..... Listed under: [Other Project Ideas](#)
658. [ZAPpelin, or how to train your blimp with an Arduino and IR remote](#) Is it flying seal? A flapping alien? No it's a ZAPpelin, an Arduino controlled indoor blimp, setup to learn in the signals from an IR remote to command it. This project came to life at the third Arduino Jam Februari 15th to17th 2013, at Timelab,..... Listed under: [Game – Entertainment Projects](#), [Radio Projects](#)
659. [Digital Zoetrope using Arduino](#) A zoetrope is a mechanical device that animates a series of pictures by spinning them fast enough that the images appear to merge together and move, My digital zoetrope works on a similar principal, by flashing the LEDs while they are spinning it is possible..... Listed under: [Video – Camera – Imaging Projects](#)
660. [Origami Interactive Kinetic Art](#) Kinetic Interactive Arts? These concept of moving arts and interacting arts are not r massive size pieces are almost always located in private companies or corporations. I was inspired by the piece "D. under: [Other Projects](#)
661. [The machine of answers Using Arduino](#) Should you ask your boss for a raise? Call that cute guy you met at a party? Sell your stock? Wouldn't it be nice to have a handy method of handling some of life's more pressing dilemmas? This machine give you the answer to all..... Listed under: [How To – DIY – Projects](#)
662. [ABC 123 Toddler Trainer using Arduino](#) Here is a kid tested and teacher approved trainer for the kids in your family and / or extended family that are learning their ABCs and their 123s. It was kid tested on my granddaughter, who really loves it, and was approved by my wife,..... Listed under: [Home Automation Projects](#)

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663. [DIY Fingerprint Lock Box](#) Ever wanted a box that opens in a super cool way? We thought it would be fun to create a box that can be unlocked using the correct fingerprint! If we had more time, we would make the box more secure. In the mean time,..... Listed under: [Other Projects](#)
664. [Audio and Visual Timer](#) Do you need a way to quickly and easily set a timer for short intervals? This audio and visual timer has you covered! All you need to do to set your timer is turn the potentiometer knob and push the button. One LED = 5..... Listed under: [Other Projects](#)
665. [Nanoleaf 2.0](#) So this is the Nanoleaf 2.0 which is a DIY version of the famous Nanoleaf RGB Triangular lighting setup. The goal here was to Recreate a Nanoleaf-like device with minimal spec and low cost, one that has all the basic RGB Glowing features and can..... Listed under: [Other Projects](#)
666. [The Arduino AA Undershield](#) I recently bought an Arduino Diecimila board. It's awesome and the applications, you can use it for or with is almost unlimited. However there's a problem when you want to use it in portable applications. You can use the Liquidware lithium backpack, which is a..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
667. [BLE Indoor/Outdoor Weather Station](#) This indoor/outdoor Weather Station is the third in a series of Very Low Power BLE - 2022 projects. The very low power BLE temperature, relative humidity and barometric pressure sensor is an extension of the Very Simple, Very Low Power BLE Temperature Sensor The sensors..... Listed under: [Temperature Measurement Projects](#)
668. [DIY Fitness Tracker\(GET-FIT\)](#) Introducing GetFit, your ultimate health and workout partner. GetFit is an easy-to-use, teachable fitness tracker with the capability of detecting an endless variety of exercises. Powered by Arduino Nano 33 BLE Sense and Edge Impulse, it is a completely open-source project. Features Can Count unlimited..... Listed under: [Other Projects](#)
669. [Bluetooth RGB Shelf Lighting using Arduino](#) Being the giant fan of LED's that I am i'm always trying to come up with new ways I can put them throughout my house. Today i'm going to show you how to create a simple, yet extremely eye catching, RGB Bluetooth controlled Shelf lighting..... Listed under: [Home Automation Projects](#), [LED Projects](#)
670. [Arduino Science Clock](#) I have toyed with the idea of building a clock for sometime and my sister had a big birthday coming up so I decided that this was a great opportunity to build a clock for her as a gift. My sister has a PhD in..... Listed under: [Clock – Timer Projects](#)
671. [L.O.G. \\$10 Arduino](#) There are probably thousands of articles on making an Arduino. So who needs another Arduino? Well, this Lazy Old Geek(L.O.G.) needs one. Here's the features I would like: Features: Low cost More permanent than a breadboard Not a custom PCB More prototyping area than a..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
672. [Love Gauge Using Arduino](#) I'm working together with my wife. But sometimes one of us has an external appointment. So, if one of us is thinking about the other, we want to show it together. For this, I have made an Love Gauge for us. It stands on our..... Listed under: [Other Projects](#)
673. [ITTT || ARDUINO-UNO || ANTIPONG CONSOLE](#) This project and instructable were made as part of an assignment at HKU ( University of the Arts Utrecht ), during the module: If This Then That. In this instructable we'll be making a small game console that plays an inverted version of pong. In..... Listed under: [Game – Entertainment Projects](#)
674. [Emotidora: Hats with Emotions using Arduino](#) This project, Emotidora, will help a user express his/her emotions about events in day-to-day life. Weve all been in situations where something very exciting or unfortunate has happened to us and we want to share it with other people. This usually involves the expression of..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
675. [Pseudo Perpetual Spinning Top](#) You must have seen many magic tricks and wondered how it works so, here's another one but you don't have to figure out how it works. I will show how it works (Spoiler - It uses magnets and some electronics) and how you can make..... Listed under: [Other Projects](#)
676. [WAVEbuoy using Arduino](#) The WAVEbuoy is a arduino lamp connected to the internet that displays the current wave height of any of the National Data Buoy Centre's wave buoys. This lamp is currently connected to the Sevenstones Lightship buoy that gives an indication of swell approaching Cornwall in..... Listed under: [Home Automation Projects](#)
677. [Arduino Keyboard and Mouse Control Code](#) This example illustrates the use of the Mouse and keyboard libraries together. Five momentary switches act as directional buttons for your cursor. When a button is pressed, the cursor on your screen will move, and a keypress will be sent to the computer. Once you..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
678. [Remote Controlled Car Using Cardboard](#) Every maker at least once make or tries to make RC Car. RC Cars are widely available yet the joy of playing with the one you made yourself can't be compared with the bought one. So I decided to make a Wireless RC Car with..... Listed under: [Car Projects](#)
679. [Arduino ADK LED Lighting](#) Have you ever wanted to control electronics with your smartphone? The Arduino ADK (Android Development Kit) is the Arduino Mega with a built in USB host device, ready for your smartphone to be plugged in! We'll make a simple introductory project with a few LED..... Listed under: [LED Projects](#), [Projects](#)
680. [Marblevator, Perpetual?, Cradle.](#) "Marblevator, Pertual?, Cradle" like "Marblevator, Perpetual?, Version 2" and "Marblevator, Perpetual?" is not a perpetual motion machine as it is simply another illusion. And like its predecessors it is a very quiet illusion with the only noise being that of the wheels. Click here to get AI-based help  [er Projects](#)
681. [Arduino Based Temp and Humidity Display](#) The temperature in my office at work varies quite a bit depending on the time of day, season, and the whims of the other people I share the floor with. When I'm sitting at my desk shaking uncontrollably or sweating profusely it would be nice..... Listed under: [Temperature Measurement Project Ideas](#)
682. [Pixel Drop Ceiling using Arduino](#) In our living room we have a small patch of drop ceiling right in the middle of the room, basically a giant piece of duct tape to cover up bad carpentry. It was constantly getting water damage from what looks like a giant hole in..... Listed under: [Home Automation Projects](#)




683. [Audio Visualizer With an LCD Display](#) People love listening to music. It is as they say, music reflects our mood. And it is a spectacle to see music become 'alive' right before our eyes. Well, that's what music visualization does. According to Wikipedia, music visualization "generates animated imagery based on a..... Listed under: [Sound – Audio Projects](#)
684. [Push-button using an Arduino](#) Pushbuttons or switches connect two points in a circuit when you press them. This example turns on the built-in LED on pin 13 when you press the button. image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect three wires to the Arduino..... Listed under: [How To – DIY – Projects](#), [Projects](#)
685. [Soft Squares – Chisel Away With Arduino in Unity](#) For this project, I created an Arduino-powered chisel which can communicate with a game I made in Unity, Soft Squares. You can paint over a 5 x 5 x 5 cube and chip away cubes you don't need, to create a miniature sculpture of whatever..... Listed under: [Game – Entertainment Projects](#)
686. [Create an internet controlled robot using Livebots](#) Here you will learn how to create an internet controlled robot or other installation using Livebots. Livebots is a project I'm working on which consists of an easy to use website for all the robots that people can interact with through the internet. As an example I..... Listed under: [Robotics – Automation Projects](#)
687. [The “Rare Vogel” Birdhouse Controller](#) A birdhouse controller for a bird based game, why? I saw this birdhouse in the store and felt instantly inspired! Going from something big and grand with a shortage of time for the school's deadline to something small and cute. It inspired an entire game..... Listed under: [Game – Entertainment Projects](#)
688. [Using the Arduino Uno to program ATTINY84-20PU](#) Using the Arduino Uno to program ATTINY84-20PU (Newark item # 68T3783). This Instructable shows how to use the Arduino platform to work with physically smaller processors, such as the ATtiny84 (84/44/24), ATtiny85 (85/45/25), and ATtiny2313. This example is specifically for the ATtiny84-20PU processor (Newark item..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
689. [3D Printed Timelapse/3D Scanning Turntable](#) An affordable Arduino Turntable designed for Time lapse photography. Changing the gearing and code it can also be used for Photogrammetry/3D scanning or Video. The turntable operates on the move shoot move principle in the Timelapse and Photogrammetry modes where the camera is triggered via..... Listed under: [Other Projects](#)
690. [Home Made Bezel / Window for LCD, LED, TFT Displays](#). I've been working on a project that used a 16x2 LCD display and wanted a nice finish that also allowed me to seal against water and other liquids. I also needed impact resistance, low cost and the ability to be changed easily if worn or..... Listed under: [LCD Projects](#), [LED Projects](#)
691. [MaKey MaKey Monome using Arduino](#) Objective: build a monome - a complex electronic music instrument - using easy-to-learn, inexpensive components and a process that's so easy a kid could do it. Gist: This touchscreen music instrument is essentially 4 parts: MaKey MaKey (or Arduino) Neopixels copper tape cardboard Sound is..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sound – Audio Project Ideas](#)
692. [Custom NanoLeaf Lights! DIY, Wireless, Modular, Arduino, 3D Printed!](#) I am very excited to share this project with you because it looks absolutely beautiful and is super easy to make! It's a NanoLeaf inspired wireless Arduino RGB LED lights project that not only allows you to create any custom NanoLeaf shape you want but..... Listed under: [Wireless Projects](#)
693. [Arduino and Xbee wireless setup](#) The Arduino Wireless shield allows your Arduino board to communicate wirelessly using Zigbee. This documentation describes the use of the shield with the XBee 802.15.4 module (sometimes called "Series 1" to distinguish them from the Series 2 modules, although "Series 1" doesn't appear in the official name..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
694. [Arduino or Twitter Mets Apple](#) Whenever I go to Citi Field with my kids to see the Mets, they go crazy for the Home Run Apple.To me, the Apple is part of what makes baseball exciting for kids. Even though my kids may not watch most of the games, I..... Listed under: [Internet – Ethernet – LAN Projects](#)
695. [Starship X582 Incursion Starfighter Childrens Interactive Bed](#) Now forgive my memory, as this was a few years back now. What started out as a children's spaceship themed bed, turned into an epic build. Supplies The project started with the purchase of a single mattress. I then walked around the local DIY store..... Listed under: [Other Projects](#)
696. [Control Fluorescent Lights with a Laser Pointer and an Arduino](#) A few members of the Alpha One Labs Hackerspace do not like the harsh light given out by fluorescent fixtures. They wanted a way to be able to easily control the individual fixtures, perhaps with a laser pointer? I got right on it. I dug out a..... Listed under: [Sensor – Transducer – Detector Projects](#)
697. [LED Patterns Using Arduino](#) A LED chain with multiple patterns. Control Nine LED bulbs to form different patterns using Arduino UNO. Working Video at Google Drive Link. Supplies Arduino UnoBread BoardJumper WiresLED 5mm 5V (Any Color) 9pcsResistance 220 ΩA Working PC Step 1: Placing the LED Bulbs Place all the..... Listed under: [LED Projects](#)
698. [How to make your own Arduino board](#) If your are like me which I am guessing you are, then ever since you got into doing stuff with arduino you have wanted to make your own arduino board. You may be surprised to find out that making the prototyping board is actually very..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)
699. [HydroBuddy](#) HydroBuddy is a hydration-promoting device, designed for people who spend most of their day in o..... Listed under: [Other Projects](#)
700. [Polydexter: Arduino Robotic Translation Arm](#) Polydexter was the introductory project in the Creative Architecture Machines (CAM) advanced options architecture studio at the California College of the Arts (CCA), taught by Jason Kelly Johnson (co-founder of Future Cities Lab) and Michael Shiloh. Parts developed for this robot would go on to..... Listed under: [Robotics – Automation Projects](#)
701. [Boot Bot Arduino Bootload Shield](#) The Boot Bot Shield lets you burn the arduino boootloader onto a blank Atmega 328 chip. The bootloader is that magic piece of software that turns a mundane chip into the open source programmable miracle known as the arduino. Blank chips cost a few dollars..... Listed under:

[Projects, Robotics – Automation Projects](#)

702. [How to Build a Simple DIY Home Automation System](#) Home automation is a term used to describe the process of automating certain tasks and devices around the home. This can include tasks such as turning on the lights when you enter a room, or setting the thermostat to a certain temperature. Home automation systems..... Listed under: [Home Automation Projects](#)
703. [Arduino Power outlet with exposed pins](#) I found my self often trying to plug stuff at home with Arduino. So I thought it would be good to have a system that you can just plug your sensor, plug the appliance and code something to see how it goes. I never liked..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
704. [Arduino Orb Build Warden](#) An Arduino based Ambient Orb designed explicitly for monitoring Source Code Autobuild systems. This orb can easy be repurposed for monitoring really anything that can have alerts from time to time. Step 1: Purpose Some time ago a co-worker passed me an article about "Extreme..... Listed under: [Other Projects](#), [Projects](#)
705. [The Look-o-box](#) Intro Dit is een Arduino project die ik heb gemaakt voor een schoolopdracht, in deze documentatie zal ik instructies geven over hoe je dit zelf ook kan maken en wat je ervoor nodig hebt. Ook leg ik hierin vast het concept, iteraties en een korte..... Listed under: [Other Projects](#)
706. [Spinning Tardis with blinking LED \(Powered by littleBits\) using Arduino](#) Construct a Tardis that spins and blinks! Total Build Time: 30 mins · Coding: 5 mins · Construction of the Tardis: 20 mins · littleBits LED and motor assembly: 5 mins Tardis.wmv(320x240) 10 KB Step 1: Gather all needed parts. LittleBits: · (2) Wires ·..... Listed under: [LED Projects](#)
707. [Race Lights Reaction Timer](#) This project is a small game you can play with another player. You can time your reaction speed and compete with your friend. The game is inspired by the start lights of a formula 1 race. Earlier Iterations: The images above are of earlier iterations..... Listed under: [Clock – Timer Projects](#)
708. [Cyber Tail](#) About 25 million years ago, our ancestors lost their tails during the evolution to better adapt to the the environment. Today, as we live in the digital age, our bodies are evolving along with the cyber world. What would a cybernetic tail bring to our..... Listed under: [Other Projects](#)
709. [4x4x4 RGB LED Cube using Arduino](#) A while ago, when I first started using Arduino, my first project was a 4x4x4 LED cube, I built it from a Guide I found here in Instructables, I didn't know anything about programming, and little about electronics, yet I was able to build it..... Listed under: [LED Projects](#), [Projects](#)
710. [Make Voice Call using Arduino](#) This sketch connects a voice call from your GSM shield and Arduino to a remote phone number entered through the serial monitor. You'll need to attach a speaker and microphone to hear the connected phone and send your voice. First, import the GSM library..... Listed under: [Phone Projects](#), [Projects](#), [Sound – Audio Projects](#)
711. [SjoelSim!](#) SjoelSim! Is a mixed-reality version of the popular and historic Dutch shuffleboard game "Sjoelen". The circuit makes use of two HC-SR04 ultrasonic distance sensors to measure the X and Z velocity of a playing disc. In combination with a program built in the Unity Engine,..... Listed under: [LED Projects](#)
712. [Arduino Peak Power Tracker Solar Charger](#) This project is an update of my original Peak Power Tracker Battery Charger Project. It is designed to control a 12V solar panel charging a 12V lead acid battery. The updated version of this project uses the Arduino Duemilanove development board (from www.sparkfun.com) as the..... Listed under: [Battery Projects](#), [Projects](#)
713. [Super Long.\(7'\) Lightsaber](#) There are so many authentic looking lightsaber build guides but not many on building a super long lightsaber. Regarding Star Wars, I'm not sure why lightsabers are normal sword size anyway. Its not like the longer the lightsaber, the harder it would be to swing..... Listed under: [LED Projects](#)
714. [Ping Organ using an Arduino](#) I was trying to think of a quick toy I could build for my kids. I came up with this idea of an ultrasonic range finder, an Arduino, and a speaker. Basically the Arduino plays a tone out of the speaker based on the distance..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
715. [Hydrate Reminder](#) An interactive coaster that reminds you to drink water. I myself find it hard to reach the daily water intake. I can go on without water for hours when sitting behind my desk. For this purpose alsone, I created a coaster that reminds me to..... Listed under: [Other Projects](#)
716. [Papercraft Automata Race Game littleBits Circuit using Arduino](#) This instructable will show you how to create a game using littleBits. The game will start with a sound trigger. Each player will have to press a button repeatedly. The first person to press their button 25 times wins. A buzzer will sound to end..... Listed under: [Game – Entertainment Projects](#)
717. [Joystick Controlled Car](#) I have created a joystick-controlled car, capable of moving left, right, forwards, and backwards. I created this as I thought it would be a challenging project with a fun and exciting purpose. Supplies Arduino Uno R3L293D Motor Control2x DC MotorServo Motor2x 9v Battery (or 1..... Listed under: [Car Projects](#)
718. [Game Controllers using Arduino](#) This instructable will teach you how to construct homemade game controllers for personal games, education aids, or anything you want. This system uses 4 controllers which send signals to a central hub which holds an Arduino. It was designed for use with a game called..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
719. [Arduino decision box \(Attiny85\)](#) So I was a bit bored this weekend (actually I wrote this some months ago) and sin Click here to get AI-based help ✕ the week after I decided to make a quite random project with them. This is a decision box, it takes..... Listed under: [Int](#)
720. [RGB LED with Arduino 101](#) To Learn about the basic LED usage practice, read here. What is a RGB LED? With an RGB (Red Green Blue) LED you'll be able to produce any colour that is flashing everyone's eyes. At first glance, RGB LEDs look just like regular LEDs, however, inside the usual..... Listed under: [LED Projects](#), [Projects](#)
721. [How to Make a Garage Door \(EASY!!!\)](#) This is a EASY arduino project that you could create to impress your teacher and friends. This project is an IR sensor-controlled garage door. It uses 2 Servo motor's to move the garage door into an opened and closed orentation. The inferred sensor (IR) is effective and..... Listed under: [Other Projects](#)

722. [Cthulhu Party Lamp/Accessory Using NeoPixels and ESP32](#) But was I really? Something was missing... It'd been a while since I last went to a festival. Y'know, that whole pandemic thing? It had also been some time since my last "personal project" and I was feeling like I needed some "creative outlet". Several years ago..... Listed under: [Other Projects](#)
723. [Apollo 11 Arduino Clock](#) Project and Instructable write-up done by Ian Lacy on behalf of the MIT Edgerton Center. In this project, I'll show you how to build an Apollo 11 clock. The clock has each hour associated with a leg of the mission, and plays an associated audio clip..... Listed under: [Clock – Timer Projects](#)
724. [How to use the IR library with an attiny using Arduino](#) This Instructable will tell you how to use the IR (infrared) library on an Attiny. I will be using an Attiny85 with an Arduino Uno. I won't cover how to upload sketches to the Attiny just how to use the IR library with it. the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
725. [LED Pattern Hat using an Arduino](#) This is a (moderately) simple Arduino project that is a spectacular display from LEDs - that you can wear on your head! It also uses a program that is not intricate at all, so you can modify it for different patterns and cycles. It's also..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
726. [NRF24L01 Tutorial – Arduino Wireless Communication](#) In my last tutorial I created a NodeMCU based Duino Coin Miner. It is an awesome little miner that sits on my desk and mines few cents a day. However, adding these miners to my home network choked my WiFi router. Home Appliances and Smart..... Listed under: [Wireless Projects](#)
727. [DIY Android Home Automation Box](#) Here's a little show and tell of my Android controlled home automation box. It's a small extension box that's controlled by an Android smartphone. You can turn the individual outlets on by tapping a button from the app or use the speech recognition app, found..... Listed under: [Arduino Android](#), [Home Automation Projects](#)
728. [Build a Car With Touch Sensitive Steering for Your Rat](#) In 2019 Professor of Behavioral Neuroscience Kelly Lambert and her research colleagues published a journal article called "Enriched Environment Exposure Accelerates Rodent Driving Skills." This article explains "The research team built a tiny car for the rats out of a clear plastic food container on wheels, with..... Listed under: [Car Projects](#)
729. [Use foot switch to open Linux terminal using an Arduino](#) So here is how i made my foot pedal used to start Linux terminal using an Arduino. It's made because I am board of pressing the terminal icon with my mouse. P.S. Sorry for my English. I am from Croatia. Tools needed: -Soldering iron and..... Listed under: [Projects](#), [RTOS – OS Projects](#)
730. [Crius ROT8 MIDI Controller \[ABLETON READY – Auto Mapping\] Rev1.1](#) The last couple of years I started learning about electronics from nothing to be able to build my own MIDI controllers that would serve my needs , taste and be cheaper overall in comparison with the branded products.This is CRIUS ROT8 MIDI CONTROLLER that consists..... Listed under: [LCD Projects](#)
731. [Musical Table using Arduino](#) The Musical Table is a toy table that allows kids to play musical phrases by moving toys around the surface. Each of seven switches can play different musical phrases in four bases, making 27 different musical phrases in total. Some of the phrases are..... Listed under: [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)
732. [ARDUINO WIRELESS HOME SECURITY SYSTEM](#) In this project I will discuss how you can make a cheap wireless home security system.Though during starting of this project the main objective was only for security alarm but later I found this device can be used to solve several problems.These are the few..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)
733. [Sony PS-X75 Record Player Fixed With Embrio and Arduino Mega2560](#) Fixed a SONY PS-X75 Record Player (1980's) with a blown MB8841-209L microchip. Fixed it with a Arduino Mega2560 Board and the fabulous Embrio Software. <https://youtu.be/31ILr8oTtt4> A long, long time ago in 1980's Sony produced one of the best automatic record players the Sony PS-X75. The..... Listed under: [Other Projects](#)
734. [Assembling the ZIFduino USB 1.2](#) The ZIFduino, for all intents and purposes, is an Arduino with a ZIF socket. It's geared toward those that want to do prototyping on the platform, but then move the ATmega chip to a stand-alone environment. The pin layouts are exactly the same, so it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
735. [Space Invaders Mini Arcade With CRT](#) I have built this Mini Cardboard Arcade using a B&W small CRT (Cathodic Ray Tube) recovered from an old video intercom. It is based on an Arduino Nano emulating the classical Space Invaders. The switch on the rear turns ON the Arduino and starts the..... Listed under: [Game – Entertainment Projects](#)
736. [Robot Arm Set using Arduino](#) I made use of Smart Tank Chassis in the past 4 projects and I wanna do something very different. After searching in google and consider different stuffs for a couple of days, I found the Robot Arm Set. It looks awesome! It provides servos, servo..... Listed under: [Robotics – Automation Project Ideas](#)
737. [Using Servo Motors with Arduino](#) In this instructable, I am going to show you what a servo motor is, how to use it, and ideas for starting projects using it. I used arduino to control my servo, I added how to use a 555 in some of the later steps..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#)
738. [Crius OctaPot Midi Controller](#) I am Crius and I LOVE MIDI Controllers! The last couple of years I started learning ab Click here to get AI-based help ✕ build my own MIDI controllers that would serve my needs , taste and be cheaper overall in comparison with the bi
739. [How to build a whole home energy monitor using Arduino](#) This page and linked pages detailed below document how to build whole house energy monitor that has a display for easy, quick access to current energy use information, usb datalogging for detailed long term data storage and Internet connectivity for online graphing. First a quick..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Metering – Instrument Projects](#), [Projects](#)
740. [Pacman/Ghost LED Matrix](#) We created a LED matrix that shows a Pacman and a Ghost. The figure changes by pressing a button. Also, the ghost takes the color according to the external temperature. It means, if it is cold, the figure turn blue, but if it is warm..... Listed under: [Blog](#), [LED Projects](#)



741. [Internet-Controlled RC Car using Arduino](#) The Internet Controlled RC Car allows you to remotely drive around a small rc car from wherever you may be and see where it is going. This is fun because you can remote explore whatever space you leave it in, or hand over the keys..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#)
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742. [Honey I Shrunk the Remotes!](#) A disclaimer right up front, I didn't shrink the remotes and that's not a photo of my remotes through a microscope. But what I did do was shrink them down to the buttons I use the most. Not even sure what most of the others..... Listed under: [LCD Projects](#)
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743. [Arudino- No Blinky](#) So you just bought this Arduino kit or Arduino-clone kit. You spent hours inserting parts and soldering components. You connect everything up and turn it on and stare at the little LED. You wait a second and nothing happens. You wait a minute and still..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
- 
744. [Arduino Seismic Activity Monitor – Ethernet Shield](#) Have you ever wanted to impress your friends by saying something crazy like, "I think there's going to be an earthquake soon" moments before an earthquake hits? Or do you just want some warning, a few seconds that could save your life. This project will..... Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#)
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745. [Hacking a Sonoff Touch Panel to Work With MQTT and Homeassistant](#) There are some great hackable devices in the SONOFF range such as the original SONOFF switches, the Slampher and the SONOFF Luxury wall plate which is the subject of this instructable. These devices are based around the ESP8266 or ESP8285 Wiffi modules and are easily..... Listed under: [Home Automation Projects](#)
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746. [IoT: Weather Box \(with Custom Alarms & Timers\)](#) Please vote for me in the contests i have entered. Hope you enjoy the instructable, and happy making. I was, some time ago, quite interested in IoT projects and so I thought it would be fun to make something associated with the Internet. I recently..... Listed under: [Clock – Timer Projects](#)
- 
747. [Arduino Traffic Light Controller with Remote Control](#) I had a traffic light that I was refinishing. The only thing left to do was to build the controller for the light's signal patterns. To give it a twist I incorporated a remote control. This was also the perfect opportunity for me to try..... Listed under: [Car Projects](#), [Projects](#), [Radio Projects](#)
- 
748. [Light-Up Disco Table using Arduino](#) Every apartment needs awesome furniture, so why not make your own? This coffee table contains LED strips that light up into various customizable patterns and colors. The lights are controlled by an Arduino and a hidden button, and the entire thing is battery powered so..... Listed under: [Game – Entertainment Projects](#)
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749. [How to Make a Rechargeable Mini Lightning Cloud](#) <https://youtu.be/GrlXwePOK0Q> Do you want to build a rechargeable mini lightning could? Follow this tutorial, you'll be taught how to make one! Step 1: <https://youtu.be/GrlXwePOK0Q> Material List Blazing WS2812 LEDstrip Pegboard DFP layer Mini player module Hot glue gun & glue stick Trumpet Cotton High frequency..... Listed under: [Other Projects](#)
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750. [DIY Arduino FM Radio \(Part 2\)](#) If you have read my first blog on the topic, than you already know what I'm experimenting with. Low price FM Radio, build with TDA7088 / YD 9088. It was obvious, that technology from the early 90-x is outdated. I mean, simple "search and hold" function of..... Listed under: [Projects](#), [Radio Projects](#)
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751. [Theremin Toy using Arduino](#) I wanted to make a little toy for my granddaughter to play with when she visits. I know like most kids, she enjoys things that make sounds and have different colored lights on them and if she does something, the toy does something. I thought..... Listed under: [Game – Entertainment Projects](#)
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752. [BT Based Voice\ Remote Controlled Car Using TIVA MC](#) This is a Tiva microcontroller based project. As there is a fewer data regarding projects based on Tiva, I as an individual am taking this initiative. I hope the readers will encourage it. The project named as bluetooth based voice controlled and remote controlled car..... Listed under: [Car Projects](#)
- 
753. [Barcode Based Complete Security and Enrollment System Using Tiva](#) This is Tahir UI Haq, bringing you another exciting and innovative Tiva Micro-controller based project. This is the third instructables in the Series. Hope you will like it. This time it is Bar-code Based Complete Security and Enrollment System. The project focuses on a bar-code..... Listed under: [Security – Safety Projects](#)
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754. [Using Servos with Arduino made easy !](#) Servomotors or simply servos are essential components of a robot which convert electrical energy into mechanical energy.They are widely used in the field of RC hobby and robotics. But unlike simple geared motors , these servos are made by integrating a geared motor with a..... Listed under: [Motor Projects](#)
- 
755. [CC3D Flight Controller Firmware Changing](#) Introduction: The CC3D is a powerful and affordable flight controller that is very popular to use mainly on mini quad copters due to its small form factor. It has many advanced features that you can use if you add a GPS module, even way point..... Listed under: [Other Projects](#)
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756. [Interactive IOT Stuffed Animal](#) For my first project with Particles's Spark Core, I decided to make an internet-connected stuffed animal! After close consideration, I settled upon a blue and green alien to be the body of this project (see the above picture.) Powered by a Spark Core, this other-worldly..... Listed under: [Other Projects](#)
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757. [Face detection and tracking with Arduino and OpenCV](#) UPDATES Feb 20, 2013: In response to a question by student Hitesh Abhishek, if you wish to use the NET Serial class, use the naming convention "\\COMn" and replace n with a number > 9 to define your com port for the serial connection. Click here to get AI-based help  [net](#)  
– Ethernet – LAN Projects, [Projects](#), [Sensor – Transducer – Detector Projects](#)
- 
758. [Reaction Speed Timer](#) Many, many years ago – when I was young - I visited the Evoluon in Eindhoven, The Netherlands. At that time it had all kind of technical stuff you could see and you could play with. Nowadays it does no longer exists in that form..... Listed under: [Clock – Timer Projects](#)
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759. [Hacking a Sonoff to Work With Home-Assistant and MQTT](#) OK So my third Instructable and here we're dealing with another Sonoff device, the original Sonoff WiFi smart switch. Theses devices are again based around the ESP8266 and are easily hacked. The devices can switch up to 10A @ 240V so are ideal for switching..... Listed under: [Home Automation Projects](#)
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760.

[Under \\$8 Arduino Serial Data Logger – Record to SD Card](#)

Disclosure: This project operates the ATmega328-P-PU outside the published ATmel specifications: According to ATmel, the 328P requires slightly over 3.3V to reliably start the oscillator at 16MHz and to otherwise perform acceptably. Lab testing here at SofKinetics has shown that the 'board-duino' 328P-PU can withstand..... Listed under: [Memory – Storage Projects](#), [Projects](#)
761.

[DIY Solar Tracker using Arduino](#)

Introduction We aim to introduce young students to engineering and teach them about solar energy; by having them build a Helios as part of their curriculum. There is an effort in engineering to push energy generation away from the use of fossil fuels and towards..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#), [Solar energy projects](#)
762.

[Build a Tank Volume Reader in Under \\$30 Using ESP32](#)

The Internet of Things has brought a lot of formerly complex device applications into the homes of many craft brewers and wine makers. Applications with level sensors have been used for decades in large refineries, water treatment plants, and chemical plants. With sensor prices falling,..... Listed under: [Sensor – Transducer – Detector Projects](#)
763.

[Weather Monitoring System Using TIVA](#)

This is Tahir UI Haq and introduces you to another member in the family. This time the project is named as Weather Monitoring System. This is another TIVA based project presented by students of UET LHR. Weather monitoring plays an important role in human life,..... Listed under: [Temperature Measurement Projects](#)
764.

[Analog reading box using an Arduino](#)

I made this box for my music project to our school. This is only tutorial for the box, no for playing melody. It’s based on serial connected switches. You will need: Some wire 6x switch 1x LED 1x 330 ohm resistor 5x 2000 ohm resistor..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
765.

[Washing machine countdown timer using Arduino](#)

Hello, and welcome to my instructable for a washing machine countdown timer. The timer is operated with the very popular Arduino micro controller. See here for more information. Arduino Home Page Aim The aim of this project is to be able to delay the start..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
766.

[BLC Using Arduino Emulator](#)

What is this BLC? Ans: Binary logical Calculator using Arduino Uno R3. Formally we are doing Arduino project which is real-time application in introductory labs and other places. This is all about how to create Arduino Uno project which does some basic computation for our..... Listed under: [Other Projects](#)
767.

[Nintendo Keyless Entry System using an Arduino](#)

Use a Classic Nintendo controller to lock and unlock your door! The output from the Controller is read by an arduino and it looks for a particular combination of buttons, once the combination is entered it sends a signal to eject a Cd-Rom Drive which..... Listed under: [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)
768.

[DIY Cheapest Bluetooth Controlled Home Automation](#)

Step 1: COMPONENTS REQUIRED Bluetooth module (HC-05)AT89S52/C51/S51/C52 microcontrollerRelay Driver ULN2003ARelayResistances and capacitors as circuit diagram depicts(below)power module(if the input is more than 5V or else not necessary)IC 7805(5V voltage regulator)1000uF capacitor10uF capacitorled and resistance(as per convenience so that led doesn't get damaged) IMPORTANT NOTE: USE..... Listed under: [Bluetooth Projects](#)
769.

[DIY Infrared Sensor Module using Arduino](#)

Have you ever wanted to make a line following robot but the infrared sensors were too expensive for you? Do you want to upgrade the robot in my other instructable? Well this instructable comes in two stages, Stage 1 is the prototyping stage, where you..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
770.

[Rock Paper Scissors Spock Lizard using Arduino](#)

Introduction: Okay, I cheated. Any similarities between previous Instructables uploaded by me and the graphics, pictures, text and / or programming code is purely intentional. It certainly made putting this one together a whole lot easier. This Instructable is my Arduino version of the Rock..... Listed under: [Game – Entertainment Projects](#)
771.

[Simple 3 Button On-off With 12f629 \(mikroC\)](#)

a simple 3 buttons on-off with pic12f629. it's written with MikroC Step 1: The Code... start the code with "int"-----  
----- int x0,x1,y0,y1,z0,z1; // with this the GPIO outputs could stay on or off void main() { GPIO = 0x00; // all  
outputs are 0 CMCON..... Listed under: [Other Projects](#)
772.

[Make your plant smile using Arduino](#)

This is a funny project that makes our plants “talk” to us. It’s very simple and you can create it in few hours. We use a sensor to read the soil moisture of our plant and a led matrix to dislay how the plant “feel”..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
773.

[Cheap 2-Way Bluetooth Connection Between Arduino and PC](#)

INTRODUCTION In the guide, I will explain how I managed to send data back and forth between a PC and Arduino via a cheap Bluetooth HC-05 transceiver, which can be found for less than \$10 on ebay with the breakout board. The version I have used..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
774.

[Getting Started With the Particle Photon \(Internet Controlled LEDs\)](#)

In the previous instructable I showed you how to get started with IoT using the nodeMCU, in this instructable I will be featuring the Particle Photon which is an easy to use IoT device to get started with designing IoT projects. The particle photon is smaller than..... Listed under: [LED Projects](#)
775.

[Auto Fish Feeder using Arduino](#)


How often do you ever forget to feed your fish? Well, for me I don't forget that much. I just couldn't go out town for a couple of days and also be ridiculous if I should bring my tank along. When I won a Sparkfun..... Listed under: [Home Autom](#) Click here to get AI-based help ✕
776.

[Interfacing Servo Motor With NodeMCU](#)

This here is my first Instructable project. So you want to get started with NodeMCU? Well, I'm here to share with you.Today, I'm going to show you how to get started with NodeMCU. Let's GO ! NodeMCU has on board ESP8266-12E makes the board suitable..... Listed under: [Motor Projects](#)
777.

[Laser-guided Ghost Climber using an Arduino](#)

Almost inevitably, when I try to climb the same route I'll forget exactly what sequence of holds they used and end up following a slightly different path. Even when I remember exactly which course to follow, I'll still wonder whether I'm doing it as quickly..... Listed under: [Game – Entertainment Projects](#), [Projects](#)

778. [The Jack'O Lantern Early Warning System using Arduino](#) This was originally going to be a tutorial on how to hook up a pumpkin to the internet so that the lights inside it could be controlled via twitter, text message, motion or more. To get started I carved a pumpkin for the first time..... Listed under: [Security – Safety Projects](#)
779. [Basic IC Tester Using Arduino NANO](#) 1. Components required for this project. 2. Procedure to do this project. 3. Coding of Arduino Nano with verification. 4. Circuit diagrams. 5. Simulations and application list. So lets begin.....! Step 1: What This Project Dose ? Basic Information and working of this project is,..... Listed under: [Other Projects](#)
780. [Make your own 1×1 22 IO pin Arduinio Compatible](#) Tested ExtraCore boards and kits are now available for sale from Rugged Circuits. What is it? This Instructable will give you all the files and information you need to make your own Arduino Compatible in small surface mount package. It requires a board manufactured to..... Listed under: [How To – DIY – Projects, Projects](#)
781. [MFRC522 RFID Reader Interfaced With NodeMCU](#) If you have noticed in an office before, you would be probably aware of those RFID cards or Tags that would unlock specific doors depending on your access.Well let’s make a simple NodeMCU RFID reader using the MFRC522 module, and program the NodeMCU to provide..... Listed under: [Other Projects](#)
782. [Led Star with Arduino and WS2811 Neopixels](#) Description This little project makes a great ornament to hang in your window at Christmas time. It is a 20" wide star with 50 "neopixel" leds around the perimeter. Each led is individually addressable and it is controlled by an arduino device which can be..... Listed under: [Game – Entertainment Projects, LED Projects](#)
783. [MQTT and Wifi Powered Mailbox Flag](#) A couple of years I embarked on my own home automation project. It started off by building a server controlled 433 MHz transmitter build with an Arduino to switch lots of cheap PT2262 based remote switches. Later I added an Arduino based receiver for my..... Listed under: [Wifi - Wlan Projects](#)
784. [Arduino Joystick Mouse Control Code](#) Using the Mouse library, you can controls a computer's onscreen cursor with an Arduino Leonardo, Micro, or Due. This particular example uses a pushbutton to turn on and off mouse control with a joystick. Cursor movement from the Arduino is always relative. So every time..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
785. [Instructables Hit Counter \(ESP8266-01\)](#) Some time ago, I tried to make an "Instructables Hit Counter" using the Instructables API, and an Arduino Uno with a wired network shield. However, with the limited RAM of the Arduino Uno, I was unable to get the system to work. A while ago, I noticed..... Listed under: [Wifi - Wlan Projects](#)
786. [Arduino The 5\\$ Karduinooss pad](#) So, looking at these Kaoss pads and alike hardware, I found that there is hardly any point in this device being so expensive, when you just want to use it as MIDI controller. Going through my parts bin, I found a Synaptics touchpad from an old..... Listed under: [Sensor – Transducer – Detector Projects](#)
787. [Arduino Modules – Flame Sensor](#) Quick and simple start guide for using and exploring the Flame Sensor module with an Arduino. The model in the example I am using is from Deal Extreme [DX] and can be found HERE. (The instructable for the Rain Sensor is now available!) Materials needed:..... Listed under: [Sensor – Transducer – Detector Projects](#)
788. [Control Servo Motor Using Accelerometer](#) Lets begin with another cool instructable. In this Instructable we will learn how to control the position of Servo Motor using Accelerometer with NodeMCU. Step 1: Things to Be Collected To begin with this instructable all you need is : Hardware Requirement ADXL335 : Accelerometer..... Listed under: [Motor Projects](#)
789. [OLED Display \(SPI\) With Particle Photon](#) Particle Photon is a tiny micro controller, just about the size of an arduino nano. But the photon is designed for easy IoT prototyping, it supports OTA updates to its firmware. So all we have to do is get it connected to the internet and we..... Listed under: [LED Projects](#)
790. [Read ASCII String using Arduino](#) This sketch uses the Serial.parseInt() function to locate values separated by a non-alphanumeric character. Often people use a comma to indicate different pieces of information (this format is commonly referred to as comma-separated-values), but other characters like a space or a period will work too. The values..... Listed under: [LED Projects, Metering – Instrument Projects, Projects](#)
791. [Arduino Controlled Lego Lighthouse](#) Lighthouses have been guiding boats to safety for thousands of years. One of the earliest and most notable of these was the Pharos of Alexandria. This huge structure stood for nearly two thousand years. When deciding on a lego project, I wanted to build something..... Listed under: [Game – Entertainment Projects](#)
792. [Romantic Led Heart SMD](#) Hi makers! This is my first instructables and I want to address some important things firts: I made this project with the idea of using the lest amount of tools so that everyone could do it! Even I don't have lot's of tools, only the..... Listed under: [LED Projects](#)
793. [Interface I2C LCD Using NodeMCU](#) Wassup Makers!! In this Instructables we will learn how to interface an LCD (Liquid Crystal Display) to the NodeMCU board. These 16x2 LCDs are very popular and broadly used in electronics projects as they are good for displaying information like sensor data from your project, and also they are very cheap..... Listed under: [LCD Projects](#)
794. [Arduino Sprinkler System plus Web control](#) A smart sprinkler system for the rest of us... No soldering involved ! Ju: Click here to get AI-based help  [S](#)  
arduino and control your sprinkler system from anywhere. A couple of friends wanted to replicate the sprinkler sys  
[Internet – Ethernet – LAN Project Ideas](#)
795. [OLED Interfaced to NodeMCU](#) OLED!! What is an OLED? OLED ( Organic Light Emitting Diodes ) is a flat light emitting technology, made by placing a series of organic thin films between two conductors. When electrical current is applied, a bright light is emitted. OLEDs can be used to make displays and lighting. Because..... Listed under: [LED Projects](#)
796. [Arduino Controlled Relay Box](#) This project is designed to help you construct some relay boxes for controlling power from your wall socket using an arduino or microcontroller. The inspiration for writing an instructable came when I decided to build some relay boxes for my personal Garduino project. For safety



concerns..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

797. [ESP8266 ESP-12E Arduino Clock W/ Outside Temp & LEGOS & NeoPixel Ring](#) We went all 'cord-cutter' and ditched our Cable box and realized something was now missing in our family room...the oh so familiar LCD clock that was always present. I decided to get to work on a replacement and had some fun with it. If you're like me..... Listed under: [Clock – Timer Projects](#)

798. [Arduino Chicken Coop Controller](#) Over the last few years my family has been keeping ex-battery hens - they are about 18 months old and have had a horrendous life kept cooped up in small cages in large warehouses. As much as we love these little bundles of joys and..... Listed under: [Home Automation Projects](#), [Projects](#)

799. [Debounce an input using Arduino](#) This example demonstrates how to debounce an input, which means checking twice in a short period of time to make sure it's definitely pressed. Without debouncing, pressing the button once can appear to the code as multiple presses. Makes use of the millis() function to keep track..... Listed under: [How To – DIY – Projects](#), [Projects](#)

800. [Arduino Calculator](#) In this Instructable I will show you how to make an Arduino calculator that is just as good as any other calculator (well... sort of). Even though it's probably not practical due to it's size, repetitive use of the equals button (due to the lack..... Listed under: [Calculator Projects](#)

801. [ESP8266 Basement Monitor](#) My basement gets wet when it rains a lot so I wanted a way to monitor it. I decided to try using an ESP8266 as it has built in WiFi. I paired that with a DHT22 Humidity & Temperature Sensor and a float sensor to..... Listed under: [Sensor – Transducer – Detector Projects](#)

802. [DIY AM Radio With Arduino](#) After I finished my last project, I couldn't stop thinking how to build an AM receiver, that would also operate in conjunction with my little friend Arduino. To minimize a workload and complexity, especially with RF part of the circuitry, I come up to conclusion,..... Listed under: [How To – DIY – Projects](#), [Projects](#), [Radio Projects](#)

803. [Blink Without Delay using Arduino](#) Sometimes you need to do two things at once. For example you might want to blink an LED (or some other time-sensitive function) while reading a button press or other input. In this case, you can't use delay(), or you'd stop everything else the program while..... Listed under: [LED Projects](#), [Projects](#)

804. [Controlling Devices in Swift With BLE](#) In this project we will use an iPhone to control devices connected to an STM32 device. The project is a starting point for more exciting experiments such as remote controlled robots or any other thing you might want to control in your home. I encourage..... Listed under: [Other Projects](#)

805. [ESP32 Solar Weather Station](#) For my first IoT project I wanted to build a Weather Station and send the data to data.sparkfun.com. Small correction, when I decided to open my account in Sparkfun, they were not accepting more connections, so I choose another IoT data collector thingspeak.com. Continuing... The system..... Listed under: [Solar energy projects](#)

806. [Home Made Arduino Prototype Shield](#) Hi. I've just got myself an Arduino Uno R3 and I'm really new in the world of Arduinos. There's so much to learn and explore 😊 One of the first shields that I'm tempted to buy is the Prototype Shield. I think building a prototype..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

807. [Arduino Timer Interrupts](#) Timer interrupts allow you to perform a task at very specifically timed intervals regardless of what else is going on in your code. In this instructable I'll explain how to setup and execute an interrupt in Clear Timer on Compare Match or CTC Mode. Jump..... Listed under: [Clock – Timer Projects](#), [Projects](#)

808. [CO2 Ppm Sensor Logger \(\\$140\)](#) The goal of this project is to build a cheap alternative to measuring CO2 ppm in the air. It's a nice simple way to see over-time change in ppm using a cheap NDIR carbon sensor and a temperature/pressure sensor to achieve better accuracy. In this..... Listed under: [Sensor – Transducer – Detector Projects](#)

809. [Omnik Inverter Off It's Cloud and on My MQTT](#) I have a solar power installation using an Omnik string inverter. Omnik is a China based manufacturer of PV inverters and they make extremely efficient devices. Optionally, you can install a WiFi module to make it "connected". I am very content with the device, with..... Listed under: [Wifi - Wlan Projects](#)

810. [Make an Arduino LCD shield](#) In this short tutorial we make an Arduino LCD shield. Updated 18/03/2013 Today we are going to make an Arduino shield with an LCD module. More often than not I have needed to use an LCD shield in one of my projects, or with the..... Listed under: [LCD Projects](#), [Projects](#)

811. [Web Client using Arduino](#) This example shows you how to make a HTTP request using an Ethernet shield. It returns a Google search for the term "Arduino". The results of this search are viewable as HTML through your Arduino's serial window. Circuit The Ethernet shield allows you to connect..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

812. [LED Head Arduino TED](#) LED HEAD TED meet the world. I have always been interested in a bare-bones Arduino but never really saw the point if it was not practically useful, This is my entry into Little Bits contest, I tried to stay true to the " little bits" ..... Listed under: [Game – Entertainment Projects](#)

813. [Cute Drawing Buddy V1, SCARA Robot – Arduino](#) I want to make a robo arm with less cost which draw cute picture happy and it can able to dance. I saw a Cutest drawing robot in Kickstarter. I like it very much and want to make..... [Click here to get AI-based help](#) ✕ [acts](#)

814. [Arduino Esplora Remote](#) This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The application on the computer reads the sensors on the Esplora board and controls the buzzer and the RGB LED through a graphical interface. The image in..... Listed under: [Projects](#), [Radio Projects](#)

815. [Weather Portal](#) There have recently been a series of web query projects that use the miraculously tiny and affordable ESP8266 micro controllers. Most have involved the output going to a tiny screen with small graphics. The local YMCA in Anchorage just completed a beautiful remodel but lacked..... Listed under: [Other Projects](#)

816. [Access control with Arduino plus Keypad 4×4 plus Servo](#) Hi guys, I bring a new instructable for arduino, the control access with password, 4x4 keypad and a servo. We will use the Password and Keypad librarie for arduino, besides using the servo library, but this project can also be modified by changing the servo,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#)
817. [Animatronic Eyes and Wii Nunchuck Part 2 using Arduino](#) After I built the animatronic eyes in PART 1, I wanted to complete the face with a voice and possibly moving eyebrows. If you look back at my PART 1, you'll see that for the base I used a model from Thingiverse. Once you have..... Listed under: [Game – Entertainment Projects](#)
818. [Adafruit's Circuit Playground As a Robot Controller With Bluetooth](#) A friend gave me one of Adafruit's circuit playgrounds (developer edition) to use, and I wanted to see would it make a good robot controller. The circuit playground is packed full of features like sensors, neo-pixels and even an accelerometer. I wanted to add a..... Listed under: [Robotics – Automation Projects](#)
819. [iPod Information Screen using Arduino](#) My girlfriend, a music buff, asked me to come up with a better way for her to look at the track information of the current song playing on her iPod touch while she was using it in the car. Those of you that have or..... Listed under: [Phone Projects](#), [Projects](#)
820. [Autonomous Race Car using Arduino](#) Build this autonomous driving robot car based on a old RC toy car. I removed the radio control board from the car and replaced it with a brain in the form of an Arduino UNO board (plus a motor driver board) and gave it an..... Listed under: [Car Projects](#)
821. [Manual Controlled Toll Gate Using Push Button](#) n this Instructable we will simulate an Toll Booth Gate by using a manual Push Button to open and close the gate. How Does It Work? When the vehicle comes in front of the gate, the push button is pressed & the gate is opened, this is done by sending a..... Listed under: [Motor Projects](#)
822. [Arduino powered GLCD \(Graphic LCD\)](#) Displays are always nice. So far I've just been demonstrating how to use 7-segmented displays to display numbers using very few resources. But what if you want to display text? Or pictures? Or both? Well in order to do that, you're going to need a..... Listed under: [LCD Projects](#)
823. [Measure Your WiFi Signal Strength Using Particle Photon](#) WiFi has become an integral part of our life and daily billions of people use WiFi as a method to access the internet. But the range of WiFi is limited, unlike a cellular connection. A normal WiFi router usually has a range of about a 100m..... Listed under: [Wifi - WLAN Projects](#)
824. [ATTiny powered Arduino Projects](#) Arduino is a great platform. No question. But what if I told you that you could take your entire board and compact it into tiny package. And I mean really small. The chip in the picture is an ATTiny84, and that is the big version..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
825. [Irrigation logic controller/project log using Arduino](#) Hello, I am going to explain my project in just a minute, but first I wanted to explain how I became involved in this project. I like to save money were I can, so it is not hard to understand why I carpool to work..... Listed under: [Home Automation Projects](#)
826. [Arduino Self-Driving Car](#) This is basically a Self-Driving Car powered by Arduino R-3 Development Board and a L293D Motor Shield.It uses the data given by the HC-SR04 Ultrasonic Sensor which is connected to analog pins of the arduino board. As an additional feature, I have added a Micro..... Listed under: [Car Projects](#)
827. [Keyless Entry / Arduino](#) Keyless Entry System Enter the correct code into the keypad and the servo will unlock the door. Enter the incorrect code and Sorry you stay out. There was a couple of stipulations i wanted in my Keyless Entry system: Helper Light. A light that would..... Listed under: [Calculator Projects](#)
828. [An Arduino real time clock shield](#) Today we are going to make a real time clock Arduino shield. Doing so will give you a simple way of adding ... real time capability to your projects such as time, date, alarms and so on. We will use the inexpensive Maxim DS1307 real-time..... Listed under: [Clock – Timer Projects](#), [Projects](#)
829. [Twitter Physical Client Using Arduino](#) In this project I'm building a physical Twitter client using Arduino and a flag, basically an arduino powered retweet indicator, whenever any of my tweets is retweeted some physical action will happen to notify me of that. You'll need: 1. Flag. 2. Arduino. 3. Laptop..... Listed under: [Internet – Ethernet – LAN Projects](#)
830. [Particle Photon – Wearable Pulse and Temperature Sensor](#) The Particle Photon is a microcontroller suitable for wearable project's considering it's small form factor and that it supports OTA updates. For those of you who do not know what a Particle Photon is it is a tiny microcontroller with on board WiFi (Cypress WiFi chip) and..... Listed under: [Temperature Measurement Projects](#)
831. [Simple RFID access system using Arduino](#) In this tutorial you can make an RFID access system. It's very simple and can be used with a wide variety of end-uses. Updated 18/03/2013 The purpose of this project is to prototype a basic RFID access system. Although it is not that complicated, this..... Listed under: [Projects](#), [RFID - NFC projects](#), [Security – Safety Projects](#)
832. [IOT BMI Indicator and Mood Light Using Feather Huzzah and IFTTT](#) Recently my wife has suggested that I should lose a few pounds in weight (too much time geeking out and not enough time in the gym). With that in mind -and in true nerd fashion- I wanted to create a method to see my progress,..... Listed under: [LED Projects](#)
833. [Clock Four – Scrolling text clock using Arduino](#) Introduction Time for another instalment in my highly-irregular ser Click here to get AI-based help ✕ ve  
"Clock Four" – a scrolling text clock. After examining some Freetronics Dot Matrix Displays in the stock, it occurred  
Listed under: [Clock – Timer Projects](#), [Projects](#)
834. [The Pill Reminder using Arduino](#) Back in January 2014 I was at a meetup of Baby Boomer Makers at TechShop in San Carlos, California. We were going around the table, each taking a turn to talk about projects we'd like to do. Bob spoke up to describe a problem his..... Listed under: [How To – DIY – Projects](#)
835. [IoT – Automatic Router \(and Server\) Reset](#) Usually inventions are invented to serve a need or to solve a problem. So this small gadget that i constructed came to serve a need of mine.I have a NAS, Atom based file server, that runs on Ubuntu, but from time to time the operating..... Listed under: [Internet – Ethernet – LAN Projects](#)

836.

[Bear With Me Using Arduino](#)

This instructable teaches how to make our Bear With Me system, a prototype that allows two users to tangibly send and receive hugs (as well as motion) in near real-time. The bears will be able to send tweets when physically hugged. Their hearts will glow..... Listed under: [Game – Entertainment Projects](#)
837.

[Getting Started With Freescale K64F](#)

There is a lot of buzz going around Arduino and the series of boards. One of the most used board from the Arduino series is the Arduino Uno. But what many people don't notice is that there is a board similar to Arduino UNO but has..... Listed under: [Other Projects](#)
838.

[Using switch to control Piezo speaker with Arduino](#)

In this project, we will learn how to use a speaker (peizo sounder) and use switch button to change the pitch of the sound. Sorry about this one, you might find it a bit difficult to digest at first, and I didn't realise it's actually..... Listed under: [Projects](#), [Sound – Audio Projects](#)
839.

[WiFi Bathroom Humidity Sensor W/Fan Control, App & Automation](#)

<https://youtu.be/EOwaKpxijXI> Step 1: The Board & Shields Wemos D1 Mini 11 digital input/output pins, all pins have interrupt/pwm/I2C/one-wire supported(except D0) 1 analog input(3.2V max input) a Micro USB connection Compatible with Arduino Compatible with nodemcu DHT11 Temperature: -20~60°C Humidity: 20-95%RH (±5%RH) It uses D1 and..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
840.

[How to set up a Public Window](#)

Public Window (<http://www.publicwindow.net>) is an open source project which allows artists to display their creations in a window and have people from all around the world interact with it. This is a step-by-step guide on how to set up a Public Window of your own. A..... Listed under: [Home Automation Projects](#), [Video – Camera – Imaging Projects](#)
841.

[Moisture Control Unit – MCU](#)

In this Instructables, you will see how to Interface Moisture sensor to your NodeMCU. And check the moisture value and the same to be displayed on the LCD. We'll use Liquid Clear Crystal to display the moisture value. This 16x2 LCD is very popular and broadly used in electronics projects as they..... Listed under: [LCD Projects](#)
842.

[Sonar For The Blind using Arduino](#)

This is a project I'm calling Tacit. No, I didn't bother making an awkward backronym for it, it just seemed like an appropriate name that's a lot shorter (though less descriptive) than "Hand-Mounted Haptic Feedback Sonar Obstacle Avoidance Asstance Device". It measures the distance to things and translates that into pressure..... Listed under: [Medical – Health based Projects](#), [Projects](#)
843.

[Backpack Anti-Theft Alarm using Arduino](#)

If you're a student, like me, then you have heard of all the theft that occurs on campuses today. I can't even leave my backpack alone for five minutes without worrying about it getting stolen. To ease my mind and to help fellow students, I've..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)
844.

[Automatic Water Heating System 2.0](#)

This is the modification of my old version. This is a technology in small box. In the previous version there is no possibility of adjusting the temperature that we need. It had only 2 temperature setup. In this version I added temperature adjustment using rotary..... Listed under: [Temperature Measurement Projects](#)
845.

[Automated 5 Gallon Bucket Feeder](#)

This bucket feeder design was motivated by the fact that my wife and I live in different cities and have a cat that hates to ride in the car. The automated feeder makes it possible to be able to leave our cat at one apartment..... Listed under: [Other Projects](#)
846.

[Arduino Breadboard Shield](#)

Are you tired of having a hard time trying up a circuit on a breadboard because your arduino takes up a lot of space? This shield can be a solution to your problem! The Arduino breadboard shield is again, an accessory for your arduino board..... Listed under: [Development Board – Kits Projects](#)
847.

[Arduino Serial Communication Code](#)

Arduino can send output through serial communication to your computer over USB. The output can be anything such as status, text, sensor reading, value, number etc. You can view the status output by clicking Serial Monitor button at Arduino Environment software. Instruction; 1) Connect your..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
848.

[Universal Remote Using ESP8266\(Wifi Controlled\)](#)

This project is to replace the conventional remote control for all the home appliances like AC, TV, DVD players, music system, SMART appliances !!! Making a whole junk of remote littering around, making us puzzle!!! This project will save us from the junk to remotes..... Listed under: [Wifi - Wlan Projects](#)
849.

[Connect several digital inputs to one analog input using Arduino](#)

I often run out of digital pins on my Arduino. Anything as complicated as, say, a video game controller, was near impossible with the amount of pins I had available. Multiplexing buttons works, but it requires lots of connections and soldering. So, I put together..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
850.

[RC tank with a moving FPV camera using Arduino](#)

In this instructable I show you how to build remote control tank with FPV camera. At the beginning I build only RC tank without FPV camera but when I was driving it in the house I have not seen where it is. So I came..... Listed under: [Video – Camera – Imaging Projects](#)
851.

[WiFi Car Using NodeMCU](#)

We have build car using many transmission technologies. But what about a WiFi Controlled Car? Actually speaking..Wifi is till now the most promising technology and engineers are using that tech to improve it more and more. This tech is most popular today and will remain..... Listed under: [Wifi - Wlan Projects](#)
852.

[Arduino home energy monitor shield](#)

Although products are becoming more and more available for monitoring y who can't leave well enough alone and who would rather shell out \$100 and hours of my time in order to save \$20..... Listed under: [Metering – Instrument Projects](#), [Projects](#)

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✕

lots
853.

[PCB – Skateboard Floodlight V2](#)

A while back, we constructed a pair of LED skateboard truck-risers. That project was intentionally created without the aid of advanced tools and techniques. We decided to try the concept again but without limiting ourselves. This time around we used custom designed PCBs and 3D printed..... Listed under: [LED Projects](#)
854.

