


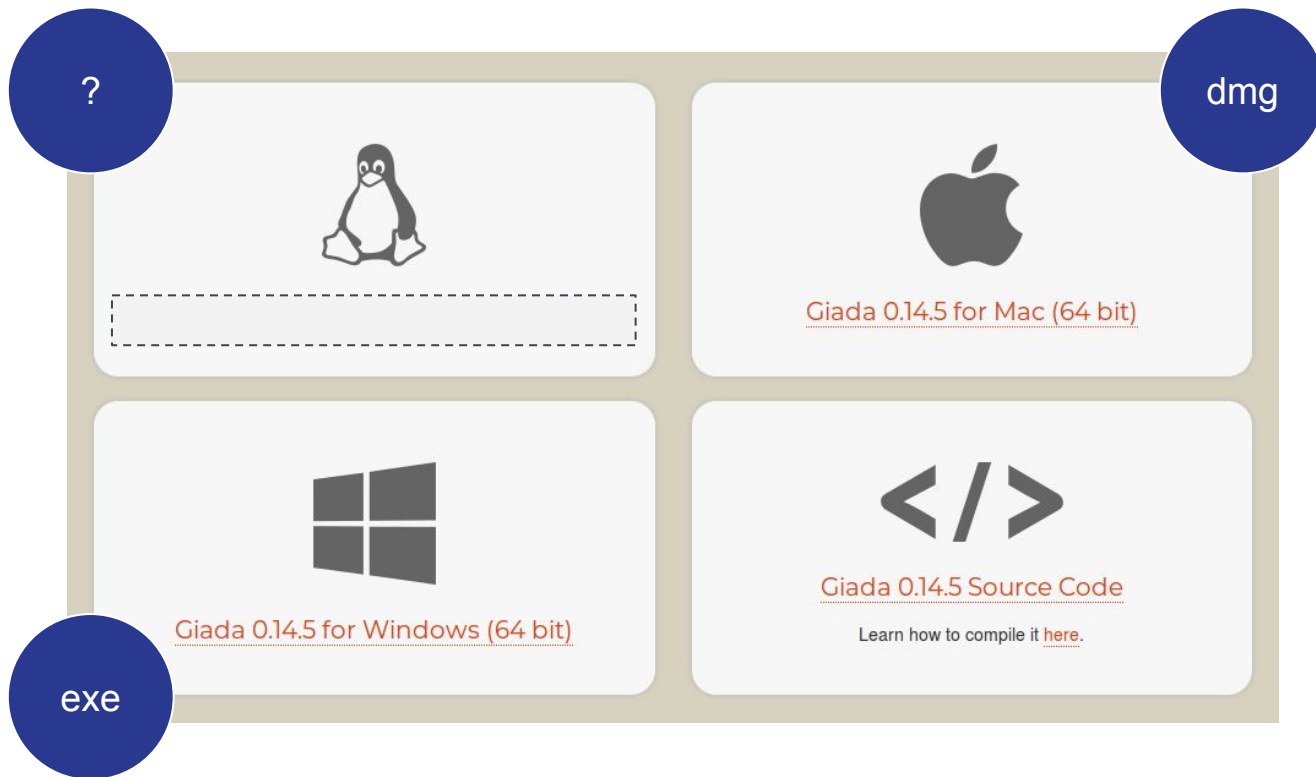
AppImage Mythbusting

Simon Peter
2020

A laptop screen is shown in a dark, dimly lit environment. The screen displays a data visualization interface. At the top, there is a line graph with a blue line and several data points. Below the graph, there is a legend with two items: 'New Visitor' and 'Returning Visitor'. In the center of the screen, there is a globe icon. At the bottom of the screen, a dock with various application icons is visible. Overlaid on the screen in large, white, sans-serif font is the text: 'AppImage: one app = one file, simple!'.

AppImage:
**one app = one file,
simple!**

The problem



The problem

Desktop Linux is fragmented because there is more than one Linux distribution and more than one desktop environment.