[Arduino Phone Book](#)

Ever wanted to have a Phone Book, controlled using a microcontroller, which is very easy to use, and you can use it while talking on phone, and is saving data on SD Card? then this instructable is for you. In this instructable you will learn..... Listed under: [Phone Projects](#)



855. [Soundgraffiti with arduino mega](#) So we haven been working on the new soundgraffiti board. This is an installation wich creates sounds using sprayed water. The connection is made with water. We used copper plates as our sensor. the plates had a cutout line in the middle of 0,1 mm..... Listed under: [Sound – Audio Projects](#)
856. [Arduino: Electrical Engineering Basics](#) In this week’s arduino tutorial, we take a bit of a detour and focus on some key elements of electrical engineering design that we’ll be using in future episodes. [su\_box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" title="Attributes"]Thanks to Jeremy..... Listed under: [Other Projects](#), [Projects](#)
857. [Simple IoT Remote Switch With MQTT and ESP8266](#) Many years back when I was still quite heavily involved in the day-to-day company IT matters, we need to subscribe to a service called "Smart Finger" when we put our servers in a datacenter. Basically what this service is all about is to allow datacenter..... Listed under: [Robotics – Automation Projects](#)
858. [Temperature Sensor for Shower using Arduino](#) With this device you diminish the use of water in your house or work. Instead of waiting to see vapor in the shower to get in, this device help you to know when the water its at the temperature you want and you can instantly..... Listed under: [Home Automation Projects](#), [Projects](#), [Temperature Measurement Projects](#)
859. [Fifty Dollar Box Bot Using Arduino](#) The objective is to construct a programmable hobby bot that is affordable and simple to make. The parts will be purchased from places such as Wal-Mart, Radio-Shack, any Hobby Store, or online store that is accessible to the public. The price range is 50 dollars..... Listed under: [Robotics – Automation Projects](#)
860. [Motion Controlled Ultrasonic Lamp using Arduino](#) Recently I've been learning about Ultrasonic waves and how to harness their power. It's simple enough to make some type of sonar device, but I wanted to take at a step cooler and see if I could use Ultrasonic waves to not only detect movement,..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
861. [Arduino Interrupts and Debouncing](#) Interrupts are an extremely useful, yet often feared element of microprocessors. Interrupts allow you to run a program, while still being able to react to asynchronous input from the outside world. [su\_box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" title="Attributes"]Thanks to..... Listed under: [Other Projects](#), [Projects](#)
862. [Chat Server Using Arduino](#) A simple server that distributes any incoming messages to all connected clients. To use, open a terminal window, telnet to your devices IP address, and type away. Any incoming text will be sent to all connected clients (including the one typing). Additionally, you will be..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
863. [Monkey Automaton Using Arduino](#) This instructable will guide you through the process of building a set of automaton monkeys in the style of “Hear No Evil, See No Evil, Speak No Evil.” Our design ends with two monkeys reacting at the push of a button located in the Speak..... Listed under: [Game – Entertainment Projects](#)
864. [CardioSim](#) First of all,this is my first Instructable, and I'm not a native English speaker (or writer), therefore I apologize in advance for the overall low quality . However, I hope that this tutorial can be helpful for people using a heart rate (HR) monitor system..... Listed under: [Clock – Timer Projects](#)
865. [Arduino Controlled Motion Sensor](#) In this Instructable, I'll be explaining how to build a motion activated alarm! It uses an Arduino microcontroller, a PIR (passive infrared) sensor, and a type of alarm. You can use an LED indicator, a buzzer, or a piezo. That's the easy part. I will..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
866. [Spot Welder 1-2-3 Arduino Firmware](#) Why another spot welder project? Building a spot welder is one of the (arguably few) cases in which you can build something for a fraction of the price of the commercial version with comparable quality. And even if build-before-buy were not a winning strategy, it..... Listed under: [Other Projects](#)
867. [MaKey MaKey Shield for Arduino](#) MaKey Makey is a project created by Eric Rosenbaum and Jay Silver. It's an Arduino based keyboard. A very special keyboard, because you can use apples, bananas or Play Doh as keyboard keys. Sounds strange, but it works very well. How it works: The trick is..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
868. [Classic Joystick to USB Adaptor using Arduino](#) If you grew up in the early 1980’s and were into video games, you probably had an Atari 2600, ColecoVision, or similar game console. The controllers or joysticks for each of these systems had a distinct feel that is different from today’s game consoles or..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
869. [128×64 OLED Enclosure the Easy Way](#) There are lots of Instructables on how to use SSD1306-based 128x64 OLED displays. Many of these write-ups are very informative but just about all of them look like an unfinished science project. (In fairness, most are directed at getting up and running with the display, not creating..... Listed under: [LED Projects](#)
870. [Jar of Fireflies](#) This project uses green surface-mount LED's along with an AVR ATTiny45 microcontroller to simulate the behavior of fireflies in a jar. (note: the firefly behavior in this video has been greatly sped up in order to be easier to represent in a short film. The..... Listed under: [LED Projects](#)
871. [LEGO T-Intersection LED Traffic Light using Arduino](#) Video not playing? See it on YouTube: [http://www.youtube.com](http://www.youtube.com/watch?v=O) Click here to get AI-based help ✕ Y  
Christmas we set up a large LEGO train layout in a section of the living room. This year, I ended up winning an eBa  
road plates, one of..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
872. [Six wheeled All Terrain Vehicle \(6WD\) using Arduino](#) Hello, In this post we'll be making a Six wheel drive all terrain vehicle (ATV). These are rare and hence expensive robots (at least in India). I made this ATV as my summer project. Dagu manufactures a similar 6WD chassis but its way too expensive..... Listed under: [Robotics – Automation Projects](#)
873. [VRBOT \(Voice Recognition Robot\)](#) In this Instructable we'll make a robot (more like a RC car) which is controlled by voice i.e. Voice Recognition. Before I start to give you any further details one must know that this is Voice Recognition and not Speech Recognition that means the controller..... Listed under: [Robotics –](#)

Automation Projects

874. [ESP8266/ESP-12 Arduino Powered SmartThings DS18B20 Temp. Sensor](#) We all like to know what the current room temperature is, and sometimes what the temperature is in another room, or maybe even in your vacation house on the other side of the world. Maybe you want to monitor the temperature in your pet Lizard's..... Listed under: [Temperature Measurement Projects](#)
875. [Model Police Car using an Arduino](#) We wanted to build a model police car with working lights and sirens. Then we decided to add a motor and instead of using a switch to turn everything and off we used a photodiode. For our car the photodiode signal is a simple on off..... Listed under: [Game – Entertainment Projects, Projects](#)
876. [Drain Clog Detector](#) Don't let a clogged drain slow you down!Coming back from our vacation, me and my wife were surprised by the water covering the floor of our apartment, and we found out it's not even clean water, it's drain everywhere. After clearing the drain and cleaning..... Listed under: [Sensor – Transducer – Detector Projects](#)
877. [Remote Control: ESP8266 With Coin Cell](#) The big problem using the ESPs is the power consumption when Wifi "goes up", about 100-200mA, peak up to 300mA. Normal coincells deliver a few mA, peak up to 20-40mA. But for the ESPs the voltage will collapse. We need "a little help of my..... Listed under: [Other Projects](#)
878. [Open a box with the flick of a switch!](#) Have you ever given something to someone and wished that the box you gave it in opened automatically? No? Well neither have I (well, maybe) :D. However if you have, this is the guide for you! With just a flick of a switch the box..... Listed under: [Robotics – Automation Projects](#)
879. [How to turn inkjet printer to print on Coffee using Arduino](#) The aim of this project is to make latte printer, I used 1 printers and 1 scanner , it prints one line a time, all what I have done is hacking the sensors of the printer and I used Arduino Uno to send different values..... Listed under: [Game – Entertainment Projects, Home Automation Projects](#)
880. [Alexa Controlled Servo](#) Introduction I have a laptop on a shelf in my office that monitors several cameras that are around the outside of my house. They alert me to deliveries and visitors. While I can use a web browser to see their images it is easier to just..... Listed under: [Other Projects](#)
881. [Arduino + fischertechnik TX-C – Connecting I2C True Colour Sensor](#) Colour reading is a real issue for industrial models. I've been working on it for more than 12 months now, since December 2009. After many months of hard work, • starting with the standard colour reader (season 1 ) with features a red LED, •..... Listed under: [Projects, Sensor – Transducer – Detector Projects](#)
882. [The 4x4x4 LED cube using an Arduino](#) In this instructable I will show you how to make a 4x4x4 LED cube that will be controlled by an Arduino Demulionove. now yes you might say" that Arduino has only 14 I/O pins well also the 6 analog pins can be used as pins..... Listed under: [LED Projects, Projects](#)
883. [Make Your Own Connected Heating Thermostat and Make Savings With Heating](#) What is the purpose? Increase the comfort by heating your house exactly as you wantMake savings and reduce greenhouse gas emissions by heating your house only when you needKeep control on your heating wherever you areBe proud you did it yourself Step 1: How Does It Increase Your Comfort ?..... Listed under: [Temperature Measurement Projects](#)
884. [Gravity Touch bluetooth glove using Arduino](#) Hey guys! I'd like to share with you the input device I created specifically to interact with AR glasses like the Google Glass, Meta, Moverio BT or with the VR headsets like Oculus Rift, Samsung Gear VR, vrAse, Durovis Dive. Those new products are amazing..... Listed under: [Game – Entertainment Project Ideas, Home Automation Project Ideas, Internet – Ethernet – LAN Project Ideas](#)
885. [Froggy World 3 The Seesaw Using Arduino](#) Froggy put on a little eye makeup before heading out for the new ride, "The Seesaw." The Seesaw is the third ride in the amusement park for adventurous plastic frogs. This ride received Froggy from "The Boot" and slides him over to a waiting rail..... Listed under: [Game – Entertainment Projects](#)
886. [Solar Weight-Based Plant Management With ESP32](#) Growing plants is fun and watering and caring for them is not really a hassle. Microcontroller applications to monitor their health are all over the internet and the inspiration for their design comes from plant's static nature and the ease of monitoring something that doesn't..... Listed under: [Solar energy.projects](#)
887. [Arduino DIY SD Card Logging Shield](#) Ready-made SD card logging shields for the Arduino typically cost in the range of \$15 - \$25. This is quite reasonable, but we might save a couple of bucks if we make our own. Not to mention all the fun in building it. Forget about..... Listed under: [Other Projects, Projects](#)
888. [Virtual USB Keyboard Using Arduino](#) Communicating with a host computer can allow a simple Arduino-based system to gain access to a wide variety of devices and information. Most people link an Arduino to a host using serial communications across a USB connection with custom code running on the host to..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
889. [Temperature and Humidity Monitor Using DHT22 & MAX7219](#) We always need to see the temperature and humidity when we sitting in our house to know whether we need to turn on/off AC, heater,cooler,etc. So here we have build this circuit to display temperature and humidity on the 7-segment displays, and we have used..... Listed under: [Temperature Measurement Projects](#)
890. [Construct A Musical FootBall Using Arduino](#) This project is to construct a musical football. The reason for my proje      Click here to get AI-based help ✕  
austim who love sports and music. So what better way to have fun then have a ball that you can play with..... Liste
891. [Dynamic LED Lighting Controller for Art](#) Introduction: Lighting is an important aspect of visual art. And if the lighting can change with time it can become a significant dimension of the art. This project started with attending a light show and experiencing how the lighting could totally change the color of..... Listed under: [LED Projects](#)
892. [Simple Arduino L.E.D Police Lights](#) This was one of the first programs i wrote for the arduino after having it a few days 😊 we will be making l.e.d police lights with minimal materials Step 1: You will need. You will need Arduino (or suitable clone) Breadboard 2x 240ohm resistors..... Listed under: [Car Projects, LED Projects, Projects](#)

893. [Lightning Shutter Trigger for a Camera using Arduino](#) I knew there were devices that could trigger a camera to fire during a lightning strike, but their circuits were more complicated than I wanted to make. I'm a software guy not a hardware guy so I decided to use an Arduino and that allowed me to write a..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
894. [Movement Activated Redstone](#) This project is a motion activated redstone lamp. It works by using a crumble microcontroller and an ultrasonic distance sensor wired up to a relay. This project is being entered into the minecraft competition and any votes, favorites or comments would be greatly appreciated! Step..... Listed under: [Other Projects](#)
895. [Dr Blinkenlights... \(or how I learned to afford the BlinkM\)](#) I love the idea of the BlinkM (individually addressed RGB leds controlled with 2 pins), but not so much the price (nearly 15 quid each!). Luckily, the hardware is open source and somebody has brought out an alternative firmware (although if you know where to..... Listed under: [LED Projects](#)
896. [Space Battleship Yamato 2199 With Trinket Microcontrollers](#) Because of the remake of the animation and movie of Space Battleship Yamato, in addition to the attractive design of Bandai model. It make me interest to build this space battleship model again. Bandai not mention its scale, maybe ~1:2500 by estimation. <https://youtu.be/b5TzmONvX3o> <https://youtu.be/SdxBiHjwRUM> Step..... Listed under: [Motor Projects](#)
897. [Arduino wall avoiding robot](#) This instructable assumes very little with respect to prior knowledge. If there are any areas you feel could be improved or clarified, please feel free to message or comment and I will update. Here are all the details you need to produce a simple wall..... Listed under: [Robotics – Automation Projects](#)
898. [Build A Light Suit Using Arduino](#) Why build a light suit? Probably because I've watched tron a few too many times (the 1984 version of course). I'd just discovered Arduino and was very excited, I'd made LED's flash and buzzers sound but now I wanted to make something new and interesting,..... Listed under: [LED Projects](#)
899. [ESP32 LoRa Changing Frequency](#) What would you think about a program, made in the C language of the Arduino IDE, that makes the LoRa radio change frequency? This is what you will learn about in my video today, where you will learn about the differences between LoRa radio, LoRaWAN..... Listed under: [Other Projects](#)
900. [Dot Matrix Printer from a CD/DVD Reader with Arduino](#) Hey! Some time ago while going through the pages here in Instructables, something catch my attention, a printer made of a CD reader, and i was amazed. I thought: "This is incredible, I have to make one!" I know that these kind of projects don't..... Listed under: [CNC Machines Projects](#), [Video – Camera – Imaging Projects](#)
901. [Cardio Data Logger](#) Although nowadays many portable devices (smartbands, smartwatches, smartphones,...) are available that can detect the Heart Rate (HR) and perform trace analysis, chest strap belts-based systems (like the one in the upper part of thr picture) are still widespread and used, but lacking the possibility to..... Listed under: [Phone Projects](#)
902. [Arduino powered hangman giftbox/lockbox](#) A medium sized box that requires the user to succeed in a game of hang man in order to gain access to the contents of the box. Great gift Idea!!! my Arduino sketch will be included in this instructible sorry for the poor quality pictures!..... Listed under: [Game – Entertainment Projects](#)
903. [Mail Alarm](#) After completing my GSM Home Alarm V1.0 and some time of using, I decided to make some modifications. <https://youtu.be/obGU1exGBt4> In the hardware the main changes are the replacement of the ultrasonic sensor and the introduction of a keypad. On the software, I change the SMS notification by..... Listed under: [Clock – Timer Projects](#)
904. [Measure RPM – Optical Tachometer using Arduino](#) This Instructable will show you how to make a Portable Digital Optical Tachometer using an Arduino Uno. This project is inspired from This instructable and is an enhanced version of it with an LCD display and a modified code. Instead of a slotted sensor ,..... Listed under: [Metering – Instrument Projects](#)
905. [How to build an Arduino WiFi 4×4 with Android Controller](#) RC cars can be WiFi Cars...? RC cars are cool, but cheap RC cars have limited range and can only be controlled with the particular controller that was included with the car. I purchased a RC jeep, complete with 4 wheel drive, flexible suspension, and..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
906. [Automatic Water Level Indication via SMS alert](#) Summary Students will learn how to construct a water Level Indicator/Controller that monitors the level of the overhead tank by constructing a circuit that will notify the user via SMS if the water supply to an area/home is initiated and indicate how high the water..... Listed under: [Projects](#)
907. [Water Level Indicator](#) Summary In this project, we will create a water level indicator with three levels inside a tank using an Arduino and a water sensor, as well as three LEDs and a buzzer to indicate when the tank is full. Objectives To understand how a water..... Listed under: [Projects](#)
908. [Nixie Clock Mood Barometer](#) An unremarked casualty of Progress is the aneroid home barometer. These days, you might still be able to find examples in the homes of people over ninety, but millions more are in the dump, or on ebay. In truth, the old-school barometer didn't help itself..... Listed under: [Clock – Timer Projects](#)
909. [Autonomous Control of RC Car Using Arduino](#) This instructable shows how to modify an inexpensive RC car so it c microcontroller. You can program the controller to make the car do any number of driving patterns and stunts. Once you have the car being controlled from the..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Projects](#)
910. [ESP-Now Rainstick](#) This fun little project will allow you the trivial joy of letting a electronic network announce that you have rain! The AI controlled, tear eliciting price'd Tesla has been rumored to have sensors that awaken the windshield wipers at the onset of rain. Being in..... Listed under: [Other Projects](#)
911. [How to make a robotic dart shooting sentry](#) Tools: Hot Glue Gun Laptop with Arduino software 22 awg hookup wire (black, red, yellow) wire strippers usb cable drill 1/16th drillbit exacto knife Parts: 2 tongue depressors 1 clothespin 1 rubber-band 1 dart 1 cup (paper or plastic) 1 arduino 1 breadboard 1 led 1 momentary

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button..... Listed under: [Robotics – Automation Projects](#)

912. [Controlling Hand Drill with Roboduino using Arduino](#) This will explain how we re-purposed a hand drill to re-spool solder using a roboduino (arduino compatible), two servos, and a DIY encoder. While one could use TRIACs to play with the AC power going into the drill, just using a servo to control the throttle..... Listed under: [Motor Projects](#), [Projects](#)
913. [Adding CV inputs to the Auduino granular synth](#) When I first got into the Arduino I went looking for audio projects. One of the first things I built was TobaTobias' Auduino granular synth. I was so impressed I built a permanent unit in a heavy duty enclosure and incorporated it into my occasional..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
914. [Measure Pressure With Your Micro:bit](#) The following instructable describes a easy to build and inexpensive device to perform pressure measurements and demonstrate Boyle's law, using the micro:bit in combination with the BMP280 pressure/temperature sensor. Whereas this syringe/pressure sensor combination has already been described in one of my previous instructables, the combination..... Listed under: [Other Projects](#)
915. [3-Axis Magnetic Field Sensor](#) Wireless power transfer systems are well on their way to replacing conventional wired charging. Ranging from tiny biomedical implants all the way to wirelessly recharging huge electric vehicles. An integral part of the research on wireless power is minimizing the magnetic field density. The International..... Listed under: [Sensor – Transducer – Detector Projects](#)
916. [Quick and Easy Arduino Nightlight](#) Honestly, how many people have been in this scenario (leave a yes or no in the comments) : It is 2:30 in the morning and you wake up with a need to do something whatever that may be (bathroom, forgotten homework assignment, project due in..... Listed under: [LED Projects](#)
917. [Using an Arduino to Control an Infrared Helicopter](#) In this Instructable we will explain how infrared signals are used by a remote to control a toy or device, then show how a simple circuit can be added to an Arduino to operate the same device through free, Open Source software. This document is part of..... Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
918. [WiFi Controlled Camera Slider](#) If you want to add interest to any video you are making, a good way to doing it is to add motion. There are an infinite number of motion effects you could use in your videos, but a classic, and very pleasing one, is a..... Listed under: [Wifi - Wlan Projects](#)
919. [USA Flag made with diffused LED using Arduino](#) USA flag constructed using a total of 2,301 diffused red, white and blue LEDs completed with Arduino sketch animations, I hope this instructions helps anyone who wants to try this out. This flag can be displayed during the 4th of July, memorial day or during..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [LCD Projects](#)
920. [NeoPixel Reactive Table](#) Welcome to my version of the LED reactive table! I was inspired by previous work using discrete LEDs, such as this one, but I figured it would be easier and more fun to use NeoPixels -- programmable RGB LEDs that can be set to any color you want..... Listed under: [LED Projects](#)
921. [Arduino Skateboard Speedometer](#) Using an Arduino, it is easy to make a speedometer/tachometer for virtually any man-powered vehicle. I made one for my skateboard that used a small magnet to count revolutions and utilized an LCD display screen. This Instructable will show you how you can do the..... Listed under: [Game – Entertainment Projects](#), [Metering – Instrument Projects](#), [Projects](#)
922. [Fancy LED Hat](#) I've always wanted to do an Arduino project, but never had any great ideas for one until my family was invited to a fancy hat party. With two weeks lead time, I was curious if I could both plan and execute a motion sensitive LED..... Listed under: [LED Projects](#)
923. [Automate Your Garage Opening Times](#) 1. Background My 1st project with Apduino Online was about to solve a simple problem, close the garage door after sunset, when it has been left open. We have a garage in the basement, which is used not only for car parking, but gardening tools..... Listed under: [Home Automation Projects](#)
924. [Quantifying Access to your Mind using Arduino](#) So, I manage a creative technology lab at California College of the Arts. It's essentially an educational hackerspace for art and design students. Pretty awesome, right? After graduating from the University of Minnesota with a degree in mechanical engineering, I was desperately trying to find..... Listed under: [How To – DIY – Projects](#)
925. [Control Servo with Light using Arduino](#) Hello! In this Instructable i will teach you how to control a servo using a Photocell. This is very simple and good for beginners. Step 1: Materials 1 x Photocell 1 x 10k Resistor 1 x Arduino 1x Breadboard 1x Servo and some jumpers Step..... Listed under: [Motor Projects](#), [Projects](#)
926. [Arduino Wireless Animatronic Hand](#) BTW!!!! This instructable is awsomeeeeeeeThis is a very simple but at the same time a very hard project depending on your skill level. Lets get to building! What this is, is a wireless animatronic hand that doesn't need a computer to operate. The user wears..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
927. [Wireless Doorbell Transmitter](#) This project describes the first part of the following two projects: A wireless doorbell transmitter as described in this InstructableA wireless doorbell receiver to be described in the Wireless Doorbell Receiver Instructable When I am sitting in the backyard of my house I cannot hear it when..... Listed under: [Wireless Projects](#)
928. [Binary/ Analog Clock](#) I was inspired by the digital/ analog clock to make my own special clock as my second instructable. I browsed the internet and found that servo clocks are rare and binary are common. So i decided to combine the two and this is what I..... Listed under: [!](#) [Click here to get AI-based help](#) [✕](#)
929. [Control anything remotely with Infrared signals using Arduino](#) Who would have thought that just about every Arduino attachment can be controlled in some way with a TV remote? Now its time to find out how. Arduino.skp141 KB Step 1: Setup and Materials The setup for this is quite basic. The real challenge is..... Listed under: [Projects](#), [Radio Projects](#)
930. [Arduino 8x8 LED Matrix](#) In this project, we will learn about LED Matrix Displays and two different projects on Arduino 8x8 LED Matrix Interface. The first project will be a simple interface between Arduino and 8X8 LED Matrix to display information (even scrolling information and images can be displayed)..... Listed under: [LED Projects](#)

931. [How to make an Arduino from scratch](#) Frugal Engineering is the best way forward for science. If you're interested in making some arduino's from scratch , you've come to the right place. You can see a video tutorial of this instructable : here It will supplement any loopholes or doubts you may..... Listed under: [How To – DIY – Projects](#)
932. [Arduino Bluetooth Serial Connections](#) This is an introduction on how to setup, make a basic connection, and send data to and from an Arduino using Bluetooth! Bluetooth is great for transmitting data over medium distances and what's more, Arduino just treats it like a serial data connection. This means..... Listed under: [Other Projects, Projects](#)
933. [Arduino DC Motor Control using L298N Motor Driver](#) In this project, we will see how to control a DC Motor using Arduino and L298N Motor Driver. There are different ways to control a DC Motor but the Arduino DC Motor Control using L298N Motor Driver is becoming quite popular for many reasons. Overview..... Listed under: [Motor Projects](#)
934. [To blink LED from mobile phone or iPod or another computer via WiFi](#) Hello Everyone, I like this site too much, the site really played very important role in awakening my enthusiasm and creativity. This is my first project and its really for the first timers project. I got this project from Instructible site , modified to access..... Listed under: [LED Projects](#)
935. [RGB LED Strip Circuit with Arduino](#) This Instructable covers the assembly of a circuit capable of PWM-ing (pulse width modulating) a high-power RGB LED strip and programming an Arduino to cycle through a range of colors. In this context, "high power" is 9-12 volts. I will discuss how to mount a..... Listed under: [LED Projects](#)
936. [Arduino – Control LEDs with a Remote Control](#) Step 1: IR library First you need to go to this page and download the IR library. You just need to follow the read me file to install. I think that any IR remote control can do this, I'll be using a Philips Universal one..... Listed under: [LED Projects](#)
937. [‘Knock Back’ – A Knock Echoing Arduino](#) This is a simple Arduino sketch that was originally designed to experiment with arrays and the built-in timing functionality. I based it on the tutorial sample code <http://www.arduino.cc/en/Tutorial/Knock> The system consists of a piezo sensor connected to an analog pin that listens for a knock from..... Listed under: [Sensor – Transducer – Detector Projects](#)
938. [Week 8 : Embedded Programming & Networking and Communications](#) Part 1 - Embedded Programing A Morse Code Receiver and Transmitter This week's assignment was to program the board we made two weeks ago to do something, with as many different programming languages and programming environments as possible.I wanted to use all the features I have on..... Listed under: [Arduino Programmer Projects](#)
939. [How to Build a Robotic Hand with Haptic Feedback using Arduino](#) For science fair this year, I felt like building something instead of doing an experiment. All I needed to do was look around Instructables for a project idea. I was inspired by njkl44's robotic hand since it reminds me so much of stuff out of..... Listed under: [Projects, Robotics – Automation Projects](#)
940. [Arduino Tutorial: Capacitive Touch Sensors](#) Hello everyone! This instructable is a tutorial that will guide you on using the Capacitive touch sensors with Arduino. A Capacitive sensor is a kind of touch sensor, that requires little or no force to activate. In this Instructable about capacitive touch sensing, I'll show..... Listed under: [Sensor – Transducer – Detector Projects](#)
941. [Make Wired Robotic Arm Edge to "Wireless" with DIY Arduino and XBee](#) UPDATE: Added Schematic, Top Layer PCB, Bottom Layer PCB, and both Top, Bottom PCB images When I finished the "RevIO" - an Arduino Clone that has the different way of exposing pins usage. I decided to go further to the next project. To test my..... Listed under: [Projects, Robotics – Automation Projects](#)
942. [Arduino Nixie Clock & Weather Station](#) I wanted to build a Nixie clock driven by an Arduino and found a few places on the internet, but none were 100% complete to get it working from the beginning to end. I either found bad wiring diagrams, bad code in programs or bad..... Listed under: [Clock – Timer Projects](#)
943. [7-Key Slider/Wheel Tutorial with Synthesizer](#) This is a tutorial for using the 7-Key Slider/Wheel Breakout from Rachel's Electronics. I'll show you how to solder up the header pins for maximum usability. Rachel's has the QT1106 datasheet on their site, and a great arduino library for this breakout. The kit from..... Listed under: [Sensor – Transducer – Detector Projects, Tutorials](#)
944. [Arduino Watch with Nokia 3110 screen](#) My goal for this project is to make a watch with selectable dials, stopwatch and millidays. This idea started with an Aprils fools prank about metric-time. (<http://www.youtube.com/watch?v=K35xG1buyFA>) First I wanted to make a metric clock but soon this idea evolved from a metric watch into..... Listed under: [Clock – Timer Projects, Phone Projects, Projects](#)
945. [Arduino As a Cheap Breadboard FPGA](#) Designing hardware logic circuits can be fun. The old school way to do this was with NAND gates, on a bread board, wired up with jumper wires. This is still possible, but it doesn't take much before the number of gates gets out of hand..... Listed under: [Development Board – Kits Projects](#)
946. [Uber Home Automation w/ Arduino & Pi](#) A few years ago, I became a dog owner for the first time. I didn't like leaving Cody in the kennel alone all day. I had a webcam on him, but I couldn't watch it all day long. What if he was in some kind..... Listed under: [Home Automation Projects](#)
947. [Come Home! Connecting Distant Spaces EASILY over Web using Arduino](#) Can you believe that we live in an age where you can touch an object (any object - if it has metal on it) and a light will turn on in your loved-one's space - even if they live in a different city, state, or..... I [Click here to get AI-based help](#) ✕  
Listed under: [Internet – Ethernet – LAN Projects](#)
948. [Simple 2-way motor control for the arduino](#) When I say simple, I don't mean use a speed control. But control the motor directly without any external circuitry. Here's how: How this came about: I recently was working on an instructable about charlieplexing with an arduino. And I was wondering if the same principle..... Listed under: [Motor Projects, Projects](#)
949. [Assembling the 8x8 LED Board Kit](#) These are step by step instructions for assembling the 8x8 LED Board kit from moderndevise.com. I had never played with LED displays before using this kit. I suggest reading through all the assembly steps BEFORE starting to solder because assembly order DOES matter with this .... Listed under: [LED Projects](#)

950. [Updated Movie Box](#) A few months back, I posted an Instructable on my Raspberry Pi movie player tucked into a VHS cassette. Since then, I have built several for friends and family, and have simplified the process. Using a Raspberry Pi v3, we no longer need a USB hub and..... Listed under: [Interfacing\(USB – RS232 – I2c - ISP\) Projects](#)
951. [CatGenie: A smart, resettable SaniSolution cartridge](#) The project This project follows on from the excellent work by ScotSEA and his Arduino reset program (see <http://www.instructables.com/id/CatGenie-Resetting-a-SaniSolution-Cartridge/> ). I had never taken my Catgenie apart as Scott did, but had built a small contact board instead. I had previous updated Scott's program to..... Listed under: [Security – Safety Projects](#)
952. [My Ninth Project: Robot Arm with Joystick Shield using Arduino](#) Although it is great controlling the robot arm with computer or mobile phone, I think using joystick is also cool, so I've bought a joystick shield and make a new project. This joystick shield is compatible with Arduino. It also support Nokia 5110 LCD module,..... Listed under: [Robotics – Automation Projects](#)
953. [Beat Sync using an Arduino](#) Beat Sync is a single frequency audio spectrum volume meter. It can isolate around a certain frequency ( I choose the bass ) and display it on a creative 8 segment LED bar graph. This is meant to be quite simple, yet allowing room for..... Listed under: [Projects, Sound – Audio Projects](#)
954. [Arduino Air Bonsai Levitation](#) It's been a long time since my previous tutorial, my work is quite busy and I spend less time on Instructables. This time is a project that I like very much since my first saw it on Kickstarter: Air Bonsai. I was really surprised at how..... Listed under: [Other Projects](#)
955. [Laser Tag Stuffed Animals](#) Ever feel like there aren't enough toys at the intersection of cuddly and terrifying? Wish your stuffed animals could double as weapons? Then I've got the toy for you. These Laser Tag Stuffed Animals easily transform from being a cuddly night light to the world's..... Listed under: [LED Projects](#)
956. [Arduino Based Home Automation Project via Bluetooth](#) In this project, we will design a simple home automation project using simple components using which different electrical appliances can switched on or off. The project is based on Arduino and we have used Arduino UNO for the project. Description Introduction ..... Listed under: [Bluetooth Projects](#)
957. [Arduino Soap Sanitizer Dispenser](#) Basically, an overkill soap dispenser made from CNC linear rail Description watch the video first <https://youtu.be/Pi4bStBNVAo> So the goal here was to build a Soap/Sanitiser without using the "servo motor method" this is actually pretty straightforward built, first, you need to print these parts and..... Listed under: [Other Projects](#)
958. [D-Led Shield v1.0 \(for monitoring\)](#) Good day fellow enthusiast! Here is one of my latest and simplest shield designs for an arduino board. The thing here is, sometimes we have a hard time checking out which I/O pins are LOW or HIGH, especially when we are dealing with LED, motors,..... Listed under: [LED Projects](#)
959. [How to Make Musical Floppy Drives using an Arduino](#) My brother posted a video about this on facebook almost a year ago. Some old floppy drives playing Bach's masterpiece Toccata & Fugue and it got me really interested. So I read about it when the author posted a how-to on his blog and did a couple of tweaking..... Listed under: [Game – Entertainment Projects, Projects, Sound – Audio Projects](#)
960. [SMART PARKING SYSTEM](#) Recently from few years people have started focusing on modernization. So in this project "SMART PARKING SYSTEM" everything is based on modern idea, and through this project we also tried to short out space related problem which usually occurs in parking. [https://youtu.be/wEUMw\\_Z8PnE](https://youtu.be/wEUMw_Z8PnE) What's all about..... Listed under: [Other Projects](#)
961. [Bluetooth 4.0 HM-10 cc2541 Duplex](#) In this example, I'll show you how to use the cc2541 to communicate from one microcontroller to another in BOTH DIRECTIONS (BLE-HM-10). <https://youtu.be/6zXYH9arHMI> Introduction The HM-10 is a Bluetooth Low Energy (BLE) module for embedded systems that allows for wireless communication with BLE-capable devices (e.g..... Listed under: [Bluetooth Projects](#)
962. [Using a Dot Matrix LED with an Arduino and Shift Register](#) The Siemens DLO7135 Dot matrix LED is one amazing piece of optoelectronics. It's billed as a 5x7 Dot Matrix Intelligent Display (r) with Memory/Decoder/Driver. Along with that memory, it's got a 96-character ASCII display set with upper and lower case characters, a built-in character generator..... Listed under: [LED Projects, Projects](#)
963. [Queue Management Node\(QMN\)](#) Touch-free queue management service powered by Arduino MKR WiFi 1010 and Twilio. Description The COVID-19 pandemic has changed the way we interact with people, things, and the world around us. Social distance enablement is one and only effective method to prevent the spreading of COVID-19..... Listed under: [Wifi - Wlan Projects](#)
964. [Arduino Controlled ATX Power Supply](#) Can a microcontroller control its own power? Well nearly! An ATX power supply, either new or from an old PC, is a great way to power Arduino and other microcontroller projects. That is covered in several 'ibles such as this one. However, because of some..... Listed under: [Other Projects, Projects](#)
965. [Reading Digital Callipers with an Arduino](#) How to use an Arduino to read the signal from a set of digital callipers and send the reading over USB. Why? This might be useful for accurate position sensing in home made / hacked computer aided manufacture systems. Adds USB functionality to your callipers..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
966. [RADAR model using ARDUINO and ULTRASONIC SENSOR](#) It is a model of RADAR. It describes how a radar works in real time. Description <https://youtu.be/6zACsitIOS8> RADAR model is used to know how the real time radar works. It is constructed using ..... Click here to get AI-based help ✕ and SERVO MOTOR. We also used to show the output. That..... Listed under: [Sensor – Transducer – Detector Proje](#)
967. [Personalised Word Clock using Arduino](#) Build a unique personalised gift that's cool and reflects the character of the recipient. What's different about this Word Clock is that it is small enough to sit on a bedside desk, displays the recipients name and has personalised messages that appear at different times..... Listed under: [Clock – Timer Projects](#)
968. [How to make gas leak alert security alarm using arduino](#) In this tutorial I will show you how to make gas leak alert security alarm using arduino nano and mq 5 gas sensor Description Introduction A gas detector is a device that detects the presence of gases in an area, often as part of a..... Listed under: [Security – Safety Projects](#)



969. [Arduino String Instrument](#) Sure you can use LDR's, potentiometers and buttons to generate sounds, but what about strings? When I began thinking about an Arduino string instrument, I realized what I wanted to create was a soft potentiometer. I found my inspiration from Hannah Perner-Wilson's Fabric Potentiometer <http://www.kobakant.at/DIY/?p=543>. Step..... Listed under: [Metering – Instrument Projects](#)
- 
970. [Autonomous Paintball Sentry Gun using Arduino](#) Make your own, custom AUTONOMOUS SENTRY GUN! A Microcontroller Contest Finalist and Runner Up Winner. This instructable is out-of-date. For the most recent version of the tutorial, see the website . Cheers! This sentry gun autonomously tracks, aims, and shoots at targets, using: -An airsoft or..... Listed under: [Arduino Programmer Projects, Projects](#)
- 
971. [DIY Arduino UNO](#) DIY your own Arduino UNO with the JLC PCB Description Schematic of ARDUINO S3v3 Details of ARDUINO S3v3 X1: DE-9 serial connector Used to connect a computer (or other devices) using RS-232 standard. Needs a serial cable, with at least 4 pins connected: 2, 3,..... Listed under: [Other Projects](#)
- 
972. [BUGBot – Light Follower Robot using Arduino](#) The figures above shows the basic idea of any robot, where we have some inputs and output devices connected to the brain and some outputs controlled by the brain. In our case we will have the Arduino like the brain. The central Brain, controls all..... Listed under: [Projects, Robotics – Automation Projects](#)
- 
973. [The “all in one box” aquarium feeder using Arduino](#) Step 1: Things you will need the images show you what you need. you will also need (but is not shown in picture soldering iron shrink tubes lighter 5 volt power supply usb cable (to program you're arduino) info on the foamed pvc sheet..... Listed under: [Home Automation Projects](#)
- 
974. [3D Printed Mini Air Kooler \(the OverEngineered Edition\)](#) Description Hey everyone What's up! Let me show you something COOL! <https://youtu.be/DLRq5FG2jNQ> A completely 3D Printed Mini Air Cooler that is powered by a Jet Turbine. So the goal here was to make a small but powerful Air Cooler that utilizes water to cool down air that..... Listed under: [Other Projects](#)
- 
975. [Dirt cheap Arduino LED light bar](#) This instructable was designed for beginners in mind, but advanced users can easily adapt it to fit their needs and wants. It only uses a few common components, so you shouldn't have much trouble putting this together. It's a good waste of 5 minutes with..... Listed under: [LED Projects, Projects](#)
- 
976. [CONTROLLING MY THREE AUTOMATION PROJECTS USING SINGLE MOBILE APPLICATION](#) In this project I am controlling my three automation projects using single application made by me using MIT app inventor platform. Description As we all know that the world is slowly shifting towards automation, we require automation everywhere, like in industries, factories, houses, energy management..... Listed under: [Phone Projects](#)
- 
977. [Intelligent Solar Garden Light using an Arduino- Part 1](#) I bought a solar powered garden light. The solar panel charges the batteries and when it gets dark the lights (3x LEDs) turn on until it either gets lights again or the batteries run out. It has a small amount of intelligence (turns on when..... Listed under: [Battery Projects, Home Automation Projects, Projects](#)
- 
978. [Kickstarter Backer Alert with Stats Scroller, using Arduino Yun](#) The Arduino Yún is a curious addition to the Arduino family. There is a fairly widespread community surrounding the Arduino concept, platform and software. There's another popular community dedicated to hacking and improving inexpensive wireless routers, which often run Linux. The Yún combines the two...it's..... Listed under: [Car Projects](#)
- 
979. [Fire Prediction using Arduino nano BLE sense and Machine Learning](#) An Embedded Machine learning-based project was used to detect fire using the inbuilt colour sensor. Description It's an embedded machine learning-based project used to predict a fire in Arduino nano ble 33 sense with the help of the inbuilt color sensor attached to the board..... Listed under: [Sensor – Transducer – Detector Projects](#)
- 
980. [Make a 24X6 LED matrix using an Arduino](#) After making a 8X10 matrix a lot of people asked me about expanding the matrix to some thing bigger, and some wanted to write stuff to the matrix via a PC, so one day I looked at a pile of LEDs that I had leftover..... Listed under: [LED Projects, Projects](#)
- 
981. [8x8 LED Matrix Animations using an Arduino](#) For a party we were about to have I wanted a cool light display to use with my new Xmas present - an Arduino Uno. Having looked at the LED matrix's here I wanted a bigger one that I could hang on the balcony. I also wanted..... Listed under: [LED Projects, Projects](#)
- 
982. [How to connect two 16x2 LCD together with arduino](#) In this, I will tell you how to connect two 16\*2 LCDs together with a single Arduino. This is a very unique project. you can't find this anywhere. Description Introduction In this project, I will tell you that how to connect two LCDs together with..... Listed under: [LCD Projects](#)
- 
983. [Arduino Combination Door Lock: Lockduino](#) Ready to put a combination lock on your door to keep out intruders? You've come to the right place! In this i'ble I will show you step by step how to make a combination lock for your door! Watch this video of the finished product!..... Listed under: [Security – Safety Project Ideas](#)
- 
984. [Digital Clock using Arduino UNO Without RTC module](#) An interesting project of making a Digital Clock using Arduino UNO without the help of RTC Module. Description AIM To build a Digital Clock at Low Cost (Without using any External RTC Module) ject, I have used LCD 16X2 Display , an Arduino UNO ,..... Listed under: [Clock – Timer Projects](#)
- 
985. [Serial Servo Controller with Arduino](#) I'm going to show you how to use your Arduino to control up to 12 servos at once with minimal jitter. Using a simple serial interface you can control the position of up to 12 servo channels. Up to 10 snapshot positions can be saved..... Li: [Click here to get AI-based help](#) ✕ [SPJ](#) [Projects, Motor Projects, Projects](#)
- 
986. [LED Watch using an Arduino](#) This instructable will show you how to make your own arduino based watch that tells time using a matrix of LEDs. This is my first instructable, so if something is unclear leave me a comment or send a message! I was inspired by all the..... Listed under: [Clock – Timer Projects, LED Projects, Projects](#)
- 
987. [Arduino Sound Effect With Game Handle](#) This project is for the class ATLS 3300 at CU Boulder. Push buttons can make buzzers sound. Five buttons represented the tone C, D, E, F, G. There are two modes. The switch determines the mode and LEDs can indicate which mode we are in..... Listed under: [Sound – Audio Projects](#)
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988. [ARDUINO NANO BLE SENSE – TinyML FITNESS BAND USING EDGE IMPULSE](#) It is a disruptive fitness solution where we classified different physical motions and body positions using arduino nano ble sense. Description TinyML fitness band using "EDGE IMPULSE" is a disruptive fitness solution where I classified different physical motions and body positions using arduino nano ble..... Listed under: [Other Projects](#)

989. [DIY a Spelling Game with an Interactive Robot using Arduino](#) Did you hear before about Social Robot? Did you you see the Pepper Robot or Jibo robot? These kinds of robots that can hear you, understand you and make a social contact with you via sound, facial expressions and body gestures. Social robots have various..... Listed under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#)

990. [MP3 Interface for Arduino](#) I have added a follow-on to this Instructable: <http://www.instructables.com/id/Cheap-and-Easy-MP3-Shield-for-Arduino/> The follow-on shows you how to design, etch and build a PCB shield to connect the MP3 to the Arduino. Replaces the analog switches with a 74HC244. Single layer board with large surface mount component design. Only..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Sound – Audio Projects](#)

991. [Programmed gas leakage regulator gadget](#) This model will help you for when of gas spillage. It just will not make you mindful of the signal however it will likewise save your home and different homes or industrial facilities from a horrendous fire. Introduction:- Imagine for a..... Listed under: [Arduino Programmer Projects](#)

992. [Illumino: EEG hat with Arduino turns brain activity into light](#) Ever wanted to visualize your brain activity in real-time? Move an object on a screen with your mind? EEG devices are fantastic fun and allow you to do such things! This tutorial will show you how to make an illumino: a recreational EEG hat that..... Listed under: [Game – Entertainment Project Ideas](#)

993. [Virtual Etch A Sketch](#) The Etch A Sketch: famous, creative, and unique. Unfortunately I have no clue where the one from my childhood is, so I decided to make my own virtual one! Check it out (and my awful drawing skills) below. This Etch A Sketch is quite like..... Listed under: [Game – Entertainment Projects](#)

994. [Intelligent-Vision Eye-glasses For Blind](#) An AI Automation glasses to solving problems for the legally blind, low vision, glaucoma and Cataract. Abstract After the successful prototype for the Blind Glass @Blind-targeted AI Glasses <https://youtu.be/W2mmXbYaRMA> Friends and colleagues reached out to me to further develop the project. I was highly motivated and..... Listed under: [Other Projects](#)

995. [ATtiny programmer using Arduino ISP](#) Thanks to: <http://jeonlab.wordpress.com/> For relatively small (less number of pins than ATmega328) projects, ATtiny series, ATtiny45 or Attiny85 are good choice in terms of its physical size (8-DIP or 8-SOIC) and low power consumption. There are many ways to program it. One of the popular..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)

996. [TurtleDuino Object Avoidance Robot using Arduino](#) Hello, in this instructable I'll be showing you step by step how to build the TurtleDuino, an object avoidance robot, with an Arduino UNO microcontroller on board. I designed the TurtleDuino using material from the hardware store (Home Depot) and all the electronics from sparkfun.com..... Listed under: [Projects](#), [Robotics – Automation Projects](#)

997. [Avengers plant monitoring device with Arduino uno \(Tuya IoT platform\)](#) I made a lot-based plant monitoring device. From this device, you can measure the condition of your plant from anywhere in the world. The device is able to measure temperature, humidity, and soil moisture. Description <https://youtu.be/cHMHhqCfUgU> I hope you are doing well because a few..... Listed under: [Other Projects](#)

998. [Convert a toy piano to work as a midi device and use it with Synthesia](#) Goal of this project: Convert a cheap toy piano to work as a midi device and use it with Synthesia (<http://www.synthesiagame.com/>) Other programs that use midi inputs can also be used. Approach: The pushbuttons of the piano are used to make a simple pull-down circuit..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sound – Audio Projects](#)

999. [Disposing IED using Non Newtonian Fluid](#) Thousands of lives are being lost every year due to IEDs (improvise explosive devices). IEDs were responsible for approximately 63% of coalition deaths in Iraq. ABSTRACT Mobile Explosive Containment Vessels (MECV) referred to as Total Containment Vessels (TCV) are fully enclosed vessels used to absorb..... Listed under: [Other Projects](#)

1000. [Tankbot – Internet Controlled Tank Robot using Arduino](#) Do you remember a game called Tank Wars? This is an attempt to make a physical version of that classic arcade game. You, the player drive an Arduino powered tank and fire a laser at a target. This project uses an Arduino to control a tank..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)

1001. [WorkSafe CV based multiparameter monitoring and diagnostics](#) Worksafe is an attempt to bring advanced healthcare diagnostics to residential and industrial markets at affordable costs. Description As we all are aware, it's been almost two years since the SARS-COV2 outbreak began in December, 2019. Initially, it put tremendous pressure on all countries to..... Listed under: [Other Projects](#)

1002. [Garage Genie – Parking & Remote Control using Arduino](#) The Garage Genie Parking & Remote Control is a car automation Arduino gadget. Click on the two images above to see the animated explanation. It aims to do a few things: 1. The "traffic lights" tells you when you've inched your car up close enough..... Listed under: [Arduino Car Project Ideas](#)

1003. [HealBot Semi Auto Surgical Machine](#) Problems faced- Due to growing road traffic, lack of doctors in many places and sometimes non... Description Problems faced- Due to growing road traffic, lack of doctors in many places, and sometimes nonavailability of emergency wards, many people die because they do not get timely,..... Listed under: [Other Projects](#)

1004. [Guitar Tuner for the Blind \(using an Arduino\)](#) How to modify a guitar tuner so it can be used by a blind person Thi. microcontroller, (all code is provided). This project was undertaken for the charity Remap, which provides custom-made equipment for people with disabilities. Summary Begin with..... Listed under: [Sound – Audio Projects](#)

1005. [AC Arduino dimming circuit](#) THANKS TO CONCERNED VIEWERS, I HAVE LEARNED THAT THIS IS NOT SAFE AND SHOULD NOT BE REPLICATED. SO PLEASE DONT TRY THIS 😊 THANKS TO EVERYONE WHO COMMENTED, I LEARNED A LOT I am not an engineer, just an experimenter and hacker and prototyper etc,..... Listed under: [Home Automation Projects](#), [Projects](#)

1006. [Tiny Altoid Tin Robot With Personality](#) I love robots. Normally the ones I build are quite large and wouldn't fit in your pocket, but for a change of pace I decided

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I would try something small and fun! This robot is exactly that, and in fact fits inside of an altoids..... Listed under: [Robotics – Automation Projects](#)

1007. [5x5 LED Cube using Arduino Uno](#) This is a step by step explanation of how to build a 5x5 LED cube using an arduino. I did this project for my undergraduate electronics class and it took me about 2 weeks to complete. Note: Apparently, some of the links for the supplies..... Listed under: [LED Projects](#), [Projects](#)
1008. [IoT Robotic Arm](#) The project is Robotic-arm controlled by a mobile application known as BLYNK; it is free and... Description <https://youtu.be/zhQDoCBZn5E>  
Description:- The project is Robotic-arm controlled by a mobile application known as BLYNK; it is free and easy to use for automation and IoT projects for beginners. In..... Listed under: [Robotics – Automation Projects](#)
1009. [Froggy World 5 The Coffee Gripper](#) In Froggy World, the amusement park for adventurous plastic frogs, it became necessary to to move the frog from a train car back to the catapult. Because I couldn't know whether the frog would be upright or sideways--and in what orientation--the gripper was a challenge..... Listed under: [Home Automation Projects](#)
1010. [Dual H-Bridge – Arduino L298 Breakout Board](#) This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials This is the basic schematic. It works perfectly. A more advanced schematic and..... Listed under: [Arduino Android](#)
1011. [Bubble Wall | Interactive, Inflatable Panel](#) Bubble Wall | Breathing Wall Panel System Interactive, Inflatable, Playable Wall Brief Project Description This was an artistic piece installed for a digital fabrication show at the University of South Florida School of Architecture and Community Design. While this brief is specific to this panel,..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
1012. [Big Spectrum Analyzer with Arduino](#) Let's put together a pixel strip with an HL1606, an Arduino UNO and the Spectrum Shield to build a seven bands "large" Spectrum Analyzer of simple construction. The Strip used uses the HL1606 controller to allow direct management of each of the LEDs. The chip..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
1013. [Wii Nunchuk Controlled Model Train using Arduino](#) Using an Arduino microcontroller, an Adafruit motor shield, and a Wii Nunchuk, you can create a intuitive, programmable, model train controller to run your layout. Amaze your friends. Entertain your kids. Not quite DC, not quite DCC. You're headed for the hacker lands of PWM..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1014. [Satellite dish positioner with Diseqc and wifi](#) The satellite positioner stores the position of the satellites in memory and allows you to move the dish to the desired satellite when you change the satellite channel. The advantage of this device is the possibility of controlling and setting the positioner via Wi-Fi. Description..... Listed under: [Wifi - Wlan Projects](#)
1015. [A Facebook-Connected, Arduino-Powered Music Party](#) Music party is a new way to listen to music with others. By tapping an RFID/NFC device that is synced to a Facebook account on an Arduino RFID reader shield and sending that unique ID to Music Party server using the Arduino WiFly shield, we..... Listed under: [Internet – Ethernet – LAN Projects](#), [Sound – Audio Projects](#)
1016. [DIY Arduino Board Water Meter](#) Working with the interaction design team, a bunch of us at Teague have been tinkering with measuring water, analyzing usage data in realtime to affect behaviors, and storing it to see patterns over time. At the heart of the exploration was a need to cheaply measure water..... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#), [Projects](#)
1017. [Bluetooth Controlled RGB LED LAMP](#) I made an RGB pumpkin wall light, which can be controlled by a smartphone via Bluetooth, it has different modes and different colors so you can choose the color of the light according to your mode. Description [https://youtu.be/\\_dnJCeFdBnw](https://youtu.be/_dnJCeFdBnw) Halloween is about to come and already..... Listed under: [Bluetooth Projects](#)
1018. [Arduino LCD Metronome](#) Connecting the LCD The first step is to wire up the LCD. The HD44780 has 16 pins: Pin 1 - Vss Pin 2 - Vdd Pin 3 - Vo Pin 4 - RS Pin 5 - R/W Pin 6 - E Pin 7 - DB0..... Listed under: [LED Projects](#)
1019. [Touchless Covid Free Electronic Dice Using Arduino](#) Created a touchless Covid Free Electronic Dice using Arduino to play some board games with my son. My new project is an amazing way of giving our younger generation the taste of board games while staying COVID free. Description <https://youtu.be/a4CnaDDR2x0> Created a touchless Covid Free..... Listed under: [Other Projects](#)
1020. [Self Balancing Segway Instructabot](#) [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"] Supplies: 1. Arduino: I used an Uno 2. 7.2v battery 3. Set of motors: Parallax's 7.2v motor set <http://www.robotshop.com/parallax-7-2v-motor-bracket-wheel-kit-pair.html> 4. Analog accelerometer <http://www.robotshop.com/sfe-3g-tripleaxis-accelerometer-breakout-board-adxl335-2.html> 5. Sabertooth 5X2 motor controller <http://www.robotshop.com/productinfo.aspx?pc=RB-Dim-19&lang=en-US> 6..... Listed under: [Game – Entertainment Project Ideas](#), [Robotics – Automation Project Ideas](#)
1021. [Garduino-Automated Gardening System using Arduino](#) This instructable is a guide for setting up an automated gardening system using an arduino and other cheap electronic parts. It allows sustainable gardening by using sensors to determine soil moisture, as well as a webscraper to determine future weather. It uses this information to save water by only..... Listed under: [Home Automation Projects](#), [Projects](#)
1022. [How To Make A Board Game Using Arduino](#) In this Instructable, we'll teach you how to create your own "Would yc paint, an Arduino microcontroller, and some electronics components. Players take turns moving along the game path as directed by an electronic dice roll. Along the way,..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1023. [Scan QR Codes with Raspberry Pi Pico](#) To extract information from QR codes and use a Barcode & QR Code HAT and a Raspberry Pi Pico. Description To extract information from QR codes and (even create your own barcode & QR Code using Python), use a Barcode & QR Code HAT and a Raspberry Pi..... Listed under: [Other Projects](#)
1024. [Capacitive touch Mood light using Arduino](#) This instructable is a quick write-up of my experience creating a multifunctional moodlight. Some basic knowledge of electronic circuits is expected. The project has not yet finished, some adding functionality and tweaking has to be done but it is already functional. If you

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guys are..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

1025. [Arduino-plex 2.0: Modular Plexiglas Arduino Work Surface](#) Last year I needed a board that I could stick my breadboards to, that would also securely hold my Arduino. I used some Plexiglas I picked up at Skycraft in Orlando and I glued everything together with Crazy Glue. This worked well, but it didn't..... Listed under: [Development Board – Kits Projects](#)
1026. [Pantomime – Gestures to actions for disability aid and more](#) Pantomime is a configurable gesture controller unit that can be used for reliable human-machine interaction. For the demo purpose, we have shown a use case of the Pantomime in a chassis of 4WD, which here can be easily altered with a smart wheelchair. The Pantomime..... Listed under: [Other Projects](#)
1027. [The morse code generator by a PS\2 keyboard using Arduino](#) Hi, all! Today I'm trying to explain you my last project: "The morse code generator by a PS\2 keyboard" I've used an PS/2 keyboard to send input to my Arduino board (like described in here) and transform it in morse code that activate..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
1028. [Nokia LCD & Sensors using an Arduino](#) Arduino: Nokia LCD & Sensors PROBLEM: Making my Arduino, a Temperature-Relative Humidity sensor and a Nokia3310LCD screen work together. Now, I'm a Lazy Old Geek, so what I wanted was an Arduino kit that would take shields. This Freeduino was the cheapest that I could..... Listed under: [LCD Projects](#), [Phone Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1029. [Bluetooth Speaker Wifi IoT Clock With Spectrum Analyzer](#) I made a Bluetooth Speaker with Clock . It display Date , Time, Temperature & Humidity & gets updated from Internet at 15 minutes interval.It also has a 32 band Audio Music Spectrum Analyzer which displays different music patterns. Clock or spectrum Analyzer can display..... Listed under: [Bluetooth Projects](#)
1030. [Program an ATtiny with Arduino](#) Follows are directions for programming the ATtiny microcontrollers using the Arduino IDE. In plain English, this is how to program 8-pin Atmel chips as you would normally an Arduino. This is cool because the ATtiny is tiny, and - well - this allows you to..... Listed under: [Arduino Programmer Projects](#)
1031. [Stupid Simple Arduino LF RFID Tag Spoofer](#) RFID tags are all over the place. They're used in building access control systems, passports, inventory tracking . . . This instructable will show how you can use an Arduino and a few simple components (wire coil, transistor, capacitor, resistor) to make a device..... Listed under: [Projects](#), [RFID - NFC projects](#)
1032. [PATROL FISH TO COLLECT AND CHECK THE CONTAMINATION OF A WATER BODY](#) Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies. Introduction Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies..... Listed under: [Other Projects](#)
1033. [Ultrasonic Tape Measure using Arduino](#) Have you ever wanted an ultrasonic tape measure, like this Stanley? (See picture). Well, I have but then I am a Lazy Old Geek. I don't really need one but I thought I'd try to make one. And naturally, I thought of an Arduino. August..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
1034. [Self-Watering Smart Pot Using NodeMCU](#) let's build a self-watering (also we can monitor the temperature, humidity, soil moisture )smart pot using nodemcu Description Self-Watering Smart Pot Using NodeMCU Hello there, Sometimes when we go out of our home for a few days. In this case, we cant give water to..... Listed under: [Temperature Measurement Project Ideas](#)
1035. [Interface Arduino to MySQL using Python](#) Here's a brief tutorial that should get you up and running interfacing your Adruino with a MySQL database. For the sake of this tutorial, I am assuming you know how to set up and use MySQL. This tutorial does not require much Python experience, but..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#)
1036. [LDR Robot using an Arduino](#) LDR Robot with IR and a Servo The LDR/IR Robot is designed to seek out light and avoid obstacles. The robot uses the Light Dependent Resistor to seek out light and the Infrared Sensor to detect and avoid objects in its path. The following are..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1037. [An Alarm Clock \(but It Is Harder to Turn Off\)](#) The inspiration for this project was the dreadfully painful waking up process in the morning. And now that school is starting back up I had to get off of the summer schedule where you could get away with not waking up at the crack of..... Listed under: [Clock – Timer Project Ideas](#)
1038. [Jeopardy Ring-in Buttons with Built-in Rules using Arduino](#) There are several good Jeopardy/Game Show lockout buttons/buzzers, but none incorporate the timing rules of Jeopardy. I am learning about the Arduino and I thought that this would be a great project to practice with. The rules include a question reading period with no timeout..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1039. [Dual-Task CoreXY DrawBot](#) When I saw a COREXY (or H-Bot) plotter, I thought I would make it someday. Since most of its components were made from 3D printers so I have postponed it. Fortunately, once again the PVC pipes gave me an idea to build it with a..... Listed under: [Other Projects](#)
1040. [Frankenstein Laser Engraver](#) This Frankenstein Laser Cutter was built out of an old scanner and printer. The whole thing revolved around the instructable of Groover and his 'Pocket Laser Engraver'. This is a Making-Of. Although a lot, if not everything, of the mechanical co      Click here to get AI-based help      and under: [Metering – Instrument Projects](#)
1041. [Low cost Ethernet shield with ENC28J60 using Arduino](#) Economical alternative to original Arduino ethernet shields, allows data rates up to 10 Mbps and is achieved with a traditional assembly components. One of the most interesting shield that you can mount on the Arduino platform is certainly the ethernet shield, because enable numerous networking..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1042. [Pan & Tilt Servo bracket controlled by Arduino](#) Hi, in this instructable i am showing you how to build a very nice and very sturdy pan & tilt turret for your rc / arduino projects. (Please don't judge my english grammer etc. i'm from holland) The things that you need for this project..... Listed under: [Other Projects](#), [Projects](#)

1043. [Naruto Themed Night Lamp](#) Hey guys what's up. Here's something cool, a Naruto-themed Desk light that is made mainly from PCB. The heart of this project is an Attiy13A that drives some 0603 LEDs which are on the backside of the Face. <https://youtu.be/nN2Nk41puXc> The Head part is detachable or..... Listed under: [LED Projects](#)
1044. [The Octo-phonic Synthesizer](#) The Octo-phonic Synthesizer is a polyphonic synthesizer that is able to produce eight tones that in the end, creates a musical scale. Inspiration for this creation came from this project. I like to think of it as an electronic organ. I used the core foundation of blinkyblinky's idea,..... Listed under: [Sound – Audio Project Ideas](#)
1045. [Clock with Tics \(presentation prototype\) using Arduino](#) Clock with Tics is an Arduino-powered 24-hour digital clock that displays expletives at random intervals. A clock 'ticks'. A 'tic' (note the different spelling) can be a mental disorder and can manifest itself in a number of ways; most seriously, someone suffering from "Tourette's Syndrome" ..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1046. [Stubborn Alarm – Doesn't Stop Until You Brush Your Teeth](#) I have my online classes going on (still -\_-) and the problem is I have a hard time waking up early. So I end up missing my first class every day. And yes, I do keep an alarm for 7 am but I always turn..... Listed under: [Clock – Timer Projects](#)
1047. [Gesture based Intelligent Appliance Control](#) With Artificial Intelligence, the science fiction is turning into reality and automation is taking... Description With Artificial Intelligence, the science fiction is turning into reality and automation is taking over the world. Inspired by the Iron man and Jarvis we decided to build something similar..... Listed under: [Other Projects](#)
1048. [Cheap lcd screen for the Arduino](#) We have used the pda with a desktop computer (robot) and with the Nslu2. Here we are going to use an old pda with serial port.to act as an lcd. Everyone either has one or knows someone who has an old pda that they do..... Listed under: [LCD Projects](#)
1049. [Starting with robotics \(Arduino\)](#) Starting with robotics can be hard, if you don't know where and how to start. Best way to start is to make mobile robot. In this step-by-step we will show you, how to make cheap robot with parts available in your local store and household..... Listed under: [Robotics – Automation Projects](#)
1050. [Create Animation on OLED Display Controlled by Arduino](#) In this tutorial I will show you how to create animation on small OLED display connected to Arduino Nano. Step 1: Supplies We need following two components for this project Arduino NanoSSD1306 SPI 128x32 display You can also use SSD1306SPI 128x32 display but it will..... Listed under: [LED Projects](#)
1051. [Rainbow Word Clock using Arduino](#) At long last I have managed to finish the Rainbow Word Clock! Once again, this one was inspired by Doug and his creations <http://www.instructables.com/id/The-Wordclock-Grew-Up/> I have a fixation with RGB LED's at the moment and I wanted to do something a little different. So, while it..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1052. [Make a Pumpkin Into a Pacman-Playing Game Console!](#) This project is the perfect way to level-up your pumpkin carving and reach new high scores. Using an addressable LED strip and an Arduino, you'll be able to make a basic screen capable of playing Pacman, and a controller made of a smaller pumpkin. This..... Listed under: [Game – Entertainment Projects](#)
1053. [Persistence of Vision Wand using Arduino](#) Persistence of Vision (POV) Wands are a fun way to create interesting long exposure photographs and light displays. The wand consists of a single row of LEDs controlled by an Arduino Uno. When the wand is turned on it appears to be flickering in a..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
1054. [Retro Arduino Radio](#) I love the look of old 1920's radios. They are the embodiment of a decade. The radios that I like the most were vacuum tube cathedral radios made by Philco. When I think of old-timey radios those are the first thing that pops into my mind..... Listed under: [Radio Projects](#)
1055. [Dumbledore's Deluminator A.k.a the Put-Outer](#) Some might say that it belongs to Ron Weasley now, but to me & most of the Harry Potter fans, it'll always be Dumbledore's Deluminator. It was designed by Albus Dumbledore, and the first time we get to know about it is when he uses..... Listed under: [Wireless Projects](#)
1056. [Batgirl Birkin Bag](#) What a girl wants. What a girl needs. What's more exclusive and has more cachet than scoring a Birkin bag? Pow!!! A Batgirl Birkin bag! Holey Haute Couture, Batman! Yes, you too can knock off a version of this famous bag. Okay, even mine started..... Listed under: [Home Automation Projects](#), [Phone Projects](#), [Sensor – Transducer – Detector Projects](#)
1057. [Custom Wireless Keyboard! \(Arduino\)](#) In this project we are going to be making something super useful! It is a wireless keyboard that you can connect to your PC and assign each button any shortcut or key sequence you want! I have made it in a way where you can..... Listed under: [Wireless Projects](#)
1058. [Arduino powered Solar Battery Charger](#) The following design is for a Solar battery charger ran by an Arduino Nano. It can handle a standard lead acid 12V battery, like for a scooter or a car. Furthermore the design has been tested and runs with 90% efficiency under 70°C (158°F). It..... Listed under: [Battery Projects](#), [Solar energy projects](#)
1059. [Code generator for custom Android or Arduino menus](#) Introduction This is the first of two instructables that make up a complete customizable Home Automation for Beginners example. See DIY Home Automation for Beginners for the second part. It is aimed at the absolute beginner. If you can handle a sharp knife without cutting..... Listed under: [Arduino Android](#)
1060. [DCF77 master clock MK2](#) Features Arduino 328 Microprocessor is used to decode and display Time & date from tl Frankfurt Germany The DCF77 signal is decoded using the fantastic new DCF77 library written by Udo Klein meani. 

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 Listed under: [Clock – Timer Projects](#)
1061. [Ultimate Kids Musicbox ESP32 Based](#) There are already some NFC jukeboxes. Off the shelf like those "Toni" boxes. For do-it-yourself: lots of instructables. This device should cover as much as possible, which could come into question sometime and somehow. It should have as few weak points as possible, (in which..... Listed under: [Sound – Audio Projects](#)
1062. [Arduino-powered LED Clock](#) A fun, simple LED clock, that will give you the time to the nearest half hour using single-color LEDs. Parts needed are as follows: Arduino Nano 400 tie-point Breadboard Ribbon Cable DS1307 RTC IC 32.768 kHz Crystal (12) 10mm LEDs (12) 180 Ohm resistors (2)..... Listed under: [Clock –](#)

[Timer Projects](#), [LED Projects](#)

1063. [Arduino Programmable Constant Current Power Resistance Dummy Load](#) Glad to see you have arrived on this page to learn how to build a programmable constant direct current dummy load. This load will allow you to draw a set current from any source. This load can also be set to a constant resistance or..... Listed under: [Arduino Programmer Projects](#)
1064. [Arduino Quiz Game With Led Strip for Score and Two Buttons](#) Two teams answer questions by pushing their button. They can score an amount of points equal to the random number of lights lit on their button. <https://youtu.be/pwq1BWS1oZ4> This requires some strategic choices and luck. When the teamscores meet on the large led strip, they can..... Listed under: [Game – Entertainment Projects](#)
1065. [Network Time Protocol \(NTP\) Client using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to query a Network Time Protocol (NTP) server. This way, your Arduino can get the time from the Internet. Circuit The Ethernet shield allows you to connect a WizNet Ethernet controller to the..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1066. [How to Build a DIY WiFi Smart Oximeter Using MAX30102 and Arduino ESP32](#) This WiFi Smart Oximeter helps you scan Spo2 and BPM using MAX30102 and ESP32 and display the values on the Smartphone Step 1: In this tutorial, I will explain how to build your own WiFi Based Smart Oximeter using MAX30102 and ESP32 in detail. The..... Listed under: [Wifi - Wlan Projects](#)
1067. [Drive by wire go kart using Arduino](#) I just got a new go kart engine, i went from 6hp to 10hp. This new kohler engine I got I think was not built to put on a go kart, so I had some trouble finding a way to attach the gas petal. Well..... Listed under: [Car Projects](#), [Motor Projects](#)
1068. [Programming Arduino Wirelessly](#) The Arduino system offers an easy and open-source method for programming microcontrollers. Normally this means using a serial cable or USB cable attached directly to the microcontroller project. But what if your project is floating in a weather balloon, glued to the bottom of a swimming pool..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
1069. [Put a Cylon in it!](#) Last year the comedy sketch show 'Portlandia' made fun of an arts and craft trend, where craft artists would take ordinary items and 'put a bird on it'. I fell victim to a similar trend in the geek crowd: Take an ordinary silver item and..... Listed under: [LED Projects](#)
1070. [IR Remote Control Arduino Based Electric Board](#) Arduino based electric board controlling system, Can be controlled using any universal IR remote. good IR receiving range and support 12 CH. Supplies 1) Soldering Iron 2) Solder wire 3) plier 4) multimeter 5) solder flux 6) wires 7) battery 8) connectors 10) wick for..... Listed under: [Development Board – Kits Projects](#)
1071. [SMOKING HALLOWEEN PUMPKIN USING ARDUINO AND IC 555](#) Lots of people celebrate Halloween by making pumpkin sculptures most of them only just carve a scary looking face from the pumpkin and place. in this tutorial, I am showing how to give a more awesome effect to your pumpkins. here I added human/obstacle detection,..... Listed under: [Other Projects](#)
1072. [Water Flow Gauge using Arduino](#) Measuring the consumption of a resource that has units by volume can be more tricky than it sounds. Use of resources such as water, gas, and even electricity is typically measured by gauges that determine either instantaneous flow rate or cumulative volume over time. Both..... Listed under: [Other Projects](#)
1073. [Aetherharp: Three Level, 24 Note, MIDI Air-harp](#) This project is loosely inspired by the laser harp of Jean-Michel Jarre. <https://www.youtube.com/watch?v=DnAfXK-hft8> Instead of lasers however, it uses eight SHARP infra-red distance sensors, the variants with the longest range of 35 to 40cm. These sensors are laid out in a row to provide rows..... Listed under: [Other Projects](#)
1074. [Modern RGB LED Clock using Arduino](#) As hard as it might be to believe, I had never built an electronic clock of any kind. I've always thought electronic clocks were passe and not worth the time to design and build one. In addition, I thought that all interesting electronic clocks designs..... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)
1075. [Low resolution display done right](#) A resolution of 8x8 pixels may not sound like enough for anything interesting, but with the right setup, it is possible to create beautiful, complex animations and even add some interactivity. In the next pages I will detail the steps needed to build the low-res..... Listed under: [LCD Projects](#)
1076. [Controlling Nixie Tube With Arduino Using K155ID1 Microchip](#) For those who don't know Nixie tubes are electronic devices used for displaying numbers and other character using glow discharge. They date back to 1950s not used commercially anymore. Currently they do experience second life though, as people do tons of cool projects. In this..... Listed under: [Other Projects](#)
1077. [64 pixel RGB LED Display – Another Arduino Clone](#) This display is based on an 8x8 RGB LED Matrix. For testing purposes it was connected to a standard Arduino board (Diecimila) using 4 shift registers. After getting it to work I permatized it on a fabbed PCB. The shift registers are 8-bit wide and..... Listed under: [LED Projects](#), [Projects](#)
1078. [Automatic Multi-Photo Taker \(Photobooth Style\)](#) This is a tutorial on how to program your DSLR camera to take photos photobooth-style. It's a simple Arduino setup that allows you to take continuous photos with 3-second delay intervals. This was built for a college electronics project. A motion sensor detects motion in..... Listed under: [Video – Camera – Imaging Projects](#)
1079. [A Simple Arduino Touchless Candy Dispenser](#) This is a simple touchless candy dispenser using an ultrasonic senso candy, and an Arduino for controlling everything. The candy dispenser can be powered using the USB port or using a 9v battery. Inside the cylindrical container, there..... Listed under: [Other Projects](#)
1080. [How To Smell Pollutants using an Arduino](#) This Instructable explains how to use a gas sensor with your Arduino. This lets your Arduino smell (and hence you program responses to) overall gas levels for a variety of nasties, including ethanol, methane, formaldehyde, and a bunch of other volatile organic compounds. My cost..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1081. [Gas detector / indicator \(USB powered\) with arduino](#) ArduSniffer This Instructable shows how to build a gas detector / indicator using an arduino. The finished product is USB powered and displays the amount of detected gas on a led display. In this design the reset button on the arduino is also working. This..... Listed

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

1082. [BoB the BiPed](#) Did you buy an arduino after seeing all the cool instructables and now you tired of just making LEDs blink? Are you envious of all the cool walking robots people are building but don't have the experience or cash for all of those servos and expensive brackets?..... Listed under: [Robotics – Automation Projects](#)
1083. [Arduino Programming With Atmel Studio 6.0](#) How to import the compiled Arduino IDE libraries into Atmel Studio 6.0 using a program written by Omar Francisco. This will allow you to use the feature rich programming environment of Atmel Studio to program the Arduino Uno. Other Arduino boards such as the Mega..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
1084. [Mr.Skeleton](#) Are you prepared to experience the spookiest night of the year? Grab some candy from this basket if you're brave enough, but be careful: Mr. Skeleton doesn't like sharing too much. Happy Halloween! Halloween basket with built-in distance detector; when trying to reach for candy..... Listed under: [Other Projects](#)
1085. [How to Control arduino by bluetooth from PC](#) I wanted to make it possible to control an arduino board from my phone. So that I could control other devices. the easiest way seemed to be using bluetooth. but when I received the parts needed I found it want quite as simple as I..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [RTOS – OS Projects](#)
1086. [DIY Motion Sensor Alarm System](#) Are you constantly being scared when people sneak up behind your back? Do you have bad hearing and can't hear people approaching you? Do you want to just build a super fun Arduino project? If you answered yes to any of those questions, then this..... Listed under: [How To – DIY – Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)
1087. [HALLOWEEN PROJECT: the Candied Dead Baby](#) The Candied Dead Baby is an Arduino-controlled interactive halloween decoration. It has been designed, created and assembled by three industrial design engeneering students from Elisava. Using servomotors and ultrasonic distance sensors as well as a buzzer, we've designed a product that when an ultrasonic sensor catches..... Listed under: [Sensor – Transducer – Detector Projects](#)
1088. [8 X 8 LED Pixel Art](#) Create a display of 8x8 square pixels that can work independently. And to easily reprogram it to display different animations. Also I don't have a 3D printer, so I needed to make it out of things around the house. <https://youtu.be/xfmsxwR4btA> Supplies LEDs 5mm APA106 x..... Listed under: [LED Projects](#)
1089. [The Boss Box Bot](#) Welcome to the Boss Box Bot instructable, or as we like to call it, the Bo-Bo Bot. The Bo-Bo Bot was designed to use extremely low cost materials to allow people to construct a robot without high-priced kits. Our Bo-Bo Bot will be made using..... Listed under: [Robotics – Automation Projects](#)
1090. [Cup Cooler using an Arduino](#) This is my first Instructable, so please judge harshly so that I can learn 😊 Its a simple project minimal skills needed. Drawings are made using: Fritzing Code Written using Codebender The cold plate got to -20c Watter in the cup measured @ 5.5c compared..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1091. [Bicycle Journey Tracker With Arduino and GPS Module](#) This is a bicycle journey recording device utilizing Arduino and a GPS module. I'm riding an electrical bicycle from time to time during weekends. Several good bicycle riding routes which pass by the lakes and parks are located near to my house. Therefore, bicycle riding..... Listed under: [GPS Based Projects](#)
1092. [Smart Product Project – Intro to Sensors \(Lesson 3\)](#) If you haven't already, check out the Leader-Follower Robot project (<https://www.instructables.com/Leader-Follower-Robot-Legs/>). The Leader-Follower Robot project provides important background on the concepts covered in this tutorial. We will also be using the Leader-Follower Robot to showcase some cool sensors! This Instructable will be a deeper dive..... Listed under: [Sensor – Transducer – Detector Projects](#)
1093. [Capacitive-Touch Arduino Keyboard Piano](#) Using only an Arduino, a few resistors, a buzzer, and some bits of aluminum foil, you can create your own touch-sensor piano keyboard in just a few minutes! Using an Arduino Uno, you can create a piano with up to 18 keys; or with an..... Listed under: [Development Board – Kits Projects](#), [Sound – Audio Projects](#)
1094. [Halloween Candy Dispenser](#) Have you ever felt like not wanting to celebrate Halloween? Or too lazy to open the door and hear "trick or treat" a thousand times? <https://youtu.be/1QDBQxl675E> Well, if that's you, we offer the perfect solution without losing the spirit! This project is an automatic machine..... Listed under: [Medical – Health based Projects](#)
1095. [Arduino MIDI-in shield](#) This instructable shows how to build a shield to connect devices that send MIDI signals (e.g. a masterkeyboard) to an Arduino. The basic schematic is derived from: <http://www.arduino.cc/cgi-bin/yabb2/YaBB.pl?num=1187962258/> Step 1: The schematic Basically the schematic is just an optocoupler with some resistors to decouple the..... Listed under: [Projects](#), [Radio Projects](#)
1096. [Arduino I2C and Processing](#) As promised, this week brings another communications tutorial! In this video, we'll use both the serial and processing knowledge that we gained last week, plus an I2C enabled temperature-sensing IC. [su\_box type="note" color=" #202020 " bg=" #ffbb00 " font="verdana" fontsize="14" radius="20 " border=" #000" float="right" title="Attributes"]Thanks to..... Listed under: [Other Projects](#), [Projects](#)
1097. [Bicycle Backlight With Arduino](#) This is the first bicycle accessory gadget I made with Arduino. It's a pattern-based backlight attached to the back bag mounted on the bicycle luggage compartment. I'm riding an electric bicycle which can speed up around 24km/h at maximum  
Click here to get AI-based help ✕  
Listed under: [LED Projects](#)
1098. [Scratching with Arduino](#) MIT has developed a fantastic visual programming language called Scratch. It is also an amazing learning tool for children, because it is simple, cute, and by providing interaction with the real world by a board called "Scratch Sensor Board". This Instructable shows the development of a shield..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1099. [Arduino Morse Code Shield](#) Morse code was the breakthrough that made possible long-distance communication in the era of the telegraph. The code represents alphanumeric characters by short and long intervals of signal -- those familiar dots and dashes. For many years passing a Morse code test was a prerequisite..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)

1100. [Halloween Scary Reactive Mask](#) This is year halloween project of me for my kid. This mask can react with scary sound and led when they wave their hands. <https://youtu.be/Hvwq23ibWWhs> Step 1: Preparing Stuffs 1. Arduino Pro Mini 5V 2. Module Mp3 DY-SV5W with SD card 3. 5W 4Ohm Speaker..... Listed under: [Sound – Audio Project Ideas](#)
1101. [Build Your Own Arduino](#) Setting up an Arduino on a breadboard has become a process I have grown to love. Within a few minutes you can have a fully working Arduino platform to work with as you will see in this tutorial. There have been several occasions when I..... Listed under: [How To – DIY – Projects, Projects](#)
1102. [High Speed Photography](#) With this device you'll be able to: take pictures from anything you can sense or detect: - movement - sound - ... You don't need to modify your camera or flash for this. It's compatible with the old High Voltage flashes and the new TTL..... Listed under: [Sensor – Transducer – Detector Projects, Video – Camera – Imaging Projects](#)
1103. [Easy Arduino PIANO \( Including a Preset Song \)](#) So first off , I am a student and wanted to pick an instrument , but the problem was that I was not sure that "would I be able to do it ?". So, I thought to clear my base first and got an Idea..... Listed under: [Sound – Audio Projects](#)
1104. [3 wires interface for LCD display using Arduino](#) This post is based on the work made previously by tomek in wiring LCD displays using 4 bits. The basic idea is to group the 7 pins that are needed to drive the LCD in only 3 using a shift register. This is a cheap..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, LCD Projects, Projects](#)
1105. [Arduino Witch Cauldron](#) This project consists of an interactive Arduino-based Halloween decoration referring to a witch cauldron. As you position your face in front of the cauldron and you get close, the eyes start moving around. At the same time, when there is very low light in the..... Listed under: [Other Projects](#)
1106. [How to Input Text Into Arduino Project Using OLED Display and 5 Key Keyboard Module or Potentiometer](#) Every now and then you might be interested to input text to your arduino project. You can do it using Serial input but this would require Arduino to be always connected to a computer. In this tutorial I would show you how to implement text..... Listed under: [LED Projects](#)
1107. [Cheap working homemade arduino joystick](#) Hello everyone! Today I present you : Arduino Joystick! One day I was checking the inside of old joystick. System wasn't that hard to understand, so I thought of making my of system. The whole build is made only by me. I didn't check the..... Listed under: [How To – DIY – Projects, Projects](#)
1108. [How to Make a Basic Ultrasensor Keyboard Prototype With Arduino](#) For this Instructable, I have made a primitive musical soundboard using an ultra sensor as a keyboard. Here I will show you the basic steps on how to create such a device yourself. Later on, in December, I will demonstrate to you how to make..... Listed under: [Sensor – Transducer – Detector Projects](#)
1109. [Artoo \[R2\].\(ATtiny2313 Wall Avoiding Robot\)](#) Since I had a lot of ATtiny2313s lying around I wanted to do something cool with them, I thought for a while and then decided to make a simple wall avoiding robot with the ATtiny2313, an ultrasonic sensor and 2 motors. Its an easy to..... Listed under: [Robotics – Automation Projects](#)
1110. [Pet Curfew: An Arduino Controlled Pet Door](#) The Problem: You want to restrict the time when your pet is allowed to go outside. This could be because the neighborhood is not safe for your cat or small dog at night (marauding coyotes comes to mind). But you would like your pet to..... Listed under: [Home Automation Projects, Projects](#)
1111. [ir2110 circuit in proteus](#) ir2110 circuit in proteus ir2110 proteus library ir2110 arduino code ir2110 h bridge circuit here is the simple motor control circuit using H Bridge and ir2110 ic Components Required Simulation of three phase cascaded H-Bridge Multilevel Inverter <https://youtu.be/5j-u99DN9xM> Source: ir2110 circuit in proteus... Listed under: [Development Board – Kits Projects](#)
1112. [Garage Door Opener with iphone using Arduino](#) What do I need to start? The hardware requirements to start is: \*Note: where can I purchase the material with all the components to build myself the system: [http://iwup.altervista.org/shop/reference\\_list.pdf](http://iwup.altervista.org/shop/reference_list.pdf) 1.-) Arduino UNO with USB cable 2.-) Ethernet Shield Arduino 3.-) Relay (for arduino 5 V)..... Listed under: [Home Automation Projects, Interfacing\(USB – RS232 – I2c -ISP\) Projects, Phone Projects, Projects](#)
1113. [Boost Converter Circuit in Proteus Using uc1845](#) This article is all about boost converter circuit, what is boost converter circuit and how it is useful in boost converter circuit .and its ic number. Keep reading if you want to know about boost converter circuit in proteus using uc1845 Boost Converter Circuit in..... Listed under: [Other Projects](#)
1114. [R/C LEGO® Car Redux](#) After I built R/C Lego Car, that used hacked motors and motor housings from the toy Car and toy R/C cars. I realized most of the parts from that toy R/C car that I took the motor out of became wasted. This way was not very..... Listed under: [Game – Entertainment Projects](#)
1115. [Hercules: The Motion Controlled Android Robot using Arduino](#) When I was in the 8th grade, I was intrigued while playing the motion games on Nokia 5800. I was thrilled, how I could control the racing car by only tilting the phone. I used to dream of making this same car in the real..... Listed under: [Arduino Android, Internet – Ethernet – LAN Projects, Projects, Robotics – Automation Projects](#)
1116. [How to Simulate Arduino in Proteus](#) Hey, fellas I hope you are doing well and getting smarter every day. This post is about How to Simulate Arduino in Proteus, here we will see how we can simulate Arduino codes in Proteus. Arduino UNO is a popular development board based on ATMEGA 328P which is ..... Listed under: [Other Project Ideas](#)
1117. [2-Player Pong Game with Arduino Uno](#) Classical Pong game implemented on an Arduino Uno using a PCD8544 LCD screen which is better known as the Nokia 5110 screen. Player bars are controlled by a potentiometer for each player. If you want the bar to go left, just turn the potentiometer left..... Listed under: [Game – Entertainment Projects, Projects](#)
1118. [what is proteus example circuits librarproteus software](#) In this tutorial, we have to learn about how to Circuit with a switch using DC Voltmeter using Proteus. Proteus and Simulation Software – Introduction What is Proteus? Proteus is a simulation and design software use for lab centre Electronic for Electrical and Electronic design circuits.. Proteus is the best..... Listed under: [Other Projects](#)

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1119. [James – Your first Arduino Robot](#) Edit: Thank you so much everyone for voting for James in the Toy Contest! He got first place and I won a \$500 Shapeways voucher! Expect to see more robot instructables from me in the future! 😊 So you want to make a robot? Don't..... Listed under: [Robotics – Automation Projects](#)
1120. [100 Watt INVERTER circuit IC 4047 pinout proteus simulation](#) [otw\_is sidebar=otw-sidebar-1] Hi Guys! Hope you are fine. In this topic I will tell you how to IC Inverter using Proteus(INVERTER circuit in proteus). Let’s start. 100 Watt INVERTER USING IC 4047 First of all we have to select the components from the library. The..... Listed under: [Other Projects](#)
1121. [uDuino: Very Low Cost Arduino Compatible Development Board](#) Arduino boards are great for prototyping. However they get rather expensive when you have multiple concurrent projects or need lots of controller boards for a larger project. There are some great, cheaper alternatives (Boarduino, Freeduino) but the costs still add up when you need many..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1122. [Nokia Library For Proteus](#) In this lesson(Nokia Library For Proteus), I will show you how to build a simple Graphical User Interface with the help of the Nokia 3310 LCD. I will design a Nokia 3310 Menu interface with the used of Arduino. Nokia Library For Proteus Nokia 3310..... Listed under: [Phone Projects](#)
1123. [Mini Arduino environment monitor \\*\\* UPDATE – Added RTC \\*\\*\\*](#) This is an Example of how you can use the Arduino to monitor various environmental parameters And display them on a LCD screen. Note: I Added a Real Time Clock!! To see the steps, added parts and Sketch I added new steps.. Step 1: Parts List..... Listed under: [LCD Projects](#)
1124. [ARDUINO MEGA FOR BEGINNERS](#) In this post I will discuss about the detailed ARDUINO MEGA FOR BEGINNERS. In the previous post I have discussed about brief introduction of the Arduino MEGA there I have discussed about the Arduino MEGA board, specifications of the Arduino UNO, microcontroller IC on which Arduino UNO is..... Listed under: [Other Projects](#)
1125. [Micro LASER Show with a CD Lens Mechanism using Arduino](#) Hello! This is the cheapest and easiest way to make a two-dimensional laser show projector. It uses just one pivoting mirror, powered by the focusing mechanism from a CD or other optical drive. They said it couldn't be done, but Ljudmila's skunkworks GRL research facility..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1126. [Introduction to Arduino Ethernet](#) In this post I will discuss about the Introduction to Arduino Ethernet. In the previous articles I have discussed different Arduino microcontroller development boards such as Arduino UNO, MEGA, NANO, PRO MINI, MICRO, Lilypad etcetera. All these Arduino boards resemble to each other in some..... Listed under: [Internet – Ethernet – LAN Project Ideas](#)
1127. [Stargate LED Lighted Necklace](#) Ever need to have a Stargate handy? You can wear one around your neck and have it at the ready. Ears starting to bleed from the volume of the music at the club or that Euro-chic clothing retailer outlet? Activate the Stargate to jump to..... Listed under: [LED Projects](#)
1128. [Arduino Duemilanove for Beginners](#) In this post I will discuss about the Arduino Duemilanove which is one of the microcontroller development boards among other Arduino Boards. In the previous posts I have discussed the Arduino UNO, MICRO, PRO MINI, MEGA and other popular Arduino microcontroller development boards. This article..... Listed under: [Development Board – Kits Projects](#)
1129. [Twitter Mood Light using an 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 it happens. I want to wake up and..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
1130. [Bootload an Arduino with a ZIF Socket](#) Bootloading an Arduino with a ZIF socket allows you to easily program a lot of chips at once without worrying about mangling the pins. The reason for this is that ZIF stands for "zero insertion force," and as the name implies, ZIF sockets don't require..... Listed under: [Projects](#), [RTOS – OS Projects](#)
1131. [Arduino V-USB / HID 14 channel data logger](#) UPDATE: Please see Addendum 2 at the end of this article for an Excel automatic logging implementation. There are several good articles on Instructables about building your own Arduino. Depending on your horde of electrical parts, you may be able to build an Arduino clone..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1132. [Smart Home Control System With Touch Screen](#) In this project, I have shown how to make a Smart Home Control with Arduino Uno and Nextion touch screen to control door lock system, temperature and daytime monitoring. During the article, I have shown all the steps to make this smart home system. This..... Listed under: [Other Projects](#)
1133. [Resistor Color Code Calculator with Arduino](#) This is a 4 band Mechanical Color Code Resistor Calculator, The idea of making this Mechanical Resistor came when I accidentally dropped my box of resistors and all resistors (1300 of them) got mixed up. ooops! . Thank god there's an APP for that, So..... Listed under: [Calculator Project Ideas](#)
1134. [The Arduino Internet Gizmo](#) The Arduino Internet Gizmo is a USB, Arduino, and RFID device for web surfing. The gizmo works by placing an RFID tag on the top of the gizmo. The gizmo reads the RFID tag and sends the tag number via USB to a program running..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1135. [3D Printed Holo Clock With Arduino](#) Hello everyone! This is my first instructable. This project is a 3D printed clock powered by a stepper motor and is controlled by an Arduino Uno. It was designed in OnShape over the course of a month. It keeps time very precisely and only [Click here to get AI-based help](#)  [its](#)
1136. [Arduino Motors and Transistors](#) This week, we’ll finally be using the Arduino to control some motors! First up, we’ll control a standard DC motor running off a 9V battery with the help of an NPN transistor and a PWM (Pulse Width Modulated) signal from the Arduino. [su\_box type="note" color="..... Listed under: [Motor Projects](#), [Projects](#)
1137. [Oscilloscope / Logic Analyzer using Arduino](#) One of the frustrating things about developing and debugging electronic circuits is that you can't look inside the circuit to see what is happening. Even with a circuit laid out before you on a workbench and powered up it may seem like you're in the..... Listed under: [Other Projects](#)




1138. [ClimSensio – Climate Sensing and Insect Infestation Control](#) Climate Change, a highly debated high school topic, but do we really care about it? We see politicians, scientists, researchers, philanthropists, conservationists and almost everyone blaming each other for every climate catastrophe occurring today. The real question is what climate change or change are we..... Listed under: [Solar energy\\_project Ideas](#)
1139. [Arduino Memory Game](#) Background This is a project that was started 2 years ago which I recently decided to pick up again and finish. The purpose of the product is to test a person's ability to memorize patterns. It does this on a 2x2 button layout where the user must replicate the LED pattern that..... Listed under: [Game – Entertainment Project Ideas](#)
1140. [Digital Book Cricket Game with ATtiny 85 using Arduino](#) The project described here is a digital implementation of “book cricket game” which Indian students normally use to play in their childhood time. The heart of the project is 8 bit MCU from AVR family called ATtiny85. ATtiny85 are small and cheap microcontrollers which are..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1141. [Arduino Weather Station Part2](#) So my last project was a Arduino wind chill machine. <http://www.instructables.com/id/Arduino-Wind-Chill-Machine/> Naturally, this Lazy Old Geek wanted to add a weather vane (wind direction) to my weather station. Who cares, you may ask? Well, I am a Geek. Actually, wind direction has some importance. Here..... Listed under: [Arduino Programmer Projects](#), [Projects](#), [Security – Safety Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
1142. [DIY Hot Plate With Arduino Temperature Sensor](#) Hello, everyone, in this instructable I will show you how to make the most useful a DIY enthusiast must-have in their workshop; a hot plate for SMD reflow soldering using a Thermocouple sensor controlled by an Arduino nano to monitor the temperature! Keep reading to..... Listed under: [Temperature Measurement Project Ideas](#)
1143. [Interactive Arduino Powered Coffee Table](#) One quick fore note: this is my first Instructable and my first large Arduino project, so if you see any stupid errors or have an idea of how things could be done better, then please let me know. Now that that's out of the way I'll begin, I..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LCD Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)
1144. [Rainbow Knotted LED Snow Globe](#) My purpose for this project was to take a knot and "show" its construction by tracing its path. It was only through happenstance that I discovered my chosen medium (2 metres of NeoPixel LED lights) fit so well with Adafruit's snow globe. You might choose..... Listed under: [LED Projects](#)
1145. [Light Palate–Selective Lighting for Your Next Feast](#) The permutations that fine food has gone through in the last 20 years has been quite amazing. Every nuance has been tweaked and romanced over. Growing up in the midwest where food was taken in merely to prevent bodily collapse until that one day when..... Listed under: [Other Project Ideas](#)
1146. [Larson Scanner with Relay Module using Arduino](#) This time I'll show how I used an Arduino to control a relay module with eight channels. Arduino in offers several advantages such as: - Open source; - Easy programming; - You can assemble your own board; - Is supported on various forums on the..... Listed under: [Other Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1147. [Evil Macropad](#) I don't have to introduce your colleague, Richard. He is The Backbone of the society. Hard worker, everyone knows he is busy all day. He gets all the praise. But you know the truth. And only you. He is hardly working. All he does is..... Listed under: [Other Project Ideas](#)
1148. [Arduino Quadruped Robot: Walks, Skims & Grips](#) I made an Arduino quadruped robot “by-hand,” meaning without a kit or a 3D printer. It walks using a "long step" gait, which can be very smooth and natural looking. It didn't quite come out the way I wanted though. However, to make my robot..... Listed under: [Robotics – Automation Projects](#)
1149. [Ultrasonic Combination Switch using an Arduino](#) Time for a follow-up to the Single Button Combination Lock by creating another oddball type of switch/lock. To activate this switch we make use of a Parallax Ping))) Ultrasonic sensor, an Arduino-style board and some other hardware – to make a device that receives a four-number code..... Listed under: [Medical – Health based Projects](#), [Projects](#)
1150. [Arduino NERF Ball Wireless FPV Sentry Turret](#) This project will guide you through the steps to make an Arduino based 360 degree rotating foam ball turret with full joystick wireless control, and first person view camera and headset. This is a moderately complex project for hobbyists looking to try something a little..... Listed under: [Wireless Projects](#)
1151. [Arduino Street Traffic Light – Breadboard Edition](#) Build a simple Arduino powered Traffic Light with us! This instructable is meant to walk you through almost every step, but there are a few assumptions. Read over the intro and the first step to make sure you are fully prepared! This is the breadboard..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
1152. [Arduino SD Cards and Datalogging](#) This is my first in a series of more advanced Arduino tutorials. [su\_box type="note" color=" #202020 " bg=" #ffbb00 " font="verdana" fontsize="14" radius="20 " border=" #000" float="right" title="Attributes"]Thanks to Jeremy , for this articles[/su\_box] Now that we’ve covered the basics in tutorials 1-10 (you have watched them..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
1153. [How to Control Any Drone From Your Arduino Microcontroller Using Bluetooth](#) Hello Everyone!!! In this Instructable I am going to show you how I converted my (Commercial) RC drone that uses an RC radio system into a drone that is controlled by your Arduino using Bluetooth Why would I want to control my drone from an..... Listed under: [Bluetooth Projects](#)
1154. [Introduction to Packet Radio and Arduino Controlled LED Strips](#) This time on the show we continue coverage of Tc . This time Darren speaks with Rob Eby about packet radio as an extension of the Internet. Plus what could be better than flexible individually addressable RGB LED strips? %1..... Listed under: [LED Projects](#), [Projects](#), [Radio Projects](#)
1155. [Tele Vaidya – Remote Health Monitor](#) Every human being requires health care as one of their basic needs. However, many poor countries are unable to achieve the requirements due to a lack of medical health experts or doctors, as well as sanitary facilities such as hospitals. These are the most pressing..... Listed under: [Other Project Ideas](#)
1156. [Cyborg Hand : Robotic-cum-Prosthetic Servo Powered Hand](#) <https://youtu.be/gO7L46sZTY4> Supplies Hey there ! For this Instructable you will need: 1- 3d Printer 2- CAD software( TinkerCad / Fusion360 ) 3- PLA and TPU filament 4- Servos [ MG995 ] 5- Arduino 6- Wires and Breadboard 7- Rubber bands 8- Thread / String

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(..... Listed under: [Robotics – Automation Project Ideas](#)

1157. [Arduino Controlled Digital Window Sticker](#) A bumper-sticker sized L.E.D. matrix that displays images in sequence from an SD card, to produce an animated sign or "window sticker." Arduino controlled! Also includes Windows, Mac, and Linux code for converting .xbm image files into Digital Window Sticker files. Perfect for a shop..... Listed under: [LED Projects](#), [Projects](#)
1158. [Smart Thermometer Using Esp-01F and Web Socket \[Arduino IDE\]](#) In one of the previous instructable, we saw how to make a simple thermometer with ATTINY 85 which can last for 140days with a single battery and it still works great after 40+ days with the same battery I showed in the video. But it was..... Listed under: [Other Project Ideas](#)
1159. [Arduino Powered Micro Quadruiped](#) From the previous projects on this page, you can probably see that I have a deep interest in robotic projects. In one of my previous Instructables, I built a quadruiped robot using large heavy-duty servo motors, and this time I decided to try and make..... Listed under: [Robotics – Automation Project Ideas](#)
1160. [Robopod the Arduino Powered Robot](#) Robopod is a simple arduino robot that uses antennas to detect obstacles. Robopod's motors are controlled by an H bridge and powered by a nine volt battery. Robopods circuit is based on a breadboard for easy modification. Step 1: Tools and Materials Material Arduino..... Listed under: [Robotics – Automation Projects](#)
1161. [LED Mask \(with Arduino\)](#) Hi everyone! In this Instructable I will show you how to make a LED Mask. This Mask has an incorporated microphone that will make your mouth move as you speak. What you are going to learn from this Instructable: Select the right components for this..... Listed under: [LED Projects](#)
1162. [Shift Register Keyboard for Arduino](#) A common problem that often comes up when working with micro controllers, is running out of IO for all the input the projects requires. So I came up with this solution that allows a user to have up to 4096 button inputs using only 4..... Listed under: [Other Project Ideas](#)
1163. [TSA Zombie Scanner Security Wand](#) Not even Zombies are exempt from a good pat-down. Scanner security wands are used at the most exclusive nightclubs and venues. Does not detect metal to indicate a presence of weapons but will indicate the lack of a soul which means a more rigorous body..... Listed under: [Security – Safety Projects](#)
1164. [Automated Bioactive Tropical Reptile Vivarium \(using Arduino\)](#) I have multiple bioactive tropical vivariums for my crested geckos, and I always need to spray them morning and night, as well as when the humidity is too low (which happens multiple times per day), and I have to turn on and off the lights..... Listed under: [Other Project Ideas](#)
1165. [Android-Controlled Pneumatic Cannon Powered By Arduino](#) Every summer, Qualcomm hosts a Battle of the Schools competition, which gives employees the opportunity to represent their home universities. This year, entries were to be homemade contraptions, and they were judged according to how cool they were perceived to be. Virginia Tech's cannon project..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1166. [IR Remote Agent using Arduino](#) Remote control is almost a standard accessory for most home applications, like TV, Hi-Fi, air conditioner and so on. Though remote control brings us leisure, when you really need it but have completely no clue where it is, or which one it is, you have..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1167. [Sliderpusher for Digital Painters](#) No it's not a name for some obscure industrial goth band... though that would be sick af! Anyway, If you ever used a graphics tablet to draw, paint or sculpt, you know how awkward it can be to click and drag something precisely with a..... Listed under: [Other Projects](#)
1168. [First Ever Bluetooth Home Automation Shield for Arduino](#) This is my first instructable post, and it is about the Home Automation shield for Arduino that I have created. A little about myself my name is Krrish. I am 16 years old and currently in my senior year of high school. I love making..... Listed under: [Home Automation Project Ideas](#)
1169. [How to use an array with Arduino](#) This variation on the For Loop example shows how to use an array. An array is a variable with multiple parts. If you think of a variable as a cup that holds values, you might think of an array as an ice cube tray. It's like a series..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1170. [Reading RFID Tags with an Arduino](#) In this project, you'll learn to read an RFID tag using the Innovations ID-12 reader and an Arduino Duemilanove. Step 1: Let's Get Started! We'll be using the ID Innovations ID-12 to perform the task of reading an RFID tag. At a minimum, it requires..... Listed under: [Arduino RFID Project Ideas](#), [Ideas](#)
1171. [Arduino MKR IoT Carrier As a Game Console](#) In this instructable I'm exploring the capabilities of the MKR IoT Carrier as a game console. The Carrier has everything and a bit more you need for a proper game console. [https://youtu.be/\\_t40IsB9nrk](https://youtu.be/_t40IsB9nrk) A really cool circular colour display, width 256 pixels.Five touch buttons. Five RGB..... Listed under: [Game – Entertainment Project Ideas](#)
1172. [Arduino Based LED City Model \(with Temperature Sensor\)](#) everything is boring without LEDs, so lets make a city out of it! Basic Idea: so we build a City mode out of cardboard, then illuminate it with a LOT of RGB LEDs and let the temperature of color change according to room temperature using..... Listed under: [LED Projects](#)
1173. [Play a Melody using the tone\(\) function with Arduino](#) This example shows how to use the tone() command to gen Click here to get AI-based help ✕ have heard before. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page digital pin 8 through..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1174. [Color Smoke Bubble Machine \(For Kids Safe Incense Smoke\)](#) Bubbles are always like by all ages. Its fun to see smoke filled bubbles. But color smoke using potassium nitrate are not advice to inhale. Also color from smoke fireworks also not safe for kids so if use smoke fire works dont allow the kids..... Listed under: [Other Projects](#)
1175. [Arduino Web Enabled RGB Lighting](#) I just happened to see some large strips of LED lighting when I was picking up some parts at Maplin which were on sale (if I remember correct they were around £12 per approx. 2m strip) however the controller/driver was still around £40, so I..... Listed under: [LED Projects](#)


1176. [Programming a ATtiny2313 with Aceduino](#) What is an ACEDUINO? It is the Philippine Arduino clone. See pic 2 and 3. Quote from Fall Electronics: If you have already tried you have found out you can't use the ATtiny chips in Arduino. This is because it doesn't have the cores for..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
1177. [PC Palette – a Macro Keypad With Limitless Possibilities](#). Do you edit? Do you design? Do you Game? Do you use a computer? Well the PC Palette perfectly fits your needs, be it editing, be it designing, be it gaming or even just using a computer this accessory can help you do your work..... Listed under: [Game – Entertainment Projects](#)
1178. [Make a Mini LED Siren powered by Arduino](#) This is one of the first projects I have made with Arduino. It's a little siren with a LED that fades and blinks on and off. It demonstrates basic use of LEDs and speakers. Also check out this article: 8-Pin Programming Shield Constructive criticism is..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)
1179. [Simple 18dof Hexapod, Arduino nano \(optionally with pololu maestro\)](#) Hello, Here is a simple hexapod that can be built by hand very quickly. The mechanical design is not great, but it is very much in the KISS (keep it stupidly simple) style and should be doable in a weekend for builders of novice to..... Listed under: [Other Projects](#)
1180. [Table Tennis Bat With Machine Learning AI \(Arduino Nano 33 BLE Sense + TensorFlow Micro\)](#) Since the pandemic started, me and my housemates bought a Table Tennis table and started playing a lot of Table Tennis. I made this project so that I could monitor and test how well I perform my shots based on what the device is telling..... Listed under: [Game – Entertainment Project Ideas](#)
1181. [A watering controller that can be home networked using an Arduino](#) A couple of weeks ago, I published a great little controller module that provided 6 relays able to be controlled from a computer via a network. After I published it, I got to thinking that the same basic design, with a couple of changes could..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1182. [Hourglass Using Arduino](#) In ancient times people used Hourglass to measure the passage of time. Hourglass is a simple device that consists of two glass bulbs that are connected vertically with a narrow neg and that allows the flow of sand or fluid from top to bottom. most..... Listed under: [How To – DIY – Projects](#)
1183. [TDS Measuring in Aquarium](#) I have an idea to build a smart aquarium by improving my fish tank. It sounds very difficult for it: monitoring the water, automatic water changing, automatic feeding and so on. these are the functions that the smart aquarium required. Now I plan to do..... Listed under: [Temperature Measurement Projects](#)
1184. [Arduino – Simple Simon Says Game](#) In this instructable, I will show you how to make a simple Simon Says Game using an Arduino. it's not just simple but we can get a psychological benefit. I have a bad memory to remember something fast or a new things. So this project..... Listed under: [Game – Entertainment Projects](#)
1185. [Climate | Material | Machine](#) <https://youtu.be/TQm3vCLWM7Y> This project was completed by Alexandra Pittiglio, Christelle El Feghali and Christian Steixner for our Computational Design and Digital Fabrication 'Material Manipulation Machine' Project, Semester 2, ITECH M.Sc Programme Step 1: Concept How can the material and machine be one entity We wanted to..... Listed under: [CNC Machines Projects](#)
1186. [The LED Blinky ball using Arduino](#) Update: I'll add some clarifications after reading comments on various forums. It doesn't need a 70Mhz ARM CPU, all it does is shift bits into a shift register, that'd be a total waste. There aren't 16 CPU's. the slices are designed to be either slave..... Listed under: [LED Projects](#), [Projects](#)
1187. [P-CNC Plotter Disguised As a Quadraped Robot](#) This is my P-CNC plotter which is laid out and disguised as a quadraped robot. Today, I'd like to share how I made it. It was quite simple, no 3D printer required, just need my meticulousness, care and a little patience. Please check the brief..... Listed under: [Robotics – Automation Projects](#)
1188. [Google Play Music Internet Radio \(Raspberry Pi and Arduino\)](#) I was looking for a project to do with my Raspberry Pi and found thisInstructable and thought I would have a go at something similar which worked with Google Play Music. I had a rough idea of what I wanted the final item to end up like and was..... Listed under: [Radio Projects](#), [Sound – Audio Projects](#)
1189. [Display Your Photo on OLED Display](#) The tiny 0.96 inches OLED display is the most popular among the Arduino fraternity for displaying data like room temperature, humidity, and text messages. Have you ever thought of displaying your own photo on the display! Yes, it's possible. In this Arduino-based project, we learn..... Listed under: [LED Projects](#)
1190. [Memsic 2125 Accelerometer using Arduino](#) The Memsic 2125 (datasheet) is a two-axis accelerometer capable of measuring acceleration up to plus or minus 2g. It has a simple digital interface: two pins (one for each axis) emit pulses whose duration corresponds to the acceleration of that axis. By measuring the length..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
1191. [FOOT PEDAL ACTIVATED WATER TAP](#) Greetings everyone! We hope you are in good health. We live in a world where any form of physical contact between two human beings is starting to pose serious health issues. Keeping this in mind, a while ago, we had worked on an automatic water..... Listed under: [Sensor – Transducer – Detector Projects](#)
1192. [R/C LEGO® “The Bull” Buggy](#) There are more than 20 models of LEGO®'s Dune Buggy type car, even more than the models in LEGO® Base Categories. Dune Buggy is usually four wheels drive off road vehicle, which would not be used on the road. Now that I got excited ( [Click here to get AI-based help](#)  [Projects](#)
1193. [Arduino Esplora Microphone \(Sound Sensor\)](#) This sketch shows you how to read the microphone sensor. The microphone will range from 0 (total silence) to 1023 (really loud). It uses the sound level to set a brightness level for the green LED. When you're using the sensor's reading (for example, to..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1194. [Pinewood Derby Car Scale With Center-of-Gravity \(CG\) Calculation](#) A key factor when building a pinewood derby car is its weight. The Boy Scouts of America and other organizations specify a weight of no more than 5 ounces. To improve performance many builders will add as much weight (mass) as possible up to that..... Listed under: [Calculator Projects](#)



1195. [Electronic Dice With Arduino Nano](#) The electronic dice presented here, built around a tiny Arduino Nano board, mimics the dice we play in different games like snake and ladders the most popular. Plastic and wooden dice are subject to wear and tear with time and might show biasing toward a specific number..... Listed under: [Game – Entertainment Projects](#)
1196. [Add Linux, WiFi, Ethernet and USB to Arduino](#) Web site: <http://www.dragino.com/products/yunshield/item/86-yun-shield.html> Project Summary: The model of this shield named Yun Shield, the feature of this shield is as its name. User can add this shield into Arduino (Leonardo, UNO, MEGA2560 etc) and "turn" the Arduino into device which has similiar features as Arduino..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#)
1197. [Bike Turn Signal & Brake Light Handlebars](#) This project was inspired by a very cool kickstarter called Helios Bars. Essentially what this project does, is put an arduino, LEDs, and buttons into your bike handlebars. The LEDs can be used as turn signals, brake lights, or display ambient colors while riding. It's..... Listed under: [Car Projects](#), [LED Projects](#)
1198. [Blood Oxygen Heart Rate Meter](#) This instructables show how to use MAX30102, XIAO and a tiny display to build a blood oxygen and heart rate meter. Step 1: Sensor & Algorithm This project use Maxim Integrated MAX30102 Biosensor to detect pulse oximeter and heart rate. However, the official sample is..... Listed under: [Metering – Instrument Projects](#)
1199. [A Robotic lawn mower powered by Solar Energy with an Arduino heart](#) This robot will mow the grass of your garden, staying within a defined area, avoiding all obstacles and working in complete autonomy, automatically charging itself with a solar panel. In this post we present a robotic lawn mower, powered with solar energy and able to..... Listed under: [Robotics – Automation Project Ideas](#), [Solar energy projects](#)
1200. [Paddle for People With Limb Differences and Agenesis to Play Flute](#) In France and some other countries playing the flute is included in music lessons at school. This project is to share a possible solution for children or music lovers with limb differences and agenesis to play flute. Basic Idea: Use an Arduino board to make..... Listed under: [Sound – Audio Projects](#)
1201. [Arduino Control via a Web Service with Teleduino](#) Convert your Arduino into a sophisticated web control platform using Teleduino. Teleduino is both a product and a service. Once the Teleduino sketch has been loaded on your Arduino (the 'product'), it then connects to the Teleduino server awaiting your instruction from anywhere in the..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
1202. [Arduino based Graph](#) This example shows you how to send a byte of data from the Arduino to a personal computer and graph the result. This is called serial communication because the connection appears to both the Arduino and the computer as a serial port, even though it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1203. [How to Make Powerfull Laser Engraver](#) Hello Guys Whats up, In this instructable, I am making an Awesome mini laser engraver from old DVD writers. It's very interesting project for any electronics hobbyist & Engineers. You can use this laser engraver machine to make any kind of design, logo, art on..... Listed under: [CNC Machines Projects](#)
1204. [Hexapoduino: tiny hexapod 3D printed, Arduino controlled](#) A few time ago, i found out a 3d printed Micro-Hexapod on Thingiverse. I started to work on it in the following ways: - create new accessories/components 3D printable - explore the possible ways to drive this hexapod. Here the results: - a parametric battery holder that fits..... Listed under: [Arduino Programmer Projects](#)
1205. [Arduino Based Counting Tree for Children](#) Counting can be a fun task for young children. Children as young as two may start saying numbers in no particular order. A lot of parents start teaching their kids numbers by counting objects around their home. For example, snacks could be counted as the..... Listed under: [Other Projects](#)
1206. [DIY Binary Clock with Arduino](#) Yesterday I was going to start watching a movie, when me and my friend pedro decided to give up on the movie and build a binary clock. After sometime thinking on how to program it, we made it. It works beautifully, so I decided to show here..... Listed under: [Clock – Timer Projects](#), [How To – DIY – Projects](#), [Projects](#)
1207. [Arduino stepper motor and servos shield](#) This instructable will show you show to build an Arduino shield which can be used to control 3 servos and 1 stepper motor using 4 potentiometers. You will need: access to a laser printer/cnc router/etching chemicals 7 x 3 pin 3.5mm terminal blocks 2 x..... Listed under: [Motor Projects](#), [Projects](#)
1208. [How to Drive 4-Digits Seven Segment With Arduino Using Just 3 Pins](#) Hello every body, Welcome to this tutorial. In this tutorial we gonna talk about How to drive a 4-digits 7segment with Arduino using minimum pins. To do this we are going to use very popular IC called 74HC595. It's a 8-bits shift register that has..... Listed under: [Other Projects](#)
1209. [Track-and-explode wolf collar...](#) Don't worry! First, this is a rebuild out of a movie so it won't explode for real and it won't be worn by a real wolf. However there is fursuiting for which I am a big fan of and my own character (fursona) is a..... Listed under: [Game – Entertainment Projects](#)
1210. [Aquarium Light V1](#) Version 0 My first attempt at an LED Aquarium light started as an excuse to buy some of those LED light strips off of eBay. I gutted the old 18" fluorescent fixtures and soldered together row after row of 18" RGB LED strips. They mounted..... Listed under: [Home Automation Projects](#)
1211. [Basic Arduino MIDI Arpeggiator](#) In this instructable I will show you how to make a basic MIDI instrument using an notes (a triad) in a row. Using the different potentiometers, you can move up and down the notes as well as up an

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1212. [Super Brite LED Sneakers 1.0 using an Arduino](#) Create your own Super Bright LED-lined sneakers that blink with multiple patterns. 1.0 FEATURES: - 1 color LEDs - 6 patterns - reed sensors + magnets that give you control to step through patterns - detachable velcro design - small, wearable microcontroller + power Step..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
1213. [DIY ESP32 Security CAM](#) Hey guys and welcome back, <https://youtu.be/cb393Lbfjx4> This is my DIY Security Cam which is made from an ESP32 connected with a 5V Charger circuit that converts 240V AC into 5V DC for ESP32 to run. The goal for making this project was to make a..... Listed under: [Security – Safety Projects](#)

1214. [Psychic Fortune Teller – An automaton that reads the mind of Twitter](#) Creepy fairground attraction and Twitter App! The Psychic Hive-Mind Fortune Teller is a fairground arcade-type attraction which can tell your fortune. Even better than that though - it's also a web-connected Twitter application that can harvest tweets and regurgitate them as fortune readings! The Fortune..... Listed under: [Internet – Ethernet – LAN Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
1215. [Bike Dashboard](#) In this Instructable I'll show you how to make a electronic dashboard for a bicycle. We'll be using an Arduino and a few off-the-shelf parts to create a system with light control and an LED speedometer. Step 1: Materials Arduino Micro (RadioShack #: 276-258) 12V..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
1216. [Miter Saw Measuring Device](#) Some of my favorite projects are making tools that I can use with other hobbies. I am not a master woodworker by any stretch, but I do enjoy it and have created several jigs with my 3D printer that have been useful. If you use..... Listed under: [Temperature Measurement Projects](#)
1217. [Game maker Rover using an Arduino](#) In this Instructable I will be giving you step-by-step instructions on how to interface The Arduino, A Motor Controller (L293D), and a laptop to make a Wifi controlled rover you can drive around your house or work from anywhere in the world. I started and..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1218. [Medicine Safe](#) <https://youtu.be/Xhga17IytQ4> We created this project for MSReva as an assignment from school. Supplies Laser or print all parts (see github): printed parts: 1x: 14 lock pin sleeve large 1x: 15 lock pin sleeve smal 1x: 17 lock counter pin 1x: 18 pin shooter 14x: 19 tray..... Listed under: [Security – Safety Projects](#)
1219. [Star Wars Adafruit Flora Theremin LED Bra](#) Use the force, Luke. Close your eyes, hold on tight to your light saber and..... Don't touch that dial. No tweaking the knobs. Just wave your hands in front of the two sensitive sensors embedded in this bespoke piece of wearable tech. The garment has..... Listed under: [Game – Entertainment Project Ideas](#)
1220. [IoT Demo](#) The following model was created as a teaching aid for a demonstration of IoT concepts. The associated PowerPoint is attached to the end of this Instructable. This Instructable will cover: Creating the Telegram chat group and associated bot. Programming the ESP32. Building the model and..... Listed under: [Other Projects](#)
1221. [Bluetooth Controlled Message Droid using Arduino](#) This is an instructable for a bluetooth controlled Message Droid. I call it R2Blue2. It moves around and displays messages that you type using your phone or computer. Atleast it was supposed to. Due to many problems such as underpowered batteries and bad cable management..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1222. [Flora- an interactive flower](#) Hello everyone.....Today I have taken something out of my flower garden....We all know,plants have their own lives,they can feel just as we feel..but they can't express it...But what happens if a flower gains the ability to interact with you? Imagine a flower sitting at your..... Listed under: [Home Automation Project Ideas](#)
1223. [Wall-E Robot Arduino EasyVR3 \(Updated\) New Video With Voice Commands..Funny!\)](#) Whilst looking through videos on Youtube one day(Like you do) I came across a video with a Diy Arduino based Wall e, I thought wow! what a brilliant idea, I didn't at that time even know what Arduino was so I began looking into it..... Listed under: [Robotics – Automation Projects](#)
1224. [Build your own Arduino – Bare Bone System](#) I've read through a lot of tutorials online to make an Arduino Clone on a breadboard, and some of them are great, but none of them really seem to have it all, so I'm going to attempt to bring it all together here and provide..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)
1225. [Control an LED With Button Using Swift Language](#) In the two previous projects, the LED turns on and off automatically. Now, you will control the LED manually using a pushbutton. Step 1: What You Will Need The parts you will need are all included in this Maker kit. SwiftIO boardShieldButton module4-pin cable Step 2:..... Listed under: [LED Projects](#)
1226. [YABBAS – Yet Another Bare Bones Arduino \(on Stripboard\)](#) This Instructable will demonstrate the building of a bare bones (and really inexpensive... less than \$5) Arduino compatible module that can be put together on a small piece of stripboard and can be used either on a breadboard or independently. The following links / similar..... Listed under: [Development Board – Kits Project Ideas](#)
1227. [Simple Arduino Pot Plant Soil Moisture Sensor](#) Arduino Pot Plant Soil Moisture Sensor I have been struggling with over watering of my indoor pot plants, especially succulents. To this end I decided to make a simple Soil Moisture sensor that can tell me when the moisture level of my pot is too..... Listed under: [Sensor – Transducer – Detector Projects](#)
1228. [Artificial Candle Ignited by Real Flame](#) Hello again, everyone. In this Instructable, you will see something really cool and exciting and you might not have seen such a thing yet on the internet. We will design and make a 3D printed artificial candle. But the interesting part of our project is that..... Listed under: [Other Projects](#)
1229. [Twittering Laser Tripwire with Webcam Capture using Arduino](#) This instructable will show you how to construct a laser tripwire that can twitter and grab an image from a webcam, as well as execute any command you can put in a bash script. This instructable is actually quite simple and is even suitable as a beginner..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#) [Click here to get AI-based help](#) 
1230. [DIY 360 Degree SODAR Device](#) First off, why did we decide to call this thing SODAR? SONic Detection and Ranging, or SODAR, is a lot like SONAR and RADAR. However, we don't feel comfortable calling it SONAR because we have no desire to use it for navigation and we aren't..... Listed under: [Sensor – Transducer – Detector Projects](#)
1231. [Automatic Food Dispenser From Arduino](#) Howdy Readers, Dispensers for pets are expensive and this fact is known to all of pet owners But as there is a saying there is always one or other solution to each of problems! In this instructables we will go through detailed step by step..... Listed under: [Other Projects](#)
1232. [The Next-Gen Deck](#) By Marcel's Workshop I spend a lot of time on Genealogy with subscriptions to many services.To make it efficient I copy, paste and refresh

pages often from one database to another.I use 3 monitors so I can go from screen to screen to compare data,..... Listed under: [Other Projects](#)

1233. [RGB's with Arduino and Processing](#) Here is an easy(enough) project to introduce you to the Arduino microcontroller, as well as Processing. This is my first Arduino and Processing project and I didn't have too much bother getting it working. This is my entry to the Sparkfun Microcontroller contest so if..... Listed under: [LED Projects](#), [Projects](#)
1234. [IOS App for Adafruit Feather NRF52832](#) The Adafruit Feather nRF52832 has a BLE (Bluetooth Low Energy) functionality that has a lot of potential to be used in many different projects. In this Instructable, I will be stepping through a project where I created an iOS application that would receive data sent..... Listed under: [Other Projects](#)
1235. [PixelBrite](#) I originally started this project because I wanted to recreate the scene in the movie the Close Encounters of the Third Kind where the humans are communicating with the Mothership via a huge color organ. So I glued various bits of software together and made..... Listed under: [LED Projects](#)
1236. [Analog Read Serial using Arduino](#) This example shows you how to read analog input from the physical world using a potentiometer. A potentiometer is a simple mechanical device that provides a varying amount of resistance when its shaft is turned. By passing voltage through a potentiometer and into an analog input on..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1237. [Arduino Cable Tracer](#) Instantly diagnose the type and integrity of USB cables with this Arduino Cable Tracer. Suitable to trace USB A, Mini, Mico, and USB-C cables this is very useful to identify the exact wiring configuration and also diagnose broken connections. Step 1: Gather the Materials and..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1238. [Hack a voice changer to add an Arduino input](#) Another quick hack. I purchased a voice changer because I was looking for something cheap that could be hacked into an voice input device. Basically I wanted to animate a skull when I spoke. Added bonus, now the skull puppet would also have a scary..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1239. [DIY Arduino Remote Control and Lego RC Vehicle!!](#) UPDATE (8/29/13): Thank you readers for your enthusiasm and kind remarks regarding this project! It has been a tremendous journey since I started this project back in March, but I am very glad with the resulting product and the excitement with which it has been received..... Listed under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
1240. [Cyborg Crafts: Sense Like a Cat With Whiskers – Sensory Extension Puppet](#) I adopted a cat a couple of weeks ago (Figure 2&3). To celebrate, I wanted to make a cat whisker sensory extension puppet that looks like my cat! This project will show you how to create a computationally enriched puppet that has whiskers. The Puppet..... Listed under: [Sensor – Transducer – Detector Projects](#)
1241. [3-dimensional Star Cluster using an Arduino](#) This instructable will guide you through the process of making your very own star-cluster from LEDs and acrylic. I made this piece for my electronics final project at college and had access to a machine shop. This instructable assumes that you have access to similar..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
1242. [Gliderscore Timing Board](#) Gliderscore is a program developed by Gerry Carter that not only scores a model plane flying competition, but provides timing for the various flying tasks One feature of Gliderscore Timer is that it outputs a Serial ASCII string that contains the countdown time, the group..... Listed under: [Clock – Timer Projects](#)
1243. [Arduboino \(an Arduboy Compatible Clone\)](#) Arduboy is an open source credit card size gaming console that has an active community not only on its software where alot of people develop their own game for the platform but also on its hardware where there are also alot of people came up with their own..... Listed under: [Game – Entertainment Projects](#)
1244. [Lite Brite LED clock using an Arduino](#) Lite Brite pegs look like LED's don't they? That's what I though the other day after working on an LED cube for a few hours. I happened to see my daughter's Lite Brite sitting there, and I looked at the pile of LED's on my..... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)
1245. [Cheapest Plug & Play Room Automation Setup](#) Their are many people who are struggling to make projects that are needed for their daily needs. One of the major example is none other than room automation. Even though many of the room automation setup cost a little bit higher can't we make it..... Listed under: [Other Projects](#)
1246. [The tweiger counter](#) The following steps will enable you to build your own tweiger-counter! It searches in current twitter messages sent around the globe for the words like nuclear, calculates a sliding window average and pushes it to the arduino that will click for every incoming tweet like..... Listed under: [Calculator Project Ideas](#)
1247. [Sensors in Phone and Arduino Serial Communication](#) Sensors are one of the crucial things when it comes to building projects/robots. Many a times the sensor might be not available locally or it might take too long to ship. Smart phone have most of the basic sensors like proximity, accelerometer, light, magnetometer, gyroscope,..... Listed under: [Sensor – Transducer – Detector Projects](#)
1248. [DIY 3D Controller using an Arduino](#) Make a 3D interface using an six resistors, aluminum foil, and an Arduino. Take that, Wii. Update: a much more thorough explanation of this project is available from Make Magazine. It might be easier to follow their instructions, and I think their code is more..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1249. [Analog.Fabric Joypad using an Arduino](#) How to make an "analog" input device from fabric and a few other necessary materials. "Analog" in parenthesis because, although it is made up of 4 analog inputs, the only analog transition between the directions (up, right, down and left) comes from the buffering material..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1250. [Arduino Game Controller for Both PC and Android](#) In this instructables session we are going to see . How to make your joystick . Which is compatible for PC, Laptop , Smart Phone . By Using UnoJoy Library. With this library we can convert a arduino uno into USB game Controller . People..... Listed under: [Game – Entertainment Projects](#)

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1251. ["12 Thumbs" R/C LEGO Dragster](#) Impressed by these two LEGO® Dragster sets, a 250 pieces LEGO®TECHNIC Dragster 8847 (released in 1983) and a 391 pieces Top Fuel Racing 5533 (released in 1999). These two Dragsters inspired me to build my own LEGO® dragster, the "12 Thumbs". The name "12 Thumbs" came after I..... Listed under: [Other Projects](#)
1252. [Perimeter Wire Using Matched Filter](#) Do you want to build a robot that is in an invisible enclosure? Or have you wondered how the robotic lawn mowers stay in their garden?In this Instructable I will show you how you can easily build a perimeter loop yourself.This perimeter loop uses a..... Listed under: [Robotics – Automation Projects](#)
1253. [An Arduino Powered \(Scale\) Speed Trap](#) After a break of around two decades I've recently started building a model railway. One of the issues I've faced is trying to work out how fast I should be running the trains so that their speed reflects reality given the scale at which they..... Listed under: [Metering – Instrument Projects, Projects](#)
1254. [Low Cost, Easy to Build and Use: Arduino Die Toss Simulator](#) In addition to gambling, dice (die - singular) are used in many board games, e.g., Backgammon, Monopoly, Yahtzee, Liar's Dice, Dungeons & Dragons, Trouble, etc. Common dice are usually white with black "pips". They are sometime known as d6 or D6. In this Instructable, the..... Listed under: [Other Projects](#)
1255. [Strandbot – a solar & arduino powered R/C motorized Strandbeest](#) The Strandbot is a DIY upgrade for the Strandbeest originally designed by Theo Jansen. Strandbeests are amazing mechanical creatures that are able to move on their own using just a little bit of wind power. Unfortunately my tiny apartment is short on wind, so I..... Listed under: [Motor Projects, Robotics – Automation Projects](#)
1256. [Custom I2C Slave Sensor/device With Arduino](#) <https://youtu.be/7uRn6D0kInY> In this Instructable, I'll show you how I managed to create my own I2C controlled device that I can then connect to any microcontroller and interact with it over I2C. In my case, I'm using it to control an AC dimmer module from a..... Listed under: [Sensor – Transducer – Detector Projects](#)
1257. [Make your own programmable thermostat for \\$66 with Arduino](#) This project will show you how you can create your own programmable thermostat with temperature probe, an LED readout and ability to remote control outlets. The core of this project is actually a driver for a 4 digit seven segment display. There are lots uses for..... Listed under: [Projects, Temperature Measurement Projects](#)
1258. [Online Thermometer using Arduino](#) One of the projects in Practical Arduino is the "Online Thermometer", which combines an Ethernet shield with a number of DS18B20 1-wire temperature sensors to allow you to read multiple temperatures and make the values accessible using a web browser. In that project I chose..... Listed under: [Temperature Measurement Projects](#)
1259. [Arduino IoT Cloud ESP32 Alexa Voice Control Smart Home | IoT 2021](#) In this IoT project, I have shown how to make an IoT-based Home Automation with Arduino IoT Cloud & Alexa using ESP32 to control 4 home appliances with voice commands. If the internet is not available, then you can control the home appliances manually with..... Listed under: [Sound – Audio Projects](#)
1260. [Self-balancing skateboard/segw\\*y project Arduino Shield](#) General purpose Arduino shield for self-balancing machines. Why did I make it? I previously made an Instructable in 2010 on how to build a self-balancing skateboard. <http://www.instructables.com/id/Easy-build-self-balancing-skateboardrobotsegway-/> There are >500 comments on this and many express confusion setting up the balance sensors, software and electronics..... Listed under: [Development Board – Kits Projects](#)
1261. [DIY Arduino Wireless Motion Alarm System](#) Hello everybody hope you're doing well, in this instructable I'm going to show you how to make a wireless motion alarm system, this device consists of a transmitter and a receiver. So essentially it is a pretty simple and basic wireless motion alarm system with..... Listed under: [Wireless Projects](#)
1262. [How to control LED's with Processing and Arduino](#) The other day I was confronted with an interesting problem, I needed to control a series of lights from an interaction on a computer screen and it had to be as inexpensive as possible. I instantly thought of an Arduino. It had everything that I needed,..... Listed under: [LED Projects, Projects](#)
1263. [PECS Communication Board](#) The Picture Exchange Communication System, or PECS, allows people with little or no communication abilities to communicate using pictures. People using PECS are taught to approach another person and give them a picture of a desired item in exchange for that item. By doing so,..... Listed under: [Phone Projects](#)
1264. [Arduino Waveform Generator Shield](#) Waveform generators (also called function generators) are useful for testing and debugging circuits. They can be used to test the frequency response of electronic components like op amps and sensors or to characterize and troubleshoot audio effects boxes and pedals. This waveform generator shield is..... Listed under: [Projects, Radio Projects](#)
1265. [Remote Control Arduino Car](#) A great introductory project for those diving into the IoT and Arduino platform. Working with motors and an IR sensor helps newbies understand various components and sensors compatible with the Arduino. Using the remote control, you will be able to control the robot's movement allowing..... Listed under: [Car Projects](#)
1266. [7-segment Display Using Swift Language](#) You could always see 7-segment displays around you used to display digits like in timer clock etc. In this mission you are going to learn how it works and display numbers on it. Let's start. Step 1: What You Will Need The parts you w

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1267. [Arduino Audio DAC Options](#) DAC is short for Digital to Analog Converter. In this article we play around the code Michael Smith created for a PWM based DAC. I modified his code so that other DAC options could be tried. I compare the 8-Bit PWM DAC with the R2R..... Listed under: [Projects, Sound – Audio Projects](#)
1268. [Laser Shooting Game](#) This laser game is a simple project that utilizes an Arduino mini. All target boards have an Arduino, sensors, and servo control ports. Shooting the target center triggers the servo and the board falls flat. Step 1:What you need [su\_box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 "..... Listed under: [Game – Entertainment Projects](#)
1269. [Laser Tag "Free for All" Circuit Playground Express and ESP8266](#) This is an easy way to make your boards into a fun laser tag game to play with friends. we combined both boards as described in the pictures. Supplies For this project you will need IR remotes, shoe laces, circuit playground express, ESP8266, battery

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

1270. [Clock Two – Single digit clock using Arduino](#) Time for another instalment in my irregular series of clock projects. (Or should that be “Time for another instalment in the series of irregular clock projects”?) In contrast with the extreme “blinkiness” of Clock One, in this article we describe how to build this single-digit..... Listed under: [Clock – Timer Projects](#), [Projects](#)
1271. [GRBL Based Coil Winder From Water Pipe](#) When I was working on the Toy Magnetic Levitation project with a solenoid coil, I thought to myself, why didn't I make a coil winder. So I took my times to build a simple coil winder based on GRBL firmware and it was made from PVC pipes..... Listed under: [Other Projects](#)
1272. [Electronic Arrow Spine Tester](#) This Instructable describes the construction of an electronic archery arrow spine tester. An arrow spine tester measures the stiffness of arrows. This helps an archer to construct arrows of uniform specifications which will shoot consistently. Traditional arrow spine testers measure arrow stiffness, or spine, by..... Listed under: [Other Project Ideas](#)
1273. [3D Printed Kitchen Scale Using an ESP8266](#) Hello everyone ! Today I'm going to show you how I built this little kitchen scale during this lockdown ! It can measure weights up to several kilograms, has an included battery, a nice display and can even be turned into a connected scale thanks..... Listed under: [Temperature Measurement Projects](#)
1274. [EDISON Radio](#) This project is bases on the internet radio by Ed Smullenburg. He did an awesome job in creating a working internet-based radio. He shared his coding and hardware on the world wide web so that people like you and me can learn from it. He..... Listed under: [Radio Projects](#)
1275. [Halloween Pop-Up Prop](#) [https://youtu.be/nJx\\_GmmiR7A](https://youtu.be/nJx_GmmiR7A) This was my first animated Halloween prop. I found this witch at the local hardware store. It was meant to hang up by a cord and if someone came close to it, an infrared sensor would trigger the prop. The prop has LED eyes..... Listed under: [Other Projects](#)
1276. [DIY 3D Laser Scanner Using Arduino](#) Maker Alessandro Grossi sent us this great DIY build for a 3D scanner built using a laser, a DSLR, and an Arduino controller. Allesandro is a Mechanical Engineer, holding a Ph.D. in product design. His day job involves helping designers and manufacturing firms develop and..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1277. [Halloween Animated Knights](#) About a week or so after Halloween last year (pre-COVID), I happened to be in Home Depot and back in a far corner bin were several Halloween items very heavily discounted. They were just trying to get rid of them as fast as they could..... Listed under: [Other Projects](#)
1278. [iPod Information Screen Rev. 2](#) I'm not usually one to revisit a project after I've finished it, but I made an exception because the problems with the original design were making this device unpleasant to use. For those of you just now viewing this project, it is the second iteration..... Listed under: [LCD Projects](#)
1279. [Tank Level Alert for Pellet Stove](#) If, like me, you have a pellet stove which does not indicate the low level of the tank, I suggest this little module which will beep when the reserve is almost empty. This gap is problematic because when there are no more pellets, the stove..... Listed under: [Sensor – Transducer – Detector Projects](#)
1280. [The Digital Drone Synth](#) Making a hardware synthesizer is a really fun and rewarding experience. But usually with a lead synth you would want to implement ADSR envelopes, multiple adjustable oscillators, multiple types of filters for each, polyphony et cetera et cetera. Those aren't conducive to a beginner project,..... Listed under: [Sound – Audio Projects](#)
1281. [An Arduino RSS Feed Display](#) This Arduino project will display RSS feed headlines on an LCD via an Arduino and a USB cable. It works quite well, and lets you keep up with the world news while you're sitting at your desk. Many of the values in the code can..... Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#), [Projects](#)
1282. [CO2 Monitoring As an Anti-Covid19 Measure](#) pierre.carles@sorbonne-universite.fr, January 2021 Here, we propose an open-source, portable, autonomous, cheap and easy-to-use device to monitor and record the concentration of CO2 in ambiant air in real-time. Using CO2 as a proxy for respiratory aerosols, the device can help define best practices regarding the ventilation..... Listed under: [Temperature Measurement Projects](#)
1283. [Arduino Powerd, RGB + White LED, Bluetooth controllable, Floor lamp](#) A couple of mounts ago i order a 1M long WS2801 RGB led strip, just for fun. I took me a while to get the strip working with my Arduino. The next step was to figure out what to do with the strip. after some..... Listed under: [LED Projects](#)
1284. [Automatic Weight Scale and Timer for Machine La Marzocco Linea Mini](#) in the Coffee's era, the current era is called the third wave coffee era. In previous eras, coffee quality was not as much attention as it is today by connoisseurs. Specialty coffee offers quality preserved from farm to coffee in the cup. One of the..... Listed under: [CNC Machines Projects](#)
1285. [Display Images on OLED Display | Ft. Instructables Robot](#) Hi guys, in this instructable I will be teaching you how to display any image on an OLED display using an Arduino board. I know that this topic is quite addressed on the internet but still when I tried it myself, I found it very..... Listed under: [Robotics – Automation Projects](#)
1286. [Rainbow Jar – RGB Pixel Strip Controlled via Arduino](#) Our most popular item on our display at Maker Faires is always the Rainbow Jar. One customer has already replicated it so we thought we'd share how we made it so you can make your own! <https://vine.co/v/hqxpVgdFQ97> (tried embedding this vine but it broke instructables!) Step..... Listed under: [LED Projects](#)
1287. [Customizable Keypad Matrix \(Use It As Shortcuts for PC\)](#) <https://youtu.be/oyFXOmdzXOM> The of the shelf Keypad Matrix is great but they only come in numeric or alphanumeric types. If you want to make a Keypad Matrix whose keys are designed for your needs then this is the Instructable for you. In this Instructables, I will..... Listed under: [Other Projects](#)
1288. [A Modern Take on the Phenakistoscope](#) The Phenakistoscope is an early optical illusion device that uses static images to create the illusion of motion through the principle of persistence of vision. It is regarded as one of the first forms of moving media entertainment that paved the way for the motion..... Listed under: [LED Projects](#)


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1289. [ARDUINO with XBEE- WIRELESS SETUP DEMO](#) This video describes how to configure two Series 1 XBEEs using Arduino UNO board.The ways of making 2 way communication is also tested on Wireless mode. Overview The Xbee shield allows an Arduino board to communicate wirelessly using Zigbee. It is based on the Xbee module..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1290. [Magic Dome](#) Francisca Molero Luque, Dolores Martín Cabrera and Laura Mejía Ospina, students of 'Creative Electronics', a Beng Electronics Engineering module at the University of Málaga, School of Telecommunications. We decide to make as final project a derivation of Interactive Geodesic LED Dome. Supplies - NeoPixel Digital RGB LED..... Listed under: [LED Projects](#)
1291. [Super Simple Arduino Powered Roomba Scheduler](#) Like most people I was skeptical about getting a robotic vacuum cleaner, so as a trial run I thought I would buy the now obsolete iRobot Roomba 530 which was heavily discounted (they're still available in Australia, showing how behind the times we are). Of..... Listed under: [Robotics – Automation Projects](#)
1292. [LED Chaser Game](#) Hello, my name is Vigas Balachandran and on this instructable, I will be presenting my final project. For this project, I have created a LED chaser game. In this game, the LEDs will be flashing in consecutive order. On the serial monitor on the arduino,..... Listed under: [LED Projects](#)
1293. [Arduino String Case Change Functions Code](#) The String case change functions allow you to change the case of a String. They work just as their names imply. toUpperCase() changes the whole string to upper case characters, and toLowerCase() changes the whole String to lower case characters. Only the characters A to..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1294. [DIY: ARDUINO SOUND SENSOR SYSTEM](#) I have a major problem when it comes to talking on the phone or playing video games with my friends - I often get loud (that's quite an understatement). Since I live with my parents, this often triggers my mother and she usually ends up..... Listed under: [Sensor – Transducer – Detector Projects](#)
1295. [Blink LED using Arduino](#) This example shows the simplest thing you can do with an Arduino to see physical output: it blinks an LED. Circuit To build the circuit, attach a 220-ohm resistor to pin 13. Then attach the long leg of an LED (the positive leg, called the..... Listed under: [LED Projects](#), [Projects](#)
1296. [Yogy – The Arduino Powered Robot Made For Kids](#) In this Instructable I will show you how to make a cute and kid friendly Obstacle Avoiding Robot I like to call Yogy. Yogy gets his name from the Yoghurt tub body he is made from. I am a sucker for seeing the best in..... Listed under: [Robotics – Automation Projects](#)
1297. [Arduino Safe With Multivibrator Changeable 4-digit Combination](#) This instructable will explain how to wire, code, and build a functioning DIY arduino safe with multivibrator changeable 4-digit combination. Well what does that mean? A arduino safe with multivibrator changeable 4-digit combination is a functioning safe with a changeable password/combination, it features a series..... Listed under: [Security – Safety Project Ideas](#)
1298. [NeoPixel Ancient Oil Lamp](#) In this Instructable, we will describe how to turn a "retro" oil lamp into a NeoPixels based rechargeable lamp with colorful light effects. Supplies Arduino nano 12 bits NeoPixel ring Micro USB 5V 1A TP4056 Lithium battery charger module 3.7V 9800mAh Lipo Li-polymer Battery Rotary..... Listed under: [Other Projects](#)
1299. [Analog Write with 12 LEDs on an Arduino Mega](#) This example fades 12 LEDs up and the down, one by one, on an Arduino Mega board. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect the longer, positive legs of (anodes) 12 LEDs to digital pins 2-13 through 220 ohm current limiting resistors. Connect..... Listed under: [LED Projects](#), [Projects](#)
1300. [Arduino: Portable Two-Axis Stepper Control](#) [https://youtu.be/r\\_2DXRIM29s](https://youtu.be/r_2DXRIM29s) In a previous tutorial we have seen how to run two stepper motors synchronously from a given start position to a defined destination using an Arduino and a very simple “user interface”. That user interface was restricted to some microswitches and LEDs, both installed on a..... Listed under: [Motor Projects](#)
1301. [Digital/Analog Clock – Arduino + PaperCraft](#) In this instructable we will be recreating a clock inspired by Alvin Aronson's original design. When I first saw this clock I was very impressed by how clean an elegant the design was I immediately wanted to recreate this effect. I hope some of you feel..... Listed under: [Clock – Timer Projects](#)
1302. [Wordclock – No Special Tools Required! Easy to Build](#) Hi makers, do you want to own a wordclock?There are a lot of nice instructions all over the web, but You've no access to a 3D printer and cnc machines to cut, laser or millYou don't want to waste time and nerves fiddling with itsy-bitsy partsYou..... Listed under: [Clock – Timer Projects](#)
1303. [Arduino Hello World Blink Code](#) This is a basic example how arduino works. In this arduino projects you'll see how arduino control LED on for 1 second and off for 1 second repeatedly. Instruction; 1) Connect cathode lead of LED (shorter lead) to ground pin and anode lead of LED..... Listed under: [LED Projects](#), [Projects](#)
1304. [Autonomous Autonavigation Robot using Arduino](#) This is a step by step guide to build an autonomous navigation robot. We use the Arduino microcontroller to control this robot. We have two different programs for this robot. The first enables the robot to drive around and avoid anything that gets in its..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1305. [2 Bit Adder Binary and Decimal Calculator](#) By: Sonya Singh Computer Engineering Step 1: Project Overview Have you ever dreamed of building a 2-bit adder calculator, which can display the results in both binary and decimal? Well, look no further - Through this guide, your dreams have finally come true! Not only ..... Listed under: [Calculator Projects](#)
1306. [AAA Robot \(Autonomous Analog Arduino\)](#) The AAA Robot is a perfect robot for beginners. It is versatile, easy to build, and discusses many of the topics roboticists need to learn, including but no limited to transistor switches, motor driving nad analog sensors. This Instructable includes step-by-step instructions on how to..... Listed under: [Robotics – Automation Projects](#)
1307. [How to Motorize a Camera Slider \(Battery Powered\)](#) When making videos with a tripod fluid head, there aren't that many movements you can do. You've got tilt and pan - so basically either a vertical movement or a horizontal movement. Both of these have one common characteristic: the camera stays in pretty much..... Listed under: [Video – Camera – Imaging Projects](#)

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1308. [An Arduino Thermometer with Digital Display](#) This is a project for Arduino to make a Thermometer with Digital Display, aimed at beginners. Arduino measures the voltage on a TMP36 Temperature sensor, converts the Voltage to Degrees Celcius and Displays the value on an LOL shield display. Objectives: \* Learn how to..... Listed under: [LED Projects](#), [Temperature Measurement Projects](#)
1309. [Arduino Activated Light Catcher Arcade Game](#) This pandemic time has been rough for us all, as it confined us in our homes thus not enabling the opportunity to go outside and meet with family and friends to engage in fun activities of all sorts, such as going to your nearby arcade..... Listed under: [Game – Entertainment Projects](#)
1310. [PAD HERO \(Guitar Hero Using Arduino\)](#) A group of three students present you PAD HERO, our Arduino based Guitar Hero game. This project was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications (<https://www.uma.es/etsi-de-telecomunicacion/>). The aim of this Project was to replicate the popular..... Listed under: [Game – Entertainment Projects](#)
1311. [Thermal Camera](#) Have you ever had the desire to see what can not be seen? I never had the ability to see in thermal infrared, and it is rather cool to be able to see in the thermal infrared part of the electromagnetic spectrum. Unfortunately, most thermal..... Listed under: [Temperature Measurement Projects](#), [Video – Camera – Imaging Projects](#)
1312. [Location Tracking “Weasley Clock”](#) As with so many other people, I've always been a massive Harry Potter fan. One of the coolest magical items in the series was almost certainly the Weasley family clock that had a hand for each family member, and moved to reflect their location. I..... Listed under: [Clock – Timer Projects](#)
1313. [Arduino FM radio receiver shield](#) This Instructable will show you how to build your own FM radio receiver shield to be used with an Arduino board. The radio chip we are going to be using is the AR1010 on a breakoutboard found at Sparkfun or Electrokit and there will be code to get..... Listed under: [Projects](#), [Radio Projects](#)
1314. [Arduino/ESP32 Capacitive Touch Sensor](#) Adding touch interfaces to your projects might seem difficult at first, but it really isn't. In this Instructable I'll show you how to do it using an Arduino or ESP32 development board. What you will need: an Arudino\* or ESP32 development boarda wiresome tinfoilsome sticky..... Listed under: [Sensor – Transducer – Detector Projects](#)
1315. [Classroom Pencil Protection Machine](#) HEY KID, GIVE ME BACK MY PENCIL! As a teacher, one problem I face every day is losing my pencils. Now pencils don't just disappear, they walk away in the hands of my middle school students. I know this may not seem like a big..... Listed under: [CNC Machines Projects](#)
1316. [ArrDrownHo! – Easily convert AVR to Arduino](#) Cap'n ArrDrownHo! is the lovechild of Ardweeny and Boarduino and he's here to commandeer your AVR ships. ArrDrownHo! inherits pros of both and cons of neither. Pick up an AVR chip and start prototyping instantly on a breadboard! Want to replace that costly Arduino in your project with a..... Listed under: [Development Board – Kits Projects](#)
1317. [Kaosduino: Create your own kaosillitaor 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. Inspired by Korgs Kaossilator I took it upon myself to build an opensource version of it. This way people can design new ways..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1318. [Splash! Water Droplet Photography](#) I have been shooting water drops for a while now.... since 2017. I still remember how excited I was when I got water drops bounce from the surface with my first setup I made with Littlebits... With these setups (Mark I and Mark II) I..... Listed under: [Video – Camera – Imaging Projects](#)
1319. [Whiteboard Erasing Robot using Arduino](#) My entry for the Microcontroller contest is a whiteboard cleaning robot. The goal of this project was to create a robot which could erase written text on a whiteboard completely autonomously, i.e. no human interface. The processes involved in this project included devising a method..... Listed under: [Robotics – Automation Project Ideas](#)
1320. [The Point Shooter Cyborg Mouse](#) Control cyborg technology and revolutionize your PowerPoint presentations - build a wearable mouse! So you converted some video glasses to a heads-up display glass. You built a wearable Raspberry Pi, pcDuino, or BeagleBone Black. Now, how do you control your cybernetic augmentations? You make a..... Listed under: [Robotics – Automation Projects](#)
1321. [Smart Glasses\(Under \\$10!!!\)](#) Hi There! We all are familiar with Smart Glasses like the one named E.D.I.T.H. made by our beloved character Tony Stark which was later passed on to Peter Parker. Today I am going to built one such smart glass that too under \$10! They're not..... Listed under: [Bluetooth Projects](#)
1322. [Arduino Esplora Pong](#) Want to play Pong on your computer with your Esplora? This example shows you how. This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The Esplora reads the slider and buttons and sends data to the..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1323. [Single button combination lock using Arduino](#) Time for something different - a single button combination lock. Allow me to explain... Updated 18/03/2013 Normally a combination lock would require the entry of a series of unique numbers in order to unlock something or start an action. For example: A more contemporary type..... Listed under: [Projects](#), [Security – Safety Projects](#)
1324. [3D Printed Spirometer](#) Spirometers are the classical instrument to perform the parsing of air as it is blown out of your mouth. They consist of a tube that you blow into that records the volume and speed of one breath which are then compared to a set of..... Listed under: [Metabolic – Instrument Projects](#)
1325. [How I Made My Own Boxing Machine?](#) <https://youtu.be/xl0zlpLf4oA> There is no amazing story behind this project which were located in various popular places. I decided to build mine! Step 1: Designing In the beginning, I designed a 3d model of my device. Boxing pear,..... Listed under: [CNC Machines Projects](#)
1326. [The Knock Box: Build a Knock-Sensitive Power Strip](#) The Knock Box is a power strip with superpowers - it turns on your lamp whenever you knock on your nightstand. You get two outlets, individually controlled by knock-knock-knocking on a nearby hard surface. It's great for hitting the lights when it's pitch dark, but if an..... Listed under: [Development Board – Kits Projects](#)
1327. [Quasi real-time oscilloscope using Arduino](#) Recently I was reviewing one of my oldest project, and decided to “refresh” previous design by taking full advantage of the new arduino Leonardo board. Based on AtMega32U4, which include PGA (programmable gain amplifier), oscilloscope’s analog front end doesn’t require


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external OPA this time, end..... Listed under: [Metering – Instrument Projects](#), [Projects](#)

1328. [Flame the Candle by Snapping Your Finger](#) Hi guys, we will make an interesting project in this project. We will try to make a flame by snapping our finger.Let's get started on the project. Step 1: Video Tutorial <https://youtu.be/Cg31TzChpbw> You can see the project step by step with this video tutorial. For..... Listed under: [Sensor – Transducer – Detector Projects](#)
1329. [14band Graphical Equalizer](#) Here comes a simple Graphic Equalizer showing 14 audio bands from 60Hz up to 16kHz. It consist of a PCB based on MSGEQ7 and ESP dev board. Since a MSGEQ7 chip recognizes 7 bands only and an ESP dev board gives us a chance to..... Listed under: [Other Projects](#)
1330. [The Raspberry Pi – Arduino Connection](#) The Pi is a fine little computer board, though not nearly as good as the Arduino when it comes to I/O capabilities. The beautifully-engineered Gertboard is a plug-in add-on that neatly overcomes this deficiency by giving the Pi access to an ATmega328, but it's a very..... Listed under: [Development Board – Kits Projects](#)
1331. [High Heel Massage using an Arduino](#) My project is to make a heel (shoe) that senses when your foot is tired and then eases the pain. I will have a force sensor measure how much pressure is on your foot for 3 minutes. If the pressure is at a certain measure..... Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1332. [Automated Arduino Tap](#) This project was designed for my dog, who refuses to drink from a water bowl. She often sits by the tap for hours waiting for someone to pass and open it for her. So I built her this automatic tap that opens when it senses..... Listed under: [Sensor – Transducer – Detector Projects](#)
1333. [Paper Man: a machine created by Arduino and NFC](#) Paper Man is a machine comprised of Arduino, NFC Shield, thermal printer and a papercraft shell—Iron Man. Thanks to the NFC Shield, you can directly sent messages from your mobile to the paper man, and the paper man will spit it out by printing with..... Listed under: [CNC Machines Projects](#), [Home Automation Projects](#)
1334. [Living Pixels – Imagine Technology Has Life](#) Seeing smart home products being more common in our lives, I've started to think about the relationship between people and these products. If one day, smart home products become an indispensable part of everyone's life, what attitudes should we take to coexist with them? How..... Listed under: [Other Projects](#)
1335. [DIY Arduino Bluetooth Controlled Car](#) Hello friends! My name is Nikolas, I am 15 years old and I live in Athens, Greece. Today I will show you how to make a 2-Wheel Bluetooth Controlled Car using an Arduino Nano, a 3D printer and some simple electronic components! Make sure to watch..... Listed under: [Bluetooth Projects](#)
1336. [Sending and Receiving String via UDP using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to send and receive text strings via the UDP protocol (Universal Datagram Packet). You'll need another device to send to and from. The Processing sketch included at the end of the code will..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1337. [Water Surface Lamp](#) This Instructable will show you how to make an atmosphere lamp that lights up just like making little waves on the water surface. It can be placed on your table, shelf, or bedside to create a harmonious atmosphere, bringing an absorbing experience to the user..... Listed under: [Other Projects](#)
1338. [Arduino Beginner and Basic Electronics Kit Primer](#) I learned that one of my nieces had an interest in programming. She was working with robotics at high school and has a summer internship where they had Arduinos. I think she was able to borrow an Arduino to experiment with at home but every..... Listed under: [Development Board – Kits Projects](#)
1339. [Gyroscope Platform/ Camera Gimbal](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida ([www.makecourse.com](http://www.makecourse.com)) tep 1: Materials List In order to begin the project, you first have to know what you'll be working with! Here are the materials you..... Listed under: [Video – Camera – Imaging Projects](#)
1340. [Automatic Hand Sanitizer for Your Car](#) <https://youtu.be/IYw2ApjvN8I> The United States of America currently holds 20% of the infected individuals with the COVID-19 virus. Considering the ongoing pandemic, an automatic hand sanitizer would result in a decrease of viral spread when placed in the center dash, whenever travel is necessary using a..... Listed under: [Car Projects](#)
1341. [Scintillino – an Arduino-based quick&dirty scintillation counter](#) Have you ever wondered about the radiation levels around you? Well today you can build your very own detector that measures ionizing radiation and displays data in real-time on an LCD (and also your computer if you want). The visual design, as seen below, is..... Listed under: [Calculator Projects](#)
1342. [Simple Inexpensive Wireless With Any IR Remote, Including No Longer Used Ones](#) I hope you will find this Instructable interesting and useful. It is only three (3) steps long, plus an introduction. If you do find this article helpful, even if it is relative to when you see it some months or years old, please be kind..... Listed under: [Wireless Projects](#)
1343. [Arduino Quadruped Robot Stalker](#) Arduino Quadruped Robot - Stalker I am going to build an Arduino Quadruped Robot. As usual, I will share my source code and show as many pictures as possible, to help those of you who are also building Quadruped robots. The way I do things might not..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1344. [Inverter Aurora ABB \(Power One\) Web Monitor \(WIM\) With Esp8266](#) Autonomous centraline with an esp8266 that charts and various data of production and can send notification email if there are some problems. It is a quite user-friendly browser based monitoring solution, It's allows to track energy produced on a solar power plant in a simple and intuitive fashion..... Listed under: [Other Projects](#)
1345. [Dimmer using an Arduino](#) This example shows how to send data from a personal computer to an Arduino board to control the brightness of an LED. The data is sent in individual bytes, each of which ranges in value from 0 to 255. Arduino reads these bytes and uses..... Listed under: [LED Projects](#), [Projects](#)
1346. [Mystery Beeping Prank](#) The Mystery Beeping Prank is a device hidden in a hollowed out book that beeps intermittently at different frequencies. I made this because I am surrounded by a lot of incredibly creative people who have a penchant for pranking one another, and this seemed like..... Listed under: [Game –](#)

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[Entertainment Projects](#), [Sound – Audio Projects](#)

1347. [3D Printed Mini CNC Machine](#) Introduction! <https://youtu.be/VwgZXWHkp14> Hi Friends Welcome to the DiY Projects Lab insctructable , I hope you all are well, so today we are going to learn how to make your own 3D Printed CNC machine. It is a prototype module, but once you build it you..... Listed under: [CNC Machines Projects](#)
1348. [Brainwaves Bend a Fork](#) In the 1970's, a psychic named Uri Geller introduced spoon-bending using his mental powers and became famous for it. Well, I don't claim to be a psychic, but I thought it would be fun to be able to bend a spoon or fork using my..... Listed under: [Motor Projects](#)
1349. [Arduino Controlled Catapult](#) I recently had the idea to create a catapult, But not just any kind of catapult, an electronic catapult! I wanted something I could just sit it down hit some buttons and watch it do its thing without being to big. This is what I..... Listed under: [Other Projects](#), [Projects](#)
1350. [Emoticon Helmet using Arduino](#) The Internet has become a pretty good mask to portray yourself as anything you want. This includes hiding your true emotions when posting facebook statuses, IMing someone, or sending emails (like telling you're boss they are awesome when they are really a jerk). But what..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1351. [Arduino Eye Strain Alarm](#) With the COVID quarantine moving life online, I now spend many hours looking at my computer screen. Whether I'm doing school virtually, connecting with friends and family, or working on projects, all of these things keep me looking at my screen, as I am doing..... Listed under: [Other Projects](#)
1352. [How to Make a Tactile Feedback Compass Belt](#) Have you ever wondered how migratory birds manage to have such an amazing sense of direction despite being so generally clueless? They can sense the Earth's magnetic field with what is basically a compass built into their body. Wouldn't it be cool to feel what..... Listed under: [Metering – Instrument Projects](#), [Sensor – Transducer – Detector Projects](#)
1353. [Arduino Liquid Crystal Displays](#) I had initially planned to do an LCD tutorial a little further down the line, but there was very high demand for it, and I already had a circuit assembled for testing the new LCD that element14 sent me to evaluate. So, this seemed like..... Listed under: [LCD Projects](#), [Projects](#)
1354. [GameBoy 5110 – Arduino Handheld Game Console by 3D Printing](#) During the COVID-19 crisis, how to spend a lot of quarantine time at home? In addition to improving cooking skills and doing sports, game lovers can also make their own unique GameBoy game console! The blue backlit LCD screen of the Nokia 5110 is used..... Listed under: [Game – Entertainment Projects](#)
1355. [Gandalf's Magic Staff](#) Who wouldn't want Gandalf's Magic Wizard Staff? Turns out Gandalf had various staffs and either lost, broke or upgraded them frequently! This provides us with multiple staff designs and there are plenty of methods of constructing your own Magic Gandalf Staff depending upon your resources..... Listed under: [Other Projects](#)
1356. [Analog Clock And Temperature sensor On An Oscilloscope using Arduino](#) Scopeclock is an easy to use hardware to make your X-Y capable analog oscilloscope more useful .Using this simple to use hardware you can convert your analog oscilloscope into a scope clock.This project was me and my friend kshitij gupta at CEDT nsit under the..... Listed under: [Clock – Timer Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
1357. [How to make A light-up distance sensor](#) In this instructable, I will show you how to make a sensor that will light up more lights the closer you are to it. Step 1: Placing The Electronics This step will show you where and how to place the electronics on the breadboard Materials:..... Listed under: [Sensor – Transducer – Detector Projects](#)
1358. [Arduino Based Self Balancing Bot](#) Hey everyone what's up! [https://youtu.be/OKDyb7F0C\\_8](https://youtu.be/OKDyb7F0C_8) So here's my 3D Printed Self-balancing robot which is powered by an Arduino nano board and has an MPU6050 to get the accelerometer and gyro readings to balance itself using the PID function. This robot setup itself is almost 3D..... Listed under: [Robotics – Automation Projects](#)
1359. [Save data of temperature and humidity on MySQL with Arduino Uno and Wifly](#) Hello guys, i make this instructable for the people that liked the electronics and the botanic, with this you have the data about the temperatura and the humidity of your orchard and register this in a data base MySQL. For this proyect you need some..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Temperature Measurement Projects](#)
1360. [Make a Digital Photo Album by ESP32](#) Last week I made an electronic photo album that I could place on my work desk to show some photos. I can take a look at relaxing when I'm tired at work. Previously I have implemented the display of pictures in which the format is..... Listed under: [Other Projects](#)
1361. [ESP32 TTGO WiFi Signal Strength](#) In this tutorial we will learn how to display a WiFi network signal strength using ESP32 TTGO board. Watch the video! <https://youtu.be/dHsG1XZqR9E> Step 1: What You Will Need TTGO ESP32WiFi connectionVisuino program: Download Visuino Step 2: Start Visuino, and Select the Arduino TTGO T-Display ESP32 Board..... Listed under: [Wifi - Wlan Projects](#)
1362. [Arduino String Addition Operator Code](#) You can add Strings together in a variety of ways. This is called concatenation and it results in the original String being longer by the length of the String or character array with which you concatenate it. The + operator allows you to combine a..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1363. [DIY Programming Cable Using Arduino Uno – Baofeng UV-9R Plus](#) Hey Everyone, this is a simple guide on how to Click here to get AI-based help  Headphone / ear piece cable into a programming cable using an Arduinio UNO as a USB Serial Converter. [DISCLA y damage caused..... Listed under: [How To – DIY – Projects](#)
1364. [Gut Check a Tweeting and Facebooking Fridge using Arduino](#) I have a problem, I'm trying to lose weight but I love snacking late at night. And no one knows that I even do it. That being one of my biggest hurdles, I figured why not include all my social media friends and followers in..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1365. [Baby Eats, Alternative Video Game Controller](#) This Instructables will teach you how to make the alternative controller to play my short game, Grogu Eats, on itch.io! This Instructables will be very basic up until the soldering. If you want to make this project, I recommend looking at soldering tutorials when you get.....



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

1366. [Personal Space Defender](#) A simple and elegant way to help keep your personal space bubble from being invaded by close talkers and overly huggie people. This is a stolen or borrowed idea from Phillip Torrone of Adafruit, who mused about something like this on an episode of..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1367. [How to Display Images on OLED Using Arduino](#) Hello there fellow learners, in one of our previous blog on OLED, we learnt how to wire and code OLED. We also learnt to display simple text using Arduino code. So today in this blog, we will learn how we can use images and custom bitmaps to..... Listed under: [LED Projects](#)
1368. [Arduino led pendulum](#) Step 2: Putting up the wires Strip both ends of wires -insert one end of each wire into sockets numbered -Gnd(black wire in my case)-this will be the common ground connection - 13 (green wire in my case) - 12 (yellow wire in my case) -..... Listed under: [LED Projects](#), [Projects](#)
1369. [Arduino Text I/O for Real World Applications](#) Quick Start This tutorial will take you through the steps you can use to successfully process Real World text I/OYou should avoid using any Serial methods in your loop() code and any code it calls. (see below) Install the SafeString library (V3+) from the Arduino Library Manager..... Listed under: [Other Projects](#)
1370. [Photoresistor Arduino Midi Theremin](#) I call it the C041D-2020 I made this during the second COVID lockdown in UK, from ideas borrowed from about 5 other projects I found here on Instructables and also on Youtube. As you can see from the video it makes acidy noises by covering the..... Listed under: [Security – Safety Projects](#)
1371. [Adafruit Flora NeoPixel LED Ring Headphone mod](#) Wearable Arduino mod for your headphones. Non-invasive procedure for headphones that don't have room inside the drivers or you don't want to hack apart your high end cans. Adafruit just put out a tutorial for adding pattern blinking LED lights to headphones. This instructable takes it..... Listed under: [Sound – Audio Projects](#)
1372. [How to Create an Animatronic Dragon Model](#) ROOAAAARR!! Before you learn how to train your dragon, you need to first obtain a dragon, and there's no better way than to make it yourself! This guide will explain the steps I took to create a scale model animatronic dragon, and in doing so..... Listed under: [Other Projects](#)
1373. [Candy Tossin Coffin using an Arduino](#) When you flip a switch, the coffin lid opens and a smiling red eyed ghost arises. The ghost flings some candy, pushes the switch back and returns to rest. Then, the coffin lid closes. Step 1: Major parts include: 4.5 rpm motor #155821 Jameco.com 1.8..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
1374. [The BookMinder: a Bookend Meeting Countdown Device](#) Since more and more of us are working from home, we are all increasing our engagement with our screens (looking at you, Zoom meetings). For myself, when I am taking a break from my computer screen I end up doing other things in my apartment..... Listed under: [Other Projects](#)
1375. [Arduino Controlled Solar Fountain](#) A fountain can make a nice decorative fixture for your garden. But it isn't always easy to run a power cord out to where you want it. So I decided to run it on solar power. The system is controlled by an Arduino. This allows..... Listed under: [Solar energy projects](#)
1376. [DIY RGB Tube Lights](#) DIY RGB Tube light is a multi functional tube light which can be used in photography, light painting photography, film making, gaming, as a VU meter and more. The tube light can be controlled by Prismatic software or by a push button. These tub lights..... Listed under: [How To – DIY – Projects](#)
1377. [Arduino HVAC Servo Thermostat or Controller](#) Welcome to my 'green' instructable! I am going to show you how to use an Arduino, two servo motors a temperature sensor and some metal (or wood) to make a digital thermostat for a through-wall HVAC unit. According to CB Richard Ellis (a major real..... Listed under: [Arduino Motor Project Ideas](#), [Ideas](#)
1378. [Arduino Photocell Theremin Synth \(glitchamin\)](#) You know theremins, right? Those cool-looking boxes with antennae that produce noise without being touched? They are played by the likes of Jimmy Page of Led Zeppelin, and present in the soundtracks of countless films. Well, with this instructable, I will show you how to..... Listed under: [Solar energy projects](#)
1379. [The Youtube Subscriber Counter](#) Hey! Today i'm gonna share with you one of my lastest quarantine projects, i'm talking about this awesome NodeMCU based Youtube Subscriber and View counter! It's a pretty simple project that can be done in an hour or less so let's get started! Supplies NodeMCULCD 16x2 with..... Listed under: [Other Projects](#)
1380. [Teclado MIDI Super Simple – Super Simple MIDI Keyboard](#) Este tutorial te lleva paso a paso por la construcción de un teclado MIDI de una octava, programable via arduino gracias a su conector de 6 pines. Vas a necesitar: Componentes: 1 Atmega328p con el bootloader de Arduino 1 Zócalo de 28 patas 1 Cristal..... Listed under: [Sound – Audio Projects](#)
1381. [Arduino Music and Game Box](#) https://youtu.be/HSzkWiln1L0 This project was a special gift to my son Eyal, for the birth of his younger brother Itamar. It basically lets you play four games: Simon game Reaction time game Free play (baby-mode) Music mode - plays the Super Mario brothers, by Reyboz (Thanks!) The..... Listed under: [Game – Entertainment Projects](#)
1382. [AIR Project using an Arduino](#) CODE: download final project code: Arduino Code download additional wiring\_analo code: Processing Code download C code: C CODE FILE EXPLANATION: The final project code is the final arduino cc should ONLY be used for..... Listed under: [GPS Based Projects](#), [Projects](#)
1383. [Gimbal Stabilizer Project](#) How to Make a Gimbal Learn how to make a 2-axis gimbal for your action camera In today's culture we all love recording video and capturing the moments, especially when you are a content creator like me, you sure have faced the issue of such..... Listed under: [Video – Camera – Imaging Projects](#)
1384. [Arduino-Pneumatic Flight Simulator](#) Hello, my name is Dominick Lee. I am a senior in high school who is also a programmer and inventor. I created the "LifeBeam Flight Simulator" (name of my project) because I wanted to challenge myself and utilize my software and hardware skills. I was..... Listed under: [Game](#)

[– Entertainment Projects](#), [Robotics – Automation Projects](#)

1385. [Arduino PIR motion water gun](#) first what youll notice my grammer isnt the best 😊 ok what youll need: 1 transister/mosfet that can handle the current for the water gun motor, this is the one i used - <http://www.sparkfun.com/products/10213> - then a diode, i used this one - <http://www.sparkfun.com/products/8589> - then a 10k ohm resistor,..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1386. [3d Maze Game Using Arduino](#) Hello friends , so today we are going to make a maze game using ARDUINO UNO. As Arduino Uno is the mostly used board it is very cool to make games with it. In this Instructable lets make the maze game which is controlled using..... Listed under: [Game – Entertainment Projects](#)
1387. [Pee to Check-In to Foursquare – Mark Your Territory using Arduino](#) In case you are unfamiliar with the most amazing new way to physically "check in" to foursquare here is a video that will explain it all: Mark Your Territory is a fully open-source system but because it interacts with the physical world as well as..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1388. [Mini invisible MIDI Harp](#) English: This is a simple and easy to make MIDI harp, it runs on an Arduino UNO and uses infrared sensors as strings. It communicates with every recording software that has MIDI. Its really fun to play with and also very cheap, so enjoy!! Español:..... Listed under: [Sound – Audio Projects](#)
1389. [CO2 Display](#) As its name suggests, the CO2 Display project is a small CO2 gas sensor to be plugged into USB to easily track indoor and outdoor pollution.The CO2 level is displayed live, but it is possible with the small application provided in the documentation to generate..... Listed under: [Sensor – Transducer – Detector Projects](#)
1390. [How to Make a Balancing Board System for Hip’s Muscles Exercise \(BalanX\)](#) After many happy years as a runner, two years ago I had a problem with my right hip. Unfortunately I had to undergo to total hip replacement surgery. After the operation I made a period of rehabilitation in the use of the leg muscles, through..... Listed under: [Development Board – Kits Projects](#)
1391. [Arduino Electromagnetic Field Detector](#) A while back I saw an EMF (Electromagnetic Field) Detector at makezine.com that used a led bargraph. I decided to modify it to use a 7-Segment LED Display! Here's my project. Sorry I don't have any pictures of it in use. Hopefully I can post..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1392. [Arduino Time-Lapse Controller](#) This project originally started out with a few simple parts thrown together to create a very simple time-lapse controller for a DSLR camera. After I was happy with the initial prototype, I wanted to make a final version which the programming of the "lapse time"..... Listed under: [Video – Camera – Imaging Projects](#)
1393. [Using Ninjutsu Hand Signs \(Naruto\) to Unlock a Safe](#) <https://youtu.be/z772hGGNcqg> Naruto is a Japanese manga series written and illustrated by Masashi Kishimoto.It tells the story of Naruto Uzumaki, a young ninja who seeks recognition from his peers and dreams of becoming the Hokage, the leader of his village. One of the most important parts..... Listed under: [Security – Safety Projects](#)
1394. [Arduino Controlled LEGO RC Tank and Transmitter](#) I recently got my childhood Lego out and wanted to find a project that I could combine with Arduino and mechatronics. I started off building a digger but then realised a tank would be better because, well tanks are cool!! originally built it to be..... Listed under: [Other Projects](#)
1395. [Think-a-Tron Mini](#) This Instructable is a standalone follow on to my recent Think-a-Tron 2020 project. You can see a picture of my Think-a-Tron "family" including the original, 2020, and Mini versions above. For the background on what Think-a-Tron is and what I tried to accomplish with Think-a-Tron..... Listed under: [Other Projects](#)
1396. [Self Balancing Unicycle](#) Following the popularity of our self balancing scooter and the SciChair we decided to try something a little edgier, the Self Balancing Unicycle. This project reuses a lot of stuff from our previous projects, using an arduino as the brains behind the scenes. Step 1:..... Listed under: [Game – Entertainment Projects](#), [Motor Projects](#)
1397. [Make a Motorised Pan and Rotate Camera Slider](#) Supplies The parts list for this build is quite lengthy, but a lot of these components you may having lying around if you do have an old 3D printer. The 3D printer I've used to print some of the plastic components and housings is a Creality..... Listed under: [Video – Camera – Imaging Projects](#)
1398. [My Arduino Ping Display Robot](#) Goals Hello all. I hope to please share a little robot that I have just finished building. There are many Ping Boat, perhaps with a tutorials and display less so without pretension, will illustrate what I could do. I gave myself the goal of realizing..... Listed under: [LCD Projects](#), [Projects](#), [Robotics – Automation Projects](#)
1399. [A Gentle Introduction to Arduino for Scratch Users](#) There are lots of people who are very comfortable with the Scratch programming environment but want to try something with Arduino to Blink Lights, Sense Buttons, Run Servos or whatever. They may find the C programming environment in Arduino IDE - Sketch, a bit too..... Listed under: [Other Projects](#)
1400. [Easy Zoom Quit Button](#) This Zoom emergency quit button lets you exit out of your meeting in an instant. It is simple to make and requires very little electronics experience. I built this because I was always searching around for the quit button on the bottom of the screen..... Listed under: [Other Projects](#)
1401. [How to Build Your Own DigiDice | Electronic LED Dice](#) <https://youtu.be/urZDkpSwVQo> Here is an Instructable on h well as an Arduino Nano to generate random numbers and display them in vibrant colours. The housing is fully 3D printed and some circuits have to be custom made..... Listed under: [LED Projects](#)
1402. [Visual Network Threat Level Indicator v2 using Arduino](#) By popular request this is a new wireless version of the Visual Network Threat Level Indicator. This uses a Roving Networks WiFly RN-XV Module to do 802.11 WiFi along with an Arduino to display the threat level on your network. Network monitoring is very important in todays..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1403. [Create a Choice-based Text Adventure Game With Tinkercad Circuits](#) One of my fondest childhood memories is visiting my grandparent's house and reading my uncle's old collection of "Choose Your Own Adventure" books. While I always got stuck playing text-based computer adventure games with finnick commands,

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I was hooked to the simplicity and variety of..... Listed under: [Game – Entertainment Projects](#)

1404. [A cardboard televisor \(with arduino and LEDs\)](#) Recently I saw a documentary about the history of the television. And to my surprise they showed that there existed a mechanical television before the well known CRT televisions. Those mechanical televisions or televisors were pretty smart and simple. A CRT is simply an electron beam that..... Listed under: [LED Projects](#)
1405. [Disney Magic Band Scanner](#) This is a Magic Band Scanner. It is inspired by the Magic Band Scanners that can be found at Walt Disney World. It is used at the entrances to all the parks and rides with the FastPass system. I designed and built this as a..... Listed under: [Other Projects](#)
1406. [Arduino Target Practice](#) A quick demo video for your pleasure. This is an instructable for a target practice system for airsoft and nerf weapons. The system has been designed to test a shooter’s reaction times and accuracy. Sam and I have been meaning to do this project for a..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1407. [Laziness Monitor](#) Build an affordable monitoring setup!This project will help you easily get indications on how much time your are sitting in the couch watching TV. This project will have time intervals in which you will get light indications from the board after X time has passed,..... Listed under: [LCD Projects](#)
1408. [Virtual Color Mixer using Arduino](#) This example demonstrates how to send multiple values from the Arduino board to the computer. The readings from three potentiometers are used to set the red, green, and blue components of the background color of a Processing sketch or Max/MSP patch. Software Required Processing or Max/MSP..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1409. [Daft Punk LIVES ON! My Guy Manuel Helmet](#) WHAAAAT??? DAFT PUNK CALLED IT QUITTS ??? Daft Punk may have retired but that doesn't have to mean that you have to stop having fun with their inspiration! Here is my second dedicated project to that musical duo. This project was pretty tough to pull..... Listed under: [Other Projects](#)
1410. [Happy Birthday Song Using Arduino Uno](#) Hello friends welcome back to "Techno-E-solution" in todays article I'll show "How to play Happy Birthday Song Using Arduino & Buzzer" in few steps. Most of the peoples are from technical background so I decide to wish that peoples means my besties in techy style..... Listed under: [Other Projects](#)
1411. [Led Slot Machine Costume using Arduino](#) This Instructable will walk you through my process of making a Slot Machine costume with addressable leds controlled with an arduino! Step 2: Lets Get started Picture set up: I found my slot picture online that the best graphic that when enlarged would stay..... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
1412. [Arduino Keyboard Message Code](#) When the button is pressed in this example, a text string is sent to the computer as keyboard input. The string reports the number of times the button has been pressed. Once you have the Leonardo programmed and wired up, open up your favourite text..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1413. [IR Calculator](#) Hey, welcome to my first instructable where I will be helping you create a calculator. It's basically made up of a 16x2 LCD, with an Arduino UNO that you can use in order to make quick calculations from far distances. I know, it doesn't make..... Listed under: [Calculator Projects](#)
1414. [Color Injection Lamp – Jumbo Size](#) I love this concept very much because kids like it very much. Now a days kids are always in mobile for study then for play and then for entertainment. Already i develop few projects with lights with arduino and Android. When i see through net..... Listed under: [Other Projects](#)
1415. [Visual Computer Stress Meter using an Arduino](#) Have you ever wanted to, without going out of your way to clock your processor, see how much stress your computer is under? With this project you will have a simple bar graph that constantly shows how much stress your computer is under. If the..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [RTOS – OS Projects](#)
1416. [F1 – Rider](#) F1(Formula One) Rider is a low-budget car. Aspiring people with inspiring speeds. The Rush of excitement is pressing accelerate. A fast Requires a sharp mind. Some cars are meant to fuel our passion. Better Ride is an outcome of a better ride. No hour feels..... Listed under: [Car Projects](#)
1417. [LED Fader – With or Without Arduino](#) Have an awesome project in mind using some LEDs. In that project I will be using some LED Fading Effect and few LED Chaser Circuits. But before jumping onto that, I thought I should create a short tutorial and show you guys how to fade..... Listed under: [LED Projects](#)
1418. [Necomimi Arduino Cat Ears](#) They are so dang cute. If you have ever seen the cool promo for the Necomimi Neurowear wearable set of cat ears that respond to brainwaves, you would want a set too. But it seems they may be vaporware since it hasn't materialized on the..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1419. [Measuring Refrigerant Gases Sound Speed Using Arduino and App Inventor 2](#) The purpose of this Instructable is to build a portable device that can measure the speed of sound in refrigerant gases and use this data to identify them. The speed of sound in an ideal gas is related to two characteristics of the gaseous substance, its molecular..... Listed under: [Sound – Audio Projects](#)
1420. [DIY Arduino Unit Converter: How to use LCD](#) Step 1: Ingredients: Electronics Arduino Breadboard LCD\* 2x 50k pots 150 ohm resistor Jumper wires, and tons of them! If you do not want to use a LCD then you will have to use serial monitor. Wherever you see lcd.print just change it to Serial.print..... Listed under: [How To – DIY – Projects](#), [LCD Projects](#)
1421. [CHR's 8X8X8 LED Cube – Revisited with improvements!](#) SEE STEP 11 for uploadable code for this cube. This instructable has mutated over the past few months, and you'll see a bunch of end results before we get into how to make the cube, and the improvements that have been made over the original..... Listed under: [LED Projects](#)
1422. [Parking Assistant Arduino Project](#) Do you ever get frustrated trying to park in just the right spot? Have you gotten tired of using a tennis ball as a guide? Is it time for something a little smarter? Now you can upgrade your garage with an Ultrasonic smart parking assistant..... Listed under: [Arduino LED Project Ideas](#)
1423. [Eggbot](#) https://youtu.be/hdoy4-F4xgl Rafael Fuentes, Carmen María Fuentes and Carmen Pérez decided to create this project that was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications. The project consists of making an eggbot using an

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Arduino Uno development board. This..... Listed under: [CNC Machines Projects](#), [Motor Projects](#)

1424. [Arduino 4 led madness](#) In this instructables you will learn how to wire 4 LED'S and make them flash 10 times. This is a great Starter project!! what you will need...  
1: arduino (I am using an Duemilanove) 1: breadboard 4: LED's 10-15: jumper wires 3: resistors Step 1:..... Listed under: [LED Projects](#)
1425. [Fading using an Arduino](#) Demonstrates the use of analog output (Pulse Width Modulation (PWM)) to fade an LED. PWM is a technique for getting an analog-like behavior from a digital output by switching it off and on very fast. Circuit An LED connected to digital output pin 9 through..... Listed under: [LED Projects](#), [Projects](#), [PWM Projects](#)
1426. [Creative Noise Semaphore](#) This project was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications (<https://www.uma.es/etsi-de-telecomunicacion/>). It's a modification based on sound level meters that are already marketed for use in classes to measure ambient noise. The project is developed in..... Listed under: [Sound – Audio Projects](#)
1427. [Pressure Activated Light-Up Umbrella using an Arduino](#) Once upon a time, 2 girls greatly enjoyed walking in the rain with umbrellas. They decided the enjoyment of this experience could be maximized by building their own pressure-activated web of LEDs to install under their umbrella. Thus, with the help of an Arduino, some..... Listed under: [Home Automation Projects](#), [Projects](#)
1428. [TankWars: A Physical Video Game using Arduino](#) This instructable will show the game TankWars, a web based game played on an iPad that drives a real robot tank to fire lasers at a robot. When you hit the robot target, the game is updated. The tank and the target are Arduino's equipped..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)
1429. [Arduino Voice Controlled Robot](#) Over the years as technology advanced and grew at a tremendous pace, so did the horizon of ideas and creation in our mind. If we look a few years back, a teenager like me would dare think about creating a robot that would operate listening..... Listed under: [Robotics – Automation Projects](#)
1430. [Mario 64 Cake Timing Light Game](#) <https://youtu.be/nFIqSWAj8E> Welcome to my Mario 64 Cake Carnival Timing Game! The cake is modeled after the end screen in Mario 64. The active light moves around the cake in a circle. The goal of the game is to stop the light on the star by..... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#)
1431. [ATtiny programming with Arduino](#) After this Instructable you should be able to program an A Ttiny85/45 with an arduino. It may sound complex but it really isn't. After doing some research I could not find to much info on how this could be done. I however did find <http://www.instructables.com/id/Program-an-ATtiny-with-Arduino/>. This Instructable..... Listed under: [Arduino Programmer Projects](#)
1432. [Arduino Fixed-point Vehicle Proximity Detector](#) This is the high-tech version of hanging a tennis ball from the ceiling from a piece of string. Of course, if you have two different types of vehicles, that tennis ball isn't going to land in the same place on both of them. This project..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
1433. [Real VO2Max–Measure Your Athletic Potential](#) VO2Max is an interesting concept that proposes that there is a natural limited ability to extract Oxygen nutrient out of the air and consume it. It is like the IQ of sports activities--some algorithm that tells you how gifted you are in doing a variety..... Listed under: [Temperature Measurement Projects](#)
1434. [Electronic Dartboard or How I Learned to Stop Worrying and Love ECE 476](#) Introduction Ever dream of having a darts game scored automatically without using those annoying plastic darts? We decided it was a dream most of us has had at some point, and so decided to implement an automatic scoring system for a “real” cork dartboard. As..... Listed under: [Game – Entertainment Projects](#)
1435. [88888: the Electronic Smile Counter](#) This project originated from a request of a friend. He asked me to build a so-called smile counter for their college dorm - a segmented display which can show a number. This number must increment every time someone pushed a button and should be memorized..... Listed under: [Other Projects](#)
1436. [Arduino 7-Segment Thermometer](#) Using a dual 7-segment display, a DS18B20 temperature sensor and a couple of shift registers I figured that I could build a digital thermometer. Step 1: Temperature Sensor The sensor I'm using is the DS18B20, it's a 3pin sensor that just requires a single input..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
1437. [PlayPlace Lighting Using NeoPixels](#) With 2020 being the year of COVID, having a toddler that was stuck at home (especially during the winter) presented the need for, well, stuff to do. So, my wife and I decided to turn our basement into a play place for our little girl..... Listed under: [Other Projects](#)
1438. [Arduino String Comparison Operators Code](#) The String comparison operators, ==, !=, >, <, >=, <=, and the function equals() and equalsIgnoreCase() allow you to make alphabetic comparisons between Strings. They're useful for sorting and alphabetizing, among other things. The operator == and the function equals() perform identically. It's just a matter..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1439. [Voice Loudness Monitor \(Arduino\)](#) In this pandemic it is important to take reasonable measures to reduce spreading viruses. A paper from 2019 found that louder voices spread more viruses (<https://www.nature.com/articles/s41598-019-38808-z>) [Asadi et al. 2019]. This simple project aims to remind people to not shout unnecessarily. This can be used..... Listed under: [Sound – Audio Projects](#)
1440. [USB Freeform using an Arduino](#) This is a project in attempting to improve it predecessor "Freeform Arduino" by putting it in an enclosure and having it serve the similar purposes as "Palm Arduino Kit" and "Palm Arduino II" which I can carry it in my pocket and be available to..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1441. [Smart Desk LED Light | Smart Lighting W/ Arduino | Neopixels Workspace](#) Now a days we are spending a lot of time at home, studying and working virtually, so why not to make our workspace greater with a custom and smart lighting system Arduino and Ws2812b LEDs based. Here I show you how build your Smart Desk..... Listed under: [Other Projects](#)

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1442. [Mechanical 7 Segment Display V2](#) Hello and welcome back to another Instructable. In the previous two Instructables, I have shown you how I created PCB coils in Kicad using a Python script, covered the basics of an H bridge, and showed you how I will be using them to control..... Listed under: [Other Projects](#)
1443. [Extending GPIOs of ESP8266-01 and IoT || Exploring ESP8266:Part 3](#) Hello all! This instructable happens to be part 3 of my ESP series where I continue to experiment and explore the various features of the ESP 8266-01 board. In the first and second part of the series I have mentioned the wonderful capability of this..... Listed under: [Other Projects](#)
1444. [Floating and Spinning Earth Globe](#) The objectives of this project were (1) to make an object float, by means of magnetic levitation and controlled by an Arduino Nano and (2) documenting the whole process allowing other people to build one on their own. There were some requirements, too. First, I..... Listed under: [Other Projects](#)
1445. [soundie: a musical touch-sensitive light-up hoodie using Arduino](#) This tutorial will show you how to create a garment that changes its behavior depending on how conductive you are. It detects conductivity through iron-on conductive fabric that we will use, and it will light up and sing different notes depending on how you touch..... Listed under: [Game – Entertainment Project Ideas](#), [How To – DIY – Project Ideas](#), [Ideas](#)
1446. [Teamaker 2.0](#) What's better in the morning than a hot cup of tea?You should keep to the brewing time so that the tea tastes the way you want it to. Unfortunately, there's always a lot to do and the timer beeps when you're somewhere else. So we..... Listed under: [Other Projects](#)
1447. [Visual Network Threat Level Indicator using Arduino](#) Network monitoring is very important in todays world. The internet is a scary place. People have taken steps to raise their awareness by installing Intrusion Detection Systems(IDS) such as SNORT. The problem with most of these systems is that upon first installing them they are..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
1448. [Wilson – the IoT Hat](#) Hi There, Recently, I finished up on my DIY project Wilson: the IoT hat. Because of the big fun I had creating and using this IoT hat, and given the wonderful feedback it provided to the wearer, I really want to share this project with..... Listed under: [Other Projects](#)
1449. [Flicker up to 6 LEDs with Arduino](#) Hi there. Christmas is coming closer, and I was wondering if I could put some candles in my room to get in the "christmas mood". But after a friends house burned down of christmas tree candles, I don't want to burn real candles into my..... Listed under: [LED Projects](#), [Projects](#)
1450. [Displaying Images on 4D OLEDs using Arduino](#) 4D Systems makes some really nice serial OLEDs. They aren't hard to use, but the documentation for them is very scattered. This tutorial pulls together the various pieces i've found so that you can get up and running very quickly. Start by skimming through the..... Listed under: [Video – Camera – Imaging Projects](#)
1451. [ARDUINO AIRGUN CHRONOGRAPH](#) This is a chrono for measuring the speed and energy of an air rifle pellet. It's pretty fast and could probably be used for other types of gun, (airsoft , full bore etc) but I have not tested it on them. I initially made this..... Listed under: [Temperature Measurement Projects](#)
1452. [Deej – a Physical Volume Mixer](#) Meet deej! deej is a physical voulume mixer. Just like the volume mixer built into windows, just physical! This means that you can change the volume of an application without closing your important game. You can turn the game volume down and Discord volume up,..... Listed under: [Sound – Audio Projects](#)
1453. [Arduino stoplight web server](#) At the place I work, we use xymon to monitor of our servers. All of the services monitored are important, but we wanted a separate indicator to simply show the overall health of the most critical systems. Furthermore, we came up with the following criteria:..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
1454. [Power off from an Arduino Sketch using the Pololu Power Switch](#) If you need an Arduino to shut off from within your Sketch, this is the solution. We will explore wiring the Pololu Pushbutton Power Switch, programming the Arduino to shut off the power, and making the unit "power on" only. The Pololu Pushbutton Power Switch..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1455. [Bounce Back!](#) Responsive Pneumatic Envelop (A useless machine) Mockingly inspired by the blowfish, Bounce Back builds on state of the art bubble wrap shipping envelops by only inflating its bubbles when frightened by rough handling. Inversely, when the package is not being shuck, it will not inflate..... Listed under: [Other Projects](#)
1456. [How to Make CLAP Control Car || Using Arduino Uno](#) Hey Guys, welcome to my first instructables article. So guys today we are going to make a " Clap Control Car With Arduino " seems to be interesting Right? Let me first tell you about the main working principle of this robot: This car uses a..... Listed under: [Car Projects](#)
1457. [Arduino & TFT Screen Volume Mixer](#) Before i start this AMAZING tutorial on how to build a physical windows volume mixer, i want to apologize for my bad written English. Now, let's get started. For this project I would like to build a sound mixer, but with a tft screen so i can..... Listed under: [Sound – Audio Projects](#)
1458. [Automatic Opening Garbage Can Cabinet](#) <https://youtu.be/RrtcjfrJk7I> Sometimes you need to throw something away, but your hands are either full of garbage, or they're contaminated with raw chicken or meat. I was able to make this automatic opening garbage bin with an Arduino Uno, and some supplies from Amazon, Ace Hardware..... Listed under: [Other Projects](#)
1459. [Digital Read Serial using Arduino](#) This example shows you how to monitor the state of a switch by establishing ser  
your computer over USB. Hardware Required Arduino Board A momentary switch, button, or toggle switch 10k oh  
image developed using Fritzing. For more..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1460. [Arduino Esplora Joystick Mouse](#) This sketch shows you how to read information from the Esplora's joystick and use it to control the movement of the cursor on  
your computer. You're making your Esplora into a mouse! This sketch will take over the mouse movement of your computer. If you..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
1461. [Build a Robot That Creates Art](#) In this project I'm showing you how I made my own art robot. The whole concept is to illustrate how we as humans can work  
together and collaborate with machines and robots to create something new. Both the art style and ethos of the project..... Listed under: [Robotics – Automation](#)

[Projects](#)

1462. [Arduino IoT Cloud ESP8266 NodeMCU Alexa Home Automation System | IoT 2021](#) In this IoT project, I have shown how to make an IoT-based Smart Home with Arduino IoT Cloud & Alexa using NodeMCU ESP8266 to control 4 home appliances with voice commands. If the internet is not available, then you can control the home appliances manually with switches. During the article, I have..... Listed under: [Other Projects](#)
1463. [Flux Capacitor PCB Badge](#) Hey Everyone what's up! <https://youtu.be/efD6QN1S20o> So this is my "FLUX Capacitor" PCB Badge which is a replica of the actual Flux Capacitor which was in back to the future movie. The Flux Capacitor was the core component of Dr. Emmett Brown's time-traveling DeLorean time machine..... Listed under: [Other Projects](#)
1464. [Arduino Tic Tac Toe Shield With an AI Opponent](#) In this Instructable, we're going to be making a Tic Tac Toe or Noughts and Crosses shield for an Arduino that allows you to play against another person or an AI player running on the Arduino. The game board is made up of a 3x3..... Listed under: [How To – DIY – Project Ideas](#)
1465. [Homemade CNC Machine From DC Servo Motors and Wooden Wine Boxes](#) Today, I would like to share how to build a 3 axis CNC machine at home using available or discarded materials. Specifically in this project, I reused 2 old DC servo motors and 2 wooden wine boxes, as well as, taking advantage of my daughter's..... Listed under: [CNC Machines Projects](#)
1466. [Differential Thermal Analysis Using Arduino and PhyPhox](#) When a solid substance is heated the increase in energy manifests itself in the form of an increase in temperature. If the heating rate is constant the temperature increase is also constant as long as there is no change in the structure of the substance..... Listed under: [Other Projects](#)
1467. [Plant Bartender](#) [https://youtu.be/xV2tXc584\\_A](https://youtu.be/xV2tXc584_A) This project was completed by Alexandra Pittiglio & Christelle Feghali for our Computational Design and Digital Fabrication 'Useless Machine' Project, Semester 2, ITECH M.Sc Programme ----- We present Plant Bartender, a 2-axis robot that senses and waters in the most inefficient way. This device..... Listed under: [Other Projects](#)
1468. [ATTiny85 – Spectrum Analyzer on RGB Led Matrix 16×20](#) Continuing with ATtiny85, today I'd like to share how to build a music spectrum analyzer on 16x20 RGB led matrix. The music signal FFT transformation and LED Bit Angle Modulation are all carried out by one DigiSpark ATtiny85. Please watch my video below: <https://youtu.be/257Ma3YemKs> Step 1:..... Listed under: [LED Projects](#)
1469. [Metroid Morph Ball](#) [https://youtu.be/q6j\\_CxbCovE](https://youtu.be/q6j_CxbCovE) If you are like me, there are many nostalgic things that bring me back to my youth. Tom Sutton, username yakis on thingiverse, created this 3d model of Metroid's Samus in morph ball form. It has room inside for LEDs to light it up..... Listed under: [Other Projects](#)
1470. [The Flight Millennium Controller](#) I realized a PCB remote control in order to control remote controlled objects and more particularly an airplane. This one works in wifi 2.4Ghz, has an Oled screen, joysticks, potentiometers, buttons/switches and a pipe to select the device to control. I made a form of..... Listed under: [Other Projects](#)
1471. [LED Chaser Circuits Using IC4017 and Arduino](#) <https://youtu.be/F6V1AjESWbU> A Chaser Circuit consists of a clocked IC or other electronic unit like an Arduino that drives an array of LEDs in such a way that individual LEDs (or small groups of LEDs) turn on and off in a predetermined and repeating sequence, thus..... Listed under: [LED Projects](#)
1472. [Wind Speed Monitor Via MQTT](#) Once I failed to control the drone because of the wind so I want to measure the wind speed to know whether it is suitable for the drone flight in the wild. So I am thinking of how to measure the wind speed in the..... Listed under: [Other Projects](#)
1473. [Life and Tetris and Pong...Oh My!](#) Several months ago I got a really good deal on a large 32x32 RGB LED matrix display. It matches up with the wiring interface shown on the Adafruit website for their 32x32 display so I did the usual testing with their libraries. Recently I was..... Listed under: [Other Projects](#)
1474. [The Tetris Pumpkin using an Arduino](#) Who wants grinning faces and candles when you can have an interactive pumpkin this Halloween? Play your favorite block-stacking game on an 8x16 grid carved into the face of the gourd, lit by LEDs and using the stem as a controller. This is a moderately..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
1475. [LED Hour Glass](#) In this article I describe how we made an hour glass with leds as the sand. We were always interested in making something that visually flows like sand and decided to use an hour glass to start. The movement is not completely fluid given the..... Listed under: [LED Projects](#)
1476. [Touch Sticky Note using Arduino](#) This piano-liked thing is what I called touch sticky note. I Use a piece of sponge as the paper, and put 8 x 8 LEDs under the sponge. Whenever I touch the touch screen, the related LED will turn on, and this is how I..... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
1477. [BLE & LoRa Based Indoor Location Tracker Without GPS](#) Hey, what's up, Guys! Akarsh here from CETech. GPS-based location tracking is one of the very important services nowadays. We use this to find a path to our destination and also track the position of our goods using this. But have you ever heard of location..... Listed under: [GPS Based Projects](#)
1478. [A laundry alarm for the hearing impaired and everyone else using Arduino](#) This Arduino based project was designed to solve a recurring problem for my hearing impaired wife. Our laundry room is located remotely from our living area. If our laundry has finished washing and      Click here to get AI-based help      X      get moldy. .... Listed under: [Home Automation Project Ideas](#), [Projects](#), [Security – Safety Projects](#)
1479. [Android & Arduino Controlled Projector Screen](#) This is my first time using Arduino, or any microcontroller. I'm glad it worked out so well but my wife may not be, due to the stacks of microcontrollers that will be showing up on our doorstep soon for future projects. Any feedback or questions..... Listed under: [Arduino Android](#), [Projects](#)
1480. [Mini-TV Weather Station With the ESP32!!](#) Hello everyone, today I'm going to show you how I built a Mini-TV weather station with Open Weather Map and the ESP32! Background and Troubleshooting I'm not kidding when I say the inspiration for this project came from boredom! I had been working on the same project..... Listed under: [LCD Projects](#)



1481. [Freeform Arduino](#) As an artist, sometime I created an art pieces without planning ahead what I want to draw or paint, just want to add colors or lines onto the drawing or canvas, and never think of the outcome of the piece. Let's our own instinct and subconscious leading..... Listed under: [LED Projects](#), [Projects](#)
1482. [L.O.G. sous vide](#) So have you heard of sous vide? Well, this Lazy Old Geek (LOG) hasn't or hadn't. <http://en.wikipedia.org/wiki/Sous-vide> It's French. So it's kind of like boil-in-a-bag only you don't boil it. The equipment can be rather expensive. [http://www.sousvidesupreme.com/Shop\\_Online/SousVide\\_Supreme\\_Demi/Department.aspx?DeptID=3&&AdID=245&gclid=CN7PyM6uw7cCFWNp7AodomkA6g](http://www.sousvidesupreme.com/Shop_Online/SousVide_Supreme_Demi/Department.aspx?DeptID=3&&AdID=245&gclid=CN7PyM6uw7cCFWNp7AodomkA6g) I thought that was rather expensive for a..... Listed under: [Home Automation Projects](#)
1483. [ARC Reactor Lamp MKII](#) Welcome to this instructable, this time I will be showing you how to make the newest version of my ARC Reactor Mood lamp I did a couple of months ago. This time it won't be a mood lamp, but a lamp that changes depending on..... Listed under: [Other Projects](#)
1484. [SEE-THROUGH LED MATRIX WITH WASHERS](#) I do project related works. After the structure contractors finished their building works, they threw away a lot of washers and nuts M10. During I did cleaning, I picked them up to make this decorative see-through led project. It can be viewed from frontside or..... Listed under: [LED Projects](#)
1485. [Energy-Saving Light using an Arduino](#) In the spirit of Earth Day, I have created a revolutionary new energy-saving lighting solution that is only ever on when your eyes are open. This is remarkably more efficient than normal lighting that remains on, even when your eyes are shut. Using my device, you..... Listed under: [Home Automation Projects](#), [Projects](#)
1486. [Make your own custom Arduino compatible](#) I love Arduinio. I love the things that people make with them and I love to make my own. Last August I published an Instructable on how to make your own postage stamp sized Arduino compatible. This Instructable will show you how to to make a..... Listed under: [How To – DIY – Projects](#), [Projects](#)
1487. [Gesture Controlled Interactive Desk Light](#) <https://youtu.be/4BFWbc2f39I> We all have seen different kinds of mood lamps & RGB light, most of them have some buttons or a remote to interact with them, but we thought of making a Gesture Controlled RGB Desk Lights which can change its colour only using a simple swipe..... Listed under: [Sensor – Transducer – Detector Projects](#)
1488. [Program ESP8266 With NodeMCU](#) Hey everyone what's up! so you got yourself an esp12f module and now you want to program it? here's how you can do that in an easy way that doesn't involve that complex FTDI module with the button's method. so the easy way is to..... Listed under: [Arduino Programmer Projects](#)
1489. [Arduino Timing Belt Calculator \(console\)](#) This command-line Python script is a utility to help calculate parameters for timing belt drive systems. A more general discussion of designing with timing belts can be found on the Timing Belt Guide pages. Installation Requirements The code requires a working installation of Python 3 with scipy. For..... Listed under: [Calculator Projects](#)
1490. [Arduino Bird Shoo!](#) In the spring every year, we have a group of robins who start making nests around the house. We also have lots of windows in a patio area that when the robins see their reflection they think it's a rival bird. They attack the windows..... Listed under: [Sensor – Transducer – Detector Projects](#)
1491. [MIDI-to-MQTT Bridge \(console\)](#) This command-line Python script transmits MQTT messages based on events from a MIDI input device such as the Akai MPD218 Drum Pad Controller. This can be used as a platform for remote control of one or multiple embedded devices. The MQTT and MIDI configuration must be..... Listed under: [Other Projects](#)
1492. [3D Printer Add-on Heated Bed](#) I have a FlashForge Finder 3D printer that did not come with a heated bed. The factory build plate is also somewhat limiting in what kind of build surfaces you can use. I finally decided it was time to resolve those issues and added a..... Listed under: [Other Projects](#)
1493. [Arduino Performance Utility Tools](#) Some of the exercise packages include several utility and test programs. These are all standalone scripts using Python 3 and a few additional packages as described in Python 3 Installation. The following scripts may be browsed in the Python MIDI tools directory on the course site. list\_MIDI\_ports.py Command-line..... Listed under: [Other Projects](#)
1494. [Arduino String Appending Operators Code](#) Just as you can concatenate Strings with other data objects using the StringAdditionOperator, you can also use the += operator and the cconcat() method to append things to Strings. The += operator and the concat() method work the same way, it's just a matter of..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
1495. [Arduino MQTT Plotter \(PyQt5\)](#) This utility GUI application is a tool for visualizing the content of multiple data streams passed as short numeric messages back and forth across the network via a MQTT server. It supports opening an authenticated connection to the server, subscribing to a class of messages..... Listed under: [Wireless Projects](#)
1496. [Gas Detector](#) Let's create a simple Gas Detector connectable to WiFi. The gadget would offer: web UI including gauges for LPG, CO, Smoke simple data handler returning values in JSON capable of regularly sending data to ThingSpeak server and obviously triggering loud alarm if threshold of dangerous..... Listed under: [Sensor – Transducer – Detector Projects](#)
1497. [Arduino MQTT Monitor \(PyQt5\)](#) This utility GUI application is a tool for debugging programs using a remote MQTT server. It can show messages on multiple topics and publish text-based messages on a single topic. The MQTT monitor application in operation. The large button at the top left is detailed..... Listed under: [Other Projects](#)
1498. [Solar powered arduino on the back of a playing card](#) Here's a six word tragedy: My arduino needs four AA batteries. Really? Isn't this 2012? Where's my jetpack?! Here's a way to the future -- a way to make a solar panel, from scratch, that can power any arduino off of sunlight or even light..... Listed under: [Battery Projects](#), [Projects](#), [Solar energy projects](#)
1499. [Farkle! Handheld PCB Game Console](#) In this Instructable I will show you how I made my PCB Farkle Game! Farkle, also known as 10000, Zilch, 6 Dice, and Ten Thousand, is a fun and challenging dice game with multiple variations and scoring options. I first got the inspiration from my..... Listed under: [Game – Entertainment Projects](#)

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1500. [Arduino-MQTT Bridge \(PyQt5\)](#) This PyQt5-Enabled Arduino MQTT GUI connects an Arduino sketch to a remote MQTT server over the network. It communicates with the Arduino using the serial port, relaying lines of text to and from the MQTT server. This can be used as a platform for remote..... Listed under: [Wireless Projects](#)
1501. [How to Build an Arduino Voice Controlled TV Remote](#) #include <EEPROM.h> #include <Wire.h> #include <SoftwareSerial.h> #include <LiquidCrystal.h> SoftwareSerial voice = SoftwareSerial(15, 16); LiquidCrystal lcd(5, 6, 7, 8, 9, 10); int pulses, A\_SIG=0, B\_SIG=1, menu=0, datacount, i, buttoncount=0; int count, j, k, m, ready=0, even=0, fail, first\_but=0, second\_but=0; word Power[100]; word Remote[100]; //word Remote2[100]; word..... Listed under: [Home Automation Projects, Projects](#)
1502. [SMARTWALKER D4E1](#) The smartwalker is being developed for a project called "design for everyone" at Howest university college of Applied Sciences (Belgium). We are a group of design and occupational therapy students. This project is specifically made for an individual person: Peter. Peter can't see nor hear. When..... Listed under: [Other Projects](#)
1503. [Arduino Lecture Sample Code](#) This collection of short Arduino sketches introduces a variety of programming concepts. The comments are minimal as these are intended to be starting points for explanation. blink // 1. blink the onboard Arduino LED on pin 13. // 2. demonstrate setup(), loop() // 3. demonstrate..... Listed under: [Clock – Timer Projects](#)
1504. [End of Days Clock](#) https://youtu.be/33Q\_PqhLzWw The days got shorter here in Alaska until it felt like the murky light was only a short interruption of a long sleep so I built a clock to display the seasonal diminishment (and expansion) of time. It also displays when it snows and..... Listed under: [Clock – Timer Projects](#)
1505. [Arduino Sketch Classifier Demo](#) N.B. this is new and still being tested. This sketch demonstrates an example of ultrasonic range sensor data processing using a combination of signal filters and a classification tree. The classifier code was generated using the Python script classify\_gen.py on recorded and labeled training data. The underlying..... Listed under: [Other Projects](#)
1506. [7-Segment NeoPixel Clock With Countdown Timer](#) https://youtu.be/H4J4CI4Dduc In this Instructable, my twin brother, Sunyec206, and I will show you how to make a 7-segment NeoPixel Clock with Countdown Timer. The inspiration for this project began with our parents and their fitness room. While they have an older digital clock in the room,..... Listed under: [Clock – Timer Projects](#)
1507. [Arduino Sketch FilterDemos](#) N.B. this is new and still being tested. This sketch demonstrates several examples of single-channel filters for processing sensor data. The filter functions are purely numeric operations and not dependent on any Arduino-specific features. This supports offline testing, as they can be compiled for debugging..... Listed under: [Sensor – Transducer – Detector Projects](#)
1508. [AI Auto-Classify Trash Can](#) This project is a trash can that recognizes and classifies garbage automatically. Use Machine-Learning and Arduino in Scratch. How it works 1. Camera takes an image of garbage. 2. Machine-Learning model recognizes the classification of garbage by the image. 3. Electrical and mechanical parts drive the garbage..... Listed under: [Other Projects](#)
1509. [VERTICAL X-Y PLOTTER || DRAWING ROBOT || ARDUINO PLOTTER](#) In this instructable, we will learn to make an XY plotter/ Vertical plotter drawing machine using Arduino. With this very efficient Vertical Drawing machine, We can draw images on different paper sizes, walls, or whiteboards along with printing texts, generating arts and graffiti. Vector images(SVG)..... Listed under: [Robotics – Automation Projects](#)
1510. [Brainwaves Fly a Drone](#) Drones are fun to fly, and it's possible to do limited flying using brainwaves. The headset senses my brainwaves and transmits them to a small computer. When I increase my attention level, the computer converts the signals and passes them to the drone's controller, which..... Listed under: [Drone](#)
1511. [How to make a servo and Ardiuno stand](#) In this instructible I will show you how I make my servo stand. This stand is useful if you want to test a new way to control a servo but dont want to use a servo on your robot or something. make Step 1: Cut..... Listed under: [Arduino Motor Project Ideas, Ideas, Other Project Ideas](#)
1512. [Arduino Sketch CKS-Shield-1-Test](#) This Arduino sketch exercises the standard hardware of the CKS-1-Shield board. It provides a console interface for reading inputs and triggering outputs, and a set of asynchronous state machines for generating test motions. Console Interface static void parse\_user\_input(int argc, char \*argv[]) Process an input message tokenized from a..... Listed under: [Other Projects](#)
1513. [Arduino – How to Read SD Card Text File Line by Line](#) In this tutorial we will learn how to read the SD card text file line by line. Watch the Video! Note: You can use other Displays such as OLED, but make sure that you use a board with enough memory like Arduino Mega,etc https://youtu.be/930oLDGyCSs Also..... Listed under: [Other Projects](#)
1514. [The useless alarmed Coke can using Arduino](#) Hi all! This is the most useless project in the world! It consist in a Coke can attached to an Arduino trough a coaxial cable and two resistors that make a sound when an hand is near it. Step 1: Materials and Tools For make..... Listed under: [Game – Entertainment Projects, Projects](#)
1515. [Arduino Sketch Event Busy Box](#) Note: this sketch is a work-in-progress and only partly tested. This multi-file sketch is provided to serve as a template for projects which combine responsive sensing and actuation with behavioral logic, implemented using a non-blocking event loop. The actual sketch does nothing specifically useful, but..... Listed under: [Other Projects](#)
1516. [RC Arduino Domino Layer With Bluetooth App Control](#) How to 3D print and assemble your very own programmat  
laying machine. Who likes knocking down absurdly long runs of dominoes? I do. Who doesn't like laying them all by hand. I don't. That's why I made this. ? Using..... Listed under: [Bluetooth Projects](#)
1517. [The useless but mazing QR-clock using Arduino](#) I got this idea for a while but I never had the chance to try it out. Friday, a workmate gave me a LCD shield for Arduino and I thought that was the right time to build a clock that comunicate the time through QR-codes. Of course, it's..... Listed under: [Clock – Timer Project Ideas, Ideas](#)
1518. [Arduino Sketch PinballGame](#) This sketch provides a pinball machine controller as an extended example of a real-time logic controller utilizing third-party hardware drivers. It is configured to use hardware in the PinballShield circuit board. This sketch assumes you have already installed several third-party Arduino

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libraries in your IDE..... Listed under: [Game – Entertainment Projects](#)

1519. [I2C With the ESP8266-01 !? || Exploring ESP8266:Part 1](#) Hello all ! With this instructable I will be writing and documenting a series of projects mentioning and exploring the various hidden ( rather unexplored ) features of the tiny ESP8266-01 WiFi Module. Did you know that the ESP8266-01 supports I2C communication? Yes it is..... Listed under: [Other Projects](#)
1520. [Building the YaNis EOS Controller using Arduino](#) The YaNis EOS controller is a device that allows you to wirelessly control your Canon DSLR from your Android phone. What's really exciting here is that the Android interface allows you to change most of the camera's settings (like Shutter Speed, Aperture Size, ISO, White..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1521. [Arduino Sketch MPU6050 DMP6](#) This sketch is used by Exercise: MPU6050 IMU I2C Module. Main Source Code The main code is in MPU6050\_DMP6.ino. // I2C device class (I2Cdev) demonstration Arduino sketch for MPU6050 class using DMP (MotionApps v2.0) // 6/21/2012 by Jeff Rowberg <jeff@rowberg.net> // Updates should (hopefully) always be available..... Listed under: [Other Projects](#)
1522. [WetRuler–Kitchen Helpers for the Visually Impaired](#) [https://youtu.be/9\\_ZpVLm8NMY](https://youtu.be/9_ZpVLm8NMY) I have worked most of my adult life with patients with vision problems in Alaska and pondered building a helpful device that would enable a more defined way of metering out fluids in a kitchen if users had no central vision. There are devices..... Listed under: [Other Projects](#)
1523. [Home Automation System Using Smartphone and Bluetooth Part 2 With Manual Control](#) Hello friends welcome back to "Techno-E-solution", In previous video we see how we can control the home appliances with the help of Smartphone & Bluetooth but there is no any manual control for the system, so In this tutorial we are going to make a..... Listed under: [Bluetooth Projects](#)
1524. [Arduino Sketch Adafruit PWM](#) This sketch is used by Exercise: Adafruit PWM I2C Module. Full Source Code The main code is in Adafruit\_PWM.ino. /\*\*\*\*\* This is an example for our Adafruit 16-channel PWM & Servo driver PWM test - this will drive 16 PWMs in a 'wave' Pick one up today..... Listed under: [Other Projects](#)
1525. [Color Changing Nightlight using Arduino](#) So, instead of buying a nightlight for my kid's room, I decided I could do a much better job of it. This nightlight cycles through 1500 colors over 7 mins and turns on when it is dark and turns off when it is light. It..... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
1526. [Creative Console for Space Mouse!](#) <https://youtu.be/ZeQCTqFfhYo> Hello makers!! For those who already know my Instructable "Space Mouse" <https://www.instructables.com/Space-Mouse-With-Ard...> there is now an extension for it! The Creative Console!! I designed this console to extend the functionalities of the space mouse keeping the prime concept: keep it cheap, customizable and 3D..... Listed under: [Other Projects](#)
1527. [Arduino Sketch WS2801LED](#) This sketch is used by Exercise: WS2801 RGB LED SPI Module. Full Source Code The full code is all in one file WS2801LED.ino. // -\*- mode:c++; -\*- /// @file WS2801LED.ino /// /// @brief Example for driving several WS2801 RGB LED modules over SPI on an Arduino UNO..... Listed under: [LED Projects](#)
1528. [Arduino Sketch OneInOne Out ASCII](#) This sketch is an Arduino program which acts as an simplified hardware I/O server using a simple readable message protocol. The intent is to provide an easily modified and extended real-time embedded hardware controller which can interface easily with a non-real-time client running on a..... Listed under: [Other Projects](#)
1529. [Tiny Whoop Drone Gate With Timer](#) I got my son a tiny whoop indoor FPV drone for Christmas, specifically an EMAX Tinyhawk II. We've had fun creating small obstacle courses in our basement, but one thing was missing – a timer so we could compare flight times. This instructable (my first)..... Listed under: [Clock – Timer Projects](#)
1530. [Arduino Combi-button Lock optional Android support](#) Recently, I decided I would like to attempt to make a passcode lock with my newly acquired Arduino Uno, but all the tutorials I could find made use of a modified keypad, something that not every Tom, Dick and Harry has lying about. I therefore..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Security – Safety Projects](#)
1531. [Arduino Sketch Input Hysteresis](#) This sketch is used by Exercise: Input Hysteresis. Full Source Code The full code is all in one file InputHysteresis.ino. // InputHysteresis.ino : Arduino program to demonstrate a simple single-state hysteretic response. // Copyright (c) 2014-2015, Garth Zeglin. All rights reserved. Licensed under the terms // of..... Listed under: [Other Projects](#)
1532. [3D Print Bed Leveling Tool Using M5StickC](#) Do you ever find it a hassle to manually level your 3D print bed every time you make a print? Even seasoned 3D printing pros need to level the printbed after every couple prints. We've created a device that helps tremendously improve this procedure. This..... Listed under: [Other Projects](#)
1533. [PEZ Robo Dispenser Using Arduino](#) I was strolling down the candy aisle at the supermarket and there it was: the PEZ dispenser, conjuring up sweet (literally) childhood memories served up by my favorite cartoon characters in squarish sugary pellets. Then, all of a sudden, an LED went off in my..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)
1534. [Arduino Sketch Music Sequence Demo](#) This sketch is used by Exercise: Music Sequencer. Full Source Code The full file MusicSequenceDemo.ino. // MusicSequenceDemo.ino : demonstrate generation of two simultaneous tones at program generates audio-frequency square waves at different // pitches and..... Listed under: [Sound – Audio Projects](#)

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1535. [Indoor Air Quality Meter](#) Simple project to check the air quality in your house. Since we stay/work from home a lot lately, it might be a good idea to monitor the quality of the air and remind yourself when it's time to open the window and get some fresh..... Listed under: [Metering – Instrument Projects](#)
1536. [Arduino Sketch Event Loop Demo](#) This sketch is used by Exercise: Event-Loop Programming. Full Source Code The full code is all in one file EventLoopDemo.ino. // EventLoopDemo.ino : demonstrate generation of two simultaneous square waves at different rates // The example program generates audio-frequency square waves at different // pitches on pins..... Listed under: [Arduino Programmer Projects](#)



1537. [BLACKBOARD V-PLOTTER](#) In this instructable, I'd like to share how to build a vertical plotter that can draw texts and images on the blackboard. Let's getting started. <https://youtu.be/YTYxPt15hTQ> Time-lapse video with hatch fill extension from Inkscape. [https://youtu.be/w\\_8iHQgj6ss](https://youtu.be/w_8iHQgj6ss) Step 1: Bill of Materials Main components: 1pcs x Arduino Mega..... Listed under: [Other Projects](#)
1538. [Quality of Life Meter](#) Harsh new rules at work getting you down? Overtime sucking the life out of you? Or maybe things are great, either way now you can show your co-workers and management exactly how you feel about your job without a single meeting, memo, or team bonding..... Listed under: [Metering – Instrument Projects](#)
1539. [Arduino Sketch Stepper Sweep](#) This sketch is used by Exercise: A4988 Stepper Motor Driver. Full Source Code The full code is all in one file StepperSweep.ino. // StepperSweep - move a stepper motor at different rates // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms..... Listed under: [Motor Projects](#)
1540. [PCB NANOLEAF/HEXALEAF](#) I've been a fan of Commerical Nanoleaf available in the market but their cost is pretty high so I try to make my own version by designing a WS2812B LED strip and connecting three of these strips together in a triangular shape to make a..... Listed under: [Other Projects](#)
1541. [Modifying a Robot Arm using Arduino](#) Essentially another tutorial involving controlling DC motors. In this post I'm going to first alter a robot arm I had built previously from a beginners kit so that it can be controlled from Arduino. Then I'm going to write a series of posts on different..... Listed under: [Projects, Robotics – Automation Projects](#)
1542. [RC Paper Tank – Bring your 3D models to life](#) Bring your 3D models to life! In this instructable we will custom make a remotely controlled tank. We will infuse paper-craft with an arduino based system. This tank will be controlled on a android based phone though a bluetooth connection. I've strived to create something with..... Listed under: [Game – Entertainment Projects](#)
1543. [Arduino Sketch Wheel Drive](#) This sketch is used by Exercise: DRV8833 Dual DC Motor Driver. Full Source Code The full code is all in one file WheelDrive.ino. // WheelDrive - move a pair of DC motors at varying rate and direction // // Copyright (c) 2016, Garth Zeglin. All rights reserved..... Listed under: [Motor Projects](#)
1544. [Fruit Sorter Robot Using Flexible Gripper](#) Hello Everyone, thank you for showing interest in our project. In this project, we are showing a fully automated robot that sorts fruits and vegetables based on their color. The project happened in the context of the Bruface program and more precisely in the mechatronics..... Listed under: [Robotics – Automation Projects](#)
1545. [Barcode Reading using Roborealm Output on Arduino LCD](#) This Instructable shows how to create a Barcode Reader using only a webcam together with Roborealm and Arduino. The webcam used in this demonstration is the Logitech Quickcam and the LCD screen is labelled, JHD162A. What you need for this project: 1. Arduino UNO 2..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, LCD Projects, Projects](#)
1546. [Arduino Sketch Sound Demo](#) This sketch is used by Exercise: Multichannel Bipolar Transistor Driver. Full Source Code The full code is all in one file SoundDemo.ino. // SoundDemo - generate sound using a speaker and pager motor // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the //..... Listed under: [Sound – Audio Projects](#)
1547. [Professional Weather Station Using ESP8266 and ESP32 DIY \(Please Check the V2.0 Improved Version Link!\)](#) PLEASE CHECK THE NEW IMPROVED WEATHER STATION LINEAMETEOSTAZIONE v2.0! LINK VERSION 2.0 LINEAMETEOSTAZIONE HERE LineaMeteoStazione is a complete weather station which can be interfaced with professional sensors from Sensirion as well as some Davis Instrument component (Rain Gauge, Anemometer) The project is aimed as DIY..... Listed under: [How To – DIY – Projects](#)
1548. [Arduino Sketch ServoSweep](#) This sketch is used by Exercise: Servo Sweep. Full Source Code The full code is all in one file ServoSweep.ino. // ServoSweep - move a servo along trajectories // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms of the BSD 3-clause..... Listed under: [Other Projects](#)
1549. [\\$50 Analog Joystick \(HOTAS\) With Haptic Feedback for Flight Sim](#) The aim is to create a fully functioning USB HOTAS\* joystick from low cost electronics parts. I bought Elite Dangerous when it was released for the Mac and realised very quickly I was going to have the floor wiped with me if I didn't have..... Listed under: [Game – Entertainment Projects](#)
1550. [Arduino Sketch Read Sonar](#) This sketch is used by Exercise: Read Ultrasonic Ranger. Full Source Code The full code is all in one file ReadSonar.ino. // ReadSonar - measure distance using a HC-SR04 or compatible ultrasonic ranger // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the //..... Listed under: [Other Projects](#)
1551. [Apple Gripper](#) Fruit and vegetable market is a big sector that is worth more than 200 billion euros worldwide, this is expected to grow even more in the next decade due to an increasing healthier lifestyle across different European countries. When fruits and vegetables are sold at..... Listed under: [Other Projects](#)
1552. [Analog In, Out Serial using Arduino](#) This example shows how to read an analog input pin, map the result to a range from 0 to 255, and then use that result to set the pulsewidth modulation (PWM) of an output pin to dim or brighten an LED. Circuit image developed using Fritzing..... Listed under: [Projects, PWM Projects](#)
1553. [Arduino Sketch Sensor Fade](#) This sketch is used by Exercise: Sensor Fade. Full Source Code The full code is all in one file SensorFade.ino. // SensorFade - read a photosensor and control several LEDs at different brightnesses // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms..... Listed under: [Sensor – Transducer – Detector Projects](#)
1554. [DIY Current Sensor – 2.0](#) Hello there! I hope you all are fine and in good health. This instructable is about making your own current sensor that is compatible with Arduino and most other widely popular microcontrollers. This project features a compact design and an all SMD component based circuit,..... Listed under: [Sensor – Transducer – Detector Projects](#)
1555. [Arduino Sketch Read Accelerometer](#) This sketch is used by Exercise: Read Analog Accelerometer. Full Source Code The full code is all in one file ReadAccelerometer.ino. // ReadAccelerometer - read a 3-axis analog accelerometer and display the results to the serial port // // Copyright (c) 2016, Garth Zeglin. All rights reserved..... Listed under: [Metering – Instrument Projects](#)

1556. [MicroBot V1](#) So this is my microbot V1 which is an ESP32 based robot which is powered by a Wemos d32 pro and controlled by Blynk. Its body is a 3D printed square surface that has mounting holes for the same size PCB which is mounted with..... Listed under: [Robotics – Automation Projects](#)
1557. [Midi Light Show using Arduino](#) For a class, my teammate and I decided to develop a MIDI based system that has a responsive light for each note played. For example, if you plug our little setup to a keyboard, pending on which note you press, you'll get a specific color..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1558. [Arduino Sketch ReadSwitchInput](#) This sketch is used by Exercise: Read Switch Input. Full Source Code The full code is all in one file ReadSwitchInput.ino. // ReadSwitchInput - read a digital input and report its value using the LED and serial monitor // // Copyright (c) 2016, Garth Zeglin. All rights..... Listed under: [LED Projects](#)
1559. [Arduino Sketch SoftBlink2](#) This sketch is used by Exercise: Soft Blink. Full Source Code The full code is all in one file SoftBlink2.ino. // SoftBlink2 - fades the onboard LED on and off. // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms of the..... Listed under: [LED Projects](#)
1560. [Arduino Audio Sound Level Meter](#) This is add-on of the audio amplifier project result which is introduced in other instructable. (https://www.instructables.com/PC-Speaker-Amplifier/) Usually many types of sound level meters are directly connected with input (or rarely output) signal lines of amplifier. But personally I'm thinking any electrical connections with amplifier circuit..... Listed under: [Sound – Audio Projects](#)
1561. [Piano Metronome](#) This project was conceived of after I examined the types and styles of various off-the-shelf Metronomes. I am currently learning to play the piano and having a Metronome in order to keep time was necessary. I felt sure that I could build one based on..... Listed under: [Sound – Audio Projects](#)
1562. [Arduino Sketch SoftBlink1](#) This sketch is used by Exercise: Soft Blink. Full Source Code The full code is all in one file SoftBlink1.ino. // SoftBlink1 - fades the onboard LED on and off. // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms of the..... Listed under: [LED Projects](#)
1563. [Arduino Basics: Working One LED](#) I've been encountering lots or Arduino projects but generally most are on intermediate and advanced level and only a few basic instructions on how to start with Arduino. This project I made were actually inspired by this example on the Arduino page, but a much..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
1564. [Tweet-a-Pot: Twitter Enabled Coffee Pot using Arduino](#) Like the idea of making coffee on the fly? from your bed? While you're on the bus coming home? Then the Tweet-a-pot is for you! Tweet-a-pot is the next in fancy twitter enabled devices. This coffee pot enables its owner to make a pot of..... Listed under: [Home Automation Project Ideas](#), [Ideas](#)
1565. [Making a Prototype With Arduino \(TIM-01 EYES\)](#) I have been designing and building a robot. It got to the stage where it was time to do a head for it, but before I did the head I needed to design some Eyes for it using the Nokia screens found cheaply on eBay. There..... Listed under: [Development Board – Kits Project Ideas](#)
1566. [Arduino Sketch Fade](#) This is a standard Arduino example sketch, copied here for reference. Full Source Code The full code is all in one file Fade.ino. /\* Fade This example shows how to fade an LED on pin 9 using the analogWrite() function. This example code is in the..... Listed under: [LED Projects](#)
1567. [3D Printed Digital Camera](#) This is a 3D printed digital camera that you can build yourself. By making your own digital camera, it takes away some of the mystery around how such devices work, and are fabricated. Also, it allows you to fully customize the camera to your liking..... Listed under: [Video – Camera – Imaging Projects](#)
1568. [Arduino M&M Color Sorter](#) Are you tired of sorting your m&ms by hand? Looking for a silly way to spend your time and 3D printer filament? Then this is the Instructable for you. This is a project that I built for one of my engineering courses, in which we..... Listed under: [Other Projects](#)
1569. [Blink Arduino Sketch](#) This is a standard Arduino example sketch, copied here for reference. Full Source Code The full code is all in one file Blink.ino. /\* Blink Turns on an LED on for one second, then off for one second, repeatedly. Most Arduinos have an on-board LED you..... Listed under: [LED Projects](#)
1570. [Acrylic Arduino Prototyping Stand](#) I do a lot of projects with Arduino's and breadboards. Often as I work on a messy workbench, the Arduino or breadboard get jostled and the wires pop out of the headers or the breadboard. To solve this problem, I decided to make a simple..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1571. [Arduino OLED Spectrum Analyzer](#) Image: Today I am make an Arduino OLED Spectrum Analyzer its work with 0 to 3.3v Analog input. This is very smooth and clear Visualization of audio frequencies. This is very important to make an audio spectrum analyser for DVD Music player, iPod, MP3 player..... Listed under: [Other Projects](#)
1572. [The LED Strip Jellyfish Costume with Arduino & LPD8806 Led Strips](#) It all started when I saw a BBC documentary in 2002 about deep waters of the ocean. There was a bioluminescent jellyfish in the documentary, probably of the species "ctenophores" that grabbed my attention so in the later years I decided use it as a Halloween costume..... Listed under: [LED Projects](#)
1573. [How to use a while loop to calibrate the value of an analog sensor using Arduino](#) Sometimes you want everything in the program to stop while a given condition is true. You can do this using a while loop. This example shows how to use a while loop to calibrate the value of an analog sensor. In the main loop, the sketch below reads..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector f](#) Click here to get AI-based help ✕
1574. [Fainting Goats Are Friends Not Food](#) Project by Ailey Simpson and Peter Ehvert Rooted in biomimetics, this project for Computational Design and Digital Fabrication looks to emulate one of the most useless behaviours seen in the natural world, the Fainting Goat. The robot shown here copies some of the core principals of the..... Listed under: [Other Projects](#)
1575. [Arduino-I3dgecomm – Integrating L3DGEWorld and Arduino](#) L3DGEWorld is a tool for monitoring and interacting with networks and computer systems. Within a 3D world, entities bounce, spin, scale and otherwise change. These entities all represent an entity in another context - be it a server, phone, router or other monitorable device. The..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)

1576.

[Mailbox Phone Alert](#)

The mailbox phone alert sends you a text whenever you get mail. I remember anxiously checking my mail multiple times a day during the spring of my senior year of high school as I awaited letters back from colleges. Nervously, I would walk up to..... Listed under: [Phone Projects](#)
1577.

[Painless WiFi on Arduino](#)

Communication with the outside world is a great feature for Arduino Projects and mandatory for many of them. In this instructable, we will, painlessly, create an Arduino WiFi project that allows you to send it commands to turn on/off LED's connected to the Arduino from..... Listed under: [Wifi - Wlan Projects](#)
1578.

[Tree Climbing Robot using Arduino](#)

After I got comfortable programming and building with an Arduino, I used my newly acquire microcontroller skills to build a robot. Using a microcontroller, four high-torque DC gear motors, spiked legs, a linear actuator, rotation sensors, and 3 L298 H-bridge circuits, this robot can climb..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
1579.

[Home Security Smart Clock IoT Emergency App Notification](#)

I made a Clock that not only display Time,Date, Temp & Hum but you can send message to the clock via Mobile App (Blynk) from anywhere in the World as long as you are connected to internet. And you can also alert by Pressing Panic Button in..... Listed under: [Clock – Timer Projects](#)
1580.

[How to make a XY-plotter with Makeblock](#)

Last month, I made a XY-plotter by Makeblock and use it to built a Drawing Robot. This Drawing Robot was built with two Linear Motion Shaft D8x480mm, two Long Beam0824, the timing belt, two stepper motors, two stepper motor driver, and a micro-controller Arduino. You..... Listed under: [Robotics – Automation Projects](#)
1581.

[How to Build a Smart House Model](#)

Smart House will be the next smartphone. The technology that encompasses a smart house will become the new normal for modern-day homeowners. Smart houses range from basic to advanced depending on the sensors that are installed in the house and the operating system. The ARD-02,..... Listed under: [Other Projects](#)
1582.

[Music PlayBox – ITTT](#)

HKU Assignment Welcome to my "If This Then That" Project. For this project I made a simple music box where you can play several chords of instruments. You can choose which instrument you want to play (piano/guitar) and which chord you want to play per..... Listed under: [Sound – Audio Project Ideas](#)
1583.

[Best RGB LEDs for any project \(WS2812\)](#)

When we're working with LEDs, we often like to control their state (on/off), brightness, and color. There are many, many different ways of going about this, but none are as compact a solution as the WS2812 RGB LED. In its tiny 5mm x 5mm..... Listed under: [LED Projects](#)
1584.

[Rainbow Led Circuit Sculpture](#)

Today I would like to share how to make a sculpture circuit that controls 16 RGB leds using ATTINY85. We can adjust their colors separately according to the colorwheel rule with a touch button. Step 1: Things We Need The main components are as follows:..... Listed under: [LED Projects](#)
1585.

[Tiny MatchBox LCD Display – Desktop Decor](#)

Have a nice day, in this instructable I'll explain how to make a little decorative display for your desktop. It connects to your PC via USB and you can upload any image you want (240\*240 BMP) It uses an Arduino pro micro for the serial..... Listed under: [LCD Projects](#)
1586.

[How to Build 8x8x8 LED Cube](#)

An 8x8x8 LED cube is a visual treat with 3D effects and patterns. It works on the concept of Persistence of Vision, a feature of the human eye which tricks our brain in to thinking that an object is present permanently at a place if..... Listed under: [LED Projects](#)
1587.

[The Dryer Messenger using Arduino](#)

The dryer in our house is in an out-of-the-way corner where it's hard to hear the buzzer. When we miss it, the clothes sit in the dryer getting wrinkly, so we start the dryer again, don't hear the buzzer again ... it's an endless cycle..... Listed under: [Home Automation Projects](#), [Projects](#)
1588.

[Morse Code Iambic Trainer and Decoder](#)

In Amateur radio, Morse code is used to send messages using a series of short or long pulses which are heard by the operator as audio beeps. The short beeps are known as dots or dits, and the longer beeps are known as dashes or..... Listed under: [Other Projects](#)
1589.

[Sense Magnetic Fields Like a Bird – Sensory Extension Puppet](#)

This project will show you how to create a computationally enriched puppet that can detect magnetic fields. The puppet (who I call Compy) has two very sensitive GMR analog magnetic sensors that are located in her beak, these sensors are read by an Arduino Nano..... Listed under: [Sensor – Transducer – Detector Projects](#)
1590.

[Using Copper Tape To Create A Digital Selection Pad using Arduino](#)

This is partially me sharing this technique, and partially me learning how to use Instructables. If there are issues with my documentation of the technique or my use of Instructables, please let me know in the comments - thanks! I needed a long row of..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -I2SP\) Project Ideas](#)
1591.

[Reverse Engineered Bumper Sensor Campsite Security Alarm](#)

This Instructable is to build a very smart, talking campsite security system that is disguised in an owl decoy. Now, this isn't your typical Arduino ultrasonic distance sensing project. Rather, you will learn how to reverse engineer the very inexpensive, but far superior automotive bumper backup..... Listed under: [Security – Safety Projects](#)
1592.

[Sense Direction Like a Bird: Sensory Extension Mask](#)

In a couple of weeks, some students will visit my lab (Craft Tech Lab) to learn more about wearable technologies. I wanted to build a quick and simple application of a sensor and vibration motors for them to play around with and rough up. While..... Listed under: [Sensor – Transducer – Detector Projects](#)
1593.

[Programmable Arduino Remote Control \(PCB\)](#)

With this small, palm-sized device, it is possible to remote control your PC or your Smartphone. Or to control your PC and your Smartphone at the same time. And it is freely programmable. You can write programs like: Login to y      Click here to get AI-based help ✕  
[Arduino Programmer Projects](#)
1594.

[FRICTION CALCULATOR – WITH IR LASERS](#)

Friction can often seem like a 'boring' force. Something we are all familiar with from a young age, but friction does a lot more than just make objects slow down - although that is a big part of this project. Friction allows the world to..... Listed under: [Calculator Projects](#)
1595.

[Sensory Helping Hands: Modular Sensory Augmentation System \(Prototype\)](#)

Having made a lot of wearables as an engineer, advisor, and through replication, there's one irritation that I find consistent with a lot of systems (mine included) - components (typically sensors & actuators) can't be maneuvered to the wearer's preferences. To begin to think about..... Listed under: [Sensor – Transducer – Detector Projects](#)



1596. [Otto Robot || Arduino Robot || Simple Arduino Robot](#) Hi, First off all Please subscribe to my youtube channel. This is the simplest Arduino robot. The name of this Arduino robot is Otto Robot. The beginners can build it with simple steps. All codes and library is given on my github page. Let's begin this cut..... Listed under: [Robotics – Automation Projects](#)
1597. [Cheap Expandable Floor Piano](#) I created design to build a big and expandable floor piano (1 to 8 or more octaves) . They were plenty of challenges with this piano. I wanted all bullet ticked: - Cheap - Big but could fit in a car (from 1 to 8..... Listed under: [Sound – Audio Project Ideas](#)
1598. [Hack Computer to Make It Smart!](#) Have you ever wondered why smartphones are called smart-phones? Because they are smart, right? They do some works automatically, smartly. That's the short answer. I was thinking something, even if computers are a lot more powerful than phones, why aren't they smart! For instance, mobile..... Listed under: [Development Board – Kits Projects](#)
1599. [MAXIMIZE THE CAPABILITIES OF ESP-01 ESP8266](#) ESP-01 ESP8266 is a popular and widely used module because of its low-cost, reliability and easily availability in the market. It can be used as a stand-alone device or connected with a microcontroller. The ESP-01 is the smallest ESP8266 module and it has limited I/Os..... Listed under: [Other Projects](#)
1600. [Arduino Barometric Pressure Web Server](#) This example shows how to use SPI communications to read data from a SCP1000 Barometric Pressure sensor, and how to then post that data to the web by using your Arduino/Ethernet Shield combo as a simple web server. Using the Ethernet library, your device will..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1601. [NES in a Cartridge using Arduino](#) Have your ever seen any of "Ben Hecks" portable console builds? Well if you haven't, he often uses these Chinese Famicom clone consoles. These cloned consoles are often times refered to as NOAC's, meaning NES On A Chip. They are called this because they are..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1602. [Arduino Bluetooth PC Fan Wind Sensor With RemoteXY](#) This projects is a mix of two of my main passions, Arduino and Wind. Here is a simple project that I used this OLD PC fan as a small wind generator to sense the wind speed. Here we are using modified PC fan as a wind speed..... Listed under: [Bluetooth Projects](#)
1603. [Create an Internet Connected Pill Dispenser](#) The P.I.L. Box - A Better Medication Reminder System Studies show the consequences of patients not taking medications according to doctor's orders can be serious, especially in older patients.With today's low cost micro-controllers and sensors (and the incentive of the Radio Shack / Instructables Micro..... Listed under: [Internet – Ethernet – LAN Projects](#)
1604. [COD \(Camera on Deck\) – Motion Time Lapse](#) INTRODUCTION Hi. I've built this little device for my HNC project back in the old days (2015). Because I like photography, and my task was to make something using microcontrollers. I've made this little device using Arduino UNO, as this was an ideal board for..... Listed under: [Clock – Timer Projects](#), [Video – Camera – Imaging Projects](#)
1605. [Make an Emoticon Jacket with LCD screen using Arduino](#) Concept: I would like to make a jacket that has a small LCD screen to create subtexts for interpersonal human interaction. The user would use a limited "keyboard" with force sensors and buttons under soft silicone keys to create computer textual subtitles to human interaction..... Listed under: [Arduino LCD Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
1606. [DIY USB Type-C Power Delivery Trigger Board](#) In this video we will have a closer look at a USB Type-C Power Delivery Trigger board. Such boards are used to output 5V, 9V, 12V, 15V or even 20V from a Power Delivery compatible power source. So I will be showing you how such..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1607. [Create Interactive Electronic Instruments with MaxMSP](#) This Instructable is part 3 in an Intro to MaxMSP series I've just finished teaching atWomen's Audio Mission in San Francisco. Part 1 is an introduction to MaxMSP and MIDI, part 2 is intermediate Max and Audio, and this Instructable is all about interfacing MaxMSP with hardware. I..... Listed under: [Other Projects](#)
1608. [Make another Arduino LCD shield](#) In this tutorial we make an LCD shield for using 20 character by four row LCD modules with Arduino Uno. Updated 18/03/2013 In this article you can follow the process of making another LCD shield for the Arduino Uno or compatible boards. In the past (which explains..... Listed under: [LCD Projects](#), [Projects](#)
1609. [Control Your Computer With a Stepper Motor!](#) In one of my previous Instructables, I showed you how you can use a Stepper motor as a rotary encoder. In this Instructable, let's learn how we can use it to control our computer. So without further ado, let's get started! Step 1: Watch the Video..... Listed under: [Motor Projects](#)
1610. [RGB LED Skate Light](#) I like to go skating every week but I noticed that the my skates weren't cool enough so I decided it was time for some lights! I installed these lights on my Dad's skates as a thank-you present for taking care of the pool for..... Listed under: [LED Projects](#)
1611. [ITTT – Cat Laser](#) Heey my name is Rens Kuilman. For a school project (If This Then That) we had to make something using the Arduino. After a few misses I decided to make a random laser, which I a lazy cat owner could use the get his lazy..... Listed under: [Other Projects](#)
1612. [Arduino controlled window for cat](#) I am submitting this instructable to the Arduino challenge. Please remember to vote! My neighbor had a little problem with his cat. It want's to go out and back inside too frequently. Usually he opens just his kitchen window and let's the cat in/out. I decided to make a simple Arduino controlled window that can be opened and closed by the cat's meow. Listed under: [Automation Project Ideas](#), [Ideas](#)
1613. [Homemade Infrared Rangefinder \(Similar to Sharp GP2D120\) using Arduino](#) Here is my instructable on how to construct a pretty simple (for some!) short range infrared rangefinder/range sensor. Infrared rangefinders are very useful in a number of projects. The majority of these come from obstacle detection (in robots) or generally detecting distances! The one shown..... Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
1614. [Touch Sensitive Interactive Music Instrument DIY / Windows Version](#) [https://youtu.be/\\_xEfiFxLKto](https://youtu.be/_xEfiFxLKto) "Sensor Retouch" touch sensitive interactive instrument which allows to play Water, Fruit, Plants and Conductive surfaces as a musical instrument by your touch. All you need is Arduino and few upgraded touch sensitive sensors, i'll teach you how to put together everything and let start playing with your new interactive instrument !..... Listed under: [Sound – Audio Projects](#)

Click here to get AI-based help 

1615. [Alastor "Mad-Eye" Moody Moving Eyeball](#) Before COVID hit my son went to a costume party dressed as Professor Alastor "Mad-Eye" Moody from Harry Potter. I made him a moving eyeball using an Arduino, servo and ping pong ball. Step 1: Parts list Arduino Uno <https://smile.amazon.com/dp/B008GRTSV6> Arduino Case <https://smile.amazon.com/dp/B00HFSWC06> 9-volt Battery Clip <https://smile.amazon.com/dp/B01AXIEDX8> 12g..... Listed under: [Other Projects](#)
1616. [Make your own Enigma Replica](#) EDIT: This Instructable has won Second prize in the 2013 Radio Shack Microcontroller Contest. Thank You to all who voted! This is our very first Instructable and this step by step guide will show you how to build a fully functional electronic replica of the..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
1617. [Robotic Eye using Arduino](#) Hello, This time I will show an application of the infrared sensor module with Arduino. This module (composed of a pair of LEDs, a infrared transmitter and a receiver and an IC that generates a frequency modulated) is generally used to detect obstacles in robots..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
1618. [MIDI Note Player using Arduino](#) This tutorial shows how to play MIDI notes from an Arduino. MIDI, the Musical Instrument Digital Interface, is a useful protocol for controlling synthesizers, sequencers, and other musical devices. MIDI devices are generally grouped in to two broad classes: controllers (i.e. devices that generate MIDI..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Projects](#)
1619. [Serial Call and Response with ASCII-encoded output using Arduino](#) This example demonstrates string-based communication from the Arduino board to the computer using a call-and-response (handshaking) method. The sketch sends an ASCII string on startup and repeats that until it gets a serial response from the computer. Then it sends three sensor values as ASCII-encoded..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1620. [Arduino Magnetic Board](#) My first meeting with microcontrollers was a few decades ago (you might remember the first Parallax Basic Stamps) but with the Arduino platform it happened more recently, only 6 years ago and although at that time the development boards were quite difficult to find, even..... Listed under: [Development Board – Kits Projects](#)
1621. [Trinity Assembly](#) Hey dudes! Lets build the trinity synt! ! More information about the synth at: [www.bastl-instruments.com](http://www.bastl-instruments.com) Before you start: the board solders from both sides and the component goes always above its printed sign so it hides the sign! You should know that there are some..... Listed under: [Other Projects](#)
1622. [12×12 LEDX From Escape From Tarkov](#) Once after Russian EFT community podcast where one of the guests said that expensive items, such as LEDX, should occupy a larger number of the slots in secure containers... It didn't happen in 0.12,6 patch, but it did happened in my workshop. Supplies Things required:..... Listed under: [LED Projects](#), [Sound – Audio Projects](#)
1623. [6 button RGB controller using Arduino](#) In this instructable we will learn how to use 6 buttons to control the color of an RGB LED with the use of an Arduino Micro Controller. This is a fun and easy little project that should take you no more then 20 minutes to..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
1624. [Serial Call and Response using Arduino](#) This example demonstrates multi-byte communication from the Arduino board to the computer using a call-and-response (handshaking) method. This sketch sends an ASCII A (byte of value 65) on startup and repeats that until it gets a serial response from the computer. Then it sends three..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
1625. [Arduino Based Egg Plotter](#) An Egg plotter is an art robot that can draw on spherical shaped objects such as eggs. You could also use this machine to draw on ping pong balls and golf balls. You can use your imagination with the designs you put on it, you..... Listed under: [Other Projects](#)
1626. [A Self-Contained Data Logging Anemometer](#) I love collecting and analyzing data. I also love building electronic gadgets. A year ago when I discovered the Arduino products, I immediately thought, "I'd like to collect environmental data." It was a windy day in Portland, OR, so I decided to capture wind data..... Listed under: [Metering – Instrument Projects](#)
1627. [How to Add an E-Ink Display to Your Project](#) Lots of projects involve monitoring of some kind of data, such as environmental data, often using an Arduino for control. In my case, I wanted to monitor the salt level in my water softener. You might want to access the data over your home network,..... Listed under: [Other Projects](#)
1628. [Calibrating sensor input using Arduino](#) This example demonstrates one techinque for calibrating sensor input. The Arduino 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: [Projects](#), [Sensor – Transducer – Detector Projects](#)
1629. [Arduino 4wd robot with ping sensor "J-Bot"](#) Experience Level: Intermediate (requires soldering) Time Required: 3-5 hours depending on experience J-BOT Kit Jameco P/N 2140285 Someone mentioned that Jameco needed a robotic mascot. I have always been a tinkerer, especially with radio-controlled electronics and so I volunteered for the chance to design..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
1630. [Touch Sensitive Interactive Music Instrument DIY / OSX Version](#) "Sensor Retouch" touch sensitive interactive instrument which allows to play Water, Fruit, Plants and Conductive surfaces as a musical instrument by your touch. All you need is Arduino and few upgraded touch sensitive sensors, i'll teach you how to put together everything and let start..... Listed under: [Sensor – Transducer – Detector Projects](#)
1631. [\\*duino Keg Temp Monitor, or the Quest for the Perfect Pint](#) I was looking for a project that combined my three fav cool stuff for my bar and of course, drinking beer. After a couple of weeks in the old country drinking "the Guinness", I decided my I'd put a keg..... Listed under: [Temperature Measurement Projects](#)
1632. [Arduino Fingerprint Lock](#) There is a short video for this Arduino fingerprint lock here: [http://v.youku.com/v\\_show/id\\_XNjlxNzQyNzY4.html](http://v.youku.com/v_show/id_XNjlxNzQyNzY4.html) I live in a small apartment in Shenzhen with my wife and baby, 5 months old. Sometimes, I need to go out, for example, to go downstairs to buy candy or diapers for my..... Listed under: [Security – Safety Projects](#)
1633. [Electronic Connect Four \(arduino\)](#) Authors: Kelly Bodeman - [kbodeman4@gmail.com](mailto:kbodeman4@gmail.com) Jack Whelan - [whelanjack11@gmail.com](mailto:whelanjack11@gmail.com) (For more questions contact us at our emails above) Here is a link of a youtube video of our project: [Connect Four Video](#) AcknowledgmentsCalifornia Maritime Academy (Marine Engineering

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X

Technology) Professor Chang-Siu (ET370 Electronics) The Idea: Connect Four..... Listed under: [Game – Entertainment Projects](#)

1634. [SOCIAL DISTANCING INDICATOR](#) Social distancing indicator is used for many purpose . It is harmless and one of the social services. It will reduce the health issues and society problems. Description SOCIAL DISTANCING INDICATOR DESCRIPTION: For the..... Listed under: [Other Projects](#)
1635. [ORP / pH / Temperature Data Logger](#) As a Water Quality professional working in the drinking water field, I know how important it is to accurately monitor the disinfectant levels in the drinking water that gets served to the public. Usually, that means taking weekly grab samples in the distribution system and..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1636. [Tobias – Arduino Music Box With TVout](#) First of all, let me introduce Tobias, my girlfriend's giant teddy bear, who is the inspiration for this project. Tobias has a personality, built up over time while we jokingly wonder in our minds what he does while she's away at work. The project was..... Listed under: [Sound – Audio Projects](#)
1637. [Arduino Cyclone Game](#) I have never played the real cyclone arcade game but I like the idea to play with our reaction time. I designed a miniaturized game. It consists in 32 LEDs forming a circle, the LEDs lights up one by one as a led chaser. The..... Listed under: [Game – Entertainment Projects](#)
1638. [Portable Fine Particle Measurement](#) The objective of this project is to measure air quality by measuring the quantity of fine particles. Thanks to its portability, it will be possible to carry out measurements at home or on the move. Air quality and fine particles: Particulate matter (PM) is generally..... Listed under: [Temperature Measurement Projects](#)
1639. [Particle Photon IoT Personal Weather Station](#) Supplies Particle Photon[OPTIONAL] 2.4GHz u.FL antennaSparkFun OpenLogSparkFun Photon Weather ShieldSparkFun Weather MetersDallas DS18B20 Waterproof Temperature SensorSparkFun Soil Moisture SensorSparkFun Qwiic VEML6075 UV Light Sensor3.5W solar panelSparkFun Sunny BuddyCustom 3D Modelled Stevenson ScreenA soldering kitA bunch of single-core jumper wireA 2-pin screw terminalSome male and female..... Listed under: [Other Projects](#)
1640. [Tetrahedral LED Hat \(Deichkind Style\) V1](#) Do you know the German music band Deichkind? Well, I am a big fan of them and have been to several concerts. As part of their stage shows this band wears tetrahedral hats, full of LEDs. Already at the first concert more than 10 years ago..... Listed under: [LED Projects](#)
1641. [Power Timer With Arduino and Rotary Encoder](#) This Power Timer is based on the timer presented at: <https://www.instructables.com/id/Timer-With-Arduin...> A power supply module and an SSR (solid state relay) were attached to it. Power loads of up to 1KW can be operated and with minimal changes the load power can be increased. The..... Listed under: [Clock – Timer Projects](#)
1642. [Wall-e, an Obstacle Avoiding Robot](#) <https://youtu.be/MDWsgSw9pog> It's not Wall-e, But it looks like Wall-e a bit. In this Instructable, I'm going to show how you can make a simple obstacle avoiding robot using Arduino in a very simple manner. learn to interface a servo motor and ultrasonic sensor with Arduino..... Listed under: [Robotics – Automation Projects](#)
1643. [TWO WHEELS CRAZY RC CAR](#) About two years ago, I carried out a project involving a 2 wheel self-balancing robot from broken toy car. After upgrading it to new version, this broken toy car was left in my warehouse and I intended that someday I would make it operating again..... Listed under: [Other Projects](#)
1644. [Non-Contact Hand Washing With LED Timer Displays](#) Washing should be done even without the presence of the COVID-19 pandemic. Appropriate washing can prevent the transmission of diarrheal infections and other person-to-person illnesses. For personal health, it is quite useful to follow CDC guidelines on hand washing whenever one returns from being out..... Listed under: [LED Projects](#)
1645. [Temperature Sensor for Arduino Applied for COVID 19](#) The temperature sensor for Arduino is a fundamental element when we want to measure the temperature of a processor of the human body. The temperature sensor with Arduino must be in contact or close to receive and measure the heat level. That's how thermometers work..... Listed under: [Sensor – Transducer – Detector Projects](#)
1646. [Strive for Five: Arduino 5-Minute Classroom Exit Timer](#) Are you a teacher? Do your students leave your classroom and stay out too long? Are you tired of trying to keep track of whether someone is out of the room and how long he/she has been out? If so, then the the Strive For..... Listed under: [Clock – Timer Projects](#)
1647. [LED Skateboard Rubiks Cube](#) This project uses LED lights controlled by an accelerometer and gyroscope to challenge your skateboarding creativity. The LED lights change according to what trick is being performed. For example, a shuvit (180-degree yaw rotation) changes the lights blue. a kickflip (360-degree roll) changes the color..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
1648. [DIY Non Contact IR Thermometer V1.0](#) Currently, we are chasing an invisible monster named Corona Virus ( COVID-19 ) and we are going through the biggest health crisis in our time due to a sharp increase in infection cases. One of the main symptoms of the COVID-19 infected person is an increase in..... Listed under: [Temperature Measurement Projects](#)
1649. [Sonic Illustrations](#) Sonic Illustrations was technically born around 2013. Back then Istarted a little experiment in my bedroom which also served as my workshop. I used the bass reflex speaker of my computer setup, put some clingwrap over it, poured some ecoline on the top of it,..... Listed under: [Other Projects](#)
1650. [DIY Studio Light/ Light Box](#) Hey Everyone what's up. This is my DIY Studio Light Project <https://youtu.be/AfNryfsIxT...> which basically is a diy home studio light that is made from a custom 3D Printed body and a custom PCB which were both provided by PCBWay. Ques Click here to get AI-based help ✕ [ow To – DIY – Projects](#)
1651. [RoboCat: a Pet Without the Mess](#) This will not be a tutorial, just me reflecting on the process and sharing it! Welcome to RoboCat, a cute pet without the mess! The RoboCat responds to any sounds above a certain range and if you press the red button you can give him..... Listed under: [Robotics – Automation Projects](#)
1652. [ITTT – Project Distance – Jurre De Groot 1D](#) HKU Assignment Hello all!Welcome to my HKU ITTT - "If This Than That" Project. For this assignment I created a simple eye test. The Distance Measuring Eye will give you a score based on the distance away from the eye. In this Instructable I will show you my thought..... Listed under: [Temperature Measurement Projects](#)



1653. [Multicolored Light-Up Countdown Timer for Studying](#) For this project, I wanted to make something that would aid me while studying, so I made a custom timer to use for the Pomodoro Technique. This study technique involves allocating 25 minutes of uninterrupted focus to work/study, followed by a 5-minute break. I wanted a..... Listed under: [Clock – Timer Projects](#)
1654. [Show CO2 Historical Level Curve With ESP32](#) Once I had made a project about the CO2 monitor that had such a problem. The displayed value changes too frequently and fluctuates greatly, which makes it impossible for me to accurately judge the CO2 level. I have a point to make it better now—record..... Listed under: [Other Projects](#)
1655. [Ultrasonic Mono Pulse Tracker](#) This project demonstrates the functioning of an "Ultrasonic Mono-pulse Tracker" built using two Grove ultrasonic sensors. Two sensors facing forward at a small angle from each other are placed on a servo pedestal capable of rotating +/- 60 degrees based on commands from an Arduino UNO..... Listed under: [Other Projects](#)
1656. [DIY Laser People Counter](#) Let's start of with a question: What is a people counter? .... Well, it is a device, that counts the amount of people passing by. They are usually placed in doorways and can be used to see how many people are in a room or..... Listed under: [How To – DIY – Projects](#)
1657. [Low-tech and High-tech POV \(Persistence of Vision\)](#) Persistence of vision is an optical illusion. When we look at an object, our eyes keep seeing an image of it for a fraction of a second after the object is removed. If several images appear quickly after each other, they seem to merge. My..... Listed under: [Other Projects](#)
1658. [Contactless Switchboard](#) <https://youtu.be/o9go2oERWaQ> This is a prototype version of the contactless switchboard which helps to control the appliances (AC appliances can be controlled through relays) without touching the actual switches. This can be used in public places like malls, hospitals, etc. In this pandemic time such device..... Listed under: [LED Projects](#)
1659. [AUTOMATIC WATER TAP](#) Greetings everybody! We hope you are in good health. In this Instructable, we will be converting a manual water tap into an automatic one using an Arduino. We will use an Infrared sensor to detect the presence of a human hand and a solenoid valve..... Listed under: [Other Projects](#)
1660. [Bidirectional Zoom Mute Button](#) <https://youtu.be/tfPAHNXUp20> We're spending the majority of our time on Zoom today, and yet we still keep forgetting to mute/unmute and embarrassing ourselves. Sure, the Zoom UI is far from perfect, but as makers, we should be solving our own problems ourselves instead of blaming it..... Listed under: [How To – DIY – Projects](#)
1661. [Personalized Professional Weather Station DIY, LineaMeteoStazione V2.0! Using EZSBC Boards ESP32, ESP8266, Attiny85](#) LineaMeteoStazione, in the improved version, is a complete weather station solar powered which can be interfaced with professional sensors from Sensirion as well as some Davis Instrument component (Rain Gauge, Anemometer) It also can be interfaced with a less expensive set of anemometer and rain..... Listed under: [How To – DIY – Projects](#)
1662. [Tunnel Book With Pinoo](#) <https://youtu.be/nxLPUPADWy0> Purpose of the Project: Creating a tunnel book with a light sensor (LDR) and led module using the Pinoo Control Card. Duration: 2 lessons Age Group: 7 years and older Set Used: Pinoo Basic Set Benefits: • Learns to code Pinoo control card • Learns to code the..... Listed under: [Sound – Audio Project Ideas](#)
1663. [Zoetrope With Pinoo](#) <https://youtu.be/slY7vYLaDoo> Purpose of the Project: To create a Zoetrope system with the button module and DC motor using the Pinoo control card. Duration: 2 lessons Age Group: 9 years and older Set Used: Pinoo Full Set Benefits: • Learns to code Pinoo control card • Learns to code the..... Listed under: [Sound – Audio Project Ideas](#)
1664. [Arduino/Unity Car Driving Experience](#) Idea behind project Hi, I am a 12-year-old kid who loves electronics, coding, space, and building. I remember, on my 10th birthday, I began sitting in the front seat of our car, and I loved it. Not only did I not get car sick, but..... Listed under: [Car Projects](#)
1665. [Contact Digital Thermometer With Deep Sleep \[Attiny85\]](#) This might seem totally useless, considering how advance current technology can be and you might even be like "Tsk! a Thermometer?" But there is a lot of experiment based on temperature (water temperature, room temperature, etc) so digital thermometer becomes a key instrument for temperature..... Listed under: [Temperature Measurement Projects](#)
1666. [Hack Wrist Watch LCD With Arduino || D-type LCD || Arduino Digital Watch|| Vishal Soni](#) [https://youtu.be/\\_IHsXlv9sZ8](https://youtu.be/_IHsXlv9sZ8) Please subscribe to my YouTube channel. In this tutorial we will hack our old school digital watch which is no longer working now. So let's fix the watch Control it's LCD display which is known as D-type LCD display. Step 1: Open the Watch Take the..... Listed under: [Clock – Timer Projects](#)
1667. [Automatic Soap Dispenser With Hand Wash Timer](#) This project I wanted to build a better and more full-featured version of my present automatic soap dispenser. Automatic Soap Dispenser V1.0 This one can be improved a lot, and you left excellent suggestions in the video comments which I would like to incorporate in..... Listed under: [Clock – Timer Projects](#)
1668. [Improved Artwork Clock](#) Want to improved some piece of artwork? Surprise your friends by showing day time through it! You will find in this instructables the way of making the same clock I did, it can totally be improved with strip leds, 3d printed supports, painting skill and..... Listed under: [Clock – Timer Projects](#)
1669. [SIMON SAYS BOX](#) Authors: Jackelyn Garcia- [JGarcia8710@csum.edu](mailto:JGarcia8710@csum.edu) Hector Villalobos- [HVillalobos7936@csum.edu](mailto:HVillalobos7936@csum.edu) Allan Hambly- [AHambly1472@csum.edu](mailto:AHambly1472@csum.edu) (For more questions contact us at our emails above) Here is the YouTube video for our project: [https://youtu.be/\\_aWIVS0qf\\_Q](https://youtu.be/_aWIVS0qf_Q) Acknowledgements: California Maritime Academy (ET Department) Professor Chang-Siu Erin Cole Gage Sturgeon Jack Whelan The Idea: The..... Listed under: [LED Projects](#)
1670. [IMU Controlled LED Cube \(Simon Says\)](#) Authors: Bella Lax Tianle Zhai Alex Clark With Help and Thanks To: Professr 370L) Erin Cole Cal Maritime Project Abstract: This new take on the classic Simon Says game utilized a motion processing unit and the six faces of a cube..... Listed under: [LED Projects](#)
1671. [Gesture Sensing E-textiles](#) After playing around with Freetouch to make a knitted fabric switch, it was found that the sensor reading varied depending on the type of interactions. For example, prodding the fabric resulted in a much lower sensor reading than grabbing the fabric. Based on this observation,..... Listed under: [Sensor – Transducer – Detector Projects](#)
1672. [Stone-Paper-Scissors Game With Pinoo](#) <https://youtu.be/J32Z-YdQCFs> Purpose of the Project: Creating a rock-paper-scissors game with a servo motor module, joystick module, module with lcd (l2c) and distance sensor using the Pinoo control card. Duration: 2 lessons Age Group: 7 years and older Pinoo Set: Maker Set,

Full Set. Benefits: • Learns to code Pinoo..... Listed under: [Game – Entertainment Projects](#)

1673. [Memory Lamp](#) [ Intro ] This product can you a way to keep your memory in a self-made frame, combining with a lamb decorated by yourself, increasing the visibility and exposure of the image being kept in the memory lamp, creating your own unique memory. Features of..... Listed under: [Memory – Storage Project Ideas](#)
1674. [Glowing Garden](#) For this project, I wanted to create an interaction that would seamlessly combine the natural and the digital to make a cohesive project which sparked wondering and curiosity. I was inspired by the idea of a fairy garden and wanted to make a plant that..... Listed under: [Sensor – Transducer – Detector Projects](#)
1675. [DIY Robot Head Made Out of RGB LED Lights](#) In this instructable, you will be taught how to make a decorative robot head light by using RGB LED lights to create a visual effect in the robot's mouth, the lights can shine brightly colored rainbow lights back and forth, almost as if the robot..... Listed under: [Robotics – Automation Projects](#)
1676. [Simple Arcade Button Ideas for Your Projects](#) One thing that I've always needed for my projects is a simple form of input and output. At first, it was a simple push button and an led on a breadboard. The breadboard mounted buttons are inconvenient. So I created a 3D printed stand to..... Listed under: [Ideas](#)
1677. [Social Distancing Robot](#) This instructable was created in fulfillment of the project requirement of the Make course at the University of South Florida (www.makecourse.com). The Social Distancing Robot is a robot concerned with its health in the midst of the current pandemic. It has an RGB LED to..... Listed under: [Robotics – Automation Projects](#)
1678. [Kid's Control Panel With Arduino\(s\)](#) Since getting an Arduino starter kit I was wondering what to make of all those fancy buttons, shiny LEDs, touchscreen LCD displays... I was thinking about weather station, but I was told that in the maker's world, weather station is like a "Hello World" app..... Listed under: [Other Projects](#)
1679. [COVID-safe Useless Box](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com) Supplies One (1) Arduino Uno One (1) Adafruit 16-Channel 12-bit PWM/Servo Driver - I2C interface - PCA9685 Two (2) MG995 Metal Gear Servo One (1)..... Listed under: [Security – Safety Projects](#)
1680. [Measuring the Boiling Point of Liquefied Gases Using Arduino and PhyPhox](#) A substance that is in a liquid state is constantly evaporating or passing into the gaseous state (depending on the intermolecular forces and temperature). The pressure exerted by the gaseous molecules produced in this process is known as vapor pressure. The vapor pressure depends on..... Listed under: [Temperature Measurement Projects](#)
1681. [A Shuttle Mission Control Mock-Up for Kids](#) A Mission Control Center for children was constructed to manage a pretend launch of the space shuttle. I wanted to play-out the make believe mission with nothing but LED lamps to tell the story; both 7-segment displays and graphic displays with LED lights strategically mounted..... Listed under: [Other Projects](#)
1682. [ESP32 CAM WEB Server and Getting Started Guide](#) This Instructables is all about setting up ESP32 CAM Webserver. The goal here is to connect ESP32 CAM with FTDI Module and program it with the CAM WEB SERVER sketch which will allow us to monitor the camera feed via a web app. The Next..... Listed under: [Video – Camera – Imaging Projects](#)
1683. [Tom the Tortoise Thief](#) I had 8 small and really old servos, as well as an ESP32 that was soldered onto a copper stripboard. I therefore decided to make a walking quadruped that would have something sticky on it's stomach, allowing it to pick things up secretly when it..... Listed under: [Other Projects](#)
1684. [Wizard Chess](#) Wizard Chess is a form of chess originally invented by J.K. Rowling in Harry Potter and the Sorcerer's Stone. The characters give verbal commands to the chess pieces and they move by magic. Seems impossible right? Not anymore! Using an Arduino Uno, along with an XY..... Listed under: [Game – Entertainment Projects](#)
1685. [Machine Learning With the Arduino: Air Quality Prediction Learning With the Arduino: Air Quality Prediction](#) Air Quality Prediction is a project that balances Arduino development and Machine Learning. I have always found the world of machine learning captivating but was never able to run models on real-time data. Arduinos provide the solution with a vast array of sensors supported on..... Listed under: [Sensor – Transducer – Detector Projects](#)
1686. [DIY Solar Panel Monitoring System – V1.0](#) A few months back, I have installed a small-scale Off-Grid Solar System. I am always very curious to see the performance of my solar PV system, and the good news is that the charge controller that I am using has its own local display for..... Listed under: [How To – DIY – Projects](#)
1687. [Useless Box](#) Interested in making a useless box? Building this project was a really fun experience for me. Having very little prior knowledge about circuits, making this simple gadget was a great introduction to circuits for me. And, it's really fun to play with once completed! This..... Listed under: [Motor Projects](#)
1688. [Neo Pixel Tic Tac Toe \(Arduino Uno\)](#) Tic Tac Toe is a two player game in which the players compete to get 3 pieces in a row. In this project we constructed a Tic Tac Toe game using a number pad and neo pixels as pieces. This results in a portable Tic..... Listed under: [LED Projects](#)
1689. [Party's Over!](#) This is a little diorama made with Arduino for a school project. What happens is a party which just started and a bright light which turns on. There are two party people. One is having a stroke or something because..... Listed under: [Other Projects](#)
1690. [Remote Smoke Alarm Buzzer & Microcontroller Interface](#) Add a remote buzzer to Smoke Alarms that are too far away to be heard. Also add an optional Microcontroller interface e.g. Arduino. This document describes how to: Modify an escape-light type smoke alarm to sound a remote buzzerCreate the buzzer moduleCreate a microcontroller alarm interface..... Listed under: [Battery Projects](#)
1691. [The CelloBot \(Robot Design Controlled by an Arduino Uno\)](#) Hello, I'm Andre and this is how you can build and design your own robot with dancing features. This robot was designed as a team project for my junior design class at Georgia Tech. The entire system is completely controlled by an Arduino Uno microcontroller,..... Listed under: [Robotics – Automation Projects](#)

1692. [DIY Arduino Smart Digital Scale | ESP8266 + HX711](#) Hello to everyone, today I am here to show you a very interesting project that I was working on for a while, it consists on a digital scale using the ESP-12S microcontroller plus a load cell and it HX711 wheatstone bridge to i2c converter, it..... Listed under: [How To – DIY – Projects](#)
1693. [Wearing Your Heart on Your Sleeve](#) There are many smart devices available to us that are able to detect our heart rate and other bio data by using a method called photoplethysmography (PPG), a concept of how blood is able to reflect red light while absorbing green light. The device can..... Listed under: [Sensor – Transducer – Detector Projects](#)
1694. [Pulse Oximeter and Heart Rate Monitor](#) Arduinos are incredibly useful tools for all sorts of projects. Given the current COVID-19 pandemic, having easy, fast, cheap, and reliable access to health information is more important than ever. While an Arduino might not be the tool of choice for proper medical applications, we..... Listed under: [Other Projects](#)
1695. [Chore Tracker](#) Chore Tracker is a device used to help motivate you to do your chores, and manage your time. Each week, Chore Tracker gives you a goal to complete five chores of your choice. It will set a timer for you to stay on track and..... Listed under: [Other Projects](#)
1696. [STONE HMI and Arduino + Physical Therapy Instrument](#) Today is Friday, January 29, 2021, control of the COVID-19 in Beijing is also promoting the "New Year in place", family said the Spring Festival can not visit each other, or each person is fined 1500. It seems to go out as little as possible,..... Listed under: [Metering – Instrument Projects](#)
1697. [Don't Make Me Choose – a Randomized Light Wheel](#) So much of our lives is spent making choices. Cut down on that time by making your own "Don't Make Me Choose" project. This project uses the lights on a Circuit Playground to point to a specific item you have listed on the whiteboard. This..... Listed under: [Arduino Battery Project Ideas](#)
1698. [Resistive/Capacitive Sensing Tester \(For E-textiles Soft Sensors and More\)](#) A handy-dandy portable device for testing e-textile sensors on the fly. Sometimes your electronics workspace and your textiles workspace are not the same places. You want to make multiple samples and test them, but then you have to carry your whole electronics prototyping kit (laptop,..... Listed under: [Sensor – Transducer – Detector Projects](#)
1699. [Over Engineered True Random Value Generator](#) Random numbers are often used in daily for example in encryption, gambling, gaming and much more. These numbers are generated by computers using complex algorithm but it can be predicated if we know the seed value and the algorithm. So this is my attempt to..... Listed under: [Other Projects](#)
1700. [IoT Temperature and Humidity Sensors](#) About a year ago, I felt like some rooms in my house were colder than other ones. I wanted to check for sure, so I built a few temperature and humidity sensors connected to my phone via wifi, and dispersed them in my house. I..... Listed under: [Temperature Measurement Projects](#)
1701. [Automate Push Up Routine With ESP8266](#) For most of us during lock down, we have been practicing a lot of exercises. Either its some stretching or some muscle building exercises. But one issue that I have faced personally is keeping track of my workouts. I was unable to see my progress..... Listed under: [Other Projects](#)
1702. [Smartphone LED Controller Using Bluetooth With Own Application](#) Hello friends welcome back to "Techno-E-Solution" In this video I'll be going to show you an interesting project "Smartphone controlled LED Using Arduino & Bluetooth with Own developed Application", I developed this application on kodular app making platform. In this project, we control the LED..... Listed under: [Phone Projects](#)
1703. [DIY Wireless Pi Table Decor](#) Going through the Instructables website, I came across this fascinating "Pi Day Speed Challenge" contest. I decided to take part in the contest, as a challenge to myself of how creative and innovative can I be. As I'm not good as a cook, I did..... Listed under: [How To – DIY – Projects](#)
1704. [Getting Started With ESP-MESH and 8266 -8266](#) Introduction ESP-MESH is a networking protocol built on the top of the Wi-Fi protocol. ESP-MESH allows numerous devices (generally referred as nodes) spread over a large physical area to be interconnected under a single WLAN. ESP-MESH allows multiple nodes to communicate with each other under..... Listed under: [Other Projects](#)
1705. [Make Your Own Arduino AC Dimmer | Drive Motors & Lights](#) Hi every one, here Chris, and I want to show you how I made my own Arduino AC dimmer that can control AC loads such as motors and lights easily. It has the power to handle 1200+ Watts and It's a very nice project for..... Listed under: [Motor Projects](#)
1706. [Never Lose Your Phone Again](#) Who hasn't ever left his phone on a spot and realised they had lost it too late? Anonimoconhache present you the solution: Don't Lose Me. With this amazing gadget you will never lose your phone again. Whenever you are too far away from your phone..... Listed under: [Phone Projects](#)
1707. [RC Strandbeest](#) (This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com).) Inspired by the Wind powered machines built by "Theo Janse" I've come up with a design of my own, but with a twist. This design..... Listed under: [Motor Projects](#)
1708. [Open Grow Light](#) Exactly a year ago (February 2020), James' wife wanted to expand her plant growing setup in the house. This included a bigger, larger, taller plant growing area AND the need for more lighting. BINGO! The seed for the Idea was planted. After an exhaustive market..... Listed under: [LED Projects](#)
1709. [Predator Count Down Box](#) This is a count down timer with some flair! This project was made as part of an assignment for an online engineering course. The purpose was to have a timer with a set time which would then prompt the user to some action. The timer..... Listed under: [Game – Entertainment Projects](#)
1710. [Carnival Lights Game](#) Welcome to an Arduino beginner project. It's a simplification of my previous instructable; it's designed to be easier to reproduce. This is a timing minigame where the active light moves back and forth across a row of lights in order. When the button is pressed the..... Listed under: [Game – Entertainment Projects](#)
1711. [Toy Camera Using ESP32 + OV2640 Camera and 3.5" TFT Touchscreen](#) https://youtu.be/G\_ur5BdAAoE This project is for educational purposes. I made this for teaching engineering classes for my kids. It helps to describes how the camera works. It consists of three main parts : Brain : the microcontrollerInput : camera moduleOutput : TFT display That parts are..... Listed under: [Video – Camera – Imaging Projects](#)



1712.

[Ultrasonic Occupancy Counter \(2-way\)](#) [https://youtu.be/Ncsu\\_gZS-ql](https://youtu.be/Ncsu_gZS-ql) This simple Arduino project can be placed in the doorway of a shop or other venue to count the number of people inside. Limiting the number of people inside a space can help to maintain social distancing. A demonstration of this project can be..... Listed under: [Other Projects](#)
1713.

[Automatic Arduino Pet Feeder – 3D Printed \(With Stepper Motor\)](#) Hi guys, I made an automatic 3D Printed Pet Feeder (or just dispenser, but I use it to feed my dog). I 3D modelled all that project. U can print it by yourself. All parts are down there. Basically how it works, is u type..... Listed under: [Motor Projects](#)
1714.

[How to Make Smart Obstacle Avoiding Robot Using Arduino Uno](#) [https://youtu.be/tnwTIMyOL\\_8](https://youtu.be/tnwTIMyOL_8) Hi guys. In this instructable, I will teach you how to build an obstacle avoiding robot. The robot will be a small and simple 2-wheeled car which will move forward until it detects an obstacle in its path. Upon doing so, it will stop,..... Listed under: [Other Projects](#)
1715.

[Tree Tidy – a Functional Desktop Decoration \(Prototype Build\)](#) Everyone loves a good desktop decoration. We can also agree that keeping our desks clean is great. So why not combine both? In this Instructable I'll show you how to make a desktop item that combines aesthetics and cleanliness to create (in my very biased..... Listed under: [Other Projects](#)
1716.

[Arduino Basics With Night Light](#) Recently I have been playing around with Arduino. Arduino is really cool and is a great way to learn electronics. In this Instructable I will teach you the basics of Arduino including: LED'sButtonsPotentiometersResistorsTinkercadAnd a project with this knowledge. Step 1: The Board The controller can..... Listed under: [LED Projects](#)
1717.

[Flappy Bird Game Using Arduino & LCD Display](#) Hello friends welcome back to "Techno-E-solution" in this article I'll show you how to make "Flappy bird game using arduino Uno & LCD display". This is beginners level project, if board at home & if you want fun with arduino let's make this game. This..... Listed under: [Game – Entertainment Projects](#)
1718.

[Solar Powered WiFi Weather Station V3.0](#) In this Instructable, we will learn how to make a Solar-powered wireless weather station by using an ESP32 Wifi Module and few common weather sensors available in the market. The weather station is fully solar-powered, so no need to worry about the external power supply..... Listed under: [Wifi - WLAN Projects](#)
1719.

[Automatic Arduino Powered Camera Slider With Pan and Tilt](#) Are you fed up of shaky footage that ruins your video? In this Instructable I attempt to address this issue by building my own automated camera slider. I used the power of CAD and digital fabrication to create a robust gantry system that rolls along..... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#)
1720.

[Visualizing Chaos With the Double Pendulum](#) We enjoy having an ordered, methodical and efficient lifestyle, however, more recently we have acquired a taste for the disorganized, topsy-turvy, chaotic lifestyle. Which is why, in this Instructable we attempt to address our new found love for chaos by building a simple machine to..... Listed under: [Other Projects](#)
1721.

[Automatic Toilet Flusher \(Reduce Touch, Reduce COVID-19 Infection\)](#) The place most of us like to see a hands-free toilet flusher is in public washrooms. It will be a welcome convenience – no-one wants to touch a public toilet! In this COVID-19 pandemic touching the flush button in a public toilet is risky also..... Listed under: [Security – Safety Projects](#)
1722.

[Open Theremin From Scratch: Building a PCB From Open Source Plans](#) <https://youtu.be/CKgfZY-ZhTc> This Instructable shows the steps I took to build my own open source theremin (Open Theremin) when there was none available to buy online. The lovely thing about open source is that the plans are freely available to make and modify. A theremin is..... Listed under: [Other Projects](#)
1723.

[JCB Machine](#) JCB Machine is very popular because it is heavy-duty construction equipment in the civil industry. JCB is also known as the backhoe loader. It can be used to load or unload the trucks very quickly. It is used for the construction of roads, loading and..... Listed under: [CNC Machines Projects](#)
1724.


[Portable Portrait Painter](#) Introduction There are probably over one-hundred Arduino based plotting machines on the internet with instructions available on how to make them. What makes this one unique (as far as I know), is the inbuilt camera and screen. Other plotters must be connected to a computer..... Listed under: [Other Projects](#)
1725.

[Let Your Plant Talk](#) In Today's Tutorial, we will learn how to make our plant talk using Arduino nano with the MP3 player module. Basically, we will connect 3 sensors to the Arduino module: LDR Sensor. Capacitive Moisture sensor. DHT22 Temperature and humidity sensor. We will read the sensors..... Listed under: [Other Projects](#)
1726.

[How to Teach an Online Circuits Class With Tinkercad](#) <https://youtu.be/50l3fREv0Qo> You probably know Tinkercad for the beginner friendly 3D CAD program, but it also includes a circuit + Arduino simulator that runs in your web browser! I've used Tinkercad for both in-person and online college-level classes and for introductory makerspace workshops. In this Instructable I'll not only..... Listed under: [Other Projects](#)
1727.

[Portable Auto Height Adjust Stand for Multipurpose](#) Height is a major concern in public places. Kids affected more in public places due to height problem. The problem places due to height concerns are 1) First place is school from kg kids to High school kids, so lot of height variation so using..... Listed under: [Other Projects](#)
1728.

[Timer With TM1637 and Arduino](#) This timer is useful in both domestic and industrial applications. It is a countdown 9999s. During this time, the load is powered by a relay on the board. For repeated timings, it is possible to memor

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1729.

[Smart Pull-Up Bar](#) Hello friends! My name is Nikolas and I am 15 years old. Today in this Instructable I'll show you how to make a Smart Pull-Up Bar which, when you start doing Pull-Ups or Chin-Ups starts playing music in order to keep you motivated and after exercising for..... Listed under: [Other Projects](#)
1730.

[Autonomous Basil Farm With Robot Arm!](#) Growing basil is great, but do you know what's even better? Having an autonomous basil farm! As the saying goes: "never spend ten minutes doing something by hand, when you could spend 10 hours failing to automate it". Although I may be bad at gardening,..... Listed under: [Robotics – Automation Projects](#)

1731.

[STOP Face Touching Device](#)

Why do you want to stop touching since it is part of our human nature? Well, it is all because of the virus floating around. Health officials keep telling the public to stop touching faces when they couldn't help. So I decided to use some technology to..... Listed under: [Sensor – Transducer – Detector Projects](#)
1732.

[DIY Game Controller](#)

Hey everyone what's up... so this is my DIY Game controller. It uses an Arduino Pro Micro which runs with HID Function, this is actually the second version of my previous game controller which had buttons but this one has two joysticks. unlike the previous..... Listed under: [Game – Entertainment Projects](#)
1733.

[ECG Display With Arduino](#)

This ECG (Electrocardiogram) unit has an integrated display. The display can show individual heart beats in a large format, the train of heart beats in a small format and a Poincaré plot. It is battery powered and can be worn round your neck on a lanyard. It..... Listed under: [Other Projects](#)
1734.

[Making an Alarm Clock That Asks Questions Randomly](#)

Do you usually have trouble getting up? Set more than a dozen alarm clocks in the morning, but still can't wake up and turn them off in a daze. When you waking up and find out that you are late, and then you blame the..... Listed under: [Clock – Timer Projects](#)
1735.

[TClock – Tissue Box Clock](#)

In this Instructable I will show you how you can convert an empty tissue box into a cool Arduino based clock that can show the time, date, current temperature & humidity in the room. If you like this Instructable consider voting for it in theTrash..... Listed under: [Clock – Timer Projects](#)
1736.

[Arduino LED Night Lights With Switch to Turn on and Off](#)

The design was inspired by a product that is also presented on Instructable called "Arduino Basics with Night Light" (<https://www.instructables.com/Arduino-Basics-With-...>). Originally, the device is only allowed to change the LED lights by pushing down a button; after adding the codes and circuits (added: a speaker..... Listed under: [LED Projects](#)
1737.

[Wireless Mood Meter](#)

Suppose your mood changes so fast that people can't cope up with it. You feel sad but people do something that makes you more sad. If only they knew what you are feeling right now!Behold, I present you the Wireless Mood Swing Meter!! Place it..... Listed under: [Metering – Instrument Projects](#)
1738.

[Arduino 8 Key Tinfoil Piano](#)

In this Instructables tutorial, I will teach you how to make a simple 8 key piano with your Arduino. Supplies: Arduino Board Breadboard 10MΩ Resistor\*8 Arduino mini box speaker Wires/Jumpers Tape Cardboard Tinfoil (optional) Hot glue gun Step 1: Gather Supplies Here is what you'll..... Listed under: [Sound – Audio Project Ideas](#)
1739.

[Arduino Snake LED Game](#)

In a previous project we created an interactive coffee table, which lit up leds under an object. In this project, we reuse that table to create a snake game from the 2D matrix of LEDs. If some parts of the project are unclear, it may be..... Listed under: [Game – Entertainment Project Ideas](#)
1740.

[Delayed Dog Feeder](#)

For our second project, I wanted to make something that I am going to be able to use in my day to day life. When I have to leave during awkward mealtime hours, it's important for my dog to maintain a consistent eating schedule, and..... Listed under: [Other Projects](#)
1741.

[Arduino Volume Control](#)

ArduinoUNO with volume control, pause/play button, and LCD display: This tutorial will show you how to set up an arduinoUNO to produce a tone through standard earphones, with volume control via potentiometer, with visual volume display via LCD, with pause/play button. Step 1: Pieces, Parts..... Listed under: [Other Projects](#)
1742.

[SafeT-Park System](#)

This device will help protect parking structures by implementing three safety concepts into an IOT device. Automated emergency response system, in the case of parking structure fires Integrated temperature and altitude sensor to pinpoint the location of the fire Activated pressure system to mitigate radiation..... Listed under: [Other Projects](#)
1743.

[Arduino Home Irrigation System With a 7 Segment Display](#)

<https://youtu.be/lu4rbQRmRWo> In this instructable we are building a home irrigation system based on an arduino uno. I know there are tons of similiar projects / tutorials already floating the web, but maybe I did something different and you can pick up an idea or two..... Listed under: [Irrigation Projects](#)
1744.

[Alone Together – Plant Lamps](#)

This instructable is part of the course Physical Interaction and Realization at KTH, Royal Institute of Technology. We are going to teach you how to build two, quite organic and interactive plant-lamps, Thorulf and Svamp. Thorulf is a plant with flex sensors and LEDs while Svamp is a collection of mushrooms..... Listed under: [Sensor – Transducer – Detector Projects](#)
1745.

[Blink an LED With Arduino in Tinkercad](#)

<https://youtu.be/yyG0koj9nNY> Let's learn how to blink an LED (light emitting diode) using Arduino's digital output. If you're new to Arduino, this is a great place to start. We'll connect an LED to the Arduino Uno and compose a simple program to turn the LED on..... Listed under: [LCD Projects](#)
1746.

[SMS Monitor || Dot Matrix Display || MAX7219 || SIM800L](#)

In this video, you will learn how to use a GSM module, dot matrix display and how to display scrolling text on it. After that we will combine them together to display messages received over a GSM SIM to a dot matrix display. It is..... Listed under: [Other Projects](#)
1747.

[Premiere Pro Edit Dial Controller \(Seek / Play / Pause\) \(\\$6 DIY\)](#)

<https://youtu.be/FACm5D3bskQ> Update!!! New version is here!! I'm really into making Youtube videos for Instructables. Sometimes it is hard to rewind the moment I wanted to pause. So, I thought it would be nice if I had a dial for it. [ Instruction ] Manual <https://eunchan.me/PREMIERE-PRO-CONTROLLER-DIAL-DI...> Source Code <https://github.com/happythingsmaker/PremiereProDi.....> Listed under: [How To – DIY – Projects](#)
1748.

[Arduino RFID Lock Tutorial](#)

Dear friends welcome to another Instructable. This is Nick from educ8s.tv and today w Reader with Arduino in order to build a simple lock system. For the first time, we are going to use RFID tags..... Lis

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1749.

[6WD Shock Absorption Robot for Arduino](#)

The new design of the 6WD mobile platform, the vehicle uses 2mm aluminum alloy, aluminum spray surface treatment. 6 high-speed DC motor (original 17000 rpm), with 1:34 full metal gear box, so that the car to obtain strong off-road performance. Shock absorption design is the..... Listed under: [Robotics – Automation Projects](#)
1750.

[Automated LEGO BB-8!](#)

We absolutely LOVE the new LEGO Star Wars sets that have come out over the last couple of years. They're well designed, fun to build, and look great. What would make them even more fun is if they also moved on their own! We took..... Listed under: [Robotics – Automation Projects](#)

1751. [Arduino RC Car Wheel](#) This is an Instructable of my Arduino RC car Wheel in which I took a cheap RCcar and made it so the Arduino could act as a wheel, controlling the direction it goes automatically. The Arduino RC car Wheel is my first original Arduino design..... Listed under: [Car Projects](#)
1752. [Arduino Based CNC Plotter Made From Scrap DVD/CD Drives](#) Indeed, the world of web has quad trillion tons of information but when you want to build anything you need all the intricate little details. There are already a number of good DIYs, Tutorials and YouTube videos on the topic but I was unable to..... Listed under: [CNC Machines Projects](#)
1753. [Arduino Based USB Paper Gesture Mouse](#) Please vote for me in the conests I have always been pretty amazed by the Capacitive sensor library of Arduino, It makes me feel like a super human, I can make any non conductive material to act like a touch enabled controller for various use..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1754. [A Pocket Sized Touch Keyboard](#) In this Instructables I am going to explain about my new project called " A Pocket Sized Touch Keyboard" .It is a Arduino based small physical device used to simplify your different keyboard operations.You plugs it into your computer usb port and touch it on..... Listed under: [Sensor – Transducer – Detector Projects](#)
1755. [Cardboard Spider \(DIY Quadruped\)](#) Hello again and welcome to my new project. In this instructable I've tried to make a simple Quadruped made from materials accessible to everybody. I know to get a good looking final product you need a 3d printer and maybe a CNC, but not everybody..... Listed under: [How To – DIY – Projects](#)
1756. [Fake Dynamic Price Tag](#) Amazon's prices change constantly. If you leave items in your shopping cart for longer than a few hours, you'll likely get alerted about minute fluctuations – \$0.10 here, \$2.04 there. Amazon and its merchants are obviously using some form of algorithmic pricing to squeeze the..... Listed under: [Other Projects](#)
1757. [Coke Machine Can Level Detector](#) Rev 2.5 - tidied up the 3D printed parts and updated the plug connector to a common PCB unit. Rev 2 - ultrasonic "button" replaces manual push-button. Pushing a button is so old fashion, particularly when I'm already using an Ultrasonic sensor. Why not use..... Listed under: [CNC Machines Projects](#)
1758. [Desktop CT and 3D Scanner With Arduino](#) Computed tomography (CT) or computed axial tomography (CAT) is most often associated with imaging the body because it enables clinicians to see the anatomical structure inside the patient without having to do any surgery. To image inside the human body, a CT scanner requires X-rays..... Listed under: [Other Projects](#)
1759. [Arduino Pong Clock With Temperature and Timer](#) In Pong clock mode the clock uses the classic video game Pong to tell the time The 2 players automatically win and lose so their scores show the hours and minutes. It is based on a clock by Nick Hall. This is the 2nd version of..... Listed under: [Clock – Timer Projects](#)
1760. [Line Follower Robot – Arduino Mega/uno – Very Fast Using Port Manipulation](#) Line follower robot is a useful robot that is used in ware houses, industries, and stores etc, where it follows a dedicated path. The presented robot captures line position with IR Sensors. If the robot get off the line it will U turn and back to the line..... Listed under: [Robotics – Automation Projects](#)
1761. [Robotic Hand With Wireless Glove Controlled | NRF24L01+ | Arduino](#) In this video; 3D robot hand assembly, servo control, flex sensor control, wireless control with nRF24L01, Arduino receiver and transmitter source code are available. In short, in this project we will learn how to control a robot hand with a wireless glove. Step 1: Video..... Listed under: [Robotics – Automation Projects](#)
1762. [DIY Digital Spirit Level](#) In this project we will have a closer look at accelerometer ICs and find out how we can use them with an Arduino. Afterwards we will combine such an IC with a couple of complementary components and a 3D printed enclosure in order to create..... Listed under: [Other Projects](#)
1763. [The Ultimate DIY Automatic Fish Feeder Tier 2](#) The Tier 2 Feeder is a big step up from the Tier 1. This version uses an ESP8266 wifi module to sync the arduino's clock to control the feeding schedule and the tank's lighting. Step 1: What You Will Need: Everything in Tier 1 except the..... Listed under: [Other Projects](#)
1764. [Eve, the Arduino Chatbot](#) Hello DIYrs, have there been instances when you really wanted to share your feelings with someone and no trusted one was around? In today's busy world, this is a common instance. Well, a chatbot can help here to make you feel better. And that leads..... Listed under: [Arduino Programmer Projects](#)
1765. [Arduino Powered Dog Food Dispenser](#) If your house is anything like mine, some tasks may be forgotten when in a rush. Don't let it be your pet that gets forgotten about! This automated dog food dispenser uses an Arduino to deliver the right amount of kibble at the right time..... Listed under: [Projects](#)
1766. [Multiple LEDs & Breadboards With Arduino in Tinkercad](#) <https://youtu.be/MojSo7OtF9w> Let's learn how to control multiple LEDs using Arduino's digital outputs and a breadboard. Expanding upon the last lesson on blinking an LED, We'll connect some LEDs to the Arduino Uno and compose a simple program to light them up in a pattern. You can..... Listed under: [LED Projects](#)
1767. [Getting Started With Arduino: What You Need to Know](#) I have been working with Arduino and electronics for many years now, and I am still learning. In this ever-expanding world of micro-controllers, it is easy to get lost and run circles around yourself trying to find information. In this Instructable, I will be showing..... Listed under: [Other Projects](#)
1768. [Minimalist IoT Clock \(using ESP8266, Adafruit.io, IFTTT, and Arduino IDE\)](#) In this tutorial I show how you can make internet. I tested it with two different ESP8266 based boards: Firebeetle and NodeMCU. The microcontroller gets current time from a Google server, and displays it on a NeoPixel LED ring..... Listed under: [Clock – Timer Projects](#)
1769. [YouTube Subscriber Counter With LEDs](#) This is a YouTube Subscriber counter built with an ESP8266. It uses the YouTube apiv3 to poll for changes. It's made specifically for one of my favourite youtubers Henk Rijckaert. It was featured in his livestream where the goal was to get to 9000 subscribers. <https://youtu.be/6b43IbccmZ0>..... Listed under: [LED Projects](#)
1770. [Acoustic Levitator Case](#) Acoustic levitator from Asier Marzo is a very popular thing here on instructables. I build it, it was working but I noticed couple of issues.

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For example: The 3D printed space between bowls is a bit fragile. The levitator can't stand on its own because..... Listed under: [Other Projects](#)

1771. [DIY Attiny Programming Shield](#) If you are looking for a small and low powered Arduino board the Attiny is a really good option, its surprisingly featureful for it's size. It has 5 GPIO pins, 3 of which are Analog pins and 2 which have PWM output. It is also..... Listed under: [Arduino Programmer Projects](#)
1772. [Motorized Window Blinds Controller](#) For this project you will be creating a device that is capable of opening and closing window blinds, both automatically and manually (via a push button), based upon a time schedule and sensor data from a light dependent resistor. In addition, this device will be..... Listed under: [Other Projects](#)
1773. [Arduino Perpetual Calendar Clock](#) The clock uses 2 electro mechanical clock movements controlled by an Arduino to display the Day and Month. A third quartz controlled movement displays the time tide Low or High tide. The Calendar is fully automatic and takes into account leap years as well as..... Listed under: [Clock – Timer Projects](#)
1774. [DIY Word Clock](#) Today, I will show you how to build a Word Clock. It is basically a clock which displays time using words. I will also show you how to use a Shift Register and RTC using a microcontroller. Shift Register can come in very handy if you..... Listed under: [Clock – Timer Projects](#)
1775. [Music Reactive Infinite Mirror](#) Hi fellow makers! This is a project I've been working on for my Makerspace class at Collégial international Sainte-Anne. I truly hope you will like it! [https://youtu.be/rHbPYaLJt\\_g](https://youtu.be/rHbPYaLJt_g) \*I'm sorry about the focus being bad. It was almost impossible to obtain a great focus since the..... Listed under: [Sound – Audio Projects](#)
1776. [Electronic Chameleon](#) Ever wondered how the chameleon changes its colour through the changes in environmental colours? There's something called Melanocyte Stimulating Hormone or MSH. If you want to dig more into this please follow this Link. The stories apart, I wanted to build ambient lighting system or something..... Listed under: [Sensor – Transducer – Detector Projects](#)
1777. [Automatic Drone Lap Timer – 3D Printed, Arduino Powered.](#) I've been growing more and more interested in the idea of First Person Video (FPV) drone racing. I've recently acquired a small drone and wanted a way of timing my laps - this is the resulting project. This drone landing pad features an integrated ultrasonic..... Listed under: [Clock – Timer Projects](#)
1778. [Reaction Time Meter \(Visual, Audio and Touch\)](#) Reaction time is a measure of time a person takes to identify a stimulus and produce a response. For example an athlete's audio reaction time is time elapsed between firing of gun shot (that starts the race) and him or her starting the race. Reaction..... Listed under: [Clock – Timer Project Ideas](#)
1779. [Cheap and Simple Arduino Eggbot](#) In this Instructables I want to show how to make a simple and cheap arduino plotter that can draw on eggs or other spherical objects. In addition, soon Easter and this homemade will be very handy Step 1: Watch the Video <https://youtu.be/cznLDhbVzlk> Step 2: Materials..... Listed under: [Other Projects](#)
1780. [Arduino CNC Drawing Machine \(or the Road to Success\)](#) This project is based on mostly items which are easy to find. The idea is to take two unused computer disk units and combine them to create an automated drawing machine which resembles a CNC machine. The pieces used out of the drives include the..... Listed under: [CNC Machines Projects](#)
1781. [Fading LED With Arduino Analog Output in Tinkercad](#) <https://youtu.be/X8dHbdhnGKY> Let's learn to adjust an LED's brightness using one of the Arduino's analog outputs. You've probably already learned how to use Arduino's digital i/o pins to send HIGH and LOW signals to an LED, but some of these pins are capable of simulating a signal..... Listed under: [LED Projects](#)
1782. [Arduino-controlled Water Rockets](#) You've all probably had a chance to do that classic high-school experiment: pop bottle rockets. You've probably taped on some fins, a paper nosecone, and presto! You launch a "rocket" that is loads of fun- and watched it fall down from the sky. Why stop..... Listed under: [Other Projects](#)
1783. [ISS Pointer Robo](#) <https://youtu.be/0kBK3WHNv5Q> Hi there, This is my contribution to the Space-Contest. There are some ISS-Pointer around the WWW. Some of them use several PSUs and/or quite big motors. My goal was to build something cheap, looking cute and a little bit badass - all powered with only one 5 Volt..... Listed under: [Robotics – Automation Projects](#)
1784. [Motion Activated Stairs](#) Yes, I know what you're thinking, this does seem a little overkill but first of all, you'll never have to worry about stubbing your toe again and second, it makes walking up and down your stairs so much fun, i found myself going upstairs for no reason..... Listed under: [Other Projects](#)
1785. [Custom Macro Mechanical Keypad](#) In this Instructable I will be taking you through the basics of creating your own 6 keyed macropad, controlled by an Arduino. I will be taking you through what you need, how to assemble it, how to program it, and how to improve it or..... Listed under: [Other Projects](#)
1786. [Yes – No : an Arduino Driven Mailbox](#) In this project we're going to show you how to make your mailbox more fun and usefull. With this mailbox, if a letter is in your mail you have a nice light wich shows if you have mail, and you can controll this mailbox with..... Listed under: [Other Projects](#)
1787. [Web-Connected SMART LED Animation Clock With Web-based Control Panel, Time Server Synchronized](#) The story of this clock goes back a long way - more than 30 years. My father pioneered this idea when I was just 10 years old, long before the LED revolution - back w 

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 their current blinding brilliance..... Listed under: [LED Projects](#)
1788. [Convert Your IR Remote to RF Remote](#) In today's Instructable, I'll show you how you can use a generic RF module without a microcontroller which will eventually lead us to build a project where you can convert an IR Remote of any device to a RF Remote. The main advantage of converting..... Listed under: [LED Projects](#)
1789. [Test Any MCU Using Only 4 I/O Lines](#) With this 'Test Fixture' and provided software you can test virtually any MCU with as little as 4 digital I/O lines (even only 2 is possible, all be it tricky) for project suitability and performance. When I start a new project I don't like hooking..... Listed under: [LED Projects](#)
1790. [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](#)

1791. [Kids MP3 Music Box](#) When looking for some new DIY projects around arduino I found some nice ideas on RFID based MP3 players for Kids. And there is one great professional toy box on the market - these guys rule. They made a great business out of their smart..... Listed under: [Sound – Audio Projects](#)
1792. [Versatile Volt, Ampere, and Power Meter](#) Multimeters are suitable for many purposes. But usually, they only measure one value at a time. If we deal with power measurements, we need two multimeters, one for voltage and the second for Ampere. And if we want to measure efficiency, we need four multimeters..... Listed under: [Metering – Instrument Project Ideas](#)
1793. [Building a DIY Arduino on a PCB and Some Tips for Beginners](#) This is meant as a guide to anyone soldering their own Arduino from a kit, which can be purchased from A2D Electronics. It contains many tips and tricks in order to build it successfully. You will also learn about what all the different components do. Read..... Listed under: [Other Projects](#)
1794. [Alexa-Enabled Death Star Lamp](#) Bring a snippet of the Dark Side to your living room with this unique voice-activated lamp. A functional work of art that is both useful and pleasing to look at. Switching on or off? All lamps do that! Changing brightness? Very common! But can yours do this? \*cue..... Listed under: [LED Projects](#)
1795. [Arduino Star-Finder for Telescopes](#) Space is big. Really big. Owning a small telescope can give a lot of pleasure, but it's often a struggle trying to locate specific objects in the night sky. In this project I made and integrated an Arduino-powered star-finder with a small reflecting telescope, to allow..... Listed under: [Solar energy projects](#)
1796. [DIY IoT Lamp for Home Automation || ESP8266 Tutorial](#) In this tutorial we're going to make an internet connected smart lamp. This will go deep into internet of things and opens up a world of home automation! The lamp is WiFi connected and built to have an open message protocol. This means you can..... Listed under: [LCD Projects](#)
1797. [LED Cube Display](#) In this project, you will build an 8x8x8 LED cube as a display. After building the cube and learning the code basics, you will be able to write your own display animations. It is a great visual for scientific purposes and it will be a..... Listed under: [LED Projects](#)
1798. [NodeMCU Humidity/Temperature Unit](#) n this tutorial we are going to show you how to setup your own temperature and humidity sensor. We are going to use a DHT22 unit, which is a low-cost digital output relative humidity and temperature sensor. The device includes a capacative humidity sensor and..... Listed under: [Temperature Measurement Projects](#)
1799. [Acrylic Fish Feeder](#) Step 1: Prepare Your Materials For this project, you will need the following materials: For the circuit: 3 pieces of Insulated copper wire (22AWG wire) around 4-6 inches long, stripped on both ends AC/DC Adaptor GWS Mini Servo Double Side Servo arm Servo screw (1.7..... Listed under: [Other Projects](#)
1800. [GYRO & VOICE ARDUIGAMES](#) This gaming box is made from Arduino Uno R3, LoLShield, MPU6050 and Microphone module. With LoLShield, we can show a message/scrolling message or animation picture like: plasma effect, sinewave effect... With MPU6050, we can read value from accelerometer and gyroscope to control movement for simple..... Listed under: [Game – Entertainment Projects](#)
1801. [Convert Your Old Phone to a Remote Switch](#) Ever wondered what to do with your old basic phones? The advent of a smartphone in last decade made all the basic phones obsolete. Even though they had good battery life and decent look they are less when compared to big smartphones which have big..... Listed under: [Phone Projects](#)
1802. [Awful to Awesome: Replace a Mechanical Alarm Sound](#) Hoping to reduce my late-night smartphone use, I got a vintage alarm clock for next to my bed. This beautiful mechanical flip clock has just one problem: a truly horrifying alarm sound. (Witness the first video above.) It's no wonder what this clock isn't being..... Listed under: [Sound – Audio Projects](#)
1803. [How to Build a GPS Guided Robot](#) Here is a Youtube video of me demonstrating the GPS Guided Robot. You can see that I am holding a cellphone and controlling the robot. I am at a tennis court and I am setting a Waypoint for the robot to return to. Once I..... Listed under: [Robotics – Automation Projects](#)
1804. [Pocket Metal Locator – Arduino](#) This cool little Pocket Metal Locator is sensitive enough to identify small nails and tacks in wood and compact enough to fit into awkward spaces making it convenient to carry and use for metal locating. The unit has four independent search coils and color LED..... Listed under: [LED Projects](#)
1805. [Training Heart Rate Zone Monitor Watch](#) https://youtu.be/7oLxJ\_725rU College is a hectic and chaotic time in ones life, that is why it is very important to keep your stress level low. One way we like to do this is by working out, it helps keep your mind clear and body feeling healthy..... Listed under: [Clock – Timer Projects](#)
1806. [Rob the Automated Robot](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com). In this tutorial you will learn how to make a fully automated robot named Rob who is equipped with sensors that allow it to detect..... Listed under: [Robotics – Automation Projects](#)
1807. [Infinite Jest](#) A rotating machine that is controlled by a robotic glove. Neverending fun. Step 1: Concept Our seminar assignment was to design a machine machine. Thinking about absurd tasks, we were inspired by the greek myth of Sisyphus and the idea of gravitation [Click here to get AI-based help](#) [ics](#) [– Automation Projects](#)
1808. [Show Winch](#) For this project, I wanted to create a winch that would be functional for use in a show in a theatre. Often, we have to fly in and out small objects, like chandeliers. This unit would be ideal for raising and lowering small objects in..... Listed under: [Motor Projects](#)
1809. [DMX Effect Controller](#) The goal of this project was to make a DMX-Controlled plug box which would allow on-stage effects or devices to be triggered remotely from the lighting console. This could potentially eliminate the need for a separate control system and operator backstage. This controller could be..... Listed under: [Video – Camera – Imaging Projects](#)

1810.

[Neo Pixel, Fastest Thumb Game](#)

I built this project because to take to my local Makerfaire In Newcastle, UK. The idea was to make a school yard game that would be relatively cheap and simple to produce. The idea is simple, to win you have to press the button repeatedly until you..... Listed under: [Game – Entertainment Projects](#)
1811.

[DIY Weighing Machine](#)

In today's Instructable, I'll show you how to build an easy but useful Weighing Machine. It is very sensitive and accurate up to 3 grams. The maximum weight it can measure is 20 kgs but I'll also show you how you can effortlessly build one..... Listed under: [Temperature Measurement Project Ideas](#)
1812.

[Ultrasonic Range Finder](#)

This instructable describes how to create a non-contact range-finder using an Arduino and an HC-SR04 ultrasonic module to measure distances in the range 2cm – 400cm. The accuracy is typically +/- 3mm depending on distance, air temperature, and humidity. Step 1: Parts List Very few..... Listed under: [Other Projects](#)
1813.

[Around the World Time Clock](#)

+ Whether world trotting or just interested in knowing what time it is before making that late night call, a 5 zone world clock fits the bill. Since I got some extra TM1637 7 digit displays in my latest shipment, I decided to put together..... Listed under: [Clock – Timer Projects](#)
1814.

[Magic Wand Target Practice \(IR Arduino Project\)](#)

This is how I made my project for Electronic Art. This project was to focus on using an Arduino Uno to make a wearable. I did not focus so much on the wearable, I more so focused on playing around with an IR sensor and..... Listed under: [Other Projects](#)
1815.

[Squirting Scuba Helmet](#)

In this project we will create a timer based water pump scuba helmet that will mist or spray every ten seconds. The original intention of this project is for the helmet to be used as a wearable garden, however, depending on the nozzels you use..... Listed under: [Other Projects](#)
1816.

[HALO: Handy Arduino Lamp Rev1.0 W/NeoPixels](#)

<https://youtu.be/byTgKFtpxKo> In this instructable, I will be showing you how to build HALO, or Handy Arduino Lamp Rev1.0. HALO is a simple lamp, powered by Arduino Nano. It has a total footprint of about 2" by 3", and a weighted wood base for extreme stability. The flexible neck..... Listed under: [LCD Projects](#)
1817.

[The Artificial Plant Emotion Expressor \(A.P.E.X.\)](#)

<https://youtu.be/BdaTOP6ieVo> Step 1: Introduction What is APEX? APEX is a smart (not to mention cute) plant monitoring device. Just plug it into any plant and it will display the "happiness" level of the plant! This is a great reminder to water your plants if you..... Listed under: [Other Projects](#)
1818.

[Automatic Chicken Coop Door – Arduino Controlled](#)

[https://youtu.be/Kdt8fT\\_kVHE](https://youtu.be/Kdt8fT_kVHE) This Instructable is for the design of an automatic chicken door with manually alterable opening and closing times. The door can be opened or closed remotely at any time. The door is designed to be modular; the frame, door and controller can be constructed..... Listed under: [Other Projects](#)
1819.

[Card Reading Shop Power Switch](#)

This box reads any card with a magnet strip and, if you're on the registered personnel list, turn on the shop power via a relay. A sole person, to be added to the program file upon creation, has the power to add others to this..... Listed under: [Other Projects](#)
1820.

[RGB LED Matrix With an ESP8266](#)

I think these RGB LED Matrix displays are one of best displays you can get for your Arduino projects, they are incredibly bright and vivid and are actually pretty easy to use too! They can be used for displaying text, images or a combination of..... Listed under: [LED Projects](#)
1821.

[Light Up Clock for Kids – Green Means Go! Red, Stay in BED!!!](#)

We were going crazy without enough sleep!!! Our 2-year-old could not understand how to "wait for the 7" on the clock before coming out of his room morning after morning. He'd wake up early (I mean like 5:27am - "there's a 7!!!" he'd say) and..... Listed under: [Clock – Timer Project Ideas](#)
1822.

[IOT Blink](#)

Anyone who's started learning about microcontrollers and code could tell you that a good place to start is by looking at the most basic example sketches provided. As often times their simplicity can teach you a lot more than you think. With the Arduino, one..... Listed under: [Wifi - Wlan Projects](#)
1823.

[Art Deco FM Radio Project Using Arduino](#)

[https://youtu.be/kP\\_S3LuZBGA](https://youtu.be/kP_S3LuZBGA) Dear friends welcome to another Arduino project Instructable! I am very excited because today I am going to show you how I built this Art Deco style FM Radio project using Arduino. It is by far the most complex project I have ever built and..... Listed under: [Radio Projects](#)
1824.

[TRASH-BOT. \(Arduino Auto Open Close Trash Bin\)](#)

Everything's getting smarter right? So why not your Trash Bin? This trash bin Opens and Closes its lid if it sees any Rubbish in front of it. You just need to bring the rubbish to it and it'll open automatically and will wait for you..... Listed under: [Other Projects](#)
1825.

[Electric-Analog Piano](#)

Music is a big part of our culture -- everyone enjoys listening to music. But while listening to music is one thing, learning to make music is another thing. Similarly, while making music is a difficult task, building a musical instrument is a whole new..... Listed under: [Sound – Audio Projects](#)
1826.

[Circuito Arduino Controller Pad](#)

"Circuito" is a DIY controlling pad. It is a Supplementary project for my previous Robotic Arm project. The Controlling Pad is a computer controlled mechanical constructions that help to move and manage any robotic arm depend on servo motors. It can be considered kinetic control pad..... Listed under: [Other Projects](#)
1827.

[LED Ukulele](#)

<https://youtu.be/X27bylWzV4s> Hi, my name is Elaine. This project combines a lot of things that I enjoy so I hope you enjoy it as well! The LED ukulele we'll be building teaches you how to play the four most played chords: C, G, Am, and F..... Listed under: [LED Projects](#)
1828.

[Digital Input With a Pushbutton With Arduino in Tinkercad](#)

<https://youtu.be/PC15jBx2UxI> Let's learn how to read a We'll connect up a simple circuit using a solderless breadboard and use some simple Arduino code to control a si with code, which is one use..... Listed under: [LED Projects](#)
1829.

[Arduino Pocket Game Console + A-Maze – Maze Game](#)

Welcome to my first instructable! The project I want to share with you today is Arduino maze game, which became a pocket console as capable as Arduboy and similar Arduino based consoles. It can be flashed with my (or your) future games thanks to exposed..... Listed under: [Game – Entertainment Projects](#)
1830.

[3D Printed Prosthetic Hand With Capacitive Touch Sensing](#)

In this Instructables I've come with an idea that can be implemented to existing 3d printed prosthetic hands. In existing electrically powered prosthesis I Couldn't find the use of capacitive touch sensing technology for the actuation of fingers. This project



combines two very cool things, Arduino with Capacitive..... Listed under: [Sensor – Transducer – Detector Projects](#)

1831. [Internet Speed Gauge](#) <https://youtu.be/SG91jSD1xAk> Overview This "Internet Speed Gauge" will give you near real time oversight of your network usage. This information is available on the web interface of most home routers. However, accessing it requires you to stop your current task to go look it up. I..... Listed under: [Internet – Ethernet – LAN Projects](#)
1832. [Simple Braille Writer \(Speech to Braille\)](#) <https://youtu.be/y-N4hqFgOtE> Hello everyone, All this started with doing a simple XY plotter after completing it successfully, I thought to develop a simple speech to braille text converter.I started searching it online and unexpectedly the prices were too high,that boosted me built a small portable and..... Listed under: [Other Projects](#)
1833. [Phone+Arduino Controlled Teddy Ruxpin](#) In this instructable I will be demonstrating how to control Teddy Ruxpin with a phone and the help of an arduino. After this modification Teddy Ruxpin will work as Google Assistant(or just about any other virtual assistant) and be able to lip sync voice recordings..... Listed under: [Phone Projects](#)
1834. [A Useful Remembrall](#) If you've ever watched the Harry Potter series, then you would have seen Neville receive a gift from his Gran which was a Remembrall. For those Muggles who haven't watched it yet or don't remember the scene, a Remembrall is a large marble sized glass..... Listed under: [Other Projects](#)
1835. [Mini CNC Laser Wood Engraver and Laser Paper Cutter](#). This is an Instructables on how I made an Arduino based Laser CNC wood engraver and Thin paper cutter using old DVD drives, 250mW laser. Playing area is 40mm x 40mm max. Isn't it fun making a own machine out of old things? Step 1:..... Listed under: [CNC Machines Projects](#)
1836. [Anti-Social Glasses](#) You look up, they tilt down! A tilt switch controls 2 servos which open/ close shutters on a pair of custom glasses. project by Rob Faulkner and You-Wen Ji Step 1: Parts (1) 30 x 60 cm plastic sheet (We used polystyrene but its up..... Listed under: [Other Projects](#)
1837. [IoT Desktop Console. Part : 11 IoT, Home Automation](#) Preamble This article, the 11th in a series on home automation documents how to create and integrate an IoT Desktop Device into an existing home automation system including all the necessary software functionality to enable the successful deployment within a domestic environment. Picture 1 shows the completed..... Listed under: [Home Automation Projects](#)
1838. [Robotic Arm Controlled by Glove](#) Purpose: Gain experience, and problem-solving skills by creating a project to complete Outline- Use a glove to connect through an arduino to control a 3-D robotic printed "arm". Each of the joints on the 3-D printed arm has a servo which connects to the flex..... Listed under: [Robotics – Automation Projects](#)
1839. [Aerobic Arduino – a \\$15 Fitness Tracker Power by an Arduino](#) Please vote for this in the fitness challenge instead of a Fitbit or a smartwatch, you can build an Arduino powered fitness tracker for only \$15! It tracks the pumping motion of your arms while running and uses an accelerometer to detect this. It is..... Listed under: [Security – Safety Projects](#)
1840. [Arduino Ultra Mega Timers](#) [https://youtu.be/\\_PL-bci4e0s](https://youtu.be/_PL-bci4e0s) Hi! "Arduino Timer with on/off setpoint" is my most viewed instructable by far, so i got a lot of questions in the comments, inbox and youtube, about how to add minutes,seconds, days and save settings on the eeprom.... so i decided to bring an..... Listed under: [Clock – Timer Projects](#)
1841. [Arduino Energy Meter – V2.0](#) Hello friend, welcome back after a long break. Earlier I have posted an Instructables on Arduino Energy Meter which was mainly designed to monitor the power from the solar panel (DC Power) in my village. It became very popular on the internet, lots of people all over..... Listed under: [Metering – Instrument Projects](#)
1842. [DIY Telematics Box](#) Telematics boxes (aka Black Boxes) are used to record and log various attributes of a moving vehicle. They have been primarily used in airplanes to log various attributes of an aircraft, for example, air speed, heading, fuel levels, radio chatter etc. It is the first..... Listed under: [Other Projects](#)
1843. [ArduMeter: an Arduino Based Multimeter \(Sort Of\)](#) The ArduMeter is an Arduino Based Multimeter, which many people have made to perform different operations, and searching on google you could find all the variety of things it can do. I wanted to make one that is portable, quite easy to use, give decent..... Listed under: [Metering – Instrument Projects](#)
1844. [RC Flight Data Recorder/Black Box](#) In this instructable I am going to be building a arduino based fight data recorder for RC vehicles, specifically RC aeroplanes. I am going to be using a UBlox Neo 6m GPS module connected to an arduino pro mini and a SD card shield to..... Listed under: [Temperature Measurement Projects, Video – Camera – Imaging Projects](#)
1845. [Make an Illuminated Rainbow Synthesizer With an Arduino!](#) [https://youtu.be/MOnr\\_VLFBWg](https://youtu.be/MOnr_VLFBWg) This Instructable shows you how to add a high-resolution touch screen to your Arduino and make a synthesizer that controls colored LEDs! The techniques you learn here can serve as a foundation for other touch screen projects! In this Instructable, you will learn: Where..... Listed under: [LED Projects](#)
1846. [RGB Box Clock](#) <https://youtu.be/7inXakX4XOs> This is a clock and decorative RGB Led Matrix It's controlled by a Colorduino Shield and NodeMCU v3 Board using i2C communication. With Blynk app you can setup the alarm,change colors and other things. Parts list is: LoLin V3 NodeMcu Lua CH340G ESP8266 Board..... Listed under: [Clock – Timer Projects](#)
1847. [Arduino Lilypad Controlled NeoPixel Earrings](#) [https://youtu.be/7B3Uz\\_2O9Rw](https://youtu.be/7B3Uz_2O9Rw) Hello everyone, Don't you want to h out at night or for parties? I would like to have it, that's why I made Arduino Lilypad Controlled Neopixel Earrings. 😊 These earrings don't just light up..... Listed under: [Pinouts](#)
1848. [Control Your Model Train Layout With Your TV REMOTE!](#) In this instructable, I will show you how to make an IR remote control system for a model train. You will then be able to control your trains while relaxing on your couch. So, let's get started! Step 1: Collect All the Stuff! Here is the..... Listed under: [Motor Projects](#)
1849. [TerraDome : Mini Tropical Greenhouse With Arduino](#) TerraDome is an indoor greenhouse for plants and tropical flowers shaped octagonal dome. It is driven by an Arduino Mega that regulates temperature and lighting through different sensors and an LCD display. It also has doors to the Jurassic Park (or Jurassic World)

Click here to get AI-based help 

that opens..... Listed under: [Temperature Measurement Projects](#)

1850. [Smartphone / Tab Controlled ROBOT ARM !!](#) Making ROBOT ARMs is very popular and fun among hobbyists, but it's not that easy to control a ROBOT ARM. So today we'll be making a robot arm that can be controlled using just your Android Smartphone or tablet. Good news is, you just need to..... Listed under: [Robotics – Automation Projects](#)
1851. [Riding Through Walls: Google Street View Stationary Bike Interface](#) The Riding Through Walls: Google Street View Stationary Bike Interface allows you to cycle through Google Street-View from the comfort of your living room. Using some simple electronics, an Arduino, a stationary bike, a computer, and projector or TV you can explore the world without..... Listed under: [Other Projects](#)
1852. [NeoPixel Ring Kaleidoscope](#) I am pleased to offer instructions and material files for making a LightLogo Kaleidoscope! I have been thinking about doing this for many months and finally worked out a design. If you have any improvements on this design please do share! You will need: Adafruit..... Listed under: [Other Projects](#)
1853. [Make Your Own 1D Pong Game](#) For this project I will show you how I combined an MDF board with buzzer buttons, LEDs and an Arduino Nano in order to create a 1D Pong Game that is really fun to play. Along the way I will show you how to create..... Listed under: [Game – Entertainment Projects](#)
1854. [DIY ACRYLIC INDIGO BUTTERFLY LAMP](#) The Indigo Butterflies looks so awesome, Aren't they? Colors, Colors, Everywhere. Some are here, and some are there. Mood Lighting to be Happy, Relaxed, or Focused. In this Instructable I'll show you how I build an Acrylic LED Lamp with WS2812B addressable RGB LEDs, Acrylic Cylinder with..... Listed under: [LED Projects](#)
1855. [Arduino Serial Monitor in Tinkercad](#) Keeping track of everything going on in your program can be an uphill battle. The serial monitor is a way to listen to what's going on in your code by reporting back to the computer over the USB cable. In the Tinkercad Circuits simulator, the Serial Monitor..... Listed under: [Other Projects](#)
1856. [Arduino Word Clock Mini](#) Arduino Word Clock Mini- Anniversary Clock Relatively easy to build Word Clock using a Arduino Nano and four MAX7219 32mm Dot Matrix Display ModulesChoice of styles, picture frame or Perspex cube with various base options. Specs Mini Arduino Word Clock with minute resolution of time..... Listed under: [Clock – Timer Projects](#)
1857. [Virtual Reality Flying Machine \(Arduino\)](#) This project goes through converting a hammock into a VR flying machine. We will use a VR app that is running the WRLD SDK in Unity so you can input whatever GPS coordinates you want and fly around that area in VR! This VR app..... Listed under: [GPS Based Projects](#)
1858. [OLED Tutorial | Convert SPI to I2C](#) In this tutorial, we are going to learn about OLED displays. Which can be very easily interfaced with Arduino and can display important parameters for your project, and see how to convert these screens from SPI to I2C, So let's get started! Step 1: Watch..... Listed under: [LED Projects](#)
1859. [Arduino Robot Arm](#) Arduino robot arms are among the most popular DIY projects. We decided to make ours out of recycled materials we found in our workshop. We hope you enjoy this build. <https://youtu.be/T6Tffi3uX2w> Step 1: Electronics Main components Arduino UNO3 SparkFun Servos (Generic Metal Gear) PS2 Joystick..... Listed under: [Robotics – Automation Projects](#)
1860. [Arduino-based LED “Bloody Red” Automatic Stairs](#) WHAT? Hi! I've made bleeding LED stairs! It's a new Instructables leveraging some hardware installation I had done already from a previous I'ble from mine. I made a RED animation that resembles blood drops, perfect to be activated automatic during those trick or treat moments!..... Listed under: [LED Projects](#)
1861. [Jump Sensitive Neopixel Trampoline](#) In this instructable, I will show you how to build a trampoline that changes colors whenever you jump on it! [https://youtu.be/k\\_8mHe4OKWg](https://youtu.be/k_8mHe4OKWg) Step 1: The Things You Need Materials: 3 rolls of wire, different colors, the thinner the betterSolder, the thinner the better - I had..... Listed under: [Other Projects](#)
1862. [Dual Sensor Echo Locator](#) This instructable explains how to pinpoint the location of an object using an Arduino, two ultrasonic sensors, and Heron's formula for triangles. There are no moving parts. Heron's formula allows you to calculate the area of any triangle for which all sides are known. Once..... Listed under: [Sensor – Transducer – Detector Projects](#)
1863. [\(almost\) Universal MIDI SysEx CC Programmer \(and Sequencer...\)](#) In the mid eighties synths manufacturers started a "less is better" process that led to barebones synths. This allowed the reduction of costs on the manufacturer side, but made the patching process tedious if not impossible for the final user. Manufacturers themselves and third party..... Listed under: [Arduino Programmer Projects](#)
1864. [iPad Play Timer](#) I think this is a topic every parent is struggling with. How much can the kids play with their iPads (or any other tablet). We tried multiple approaches, like fixed times, but that did not really work as our kid then always wanted to go home..... Listed under: [Clock – Timer Projects](#)
1865. [IoT Hydroponics – Using IBM's Watson for PH and EC Measurements](#) This instructable will show how to monitor EC, pH, and temperature of a hydroponics setup and upload the data to IBM's Watson service.Watson is free to get started with. There are paid plans, but the free plan is more than enough for this project. Step..... Listed under: [Other Projects](#)
1866. [DIY Miniature Solar Tracker](#) In this project I will show you how to create a solar tracker which like the name implies: Click here to get AI-based help ✕ throughout the day. And at the end I will show you the energy harvest difference between a solar tracker mountec
1867. [Infinity Mirror With Ultra Sonic Sensors](#) This was my project for Hack Sioux Falls. I built it one weekend and it turned out a lot different than I thought it would. It was a lot of fun and there are a lot of variations on what you could have the Arduino..... Listed under: [Sensor – Transducer – Detector Projects](#)
1868. [Unicorn Horn With NeoPixel LEDs & Arduino Lilypad](#) Today I'm gonna make 3D Printed Unicorn Horn. I saw and did the project in Adafruit's website about a year ago but I could not find an opportunity to share it. It looks great when going out to the party and especially in the evenings..... Listed under: [LED Projects](#)
1869. [DIY Li-ion Capacity Tester !](#) When it comes to building the battery packs, Li-ion cells are one of the best choices without the doubt. But if you get them from old

laptop batteries then you might want to do a capacity test before building the battery pack. So today I..... Listed under: [Battery Projects](#)

1870. [ESP8266 Temperature Controlled Relay](#) A friend of mine is a scientist who does experiments that are very sensitive to air temperature and humidity. The incubator room has a small ceramic heater but the heater's thermostat was not nearly accurate enough, only able to maintain the temperature within 10-15 degrees..... Listed under: [Temperature Measurement Projects](#)
1871. [ESP8266 LED Matrix Clock](#) ESP8266 LED Matrix Clock Simple LED matrix Clock based on the popular ESP8266 with Real Time Clock module and time synchronization over WiFi from an NTP server. NEW ! ESP32 version also available Step 1: Parts and Tools First let's see what we need. Parts: 6 x..... Listed under: [Clock – Timer Projects](#)
1872. [Morphing Digital Clock](#) A quick video about this project. I have since implemented a way to set timezone. Thanks to the work of the Arduino and ESP8266 community, this cool clock is a surprisingly easy to build! <https://youtu.be/i0M6F4wRxGc> Just two main components: Display (obviously) and a WiFi MicroController..... Listed under: [Clock – Timer Projects](#)
1873. [NeoMatrix 8x8 Word Clock](#) Are you fascinated with the passage of time? Do you want a stylish, modern and functional timepiece to add to your clock collection? The word clock is a one-of-a-kind time telling device, using a grid of letters to spell out the time. While you could..... Listed under: [Clock – Timer Projects](#)
1874. [ROOM MAPPING Arduino Robot With Unity 3D](#) This project uses an Arduino robot running a ESP-8266 Node MCU that communicates (and drives around) with a mobile phone. The phone is running an app made in the video game engine Unity 3D that does 3 things: 1.) The first scene allows you to..... Listed under: [Robotics – Automation Projects](#)
1875. [Noise Traffic Light – DIY 3D Printed](#) All people want to work in silence and It’s important to have a good working environment. The silence leads to an efficient work. We did this project to reach this proposal. The noise traffic light consists of a ‘traffic light’ which controls the dB of..... Listed under: [Other Projects](#)
1876. [How Rotary Encoder Works With Arduino!](#) A rotary encoder is a great input device for any project such as a 3D printer's menu. So in this tutorial, we will learn how a rotary encoder works and how to use it with Arduino. So let's get Started! Step 1: Watch the Video..... Listed under: [Other Projects](#)
1877. [Bluetooth Controlled Robot Car](#) were you always fascinated by RC cars ? Ever wanted to make one yourself ? controlled by your own smartphone ? ----> lets start <https://youtu.be/iETSrpiCAN0> So, hey guys, here in this project i have tried to make a Bluetooth controlled car with the help of..... Listed under: [Bluetooth Projects](#)
1878. [Low-Poly Iron Man With Wifi-Controlled LED Strips](#) This interactive wall art piece is approximately 39" tall and 24" wide. I laser cut the wood at Clemson University's Student Makerspace, then I hand-painted all the triangles and installed the lights on the back of it. This instructable will walk through how I made..... Listed under: [LED Projects](#)
1879. [Binary LED Marble Clock](#) Now I think just about everybody has a binary clock and here's my version. What I enjoyed was that this project combined some woodwork, programming, learning, electronics and perhaps just a little artistic creativity. It shows time, month, date, day of week, temperature and humidity..... Listed under: [Clock – Timer Projects](#)
1880. [Giant Retro Gamepad](#) So we decided to make a giant working gamepad... ͇(˘͇)͇ The basic idea was to use up some scrap wood and add some inexpensive electronics to make it functional while keeping the overall costs low. I already had most of the materials lying around my..... Listed under: [Game – Entertainment Projects](#)
1881. [Study Better With a Smart Desk Lamp – IDC2018IOT](#) People in the western world spend a lot of time sitting. At the desk, driving around, watching TV and more. Sometimes, sitting too much can harm your body and harm your focusing abilities. Walking and standing up after a given time is crucial to perform..... Listed under: [LED Projects](#)
1882. [Retro Arcade Clock – Arduino](#) Build an interactive arcade bedside clock, with a touchscreen, and animated arcade figures that you can record a sound of your choice for the alarm. This is an update of a previous project which now includes a 3D Printed Case and four separate programs to..... Listed under: [Clock – Timer Projects](#)
1883. [DIY Smart Scale With Alarm Clock \(with Wi-Fi, ESP8266, Arduino IDE and Adafruit.io\)](#) In my previous project, I developed a smart bathroom scale with Wi-Fi. It can measure user's weight, display it locally and send it to the cloud. You can get more details about this on link below: <https://www.instructables.com/id/Wi-Fi-Smart-Scale-with-ESP8266-Arduino-IDE-Adafruit/> This solved part of my problems: how to..... Listed under: [Clock – Timer Projects](#)
1884. [ARDUINO BASED OIL DISPENSER](#) we all love food isn't that right? of course yes, everyone has tried cooking once in their life, and already knows the struggle to get exact amount of oil for the perfect recipe, so here is a project which will help you get it correct, follow the..... Listed under: [Other Projects](#)
1885. [How to Make a Digital Watch](#) This is the first time I am writing an Instructable so hopefully I write well enough for you to understand. Today I will be telling you how to make a digital watch from a website that I found. The website is called [sainsmart.com](https://sainsmart.com). It was..... Listed under: [Clock – Timer Projects](#)
1886. [80s Style Melting Digital “Dali” Clock](#) This Instructable shows you how to build an 80s style digital "dali" clock with clock on the Apple Macintosh back when I was a kid in the 80s. This Instructable shows my attempt to recreate the 

Click here to get AI-based help ✕ of
1887. [DIY Wave Tank/flume Using Arduino and V-slot](#) A wave tank is a laboratory setup for observing the behavior of surface waves. The typical wave tank is a box filled with liquid, usually water, leaving open or air-filled space on top. At one end of the tank an actuator generates waves; the other..... Listed under: [Other Projects](#)
1888. [IoT Split-flap Weather Forecast Powered by XOD](#) Hi everyone! In this instructable, I tell you how to make split-flap display and show the current weather conditions on it. Also how to fetch the weather information from the Web using Wi-Fi and API. I am a fan of the XOD visual programming environment. With..... Listed under: [Other Projects](#)



1889. [Lightpipe 7-Segment Display](#) What if I told you that you could build a display out of shoe laces!? Well that is exactly what I've done! Building your own seven segment display is nothing new, it's a very common Arduino project, but I had an idea for this one..... Listed under: [LED Projects](#)
1890. [Light Sensor \(Photoresistor\) With Arduino in Tinkercad](#) Let's learn how to read a photoresistor, a light-sensitive type of variable resistor, using Arduino's Analog Input. It's also called an LDR (light-dependent resistor). So far you've already learned to control LEDs with Arduino's analog output, and to read a potentiometer, which is another type of variable..... Listed under: [Sensor – Transducer – Detector Projects](#)
1891. [ITTT – Sunlight Simulating Lightbox](#) I made a Sunlight simulating lightbox with a mountain village skyline, that I might upgrade to a wake-up light some time, for a school project. Step 1: Get the Supplies Supplies I used: -Arduino UNO -Neopixel ledstrip 1m, 30 leds(DC5V-W2812) -3 jumper wires -USB cable..... Listed under: [LED Projects](#)
1892. [\\*IMPROVED\\* Smart LED Candle: Reactive to Sound and Aesthetically Pleasing](#) Remember the "smart" LED candle from a few months ago? Well, the idea was nice, but the overall execution lacked some oomph. Technologically and aesthetically speaking there was a lot to improve. First off, as an artist, I wanted the container for the candle to look amazing..... Listed under: [Sound – Audio Projects](#)
1893. [An LED You Can Blow Out Like a Candle!](#) LEDs are designed to emit light, but they also make surprisingly capable sensors. Using only an Arduino UNO, an LED and a resistor, we will build a hot LED anemometer that measures wind speed, and turns off the LED for 2 seconds when it detects..... Listed under: [LED Projects](#)
1894. [Biometric Personal Diary](#) This neat little gadget has a fingerprint sensor so you can secure your cool stuff in a personalised portable case. I use to hold a diary and pen and designs for my new projects. Features a 3d printed case and uses an Arduino nano. Great..... Listed under: [Other Projects](#)
1895. [DIY Adjustable Constant Load \(Current & Power\)](#) In this project I will show you how I combined an Arduino Nano, a current sensor, an LCD, a rotary encoder and a couple of other complementary components in order to create an adjustable constant load. It features a constant current and power mode and..... Listed under: [Other Projects](#)
1896. [Arduino Arcade Lego Games Box](#) If you have kids, you are likely facing the same issues as we did with the Lego sets you bought for them. They assemble and play with them but after a while the sets transform into a single pile of bricks. The kids grow up..... Listed under: [Game – Entertainment Projects](#)
1897. [Ultrasonic Distance Sensor in Arduino With Tinkercad](#) Let's measure distances with an ultrasonic rangefinder (distance sensor) and Arduino's digital input. We'll connect up a circuit using a breadboard and use some simple Arduino code to control a single LED. You may have already learned to read a pushbutton and PIR motion sensor with Arduino's digital input,..... Listed under: [Sensor – Transducer – Detector Projects](#)
1898. [DIY Electronic Locker Using Fingerprint Sensor](#) Bored of keeping track of countless locks and their keys? How about using your own fingerprint to unlock each and every safe in your house, just like your Smartphone? Sounds cool, right? Let's make an electronic Fingerprint locker that will keep all your secrets a..... Listed under: [Security – Safety Projects](#)
1899. [Measuring Time Period of a Pendulum Using IR Sensor](#) Calculating on paper is never an easy job. And when it comes to formulas with sub-formulas of their own, it is nothing short of a nightmare! Take the case of a simple pendulum, which has a variable with a formula of its own. What if..... Listed under: [Sensor – Transducer – Detector Projects](#)
1900. [Arduino Robotic Bartender – 3D Printable & Bluetooth](#) Build yourself a low-cost easy to assemble bluetooth controllable robotic bartender using an Arduino Uno. This easy Arduino based project can be 3D printed and is a cool Arduino project for beginners. The aim of this project was to create a bar robot that was..... Listed under: [Robotics – Automation Projects](#)
1901. [LED Dancing Robots](#) I wanted to make something so I could find our camp at night at Burning Man 2018. 2018 was a robot theme and I'm a fan of neon but no way was gonna head that route so I came up with an idea about a..... Listed under: [Robotics – Automation Projects](#)
1902. [Spatial Synthesizer Kravox! Wireless, Motion- & Touch-Sensing](#) A New Kind of Instrument! invented Kravox during a research project at Lund University (Sweden) with the aim to give digital musical instrument controllers the feeling of conventional, mechanical instruments. Now I want to make Kravox accessible as a musical experimentation platform for everyone, so..... Listed under: [Wireless Projects](#)
1903. [WiFi Smart Power Strip With NodeMCU](#) This is an easy-to-do and quite cheap WiFi Smart Strip that can control 4 sockets independently from all around the world from your smartphone, tablet or computer. Everything you need is an internet connection. You can use it for christmas lights, or fan or everything..... Listed under: [Wifi - Wlan Projects](#)
1904. [Arduino LCD Stick Man Game!](#) hey there Electronic Enthusiasts! Kids, Adults, Seniors, in fact everyone loves games! so here is another Awesome Project based on Arduino, yes its a GAME, follow this pretty INSTRUCTABLE to make your own Arduino LCD Stick Man Game! Step 1: Watch the Video! <https://youtu.be/P97DJQUtKKU> Step 2: Gather..... Listed under: [LCD Projects](#)
1905. [Talking Baymax Display for a Pediatrician's Office](#) "Hello. I am Baymax, your personal healthcare companion." - Baymax At my local pediatrician's office, they have adopted an interesting strategy in an attempt to make the medical environment less stressful and more fun for kids. They have filled the entire office with movie posters..... Listed under: [Sound – Audio Projects](#)
1906. [Hearing Impaired Doorbell Room Light Hack](#) Problem: my dad is registered as deaf and my mum is hearing impair.....t to hear the doorbell. This could be a problem suffered by many others as well. They bought a flashing light doorbell to help..... Listed under: [Sound – Audio Projects](#)
1907. [Meet Twinky the Cutest Arduino Robot](#) Hi,In this instructable I'm going to teach you how I made my own "Jibo" but called "Twinky" I want to clear this up... THIS IS NOT A COPY! I WAS BUILDING TWINKY AND THEN I REALIZED THAT SOMETHING LIKE THIS ALREADY EXIST :c It has..... Listed under: [Robotics – Automation Projects](#)
1908. [Animated Spooky Pumpkin Eyes](#) A couple of years ago while looking for inspiration for a new animated Halloween prop we stumbled upon a video from YouTube contributor 68percentwater called Arduino Servo Pumpkin. This video was exactly what we were looking for, however, some of the details seemed

to be missing. So, we decided we..... Listed under: [Other Projects](#)

1909. [Autostat : a Remote Thermostat](#) The question you are probably asking is "why are you making another remote thermostat?" The answer to that question is, I had to, and the market smart thermostats are too expensive. Fair warning, this is "proof-of-concept" build that would require a few extra outputs to actually control..... Listed under: [Other Projects](#)
1910. [Morse Code for Kids](#). Morse code unit for kids. Variable speed and different levels. My son goes to CUBS and has a special event coming up. This event is all about communicating with other Scouts/Cubs from around the world? Via radio, also over the weekend there will be other..... Listed under: [Game – Entertainment Projects](#)
1911. [Model Railway Layout With Automated Siding](#) Making model train layouts is a great hobby, automating it will make it a lot better! Let us take a look at some of the advantages of its automation: Low-cost operation: The whole layout is controlled by an Arduino microcontroller, using an L298N motor driver, their..... Listed under: [Game – Entertainment Projects](#)
1912. [ESP32 Xiaomi Hack – Get Data Wirelessly](#). Dear friends welcome to another Instructable! Today we are going to learn how to get the data that this Xiaomi Temperature and Humidity monitor transmits using the Bluetooth functionality of the ESP32 board. As you can see, I am using an ESP32 board and a 2.8" color..... Listed under: [Wireless Projects](#)
1913. [Dropping Spider on Doorbell – Halloween Scare Prank](#) This Halloween my son Max, came up with the idea to drop a spider on anyone who tries to ring our doorbell... I immediately jumped on the idea and we started to work on it. Using a simple ultrasonic distance sensor (HC-SR04) and a servo..... Listed under: [Sound – Audio Projects](#)
1914. [Screaming Necronomicon](#) "Alright you Primitive Screwheads, listen up! You see this?" - Ash, Army of Darkness Each time an unsuspecting victim lifts the cover this disgusting book, a bloodcurdling scream pierces the air. This project uses an Arduino Uno, a light sensor and an MP3 player to bring..... Listed under: [Other Projects](#)
1915. [Realistic LED Candle](#) If you've even seen a fake candle you have probably noticed how it doesn't look realistic. Whether you're trying to add some atmosphere to a dinner or light up a jack'o-lantern, your choices are limited. A real candle has a fire hazard, but a fake..... Listed under: [LED Projects](#)
1916. [D.I.Y SMART RGB MATRIX 8×16](#) In this project, I'll show you how to make your own 8×16 RGB LED Matrix using Arduino Uno/ Nano. An LED Matrix can show scrolling messages, display animations, music spectrum analyzer ... With integrating NodeMCU, it can be used as small screen to show weather..... Listed under: [LED Projects](#)
1917. [Frankenbot With Sound Effects and Lights](#) I was inspired by the cute Frankenbot papercraft, so I thought why not make it truly alive by giving it some blinking lights and sounds effect. Here is the plan: - Connect 2 LEDs for the eyes (different colours of course) and only one eye..... Listed under: [Sound – Audio Projects](#)
1918. [Charlieplexing Made Easy \(and What It Even Means?!\)](#) Charlieplexing. Aside from being a fancy word it is a technique for driving multiple LEDs with relatively few pins on a microcontroller. It allows you to drive N\*(N-1) LEDs with just N pins without requiring any additional hardware, making it a quick, cheap and easy..... Listed under: [LED Projects](#)
1919. [OLED I2C DISPLAY WITH ARDUINO Tutorial](#) Hello there! Fellow electronics enthusiasts, I am quite sure we all make some or other projects, as a part of our learning experience or academics. We sure would want to display some data present on our micro-controllers, from sensors or simply display some message, so here..... Listed under: [LED Projects](#)
1920. [Spooky Teddy – Arduino Powered Self-rocking Chair & Rotating Head](#) Spooky teddy is a 2-part Halloween decor. The first part is the teddy bear that has a 3d printed mechanism that can rotate with an Arduino UNO and a solenoid. The second part is a self-rocking chair powered by an Arduino nano and a solenoid..... Listed under: [Game – Entertainment Projects](#)
1921. [Animated Chocolate Box \(with Arduino Uno\)](#) Once I saw a beautiful box of chocolate in a store. And the thought occurred to me to make an awesome gift out of this box - an animated box with chocolate. What we need: Clear plastic chocolate box9V batteryBattery cable adapteruSD 1GBArduino UnoTFT Shield..... Listed under: [Other Projects](#)
1922. [3 Simple Ways of Programming an ESP8266 12X Module](#) If you are not familiar with ESP8266 micro controller, I really feel you have been missing out! These things are incredible: they are cheap, powerful and best of all have built-in WiFi! ESP8266 started their journey out as a WiFi add on board for more..... Listed under: [Arduino Programmer Projects](#)
1923. [Candy Claw Machine – Arduino Based Arcade Game](#) Eyes on the prize, Violet. Eyes on the prize! Get ready for a candy-grabbing face-off with your family and friends with this classic arcade game - the candy claw machine! But this time, it's going to be a bit different - first, it's going to..... Listed under: [Game – Entertainment Projects](#)
1924. [Remote Color Controlled Jack-o-Lantern](#) As usual, this Halloween I decided to create a project related to the season. Using Prusa I3 and Thingiverse, I printed a Halloween decoration where the color is controlled remotely through the Blynk project. <https://youtu.be/CpKM5cp7DnI> The Blynk project lets you create a mobile or tablet..... Listed under: [Robotics – Automation Project Ideas](#)
1925. [Arduino Zener Diode Tester](#) Zener Diode Tester is controlled by Arduino Nano. Tester measure breakdown Zener voltage for diodes from 1.8V to 48V. Dissipation power of measured diodes could be from 250mW to a few Watts. Measuring is simple, just connect diode and press button START. Arduino Nano gradually..... Listed under: [Other Projects](#)
1926. [Arduino Weathercloud Weather Station](#) I made a weather station connected to internet. It measures temperature, humidity, pressure, rainfall, wind speed, UV index and it calculates few more important meteorological values. It then sends this data to weathercloud.net, which has nice graphics and UX. It also has a weather webcamra. It..... Listed under: [Other Projects](#)

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1927. [Automated Train Reverse Loop Using Arduino](#) Making reverse loops can help in model train layouts to change the direction of trains, which cannot be done with turntables. In this way, you can create single-track layouts with a reverse loop on each end to run trains without any pause or interruption. So,..... Listed under: [Motor Projects](#)
1928. [Mug-O-Matic: a Modular Tiny CNC Drawing Robot!](#) Mug-O-Matic is a one of a kind DIY toy, a real 3-axis Tiny CNC drawing robot that can customize coffee mugs! This capable little robot can draw anything you want via manual control, bluetooth, calculated algorithms, or even g-code. So you can enjoy your custom mug..... Listed under: [Robotics – Automation Project Ideas](#)
1929. [How to Make an Arduino Radar](#) This is a radar, designed to detect the distance and direction an object is from the ultrasonic sensor. With the ultrasonic sensor connected to a servo, it has the ability to rotate 180 degrees, similar to a radar utilised to detect the position of planes..... Listed under: [Other Projects](#)
1930. [Arduino – Piano Tiles](#) Hello internet people, This is gonna be about how to make what DEFINITELY isn't a rip off of a mobile game on an arduino uno r3. so to start, your gonna need all the parts, which are as follows!1x Arduino Uno r3 (\$42) 2x LCD Keypad Shield (\$19 each) 5x buttons..... Listed under: [Sound – Audio Projects](#)
1931. [Wireless Music Reactive Floor Lamps](#) In this instructable we'll be making some centrally controlled wireless RGB lamps, that responds to music and sounds in the environment! In addition to instructions, the instructable contains: SchematicsList of componentsLink to the code so you can make and modify your own project Step 1:..... Listed under: [Wireless Projects](#)
1932. [Shoe-Mounted Running Distance Tracker](#) Since runners often need to track not only their total mileage, but also the distance run on each pair of shoes (in order to know when to replace them), this project seeks a solution to the problem of how to keep track of these numbers..... Listed under: [GPS Based Projects](#)
1933. [Interactive Cylindrical Cube](#) This is a creative cylindrical LED cube with proximity sensing by infrared led and photo-transistors. Interactive Cylindrical Cube includes: 8X8 royal blue LEDs, 12 infrared LEDs, 16 photo-transistors and all of them are bent & formed a cylindrical shape. Please see video below when this..... Listed under: [LED Projects](#)
1934. [Mini Acoustic Levitation](#) View this project on my website to see a circuit simulation and a video! Acoustic levitation is made possible through the fact that sound behaves as a wave. When two sound waves intersect each other, they can either constructively or destructively interfere with each other. (This is..... Listed under: [Sound – Audio Projects](#)
1935. [DIY Floor Cleaning Robot Using Arduino](#) While cleaning, getting to those nasty little unreachable spaces under the beds, tables, and sofas can be a big pain. Though small but smart vacuum cleaners are now out there, who wants to spend more than 500 bucks on them when you can make one..... Listed under: [Robotics – Automation Project Ideas](#)
1936. [Arduino Energy Cost Electrical Meter Device](#) Do you pay too much for your electricity bills? Do you want to know how much electricity your kettle or heater consumes? Make your own portable Energy Cost Electrical Meter! Watch how I found the use of this device. Step 1: Preparation. Tools Screws and..... Listed under: [Metering – Instrument Project Ideas](#)
1937. [Robotic E-textile](#) Hello! My name is Fiberbot, and I am so happy you are going to be making more of my friends. In this instructables you will learn exactly how to make a robot that looks just like me. I will also let you in on a..... Listed under: [Robotics – Automation Project Ideas](#)
1938. [Hey Pillow IoT Alarm](#) Know someone that constantly struggle to get out of bed, comes late to work and you are just want to give them a nudge in the morning. Now you can make your own Hey Pillow. Inside the pillow is embedded with an annoying piezo buzzer..... Listed under: [Clock – Timer Project Ideas](#)
1939. [Tchaibotsky \(a Piano Playing Robot\)](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com) Tchaibotsky is an Arduino powered piano playing robot. The motivation was to build something that could accompany pianists, whether they're missing an arm and can't..... Listed under: [Robotics – Automation Project Ideas](#)
1940. [Control Your Model Train Layout With Your Mobile Phone!](#) Controlling a model train layout with a wired throttle and turnout controllers might be a good start for beginners but they pose a problem of non-portability. Also, the wireless controllers which come in the market can either control only some locomotives or are a bit..... Listed under: [Phone Projects](#)
1941. [Ultrasound Sensor: 2D Tracking With Arduino](#) Ultrasound ranging is a complicated task that made easy by the readily available module for Arduino. To detect or measure the distance it transmits the signal to the target and target reflects that back. Arduino measure time is taken for complete travel. As the speed..... Listed under: [Sensor – Transducer – Detector Projects](#)
1942. [Scrolling Text Display \(A to Z Guide\)](#) In this instructable / video I will guide you with step by step instructions how to make scrolling text display with Arduino.I won't be explaining how to make code for Arduino, I will show you how to use existing code. What and where you need..... Listed under: [LED Projects](#)
1943. [Matrix LED Candle Light](#) Hi, in this instructable you will learn how to build a very long lasting LED-Matrix-Candle. It looks very modern, doesn't smoke 😊 and can be reloaded with your smartphonecharger. The yellow light gives you a very good expression of a real flame. To be exact:..... Listed under: [LED Projects](#)
1944. [Brushless Motor Thrust Stand](#) Back in the time when I was building my Arduino based Ludwik Drone I faced a problem with propellers. I didn't know anything about drones at that time so I had to trust motor manufacturer and the datasheet

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1945. [Arduino Polygraph Machine \(Lie Detector\)](#) In this project, We'll try to get some information from the human body by using simple sensors and Arduino. You can use this information to create a lie detector machine. At the end of this article, you : Know Polygraph and basics of measuring and..... Listed under: [Sensor – Transducer – Detector Projects](#)
1946. [Bloomie-The Interactive Flowers](#) Sometimes words are not enough to share your feelings. That's when you need Bloomie! Bloomie is a product for people to share their emotions through lights. When you trigger a certain interaction, the message will be sent to the other person's Bloomie. By using Bloomie,..... Listed under: [Home Automation Projects](#)



1947. [DigiLevel – a Digital Level With Two Axes](#) The inspiration for this instructable is the DIY Digital Spirit Level found here by GreatScottLab. I liked this design, but wanted a bigger display with a more graphical interface. I also wanted better mounting options for the electronics in the case. Ultimately, I used this project to improve..... Listed under: [Battery Projects](#)
1948. [Simon & Whack-a-Mole Game Using Arduino \(also in Tinkercad\)](#) If you grew up in '80s, most likely you played an electronic toy game called Simon. In this Instructable, I will be building an Arduino kit that you can code to play Simon and other button-based games such as Whack a Mole. I developed this..... Listed under: [Game – Entertainment Projects](#)
1949. [Controlling Devices With Voice Command Using NodeMCU](#) I just want to say hello to everybody, this is my first time writing an instructable project. English is not my native language so I will try to make short and as clear as possible. Controlling devices with voice command is not a strange thing..... Listed under: [Sound – Audio Projects](#)
1950. [Glowing Ornament](#) Original glowing ornament for your Xmas tree. It's made from brass rods wired by a freeform method and contains 18 glowing LEDs. Step 1: Tools soldering iron solder soldering paste 0.8mm brass rod 18x SMD LED coin battery on/off switch Step 2: The Rings The..... Listed under: [LED Projects](#)
1951. [Bluetooth Air Horn](#) As a long time lurker I finally decided this project was worthy of a write up (also I'm killing for an instructables tshirt). I love this site and hope you enjoy this project. IMPORTANT!Just a quick heads up, there are optional steps in this build..... Listed under: [Bluetooth Projects](#)
1952. [How to Control Home Appliances With TV Remote With Timer Function](#) Even after 25 years of its introduction to consumer market, infrared communication is still very relevant in recent days. Whether it is your 55 inch 4K television or your car sound system, everything needs an IR remote controller to response to our commands. There are..... Listed under: [Clock – Timer Projects](#)
1953. [Needle-Felted Pressure Sensor](#) Create a pressure sensor using: - Needle-felted wool - Thin muslin - Velostat - Conductive thread This sensor can be used an analog input for Arduino code. Step 1: Prepare the Core Components Component 1: A felted wool ball. This can be made using unwoven..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1954. [Arduinoflake – PCB Version](#) A few weeks ago I made a freeform Arduinoflake. Lot of you loved it. But its magic is not only being freeform but also in the pattern of the LEDs. So I decided to create a PCB version which would be really easy and cheap to..... Listed under: [Game – Entertainment Projects](#)
1955. [Simulated Sports Scoreboard](#) I am the theatrical technical director for a local high school. Their winter production was “Disney’s High School Musical”. During meetings with the director, he said it would be cool if he could have a scoreboard. I excitedly replied that I could make one that..... Listed under: [Game – Entertainment Projects](#)
1956. [Ciclop 3d Scanner My Way Step by Step](#) I'm going to realize the famous Ciclop 3D scanner. All the step that are well explained on the original project aren't present. I made some fix to simplify the process, first I print the base, and than I restilize the PCB, but go on. Step 1: Printing and..... Listed under: [CNC Machines Projects](#)
1957. [Connect 4 Game Using Arduino and Neopixel](#) Rather than just giving an off-the-shelf toy gift, I wanted to give my nephews a unique gift that they could put together and (hopefully) enjoy. While the Arduino code for this project may be too difficult for them to understand, the basic concepts of input,..... Listed under: [Game – Entertainment Projects](#)
1958. [Controlling a Neopixel Led Ring With a Gesture Sensor](#) In this tutorial we're going to play with a gesture sensor (APDS-9960) and a neopixel ring to learn how to combine them both using an Arduino UNO. The end product will respond to left - right gestures by animating led movement right or left, and..... Listed under: [Sensor – Transducer – Detector Projects](#)
1959. [NES Controller Piano / Ultrasonic Theremin Mash-Up](#) I recently built a simple 8 key piano using an original NES controller and Arduino UNO board.Unlike conventional Arduino piano projects which require one digital pin for each key / button the NES controller piano used only three digital pins (D5 for nesClock, D6 for nesLatch, D7..... Listed under: [Sound – Audio Projects](#)
1960. [RGB One Button USB Keyboard](#) Ever felt the need to have a tiny, yet functional, RGB backlit keyboard, no bigger than the size of a single key? No? Who cares, make one anyway! This instructable will guide you through the steps you need to make your very own, slightly useless,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
1961. [Radioactivity Counter \(IoT\) and Monitoring Eco-system](#) C-GM firmware last update on June, 10th 2019 with new 1.3 versionA-GM applicationlast update on Nov, 25th 2019 with new 1.3 version This D.I.Y low cost (50\$/43€) C-GM Counter project provides hardware and firmware for building a Geiger-Müller counter device aka G.M. counter for continuous measurement of the radioactivity level. It is based on an Arduino Nano,..... Listed under: [Sound – Audio Projects](#)
1962. [Bell Model 202 Bluetooth Telephone \(1930-2018\)](#) Using the magic of Arduino, I revived an antique Bell model 202 telephone and added Bluetooth capability to it. There are two parts to this. On one end I have an ancient phone from the 1930's. On the other end, I have one of a..... Listed under: [Bluetooth Projects](#)
1963. [LaserKitty!!](#) It is a truth universally acknowledged that a single cat in possession of good fortune must be in want of a laser toy. As with single gentlemen in want of future wives, some precautions must be observed. But is that not true of anything really..... Listed under: [Other Projects](#)
1964. [Use Your NES Controller As On/Off Switch for Lights](#) Turn your NES controller’s START BUTTON into an ON/OFF switch. I have seen either gut or modify the electronics but in this project the electronics are intact so the controller can be used for retro gaming after the lights go out... I..... Listed under: [LED Projects](#)
1965. [Escape Robot : RC Car for an Escape Game](#) The main purpose of this project was to build a robot that would differentiate itself from already existing robots, and that could be used in a real and innovative area. Based on personal experience, it was decided to build a car-shaped robot that would be..... Listed under: [Robotics – Automation Projects](#)
1966. [“Wooden” Desktop Clock \\*Modern Looking\\*](#) Hi everyone, this is my second instrucatable! This time we are going to build a wooden clock with temperature and humidity display. Like shown in the picture, our the time will be displayed through the "wood". Since light isn't strong enough to pass a piece of..... Listed under:

[Clock – Timer Projects](#)

1967. [Spaceship Control Panel – Laser Cut Arduino Toy](#) A few months ago I decided to become a member of the local maker space, since I've been wanting to learn the tools of the maker trade for ages. I had a tiny bit of Arduino experience and a had taken a Fusion-course here on Instructables..... Listed under: [Game – Entertainment Projects](#)
1968. [RUMI the LineFollowingRobot](#) I made this project in collaboration with Ruben Says, for our studies in electromechanics at the HoGent. The assignment was to make a line follower robot, which is a little cart that by using its sensors is able to follow a black line on a..... Listed under: [Robotics – Automation Projects](#)
1969. [Chord Displaying Smart Guitar](#) I am an Electronics engineer by profession and a guitarist by hobby. I wanted to make a guitar which can itself show the beginner guitarist how to play the chords by displaying it on the fret board. So I decided to modify my acoustic guitar..... Listed under: [Sound – Audio Projects](#)
1970. [Brew|LOGIC – Bluetooth Enabled Arduino Brewing Controller](#) Brewing beer has become a worldwide phenomenon. Beer and wine is being crafted in ordinary kitchens in every corner of the world. One phrase that you may hear from your fellow homebrewer is "From Grain to Glass", which refers to the process of making beer..... Listed under: [Bluetooth Projects](#)
1971. [Moving and Talking Giant Lego Hulk MiniFig \(10:1 Scale\)](#) I've always played with legos as a kid, but I didn't have any of the 'fancy' legos, just classic lego bricks. I'm also a huge fan of the Marvel Cinematic Universe (MCU) and my favourite character is Hulk. So why not combine the two, and..... Listed under: [Robotics – Automation Projects](#)
1972. [Lego Mini Memory Game](#) A year or so ago, I wrote up an Instructable about installing a bunch of LEDs in a Lego Mini Cooper. The innovation, such as it was, was that the LEDs could be controlled with a smartphone (or through any web browser, for that matter). As I..... Listed under: [Game – Entertainment Projects](#)
1973. [Light Sensing LEDs using Arduino](#) I was recently reserching on LEDs and I stumbled upon this page as I read it I found that LEDs are not just used to emit light but the also have the ability to sense light.At first using LED as light sensor sounds complicated but..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
1974. [Physical Pixel using Arduino](#) This example example uses the Arduino board to receive data from the computer. The Arduino boards turns on an LED when it receives the character 'H', and turns off the LED when it receives the character 'L'. The data can be sent from the Arduino..... Listed under: [LED Projects](#), [Projects](#)
1975. [Arduino ProtoShield from Household Items](#) I love my Arduino. It got me into, and hooked on, microcontroller programming. I also like the expandability that shields provide. My Arduino can be a GPS Locator one minute, and be connected to the web the next. There's also a kit that lets you..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
1976. [SensoDuino: Turn Your Android Phone into a Wireless Sensors Hub for Arduino](#) UPDATES Nov 23, 2013: SensoDuino 0.160 gets a face left. Nov 19. 2031: OPINION: The Amazing Synergy Between Arduino & Android. Nov 19, 2013: SensoDuino 0.159 is out. Android phone date (y,m,d) and time (h,m,s) are supported as sensors. Support for Android KitKat (4.4/API 19). INTRODUCTION Think of SensoDuino as..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Phone Projects](#), [Sensor – Transducer – Detector Projects](#)
1977. [Sleep n’ Tweet using an Arduino](#) Now I am lucky enough to work at the greatest company in the world as a University of Waterloo, co-op student. It might not even be a company you’ve heard of yet. They’re named Upverter and we are trying to change the way people design,..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
1978. [Anti-Sunflower – Points to Your Darkness!](#) Since childhood, I always wanted to try my hands on electronics. Recently I bought the Arduino and started exploring it. In this process, I got to know more about Light Dependent Resistors (LDR). Somehow, I stumble across this idea. Basically, it's an electric sunflower which..... Listed under: [Home Automation Projects](#)
1979. [Mint-Sized Success Meter \(quit smoking!\) with Arduino](#) There comes a time in life to put childish things behind and give up nasty habits. Some, like smoking, can be damn hard without constant encouragement. It was time for me to combine my favorite hobby with my driving goal and make this: The Quit..... Listed under: [Ideas](#), [Medical – Health based Project Ideas](#), [Metering – Instrument Project Ideas](#)
1980. [Honey Bee Counter using Arduino](#) Where the honeybee's division of labor has stayed on a steady progression for 25 million years... our human superorganism has grown more complex and in all directions... hence the bee counter... By: thomashudson.org Live data from - June 25, 2012 I've moved away from live..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
1981. [NRF24 Two-Way Radio for Telemetry](#) Hi guys, my name is Pedro Castelani and I'm bringing you my first instructable: building a two way radio with arduino for, well, whatever you need it for. In this project, we will make two seperate circuits which will act as both reciever and transmitter..... Listed under: [Radio Projects](#)
1982. [Arduino Snail Mail Notifier](#) My mailbox is across the street from my house because our mailmen don't walk door-to-door, so I never know when the mail is delivered. Sometimes, I'm waiting for something and I'd really like to know when it arrives. I got my first Arduino last week,..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
1983. [Slipper Shining with LED strip & Xadow](#) mo.momi Led strips are amazing! Firewalker-led-sneakers(<http://learn.adafruit.com/firewalker-led-sneakers>) by Adafruit inspired me. I wanna change a way to control it, instead of "pressure-sensitive", I use a accelerometer sensor judgi 

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 complete this version only calculating the acceleration on "z" axis, weather..... Listed under: [LED Projects](#)
1984. [Arduino CNC Plotter \(DRAWING MACHINE\)](#) Hey guys! I Hope you already enjoyed my previous instructable "How to make your own Arduino training platform" and you are ready for a new one, as usual I made this tutorial to guide you step by step while making this kind of super amazing..... Listed under: [CNC Machines Projects](#)
1985. [YouTube Desktop Notifier](#) Do you get nightmares of losing your YouTube Subscribers? If you do, you are not the only one. <https://youtu.be/ITi9ToWFHCK> Luckily I have made this "YouTube Desktop Notifier" to keep me up-to-date with my channels Subscriber and View Counts. This very simple DIY project cost me..... Listed under: [Video – Camera – Imaging Projects](#)

1986.

[Arduino Esplora Blink Code](#)

This sketch blinks the Esplora's RGB LED. It goes through all three primary colors (red, green, blue), then it combines them for secondary colors(yellow, cyan, magenta), then it turns on all the colors to create white. For best results, cover the LED with a piece..... Listed under: [LED Projects](#), [Projects](#)
1987.

[Analog Input using Arduino](#)

A potentiometer is a simple knob that provides a variable resistance, which you can read into the Arduino board as an analog value. In this example, you'll connect a poterntiometer to one of the Arduino's analog inputs to control the rate at which the built-in..... Listed under: [Projects](#), [PWM Projects](#)
1988.

[3 Amazing BRAIN / MIND Control Projects Lights LedStrip LED With Arduino and Neurosky](#)

<https://youtu.be/kbzIDT0Aby8> Have you ever wanted to turn the lights ON or OFF just by thinking about it? Or do you want to know how stressed you are by looking at the color of a RGB led? While now you can by following this Instructables! To..... Listed under: [LED Projects](#)
1989.

[Yoga Breathalyzer](#)

The yoga breathalyzer is a breath visualization tool to help you understand and get in touch with your breathing. Breath is the basis of yoga and meditation, and this biofeedback tool is one way to develop a deeper understanding of your own breath. Using Arduino,..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
1990.

[Arduino LED Button Pad That Drives Processing Animations](#)

WhatThis button pad is made using a PCB and other components manufactured by Sparkfun. It is driven by an Arduino Mega. Each button is nice and squishy and satisfying to press, and it has an RGB LED inside! I've been using it to control animations..... Listed under: [LED Projects](#)
1991.

[Sonic Switch: Use a Sonic Screwdriver to turn on your computer!](#)

What it is: An Arduino-based light-sensitive switch for turning on a desktop computer. Why its cool: Use a Sonic Screwdriver to turn on your computer! Story: This project started, as I'm sure a lot of them do, as a result of boredom and the thought..... Listed under: [RTOS – OS Projects](#)
1992.

[Arduino and 7 segment LED display decoder](#)

In this instructable i will explain how to connect 7 segment display, decoder and arduino. It's pretty easy. At first we have to learn something about decoder. I'm using BCD to 7 segment decoder. My is D147D, this is old chip, but the newer are..... Listed under: [LED Projects](#), [Projects](#)
1993.

[Smartphone Controlled Bubble Blower Using Arduino](#)

Whether you're already a kid or not; you are going to become one as soon you see bubbles floating around you! You'll be lying if you say that you don't pop one on seeing one! Alas, everything isn't the same for the one who's blowing..... Listed under: [Phone Projects](#)
1994.

[Pixel Shipped Counter](#)

Many times, we often use LCD as display equipment, from tiny temperature monitors to large industrial equipment. The funny thing in this project is that it combines two Red LED Matrices as display. You don't need other devices except Arduino to drive it. This project..... Listed under: [Calculator Projects](#)
1995.

[Coffee-Art Project](#)

Well, hello there! My name is Manou and this is my very first instructable. This instructable is all about making a mechanic arm with an arduino genuino uno! This all started with this basic idea: I wanted to make a robot that made art and..... Listed under: [Home Automation Projects](#)
1996.

[Capacitive Touch Arduino Lamp](#)

The Problem It is late night, and your cellphone rings. You can't see where it is, you blindly grope around your nightstand, trying in vain to find that illusive switch that will illuminate your side of the bed. You clumsily turn on the lamp, locate..... Listed under: [Home Automation Projects](#), [Projects](#)
1997.

[SPlaying tones on Multiple outputs using the tone\(\) function with Arduino](#)

This example shows how to use the tone() command to play different notes on multiple outputs. The tone() command works by taking over one of the Atmega's internal timers, setting it to the frequency you want, and using the timer to pulse an output pin..... Listed under: [Projects](#), [Sound – Audio Projects](#)
1998.

[Pokemon Elemental Arcade \(Mini Game\)](#)

This project started as I had to create a project for the HKU with an arduino. It had to be something which would be either entertaining or solving a certain problem. For which I chose to pick the entertaining part. In the end combining multiple..... Listed under: [Game – Entertainment Projects](#)
1999.

[Button State Change Detection using Arduino](#)

Once you've got a pushbutton working, you often want to do some action based on how many times the button is pushed. To do this, you need to know when the button changes state from off to on, and count how many times this change of state..... Listed under: [Calculator Projects](#), [Projects](#)
2000.

[Redefining the TV Remote using Arduino](#)

We use them every day, but has no one got bored of pressing buttons on a stick, it's far too much effort pressing buttons! Surely there are better ways to control a device? After doing some work with my Nikon camera using IR to control..... Listed under: [Home Automation Projects](#), [Projects](#)
2001.

[Digital Treasure Chest](#)

I study Game and Interaction technology at Utrecht University of the Arts. There is one project called "If this then that" where you're asked to build an interactive product. You are to use an Arduino, design an interesting interactive element and build a nice and..... Listed under: [LED Projects](#)
2002.

[How to make a Ball Balancing Robot](#)

Last year, I have made this ball balancing robot.It can stand on a ball stable b one connect point between the robot and the ground, so it is more flexible than the traditional wheeled robot. It c 

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[Projects](#)
2003.

[Using FM RC Controllers using an Arduino](#)

I recently dug up my old RC transmitter and receiver and thought "How can i control my arduino with this?" so i powered on my scope to see what was going on at the receiver. Sure enough, it was sending out the standard PWM signal that servos..... Listed under: [Projects](#), [Radio Projects](#)
2004.

[Simple keyboard using the tone\(\) function using Arduino](#)

This example shows how to use the tone() command to generate different pitches depending on which sensor is pressed. Circuit Connect one terminal of your speaker to digital pin 8 through a 100 ohm resistor, and its other terminal to ground. Power your



three FSRs (or..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Sound – Audio Projects](#)

2005. [Music Box With Mini Monitor\(OLED\) and LED](#) My idea was a box that would play music when you open it. It also has a display with an emoji on it that awakes, greeting you. There is also a LED in it that lights up if you hold the Force-sensitive resistor squeezed between..... Listed under: [LED Projects](#), [Medical – Health based Project Ideas](#)
2006. [Accessing 5 buttons through 1 Arduino pin](#) I made the original Instructible that this is based on over a year ago (You can see it here to see some of the theory around how this works:<http://www.instructables.com/id/How-to-access-5-buttons-through-1-Arduino-input> ). To make a long story short, I moved to a different country a few weeks..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2007. [Web Controlled Arduino LED](#) This instructable shows you how to build a Web-enabled tri-color LED based on an Arduino and the WIZnet Ethernet shield, controllable from any Web browser . Check the live demo at <http://try.yaler.net/~arduino/led> Because the LED is exposed through a simple RESTful web service running on..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
2008. [Interactive Glowing Mushrooms](#) <https://youtu.be/z1V3YJo0Cwk> This instructable will show you how to make mushrooms that will glow in the dark. You can turn individual mushrooms off and on again by pressing the top. I started this project for a school assignment where we had to create something using the..... Listed under: [Other Projects](#)
2009. [Arduino Powered Nixie Tubes: ArduiNIX Nixie driver shield assembly](#) [www.ArduiNIX.com](http://www.ArduiNIX.com) presents: ArduiNIX Nixie driver shield assembly The ArduiNIX shield is a user programmable platform for driving multiplexed Nixie tube or other high voltage displays\*\*. The ArduiNIX is open source hardware Welcome to the assembly portion of the site. Here we will take you step by..... Listed under: [LED Projects](#)
2010. [LED Show 2 using Arduino Espora](#) This example shows you how to read different analog sensors to change the brightness of the three colors in the RGB LED. In this example you will read the amplitude from the microphone, the amount of light on the light sensor, and the position of..... Listed under: [LED Projects](#), [Projects](#)
2011. [Infinite Disco](#) In this project, I made an infinity mirror based on a dodecahedron that reacts to sound . Step 1: Materials Essential materials: Arduino Uno 3mm thick 100x50cm MDF 2mm thick 100x50cm plexiglass 3 meter WS2812B LEDstrip 60 LEDs/m Sound Detection Sensor Module 3-PIN Thin electric..... Listed under: [LED Projects](#)
2012. [Arduino light seeker](#) First of all, I'm from Switzerland so please excuse my english mistakes. Here is one of my first little project I did with my Arduino Uno. It's is just a little light seeker. The servo turns towards the light. Step 1: The wiring Here is..... Listed under: [Ideas](#), [Other Project Ideas](#)
2013. [The MicroSlice | 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 the launch of the Microcontroller contest I took..... Listed under: [CNC Machines Projects](#)
2014. [Arduino Trumpet](#) This project emulates a trumpet by playing notes using the three buttons (valves). This is easy to make and fun to play with, though it can only play one octave and no sharps/flats. Step 1: Code Load this into your Arduino: `int speaker = 9;`..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
2015. [Wally – IR Detection Robot using Arduino](#) My First ever Robot. It tracks objects using Infra-red sensors, and has basic AI that follows and avoid objects. I will describe the how I made this robot, and upload some videos. Version 1 (16 Dec 2011): —————The components used ————— I actually planned this..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
2016. [Secret Compartment Chess Set](#) I play chess pretty poorly and have always wanted to get better, but I don't even own a chess set. I decided I wanted to make my own set, but with a twist. I have made a chess board with a secret drawer that is..... Listed under: [Game – Entertainment Projects](#)
2017. [Arduino Projects on a breadboard \(no serial com\)](#) Intro: If you've got an Arduino Uno and want to start duplicating projects without having to buy an Uno every time... get ready to live! This instructable will show you how to move your projects (that do not require serial communication) onto a breadboard for..... Listed under: [Development Board – Kits Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2018. [Arduino Prototyping Shield on the cheap](#) Breadboards are very handy, but sometimes I just want to connect one IC or some LEDs and resistors to the controller. My simple solution was to canibalize a cheap Breadboard to get two expandable PrototypingShields with some additional features. What I used: Breadboard (~3\$) 2..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)
2019. [Clapper LED Candle](#) Three years ago I saw "My New Flame" by MORITZ WALDEMEYER, INGO MAURER UND TEAM 2012 at the museum gift shop, and feel in love with the idea. I hoped to recreate something mesmerizing, enjoyable, functional and interesting to watch, but with a slight twist. I certainly couldn't..... Listed under: [LED Projects](#)
2020. [Automatic Camera Shutter Switch](#) The best part of haunted houses and amusement park rides is getting to see pictures of your friends screaming in terror. To get these kinds of pictures requires perfect timing. The best way to get this is with an electronic control circuit. So in this..... Listed under: [Video – Camera – Imaging Projects](#)
2021. [Interfacing Any Arduino With a Cellphone](#) When using an Arduino, it may result quite annoying to not be able to use a computer available. Maybe the Windows or Mac OS isn't compatible, you don't have any computer at all or you just want more..... Listed under: [Phone Projects](#)
2022. [No-Solder Arduino Breadboard Shield](#) The goal of this instructable is to make a no solder arduino breadboard shield like this one: Step 1: You will need Parts list: Super glue\*Mini breadboard size 4.5x3.5 cmArduino pin headers\*\* \* Hot glue wont cut it\*\* Normal female pin headers can also..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)
2023. [Tweety Button using Arduino](#) Welcome to my first Instructable! This is for something I've coined the "Tweety" or, Tweety-Button. The concept is simple, you're on your computer and the inspiration to Tweet is welling up inside. Chrome is being slow today, and you want to get those 140 characters..... Listed under:

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[Ideas](#), [Radio Project Ideas](#)

2024. [Solar Powered WiFi Weather Station V2.0](#) This Instructable is a continuation of my earlier weather station project. It was quite popular on the web, people around the globe made their own by following it and given valuable feedback for improvement. By taking consideration of the comments and Q&A section of my earlier project,..... Listed under: [Solar energy project Ideas](#)
2025. [Timelapse Panning controller for GoPro Cameras](#) This instructible will show you how I built (and you can also build) an Arduino Timelapse Panning controller for GoPro cameras. There are obviously some refinements that can be made to the design, but in general I am very happy with the results that I've..... Listed under: [Video – Camera – Imaging Projects](#)
2026. [Wii Nunchuck as general purpose controller via Arduino board](#) Background: I made a self-balancing electric skateboard which is steered using a Wii Nunchuck by either using the thumb joystick on the top or by tilting it left or right, depending on which of the two buttons on the end are being pressed. A simplified..... Listed under: [Ideas](#), [Other Project Ideas](#)
2027. [Interactive Touchless Light](#) Hi everyone! I'd like to share the project I have been working on here. I got inspired to experiment with capacitive touch sensing through a project in my university. I found out about this technology through instructables and used the things I learned here and..... Listed under: [LED Projects](#)
2028. [High-Low Binary LED Arduino Game](#) This is a pretty simple game: The Arduino shows a number in binary on the green LEDs. You then guess whether your green number is bigger than the computer's number. The Arduino shows its number on the red LEDs. If you were right, you will..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
2029. [Pong Playing Flexible Screen on a Shirt](#) This is my Halloween costume for the year 2013. It's been in the works for about a year and has taken quite a few man hours to create. The screen is 14 by 15 pixels, so, pretty low resolution but it can still do some..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#)
2030. [Arduino Flash game streamer](#) its a simple project that uses the a ethernet shield server to give a advanst web page with flash games on it. Step 2: The code::: you can download this code at the end: load up the ethernet server example and delete the code for..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
2031. [Handheld Gaming Console | Arduboy Clone](#) A few months ago I came across Arduboy which according to its official website is a miniature 8-bit game platform that makes it easy to learn, share and play games online. It is an open source platform. The games for the Arduboy are made by the users..... Listed under: [Game – Entertainment Projects](#)
2032. [Arduino Bracket](#) When you are tinkering around with your Arduino and a breadboard you might want to make yourself an "Arduino Bracket". Nothing more than header pins and a piece of wire, the "Arduino Bracket" keeps wiring neat and tidy, and lets you easily disconnect your Arduino..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2033. [Dual Axis Tracker V2.0](#) Way back in the year 2015 we designed a Simple Dual Axis Tracker for use as a fun student or hobby project. It was small, noisy, a little complicated, and provoked a lot of really weird community comments. That being said, three and a half years later..... Listed under: [Security – Safety Projects](#)
2034. [Sky on the Wall \(Mood Lighting-IR remote\)](#) I love LED and stars, and after saw another instructables about star constellation and some mood lighting that was very inspired and I decided I wanted to take that idea and want to create some mood lighting with some skies component such as stars, and..... Listed under: [Home Automation Projects](#), [LED Projects](#)
2035. [3x3x3 LED PVC Light Cube using Arduino](#) This 3X3X3 ft. LED PVC cube is the ultimate in mood light fun! An LED (light emitting diode) will burn longer than traditional bulbs so that you can enjoy your giant light for a LONG LONG time. Build it and see! Step 1: WARNING!!! THIS PROJECT..... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
2036. [Punch Activated Mario Question Block Lamp](#) The Super Mario games were my childhood. I've always wanted to have some of the props in the games, and now that I have the tools to do it, I decided to start making them. The first up of that on my list is the..... Listed under: [LED Projects](#)
2037. [Frameless Laser Harp](#) We are a generation that love sound and light – can't do without them really. Our most preferred time of day is night, or what we would call evening. We are particularly well acquainted with technology; doesn't hurt these days. Our prerequisite for everything is..... Listed under: [Game – Entertainment Project Ideas](#), [LED Projects](#)
2038. [Battery Reconditioner using an Arduino](#) So if you are like this Lazy Old Geek, you have a lot of rechargeable batteries lying around. I wrote another Instructable with some battery tips. <http://www.instructables.com/id/Rechargeable-Battery-Tips/> Amongst these batteries, I have a lot that no longer work or don't work very well. So I..... Listed under: [Battery Projects](#), [Projects](#)
2039. [Pitch follower using the tone\(\) function using Arduino](#) This example shows how to use the tone() command to generate a pitch that follows the values of an analog input Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect one terminal of your speaker to digital pin 9 through a..... Listed under: [Projects](#), [Sound – Audio Projects](#)
2040. [Arduino Chessclock](#) I could not find instructions on a good Arduino chess clock so instead I built my own which I \ Click here to get AI-based help ✕  
color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" title  
headbg="#FFEB70" headcolor="#985D00"] here are the..... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#)
2041. [A New Way to Arduino Control an RC Car](#) I've done some work with Arduino controlled cars, but the ones I've worked on have always been slow and methodical. This is great when learning arduino, but I wanted something a bit more...fun. Enter the RC car. RC cars are literally designed to be as..... Listed under: [Car Projects](#)
2042. [Laser Triggered Countdown](#) This is a simple arduino based project that consists of a laser tripwire that, when triggered, will begin a countdown sequence on red, orange and green LEDs. I designed this to be an easy project for someone learning how arduinos work (like me). This is..... Listed under: [Calculator Projects](#), [LED](#)

Projects

2043. [Smart Heart Monitor](#) No longer will you have to pay hundreds of dollars for a heart rate monitor! The Smart Heart Monitor will be able to do all of your cardiac measuring needs for you! The Smart Heart Monitor measures the user's heartbeat using an LED and a..... Listed under: [Medical – Health based Projects](#)
2044. [ESP8266 VGA Pong](#) In this Instructables I will show how to build a reproduction of the the classic game Pong for a VGA monitor, using a ESP8266 and few other components. This game is made possible by the EspVGAX library recently published on GitHub by Sandro Maffiodo (aka Smaffer) and, as far as I know, this is the first..... Listed under: [Game – Entertainment Projects](#)
2045. [Functional Lit Costume Goggles for Mr Freeze](#) Egads! LED Goggles you can see through (surprisingly well, too)! They pulse subtly, making them so cold and dehumanizing. They were totally perfect for the character I was going after - Mr Freeze. It was my first time really playing with LEDs and Arduinos, so..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
2046. [Basic Arduino Tutorials : 01 Blinking LED](#) In this instructable, I'm going to show you how to make a simple circuit/code with an arduino, which will make an LED connected to it flash from off to on, with 1-second intervals, as shown below. This is a very easy, basic idea, however it..... Listed under: [LED Projects](#)
2047. [WIRE CUTTING MACHINE](#) Hello friends I have made a Automatic wire cutting machine using Arduino nano controller board. Basically there are 3 process level of this machine like 1) first process is Input Input like wire length and wire quantity provided by pressing push button also the real..... Listed under: [Motor Projects](#)
2048. [How to make a runaway cookie box using Arduino](#) Eat too many cookies? These are some guidelines for how you can add a few security features to an ordinary box of cookies - or at least have a fun toy. The runaway cookie box will roll away when objects approach it and sound an..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
2049. [Phone Controlled Mood Lighting](#) Dorm rooms are notorious for their dreadful lighting, so I wanted to make a cool alternative light source for my room at school. I made it phone controlled so there would be an easy and wireless way to change the color of the lighting. The..... Listed under: [LED Projects](#), [Phone Projects](#)
2050. [Smartphone Controlled RC Car Using Arduino](#) This Instructable shows how to make a Smartphone controlled Arduino Robot Car. Update on 25th Oct 2016 Step 1: Youtube Video Link <https://youtu.be/cC2crT941wQ> Step 2: Parts and Tools Required 1. 4WD Robot Chassis kit2. Arduino Uno 3. LM298 H bridge Module 4. Bluetooth Module HC-05..... Listed under: [Phone Projects](#)
2051. [The Twittering Office Chair using Arduino](#) The Twittering office chair "tweets" (posts a Twitter update) upon the detection of natural gas such as that produced by human flatulence. This is part of my commitment to accurately document and share my life as it happens. For more in depth theory, please see..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
2052. [Arduino controlled automated blinds with Web UI](#) This instructable is a detailed guide on how to build an automated controller to run a motor that can operate the opening and closing of blinds. The controller enables the blinds to open and close based on a schedule, room temperature and out door luminosity..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
2053. [Sensor Stations Network for Lighting and Security Control](#) With this sensor stations network configured in a master/slave mode, you will be able to do lighting and security control in your home. These sensor stations (Node01, Node02 in this project) are connected to a master station (Node00) connected to your local wifi network. I..... Listed under: [Security – Safety Projects](#)
2054. [Fix a fried Arduino Mega](#) Sometimes you may do something stupid, other times it is totally inexplicable but as a result of whatever events, the green power light on your Arduino stopped coming on. In my case it turned out to be a burned out voltage regulator. This inscrutable is..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2055. [RGB Temperature Indicator \(with XinaBox\)](#) This is officially my first Instructables article, so I'm going to admit that I am using this opportunity right now to try it out. Get a feel of how the platform works, the whole user experience side of it. But while I am doing that,..... Listed under: [Temperature Measurement Project Ideas](#)
2056. [Accelerometer Dice with 123D Circuits](#) This is the project that got Autodesk's CEO Carl Bass a little extra attention from the TSA on his way to MakerFaire Tokyo. Here's an article about that... We made this as way to demo a few things you can do with our apps, 123D Circuits and 123D Design : Design..... Listed under: [LCD Projects](#), [Metering – Instrument Projects](#)
2057. [Temperature-controlled USB fan using Arduino](#) As summer is coming, I bought a USB fan from HuaQiangBei, Shenzhen. However, when I focus myself on work(or game), I could hardly notice its existence. If I can teach it how to think and execute its duty without my order, that will be more..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#), [Temperature Measurement Project Ideas](#)
2058. [LED Jigsaw Puzzle Light \(Acrylic Laser Cut\)](#) I have always enjoyed the various acrylic laser-cut night lights that others have made. Thinking more about these I thought that it would be great if the night light could also double as a form of entertainment. With this is mind I decided to create..... Listed under: [LED Projects](#)
2059. [Time Delay Lock Box](#) Note from the author: In an effort to get this ready in time for the safe and secure challenge, Click here to get AI-based help ✕ my box, but that doesn't mean you have to! I have left my original ambitions in the..... Listed under: [Clock – Timer Prc](#)
2060. [Better LED as light sensor](#) As a result of the questions from Iekirst on this ible of my hand: LED-as-lightsensor-on-the-arduino/ and the cleaner code made by hansc44 at: Arduino-Use-LED-as-a-light-sensor/ it was time to come with a better lble. So here it is. (I didn't solve Iekirst's problems yet so she probably is open for suggestions) What is..... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)
2061. [Arduino Mega-ISP Shield](#) Use this shield to re-burn the bootloader for any arduino. You can always make one on a breadboard, but having a shield is great. This is great for people who works with lots of arduinos. You can also use it with AVRDUDE. I will have..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)



2062. [Eye Guardian: Sound Triggered Eye Protection](#) Eye Guardian is an Arduino powered, High-Decibel continuous sound triggered eye protection wear. It detects heavy equipment sound and lowers protective eye goggles while the equipment is in use. Outline In the first step, I will explain the Inspiration&Idea behind this project. Next, I will..... Listed under: [Sound – Audio Project Ideas](#)
2063. [DIY Mario Kart Balloon Battle Robots](#) There are some projects where you make a functional thing or practical thing. There are some projects where you make a beautiful thing. And then there are projects like this where you decide to slap a razor blade and balloon on some robots and battle..... Listed under: [Robotics – Automation Projects](#)
2064. [5X5 dot matrix on Arduino](#) With this you just type the text you want on your computer and your 5x5 dot matrix shows the message. Used: ~25 leds ~Arduino uno ~5x 100ohm resistor ~and a bit of skripting It took me a while to figure this all out but in..... Listed under: [LED Projects](#), [Projects](#)
2065. [Arduino Noise Machine Jacket](#) As a project for one of my college classes, we were asked to create something using the Arduino. After a few different ideas, I settled on putting an Arduino noise machine into a suit jacket. It uses parts of the jacket to make function, so..... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)
2066. [Valentines PCB Heart](#) With Valentines Day approaching I thought it would be nice to make a project for the people who are special in my life; I thought the people of instructables would probably like it too! I've designed a ~100mm x 100mm or ~4in x 4in PCB..... Listed under: [LED Projects](#)
2067. [Input Pullup Serial using Arduino](#) This example demonstrates the use of INPUT\_PULLUP with pinMode(). It monitors the state of a switch by establishing serial communication between your Arduino and your computer over USB. Additionally, when the input is HIGH, the onboard LED attached to pin 13 will turn on; when LOW, the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#), [Projects](#)
2068. [The Ultimate Light Switch](#) The goal of this instructable is to explain how I made a wifi-connected light switch (also called remotes further). The goal of these remotes is to turn on and off several wifi-connected relays. The relays are not explained in this instructable. They are explained in..... Listed under: [LED Projects](#)
2069. [Self Sufficient Arduino Board](#) This is a self sufficient Arduino board, which is powered by harnessing solar power and using a 9V rechargeable battery. It is perfect for anyone who is interested in doing Arduino projects that do not require a computer or any power supply. You can take..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)
2070. [Arduino PMW enabled high power shield or non-shield on the cheap](#) Micro controllers are great, but have you ever wanted to control something bigger then, lets say an LED? If you have, look no further (unless you want more then 0.6Amps for 4 channels, or 2.4Amps for 1 channel), unless you don't mind spending more money..... Listed under: [PWM Projects](#)
2071. [Joy Slippers Version 2 using Arduino](#) These slippers have 4 analog pressure sensors embedded. They can be used to feed Up, Down, Left and Right values into your computer replacing your mouse, joystick... Visit the JoySlippers website >> <http://www.joyslippers.plusea.at/> This Instructable improves upon the previous version <http://www.instructables.com/id/Joy-Slippers/>. It will show you..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
2072. [Easy Very Low Power BLE in Arduino Part 3 – Nano V2 Replacement – Rev 3](#) Update: 7th April 2019 – Rev 3 of Ip\_BLE\_TempHumidity, adds Date/Time plots, Using pfoDApp V3.0.362+, and auto throttling when sending data, alongside Low Power BLE in Arduino Update: 24th March 2019 – Rev 2 of Ip\_BLE\_TempHumidity, adds more plot options and i2c\_ClearBus, adds GT832E\_01 support Introduction..... Listed under: [Arduino Programmer Projects](#)
2073. [LOG Arduino Sketches 101](#) So this Lazy Old Geek (LOG) gets bored sometimes and wants something to do. Actually, sometimes I get tired of trying to solve hardware problems, which are sometimes software problems. So I decided to do a tutorial on Arduino sketches. What is a Sketch? I'm..... Listed under: [Arduino Programmer Projects](#)
2074. [Arduino Controlled Bell Tower or Carillon](#) This is a set of musical bells which are driven by solenoids and controlled by an Arduino microcontroller. There are 8 bells covering one octave. The bells are controllable from a PC, or the tower can stand alone and play pre-programmed melodies. Check out the..... Listed under: [Ideas](#), [Sound – Audio Project Ideas](#)
2075. [RGB Backlight + MSGEQ7 Audio Visualizer](#) Welcome to my Instructables on how to build a RGB LED backlight for e.g. the back of your TV or desk. The Schematic itself is very simple since the WS2812 LED Strips are very easy to interface with e.g an Arduino Nano. Note: that you do not have to use the..... Listed under: [Sound – Audio Project Ideas](#)
2076. [Arduino All-in-One Getting Started Guide](#) An all-in-one tutorial to getting started with the Arduino open-source electronics prototyping platform. This guide is meant for the beginner but should be also be useful to you if you already tinker with electronics but want to get started with the Arduino. I'll cover: -..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
2077. [DIY Cycle Speedometer](#) This project came to my mind when doing my MEM (Mechanical Engineering Measurement) project, a subject in my B.tech. The idea is to measure the angular velocity of my bicycle's wheel. Thus knowing the diameter and the all time mathematical legend the pi(3.14) the speed can be..... Listed under: [Metering – Instrument Projects](#)
2078. [Occupational Therapy Dexterity/Cognitive Aid](#) The Need: Occupational Therapy Device Occupational therapy is used in treating Traumatic Brain Injury during many phases of recovery and rehabilitation. As the patient's condition improves, occupational therapy helps them Click here to get AI-based help  complex cognitive skills such as memory and problem solving. Occupational therapy can..... Listed under: [Medical](#)
2079. [How To Make Two Daft Punk Outfits with Helmets using Arduino](#) For my 30th Birthday I decided to have a D-Themed costume party, my girlfriend Kylie and I decided that we would go as Daft Punk. The costumes were quite involved to make, but we had lots of fun and they looked great! We used a..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
2080. [Ever Blooming Mechanical Tulip](#) Everlasting flower for your everlasting love. A perfect not-only Valentine's day gift to your loved one. This mechanical tulip will bloom into any color possible with just gentle touch of your hand. Its six petals will slowly open and light up. When petals are closed..... Listed under: [Development Board – Kits Projects](#)

2081.

[Charlieplexed row of LED lights, for the Arduino](#)

This is my instructable on charlieplexing a LED row/string with the arduino. I noticed that there weren't many instructables on charlieplexing using an arduino, so i made this. I tried to keep the project simple, but that didn't work very well. The soldering is complex,..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
2082.

[Rav Vast LED Drum Light](#)

This project is a small, battery-powered LED ring that fits perfectly inside of your Rav Vast drum. It uses color-changing RGB LEDs and a microphone that allows you to change the color or pattern with changes in volume. You don't need any special skills for the construction..... Listed under: [LED Projects](#)
2083.

[Core2duino Updated with Arduino](#)

This instructable will show you how to build an Arduino shield that adds another Atmega168/328 on top of your Arduino, giving you an extra complete set of I/O pins to use. That's 12 PWM pins, 12 Analog pins, 4 external interrupts, or 40 Digital pins..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2084.

[Bike taillight with a twist using Arduino](#)

Let's face it. Taillights are boring. At best they go 'blink blink - look at me! I'm blinking - woohoo' all the time. And they're always red. Very creative. We can do better than that, maybe not much, but still better than just 'blink blink'..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#)
2085.

[Mounting a Smapler v0002 step by step](#)

A Smapler is a circuit dedicated to the production of generative sound created by David Cuartielles and Ino Schlaucher from BlushingBoy.org. The Smapler v0002 -aka Singapore edition- is nothing but an Arduino shield to be used for playing funky stereo sounds. As an extra add-on..... Listed under: [Development Board – Kits Projects](#)
2086.

[Multicolour LED Icosahedron](#)

A while ago I made a large 20 sided Die. Numerous people wanted me to build them one and since the most difficult part of the project was getting the cutting angles just right, I decided to make another which would allow for more accurate assembly..... Listed under: [LED Projects](#)
2087.

[How-to build MACKRA a serb variant using Arduino](#)

Project MACKRA was started after I saw the many problems with pre-built robotic platforms e.g. size, programability, mobility, need for batteries,PRICE, and most being dedicated to a single microcontroller. the goals of the MACKRA project were to do the following: 1.create a cheap, and easy..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
2088.

[Arduino holder](#)

Good news, everyone! I just started with the arduino and right at the very beginning I felt that I needed some sort of base to put the arduino on. I was reading one article from ladyada (<http://www.ladyada.net/images/arduino/bumperplace.jpg>) and she was using some rubber bumpers on..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2089.

[Tide and Weather Clock](#)

Although you can buy analog tide clocks that have a single hand indicating whether the tide is high or low or somewhere in between, what I wanted was something that would tell me at what time low tide will be. I wanted something I could glance at..... Listed under: [Clock – Timer Projects](#)
2090.

[Poduino Case](#)

The 'Poduino Case'. A protective case for your Arduino (with breadboard work area): I just received my Arduino Duemilanove and breadboard today. After some careful thought, I realized there is no way this thing could possibly survive daily life on my desk. I saw some..... Listed under: [Development Board – Kits Projects](#)
2091.

[Ardu-pong! the Arduino based pong console](#)

A while back the instructables robot made a post on Facebook about some guys who played pong on an Arduino (<http://wayneandlayne.com/projects/video-game-shield/games/#pong>) but after looking around, i saw that everyone who did this was only worried about making it work. and often resulted as a very hard..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
2092.

[Arduino magnetic stripe decoder](#)

This instructable shows how to use some freely available code, an arduino, and a standard magnetic stripe reader to scan and display the data stored on magnetic stripe cards such as credit cards, student IDs, etc. I was inspired to post this after reading the..... Listed under: [Ideas](#), [Other Project Ideas](#)
2093.

[LCD Temperature Shield Assembly Instuctions](#)

These are assembly instructions for the LCD Temperate Shield with buzzer that i am going to be selling soon. Please note, all the photos are my own, but are of one of my Prototype stage boards, and are subject to change, the production boards WILL..... Listed under: [LCD Projects](#)
2094.

[Use the STONE touch screen to make a music player Project introduction](#)

I've had an AC692N developer board at home for a long time, and now I want to make a music player that works with the STONE serial touch screen. The following functions need to be implemented: 1. Play MP3 files in the USB flash drive..... Listed under: [Sound – Audio Project Ideas](#)
2095.

[Catching Your Breath](#)

We are nation of obsessive counters: of pulse, steps, followers and calories. Most of these numbers mean little as physiology cannot be reduced to these metrics. But we try and I wondered how do we count a breath? Remember the cinematic days before hospital demise..... Listed under: [Medical – Health based Projects](#)
2096.

[Steampunk Compass using Arduinio](#)

Having built a few puzzle box games recently, and having some components left over I thought I would build a functional Steampunk Compass. Based around a Arduino Duemilanove this is a really quick and simple build. Taking reading from a digital compass the Arduino controls..... Listed under: [Clock – Timer Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
2097.

[EARTH SAVER: Autonomous Material Sorter using Arduino](#)

This Arduino project was part of an Association of Mec Autonomous Material Sorter. The sorter was to sort four glass bottles, four plastic bottles, four Tin cans, and four , as size of the..... Listed under: [Ideas](#), [Other Project Ideas](#)
2098.

[Light and Water Reactive Raincoat](#)

This semester at college, I am in a class called Computing and Craft which is about incorporating circuitry and micro-controllers and craft to bring our projects to the next level. For our first big project, I decided to make a raincoat the reacted to light and water..... Listed under: [Home Automation Project Ideas](#), [Security – Safety Projects](#)
2099.

[Dutch 8x8 Word Clock](#)

I know that I am not the first to make a word clock, using an Arduino. Still it was always something on my 'to do' list to make a Dutch one. For a different project I've bought a 'colorduino / rainbowduino / funduino' a long..... Listed under: [Clock – Timer Projects](#)

2100. [Simple Arduino Traffic Lights](#) Have you ever made a city out of Legos? I know i have built many of them but they all missed something... Traffic lights! So i decided to make my very own traffic light setup from my arduino board. Step 2: Get the components I..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#)
2101. [Arduino 101](#) To get started with Arduino, you'll need some basics. In this tutorial, we'll go beyond a little blinky light and teach you about: Variables Input and Output pins Sensors and reading data Mapping results Functions In another tutorial, I'll cover classes and why we might..... Listed under: [Arduino Programmer Projects](#)
2102. [Gravitational force Mater using Arduino](#) I have a late 80's VW and the gauge cluster has 5 dummy LED locations underneath the other warning lights. Well I was tired of the m not doing anything, so I decided to do something about it. I came up with the idea to..... Listed under: [Ideas](#), [Metering – Instrument Project Ideas](#)
2103. [VORONOI HEART LAMP](#) Hi makers, we are here again with a beautiful and stylish lamp Project. VORONOI HEART LAMP. In this project, we benefited from epoxy resin material and 3D printer. <https://youtu.be/0SoN9cphUrl> Step 1: What Is VORONOI ? In mathematics, a Voronoi diagram is a partitioning of a..... Listed under: [LED Projects](#)
2104. [Getting your Nokia 5110 LCD up and running on an Arduino](#) We purchased one of these very cheap, very cool 84×84 LCD backlit screens off of eBay a couple of weeks ago. It's a very nice product for adding visual elements to your projects at a very low price. We paid £3.89 for the screen and..... Listed under: [Electronics News Updates](#), [Phone Projects](#)
2105. [Motion Activated Automatic LED Stair Lighting With Arduino](#) I built this Arduino based automatic LED light controller for a set of poorly lit stairs in our new home. The stairs are quite dangerous - especially at night - but not any more thanks to the Motion Activated Automatic LED Stair Lighting with Arduino..... Listed under: [LED Projects](#)
2106. [Hidden light control using Arduino](#) I've bought recently some cheap dual axis magnetic sensors at SureElectronics (<http://www.sureelectronics.net/goods.php?id=944>), I've tried first to use them as straight compass. Annoying problem : it's impossible to accurately compensate the tilt of the sensor without using a gyro sensor. On the other end, if you stay on..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
2107. [Arduino Powered Mushroom Environment Control](#) This is my first Arduino project aimed at helping me with my other hobby which is growing oyster and shiitake mushrooms indoors. In a nutshell, the controller takes in two temperature readings, 1 Humidity reading and 1 Co2 reading and triggers a set of four..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
2108. [Motion Control Slider for Time Lapse Rail](#) This instructable explains how to motorize a time lapse rail using a step motor driven by an Arduino. We will mainly focus on the Motion Controller that drives the step motor assuming you already have a rail you want to motorize. For example when dismantling a machine..... Listed under: [Motor Projects](#)
2109. [Diorama, Bat in the cave using Arduino](#) The purpose of this instructable is to outline our development of this bat in the cave as well as provide instructions and tips for future engineers hoping to complete a similar project or use components of our project in theirs. The goal of this project..... Listed under: [Motor Projects](#), [Sensor – Transducer – Detector Projects](#)
2110. [Keyfob Deadbolt using an Arduino Board](#) The key to my apartment never worked quite right because it is a copy of a copy of a copy. I am fairly certain that the dead bolt is original to the building and the property manager seems to have lost the original key years..... Listed under: [Home Automation Projects](#), [Projects](#)
2111. [LED Candle – Lights, Flickers, Blows Out, Smokes, and Smells](#) About This Candle & How to Read This Instructable Here's my take on a LED candle that offers the full experience of a real candle. Start to finish. Be sure to watch the YouTube video below! Background: I bought my first Arduino about 3 years ago with..... Listed under: [LED Projects](#)
2112. [Arduino Frequency Detection](#) As a follow up to the Arduino Audio Input tutorial that I posted last week, I wrote a sketch which analyzes a signal coming into the Arduino's analog input and determines the frequency. The code uses a sampling rate of 38.5kHz and is generalized for..... Listed under: [Sensor – Transducer – Detector Project Ideas](#), [Sound – Audio Project Ideas](#)
2113. [Clock, Amplifier and a Little Amount of Wood...](#) The beginning of the project came from an idea, an inspiration from a video posted on the Internet on the YouTube channel "I like to do things" ... Then came the need to make a stand for one of my monitors that housed a clock,..... Listed under: [Clock – Timer Projects](#)
2114. [Arduino LifeClock](#) This unique clock reminds you to appreciate every single day, by displaying your current age in days (or weeks) on a seven segment display. Step 1: You Will Need Electronics: Arduino Pro Mini 5V (or any other arduino with >= 12 GPIO Pins) 4 Digit..... Listed under: [Clock – Timer Projects](#)
2115. [HRV \(Home Air Exchanger\) Arduino Controller With Air Economizer](#) HRV Arduino Controller with Air Economizer So my history with this project is I live in Minnesota and my circuit board fried on my LifeBreath 155Max HRV. I didn't want to pay the \$200 for a new one. I always wanted something with an air..... Listed under: [Home Automation Projects](#)
2116. [DIY Cheap and Sturdy Laser Engraver](#) In this instructables I will show you how I made my own DIY laser engraver for very cheap. Also most of the parts are either salvaged from old things or are very cheap. This is a very interesting project for any electronics hobbyist. This engraver..... Listed under: [LED Projects](#)
2117. [Wireless Bell System](#) The problem that fix this project is the following: at the high school where I work, the class-cl everywhere and sometimes it causes some problems. Install a new wired class-change bells or buy a wireless bell [Wireless Projects](#)

Click here to get AI-based help ✕
2118. [Dutch 8×8 Neopixel Word Clock](#) A friend introduced me to neopixels (WS2812) programmable LED's. That would be great for my word clock, so I re-did the clock. It is very much a mixup with a slightly different size and code. The 8x8 WS2812 modules are also cheaper than the colorduino,..... Listed under: [Clock – Timer Projects](#)
2119. [Portal 2 Turret – Master Turret Control](#) This project is an extension or remix of my original Portal Turret on Instructables (Portal-2-Turret-Gun). It can also be used as a cheap controller to control anything that uses the nRF24L01 radio chip. The LCD screen is particularly useful when customizing.



<https://youtu.be/8gPdsQ2TPBI> (It turns out..... Listed under: [Metering – Instrument Projects](#)

2120. [Cooperative Multitasking on Arduino – With Pretty Blinky Lights!](#) In my first Instructable Motion Activated Automatic LED Stair Lights with Arduino I mentioned the use of "Cooperative Multitasking". So what is it and why is it helpful? This Instructable attempts to answer the "what is it" and "why is it helpful" question with a simple example..... Listed under: [Other Projects](#)
2121. [Ring of Fire \[REMIX\]](#) <https://youtu.be/KemcS6kQ0rk> After building some of these: <https://www.instructables.com/id/Matrix-LED-Light/> i've decided to bring the candle onto another level. While the first one looks good, it does look a little bit too much like the original. Nothing against the first design. It looks cool and modern. My new..... Listed under: [Sound – Audio Projects](#)
2122. [For Newbies at Arduino Programming: Telling the Direction of Fire in 3 Seconds WITH PIXEL LIGHTS!](#) During my high-school sophomore year, the 3rd floor of our house lighted on fire due to a short circuit. Fortunately, my family was away on vacation for Christmas. But if we were home, wouldn't it be crucial to tell the direction of fire quickly so..... Listed under: [Arduino Programmer Projects](#)
2123. [The Chug-O-Meter](#) Isn't it nice when you can hit two birds with one stone? That's exactly what we've done as we approach both Arduino Day and Saint Patrick's Day with our version of the Chug-O-Meter! We absolutely loved what the circuit.io team did with their Chug Meter..... Listed under: [Metering – Instrument Projects](#)
2124. [Voice Controlled Smart Key Holder](#) Are you the kind of person who's not good with managing keys and always have to try each key for every other lock? Well don't worry, just grab a little bit of motivation and your maker tools to innovate your very own voice controlled smart..... Listed under: [Sound – Audio Project Ideas](#)
2125. [Smart Coffee Table](#) We are in the joy of making a project that has been in our mind for a long time and sharing with you. Smart Coffee Table. Because this table is really smart. It illuminates your environment according to the weight of your drink. <https://youtu.be/VUw4Wb8COo8> Step..... Listed under: [Home Automation Projects](#)
2126. [Oceania Midi Controller \(for Make Noise 0-Coast and Other Synths\)](#) In the past few years, a number of synthesizer manufacturers have been releasing "desktop semi-modular" instruments. They generally take the same form factor as the Eurorack modular synthesizer format and most are probably intended as a gateway drug into the world of modular. (As additions..... Listed under: [Sound – Audio Project Ideas](#)
2127. [IoT Based Fingerprint Attendance System Using Evive \(Arduino Based Embedded Platform\)](#) Now, you can easily track attendance and clock working hours with the help of this easy and fun to make DIY fingerprint scanner! We'll be using ThingSpeak to store and retrieve the data. All you require is a cardboard piece, some colored paper, a fingerprint..... Listed under: [Memory – Storage Projects](#)
2128. [Temperature and Servos](#) Two other tutorials I have written step you through the basics (Arduino 101) and how to create a really basic data logger (Arduino Datalogger - simple). This tutorial will step through how to attach servo motors, and use temperature sensor to move it! The premise..... Listed under: [Temperature Measurement Project Ideas](#)
2129. [Ultrasonic Theremin \(Teach Sound\)](#) <https://youtu.be/i9N0bSRXOZ8> The Ultrasonic Theremin is an Arduino project that uses a cheap theremin to teach sound waves. By changing the distance of my hand to the device, I am changing the frequency of the sound waves. Also, moving a potentiometer changes the amplitude of the..... Listed under: [Sound – Audio Project Ideas](#)
2130. [Ultrasonics Based Positioning System](#) All the versions of ultrasonic radars I have found for arduino devices (Arduino - Radar/Ultrasonic Detector, Arduino Ultrasonic Radar Project) are very nice radars but all of them are "blind". I mean, the radar detects something but what is it detecting? So I propose myself to..... Listed under: [GPS Based Project Ideas](#)
2131. [Robotic Rat](#) Hello! My name is David, I am a 14-year-old boy living in Spain and this is my first Instructable. I have been building robots and fixing old computers for some time now and my robotics teacher told me that it was good time to start..... Listed under: [Robotics – Automation Project Ideas](#)
2132. [Simple Garage Door Hack](#) After being accidentally locked out of my house on more than one occasion, I decided that there had to be better way to entering my home that did not involve breaking and entering (and without hiding a key outside somewhere). On taking a look at..... Listed under: [Security – Safety Project Ideas](#)
2133. [Motion Sensing Under Bed Lighting](#) Ever tried to get out of bed quietly at night only to trip over something and wake up the whole house? Motion sensing night lights installed discreetly under your bed provide low-level light bright enough to guide you around those stray LEGO bricks but dim..... Listed under: [LED Projects](#)
2134. [DIY Mini CNC Laser Engraver](#). <https://youtu.be/ZeAug4SNUSI> This is an Instructables on how I Remixed my old CNC Laser engraver and made a Stable version of an Arduino based Laser CNC engraver and thin paper cutter using old DVD drives and using 250mW laser. Old Version of My CNC :<https://www.instructables.com/id/Mini-CNC-Laser-Wood-Engraver-and-Paper-Cutter/> Old..... Listed under: [CNC Machines Projects](#)
2135. [How to Make a Picoballoon](#) <https://youtu.be/KjPzfzLEluY> What is a picoballoon and why would I want to build it?! I have never built one but you all probably know what a HAB (High Altitude Balloon) is. It's a bunch of weird electronics stuff connected to a balloon 

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..... Listed under: [Battery Projects](#)
2136. [The Ultimate Guide to Building a Quadcopter From Scratch](#) This project started all the way back when I was in 6th grade and completely new to electronics, when I thought to myself, "Hey, let's build a drone....it shouldn't be that hard.....right?" Yea, guess what, it's hard. Almost 4 years later, this project is coming..... Listed under: [Drone](#)
2137. [Ikea Kids Kitchen Lights Mod](#) For my daughters second birthday, we decided to get her a kitchen set. But I really wanted to make what we got her special and after being inspired by what some awesome makers had done with the Ikea Duktig Kitchen, we decided to get one..... Listed under: [LED Projects](#)

2138.

[DIY Arduino-Compatible Clone](#)

The Arduino is the ultimate tool in the Maker's arsenal. You should be able to build your own! In the early days of the project, circa 2005, the design was all through-hole parts and communication was via a RS232 serial cable. The files are still available, so you can..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
2139.

[Security Check RFID System Based on Arduino and RS485 Data Bus](#)

In this DIY guide I will show you how to make your own security check system based on Arduino! You can use this system in areas with security guards (e.g. warehouses, malls, open areas). Every guard will have a personal RFID card with a unique..... Listed under: [Security – Safety Project Ideas](#)
2140.

[YouTube Subscriber Counter Bubble Machine](#)

<https://youtu.be/qsFZ6o-1SOE> The idea was born after being selected to expose at Maker Faire Lille, a giant event around Science, inventions and the Do-It-Yourself mindset. I wanted to build something that makes visitors want to subscribe to my YouTube channel YouLab.I quickly though about a real..... Listed under: [Motor Projects](#)
2141.

[Interactive Dandelion](#)

<https://youtu.be/BhkrtQ5O1Rk> This project shows how to make an interactive picture of a dandelion. It starts as a yellow flower with LED's for petals then changes into a white dandelion clock, which can be blown on to make the seeds disperse. It is based on a..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
2142.

[Advantech Builds Gaming SBC powered by AMD's Ryzen V1000](#)

Advantech announced a new gaming and lottery board, the DPX-E265. The gaming board is based on AMD's Ryzen V1000, which features a 4x DP++ ports, 2x SATA, plus M.2, PCIe x16, and PCIe x4 expansion. Prior to the DPX E265, in February of this year..... Listed under: [Sound – Audio Project Ideas](#)
2143.

[Arduino TFT Interfacing Basics](#)

TFT touchscreens are the amazing graphical interface which can be used with microcontrollers such as Atmel, PIC, STM, as it has a wide color range, and good graphical ability and a good mapping of pixels. Today, we are going to Interface 2.4 inch TFT LCD..... Listed under: [LCD Projects](#)
2144.

[ABUSED HARD DRIVE BECOMES POV CLOCK](#)

We all know that there's not much to do with an old hard drive. Once you render the platters unreadable and perhaps harvest those powerful magnets, there's not much left of interest. Unless, of course, you turn the whole thing into a persistence-of-vision clock. At least..... Listed under: [Clock – Timer Project Ideas](#)
2145.

[DIY Arduino Mini Laser Engraver](#)

Hello Guys Whatsup, In this instructable, I am making an Awesome mini laser engraver from old DVD writers. It's an amazing machine. You can use this laser engraver machine to make any kind of design, logo, art on the surface like WOOD, MDF, PLYWOOD, VNYL..... Listed under: [LED Projects](#)
2146.

[Persistence of Vision \(PoV\) Display Using Arduino](#)

Time for a fun-filled, easy-peasy Japan-easy to make a project! Today, we're going to show you how to make an LED POV Display. POV, an acronym for the persistence of vision, is a kind of optical illusion in which a visual image seems to persist..... Listed under: [LED Projects](#)
2147.

[Arduino Based Wireless \(RF\) Weather Station Network](#)

In this DIY guide I will show you how to make your own wireless weather station! My communication protocol will allow you to have up to 10 sensor stations in your wireless network, but you can change and extend it up to 254 stations! The..... Listed under: [Wireless Projects](#)
2148.

[Game of Thrones Light Up Map](#)

Spoiler! Winter is definitely coming. But make this cool Game of Thrones light up map for a Spring project. The map lights up with a flame effect revealing the sigil of the remaining house in power. What do I know, make it with the sigil..... Listed under: [Game – Entertainment Project Ideas](#)
2149.

[PasswordPump Passwords Manager](#)

This is v1.0 of the PasswordPump, a USB device that manages credentials for up to 254 accounts. Credentials (account names, usernames and passwords) are stored ONLY on the device itself, on two removable EEprom chips using military grade encryption (AES-128). They are not stored in..... Listed under: [Security – Safety Projects](#)
2150.

[UCL-Embedded – Arduino Door Lock](#)

This project was created by Daniel Månsson [], Flemming Andersen [flem781a] and Mikkel Pavia [mikk24b9] as an exam project at the school University College Lillebælt. As a part of one of our electives, during second semester, in automation engineering, we were tasked with creating an..... Listed under: [Security – Safety Project Ideas](#)
2151.

[Retro Speech Synthesis. Part : 12 IoT, Home Automation](#)

[https://youtu.be/MwtR3u\\_uS0M](https://youtu.be/MwtR3u_uS0M) This article is the 12th in a series on home automation Instructables documenting how to create and integrate an IoT Retro Speech Synthesis Device into an existing home automation system including all the necessary software functionality to enable the successful deployment within a domestic environment. Picture..... Listed under: [Home Automation Project Ideas](#)
2152.

[Desktop Gigapixel Microscope](#)

<https://youtu.be/mKXoA6zDu98> In optical microscopes, there is a fundamental trade-off between field-of-view and resolution: the finer the detail, the smaller the region imaged by the microscope. One way to overcome this limitation is to translate the sample and acquire images over a larger field-of-view. The basic..... Listed under: [Video – Camera – Imaging Projects](#)
2153.

[Rory the Robot Plant](#)

Rory is a funny looking robot in the form of a plant, interact with some inputs by sensors, play music and detect any human movements around, in addition, to snap photos when you order it too. It's also caring about a small plant inside the..... Listed under: [Robotics – Automation Project Ideas](#)
2154.

[Extremely Sensitive Cheap Homemade Seismometer](#)

Step 1: Demonstration of Sensitivity <https://youtu.be/HwmOq> Click here to get AI-based help ✕  
manufacturing process and the sensitivity of shocks Step 2: Components Otherwise, the seismometer itself consist or,  
and an electronic part that turns these tremors into electrical..... Listed under: [Home Automation Project Ideas](#)
2155.

[ESP32 Capacitive Touch Input Using “Metallic Hole Plugs” for Buttons](#)

<https://youtu.be/qQG8SdMgj8I> As I was finalizing design decisions for an upcoming ESP32 WiFi Kit 32 based project requiring three button input, one noticeable problem was that the WiFi Kit 32 does not possess a single mechanical pushbutton, yet alone three mechanical buttons, for input. However, the..... Listed under: [Wifi - Wlan Projects](#)
2156.

[Electronic Magic 8 Ball and Eyeball](#)

<https://youtu.be/e5p-RsFV5iA> <https://youtu.be/S2ajD3oJD34> <https://youtu.be/uaUTn9RBmPg> I wanted to create a digital version of the Magic 8 Ball... The body of this is 3D printed and the display has been changed from an polyhedron in blue dye to a small OLED controlled by a

random number generator programmed..... Listed under: [Battery Projects](#)

2157.

[Play Songs\(MP3\) With Arduino Using PWM on Speaker or Flyback Transformer](#) This is my first instructable, I hope you will Like It!! Basically, In this Project I have used the Serial Communication between my Arduino and my Laptop, to transmit music data from my laptop to the Arduino. And using the Arduino TIMERS to play the..... Listed under: [Sound – Audio Project Ideas](#)
2158.

[ESP32 NTP Temperature Probe Cooking Thermometer With Steinhart-Hart Correction and Temperature Alarm](#) <https://youtu.be/72ekCautalQ> Still on the journey to complete an "upcoming project", "ESP32 NTP Temperature Probe Cooking Thermometer With Steinhart-Hart Correction and Temperature Alarm" is an Instructable showing how I add an NTP temperature probe, piezo buzzer and software to my capacitive touch Instructable "ESP32 Capacitive Touch..... Listed under: [Temperature Measurement Project Ideas](#)
2159.

[Stroboscopic Fountain](#) For our SIDE project, a year long project that we do for Ms. Berbawy's Principles of Engineering class, we decided to make a stroboscopic fountain. The stroboscopic effect, pioneered by Harold Edgerton, makes objects appear as though they are moving in slow motion. How does..... Listed under: [LED Projects](#)
2160.

[Arduino Powered, Sensor Controlled Fading LED Light Strips](#) [https://youtu.be/mzeA3yxu\\_Ig](https://youtu.be/mzeA3yxu_Ig) <https://youtu.be/jH2gEoB5x1w> I recently had my kitchen updated and knew that lighting would 'lift' the look of the cupboards. I went for 'True Handleless' so I have a gap under the work surface, as well as a kickboard, under cupboard and on the top of..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
2161.

[Arduino Bluetooth Camera](#) Today you can hardly surprise anyone with a mobile phone with a camera, wireless gadgets and other technical advances. Thanks to the Arduino platform, millions of people have discovered the wonderful world of electronics and programming. 100,500 instructions were written on how to exchange data..... Listed under: [Bluetooth Projects](#)
2162.

[Self Irrigating Planter \(with Moisture Sensor\)](#) The problem we picked was - Growing plants in limited space by amateurs. Many people would like to grow plants (basic vegetables, herbs for the kitchen, etc) but do not have enough space in their house to do so. They also may not have the..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
2163.

[Arduino Controlled Robotic Arm W/ 6 Degrees of Freedom](#) I am a member of a robotics group and each year our group participates in an annual Mini-Maker Faire. Beginning in 2014, I decided to build a new project for each year's event. At the time, I had about a month before the event to put something together..... Listed under: [Robotics – Automation Project Ideas](#)
2164.

[Simple Arduino RGB LED Cube \(3x3x3\)](#) <https://youtu.be/raGzxHcS7NA> I've been looking into LED Cubes and noticed that most of them were either to complicated or to expensive. After looking at a lot of different cubes, I finally decided that my LED Cube should be: easy and simple to buildaffordablevery stylish and extravagant..... Listed under: [LED Projects](#)
2165.

[Esplora X M5Stack](#) This instructables show how to combine Arduino Esplora and M5Stack to make a NES game console. Step 1: What Is Arduino Esplora? Arduino Esplora is an Atmega32U4 AVR microcontroller board. It is unique Arduino boards, because it built-in various input sensors out-of-the-box, including a joystick,..... Listed under: [Game – Entertainment Project Ideas](#)
2166.

[Doggo Walking Light](#) Walking a dog in the dark comes with the safety risk of motorists who don't see you walking, we've had a few close shaves with drivers turning quickly into or backing out of driveways or when crossing road intersections. So why not illuminate your favorite..... Listed under: [LED Projects](#)
2167.

[Using a LED Matrix As a Scanner](#) <https://youtu.be/9F9EUaXhj5M> Ordinary digital cameras work by using a large array of light sensors to capture light as it is reflected from an object. In this experiment, I wanted to see whether I could build a backwards camera: instead of having an array of light sensors,..... Listed under: [LED Projects](#)
2168.

[Turn a Commodore 64 Into an IOS Bluetooth Keyboard](#) This instructable describes how to turn a Commodore 64 computer into a bluetooth keyboard. It involves programming a micro controller with the Arduino IDE and constructing a circuit board. Supplies you'll need (some are optional): Commodore 64 with keyboard (remove mother board, it is not..... Listed under: [Bluetooth Projects](#)
2169.

[Model Railway Layout With Automated Passing Siding \(V2.0\)](#) This project is an update of one of the previous model railroad automation projects, The Model Railway Layout with Automated Siding. This version adds the feature of coupling and decoupling of the locomotive with the rolling stock. The operation of the railway layout is as follows:..... Listed under: [Motor Projects](#)
2170.

[Vacuum Fluorescent Display Watch](#) That whole project started a while back with an hackaday article from 2014 in which [Johngineer] build the 'ChronodeVFD', a wristwatch made from an old soviet vacuum fluorescent display. It kind of triggered the 'shut up and take my money' reflex in me, but as it wasn't..... Listed under: [LCD Projects](#)
2171.

[Motion Follow Animatronics Eyes](#) <https://youtu.be/Ep9fWQiFmoM> This Arduino project uses an Optical Flow Sensor (ADNS3080) to capture movement. Then translate the data to move servo's making it look as eyes are following moving object. This is not an easy build. It requires 3d printing, soldering, some general technical understanding and..... Listed under: [LED Projects](#)
2172.

[CNC Arduino Plant Growing Machine](#) <https://youtu.be/Sidcq555B-8> I designed a CNC Arduino Plant Watering machine for a local engineering fair. I ended up getting second place in the maths and engineering category, won \$200 from the Miss America competition and competed in an..... Listed under: [CNC Machines Project Ideas](#)

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2173.

[DIY ARDUINO BLUETOOTH CONTROLLED CAR](#) 🤖 Hello, Guys! In this instructable tutorial, I'm going to make an Arduino nano based smartphone (Bluetooth) controlled car. All we know that Arduino is an excellent prototyping platform, principally because it uses a friendly programming language and there are a lot of extra incredible components..... Listed under: [Bluetooth Projects](#)
2174.

[Mirola Networked LED Matrix Display for Digital Signage](#) Digital signage can be useful at events to inform visitors about upcoming panels, changes in the schedule or dynamically provide information. Using LED Matrix displays for that makes the messages readable even from far away and is an eye catching



feature. Features include: 2 Lines..... Listed under: [Arduino Battery Project Ideas](#)

2175. [Wipy: the Overly Motivated Whiteboard Cleaner](#) [https://youtu.be/\\_uObXbdwi4w](https://youtu.be/_uObXbdwi4w) Introduction Did you ever get tired of cleaning the whiteboard? Have you ever wondered how much your life would improve if a robot could do this for you? You now have the chance to make this a reality with Wipy: the overly motivated whiteboard..... Listed under: [Robotics – Automation Project Ideas](#)
2176. [BotTender](#) <https://youtu.be/p6wJBZe1YVg> BotTender, a bartender assistant that pours the perfect shot! BotTender is an autonomous robot that is designed with the aim of automatising bars. It is placed on top of the bar and detects the shot glasses in front of it. Once the glasses are..... Listed under: [Battery Projects](#)
2177. [Magic Feeler](#) [https://youtu.be/\\_lEu2h-2iWs](https://youtu.be/_lEu2h-2iWs) The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program. A Project by: ShuChuan Yao, Jeongwoo Jang, Zijie Tan Arduino Uno Servo Motors x4 fishing wires pins (cotton buds stem, thread rod, toothpick) Gyro Sensor 9V..... Listed under: [Battery Projects](#)
2178. [Slapstick](#) <https://youtu.be/g1-p7gsNzpk> The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program. <https://icd.uni-stuttgart.de> The Idea Exam period is coming. And you already feel sleepless and hopeless. You want to study, but you’ve lost your motivation. And it’s crucial that..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
2179. [The Moral Compass](#) The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program and was brought to you by Vanessa Costalonga, James Hayward and Christo van der Hoven. Have you ever doubted the choices that you make? Have you ever..... Listed under: [Motor Projects](#)
2180. [Pc-Privacy – Arduino Automated Privacy for Your Computer](#) If you live with other people or have your own office you might be familiar with the problem of people randomly appearing in your room while you are working on confidential data or just have some weird stuff open on the 2nd Screen from hours..... Listed under: [Security – Safety Project Ideas](#)
2181. [Arduino Digital Clock Synchronized by the 60Hz Power Line](#) This Arduino based digital clock is synchronized by the 60Hz power line. It has a simple and inexpensive common anode 4 digit 7 segment display which shows hours and minutes. It uses a cross over detector to detect when the incoming 60Hz sine wave crosses..... Listed under: [Clock – Timer Project Ideas](#)
2182. [DIY LED-photometer With Arduino for Physics or Chemistry Lessons](#) Liquids or other objects appear colored because theyreflect or transmit certain colors and in turn swallow (absorb) others. With a so-called photometer, those colors (wavelengths) can be determined, which are absorbed by liquids. The basic principle is simple: with a LED of a certain color..... Listed under: [LED Projects](#)
2183. [Arcade Button MIDI Keyboard](#) This is a version 2.0 of one of my first forays into Arduino and DIY MIDI programming. I've developed my skills in prototyping and design so I thought it would be a good demonstration of process and progression. With a more informed design process I..... Listed under: [Development Board – Kits Projects](#)
2184. [Tilt Compensated Compass](#) [https://youtu.be/PY\\_17f5RByI](https://youtu.be/PY_17f5RByI) This instructable explains how to make a tilt compensated compass using an Arduino UNO R3, an LCD display, and an IvenSense MPU-9250 multi-chip-module that contains an MPU-6050 accelerometer / gyro and an AK8963 magnetometer within the same package. The LCD simultaneously displays the Heading,..... Listed under: [LCD Projects](#)
2185. [Automatic Gate Slider Under \\$100](#) Over the summer, my dad motivated me to look into buying a gate automation system and setting it up. So I started my research and looked into package solutions on AliExpress and local vendors. The local vendors were offering complete solutions including installation for >..... Listed under: [Home Automation Projects](#)
2186. [Animated Word Clock](#) Build your own Word Clock with an animated display. This is a simple project uses an Arduino Nano, Color LEDs and includes a stylish 3D Printed Case. The Word Clock has three animated patterns- Matrix style - Typewriter Style - Rainbow Color The three buttons..... Listed under: [Clock – Timer Projects](#)
2187. [Temperature Controlled Vaccine & Insulin Cooler](#) Keeping cool saves lives In the developing world, vaccines are the front line of defense against dangerous illnesses such as Ebola, Influenza, Cholera, Tuberculosis and Dengue to name a few. Transporting vaccines and other life-saving materials such as insulin and blood require careful temperature control..... Listed under: [Temperature Measurement Project Ideas](#)
2188. [New Wireless IOT Sensor Layer for Home Environmental Monitoring System](#) This Instructable describes a lower-cost, battery-powered wireless IOT sensor layer for my earlier Instructable: LoRa IOT Home Environmental Monitoring System. If you haven't already viewed this earlier Instructable, I recommend reading the introduction for an overview of the capabilities of the system which are now extended..... Listed under: [Wireless Projects](#)
2189. [EqualAir: Wearable NeoPixel Display Triggered by Air Pollution Sensor](#) <https://youtu.be/WUYE5HS9Gtc> The aim of the project is to make a wearable t-shirt that displays an evocative graphic when air pollution is above a set threshold. The graphic is inspired by the classic game "brick breakers", in that the car is like a paddle which spits..... Listed under: [Sensor – Transducer – Detector Projects](#)
2190. [DIY RGB-LED Glow Poi With Remote Control](#) Introduction Hello Everyone!This is my first guide and (hopefully) the first one in a series of guides on my quest to create an open-source RGB-LED visual poi. To keep it simple first, this is going to result in a simple led-poi featurir      [Click here to get AI-based help](#) ✕  
Listed under: [Projects](#)
2191. [Arduino-controlled DIY Coffee Roaster](#) In this Instructable we will have a look at modifying a hot-air popcorn machine to turn it into a fully automatic and temperature-controlled home coffee roaster. Roasting coffee at home is surprisingly simple, and even something as basic as a frying pan can do the..... Listed under: [Other Projects](#)
2192. [Super Stylish Automatic Cat Feeder](#) <https://youtu.be/uVHh2rHcWi4> Jojo is a super handsome cat.I love him in every aspect, except he keeps waking me up everyday 4am in the morning for his food, so it's time to get an automatic cat feeder to save my sleep. However, he is so handsome that..... Listed under: [Motor Projects](#)

2193. [Raft Bird Repeller](#) In this project I will show you how to build a solar-powered Raft Bird Repeller that will get rid of those pesky birds that poop on your raft. Step 1: Intro [https://youtu.be/Z9JdDufT\\_Ss](https://youtu.be/Z9JdDufT_Ss) If you have ever been on a raft, you know just how relaxing..... Listed under: [Solar energy projects](#)
2194. [Project Small Car](#) This car was made as a creative activity for students from Erasmus project. The Small Car celebrated big succes. So I've decided to share this small, unassuming and yet very educative project with community. It's ideal to entertain students, for instance during public open day..... Listed under: [Car Projects](#)
2195. [Arduino Water Cycle Diorama](#) <https://youtu.be/JqdOQ7wjEsQ> We'll be making a diorama presenting the water cycle, using Arduino and some motors to add movement and lighting. It has a school feel - because it is actually a school project! The presentation scenario is this: The sun rises in the morning [One..... Listed under: [Other Projects](#)
2196. [Rug With Sensors/ RF Communication With Arduino Micro](#) I recently finished the installation Equally diverse, which is made of a series of lamps that react to the sensors placed in a rug underneath the lamps.Here is how I made the rug with pressure sensors.I hope you will find it useful. 😊 Step 1:..... Listed under: [Sensor – Transducer – Detector Projects](#)
2197. [Home Presence Simulator and Security Control Device](#) This project allow us to simulate presence and to detect movements in our home. We can configure a network of devices installed in differents rooms of our home all of them controlled by a main device. This project combines these features on a single device (PICTURE 1):..... Listed under: [Security – Safety Projects](#)
2198. [Old Man and the Arduino GPS](#) So this Lazy Old Geek (L.O.G.) hasn't been able to do an Instructable for a few years. At 70 years old, the brain doesn't work as well as it used to and it's hard to focus on big projects let alone try to write about..... Listed under: [GPS Based Projects](#)
2199. [Tim's Cybot Arduino NANO Remote Control](#) This project is to create an Infrared Remote Control to control the Original Cybot received with the magazine Ultimate Real Robots, started back in 2001. Reason for making the remote:(a little history) Before the issue of the parts for the IR handset, Cybot was put..... Listed under: [Other Projects](#)
2200. [Condensation Risk Evaluator](#) Hi everyone, I work as a builder even though I've been always really interested in new technologies. I've learned a little about 3d printing, Arduino and electronic issues reading a lot. I visit this web regularly so I would like to make my little contribution..... Listed under: [Other Projects](#)


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