And no one can agree on anything.

The problem

Red Hat vs. Canonical

Rpm vs. Deb

Flatpak vs. Snap

Gtk vs. Qt

Gnome vs. KDE

...

The problem

Desktop Linux Platform Issues!

The solution: ApplImage

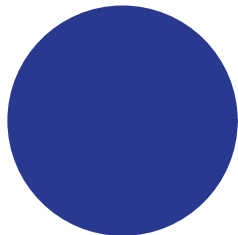
Step 1: Get

Download ApplImage from trusted author's download page



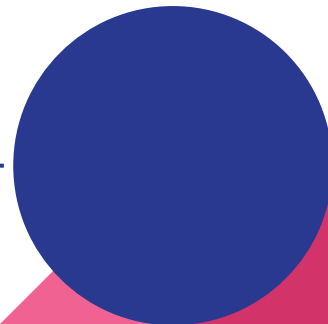
Step 2: Set

Give the file execute permissions (chmod +x)

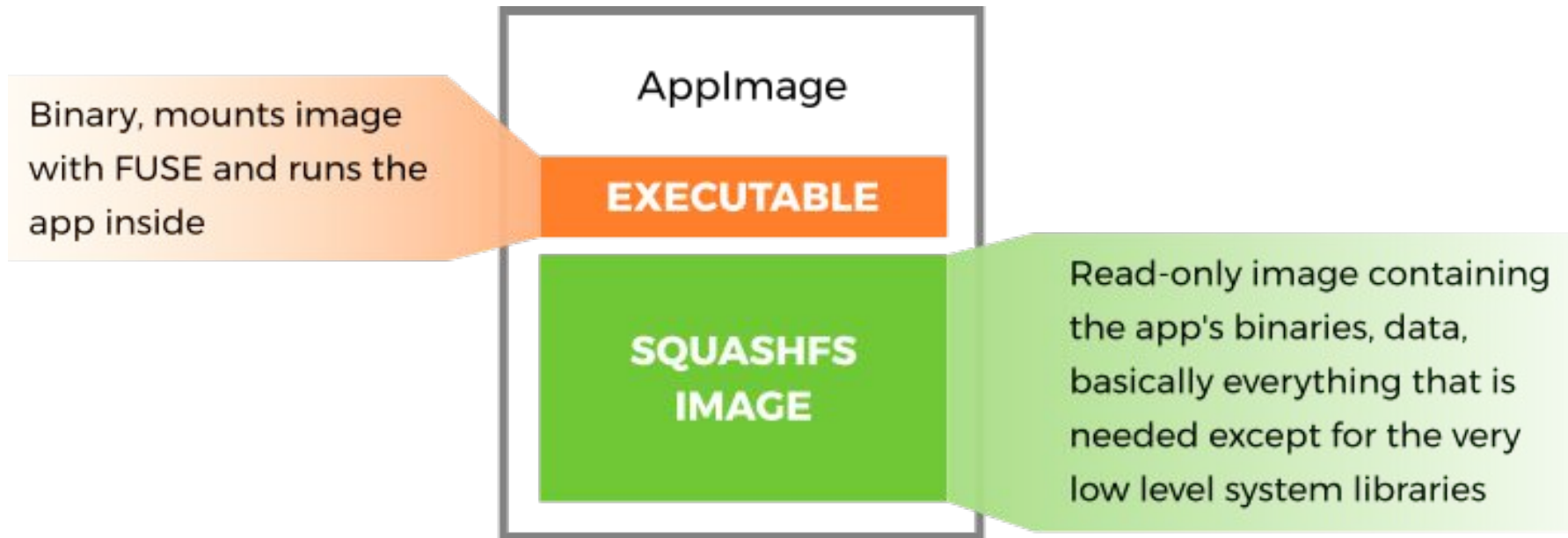


Step 3: Run

Run the executable file, e.g., by double-clicking it



The idea

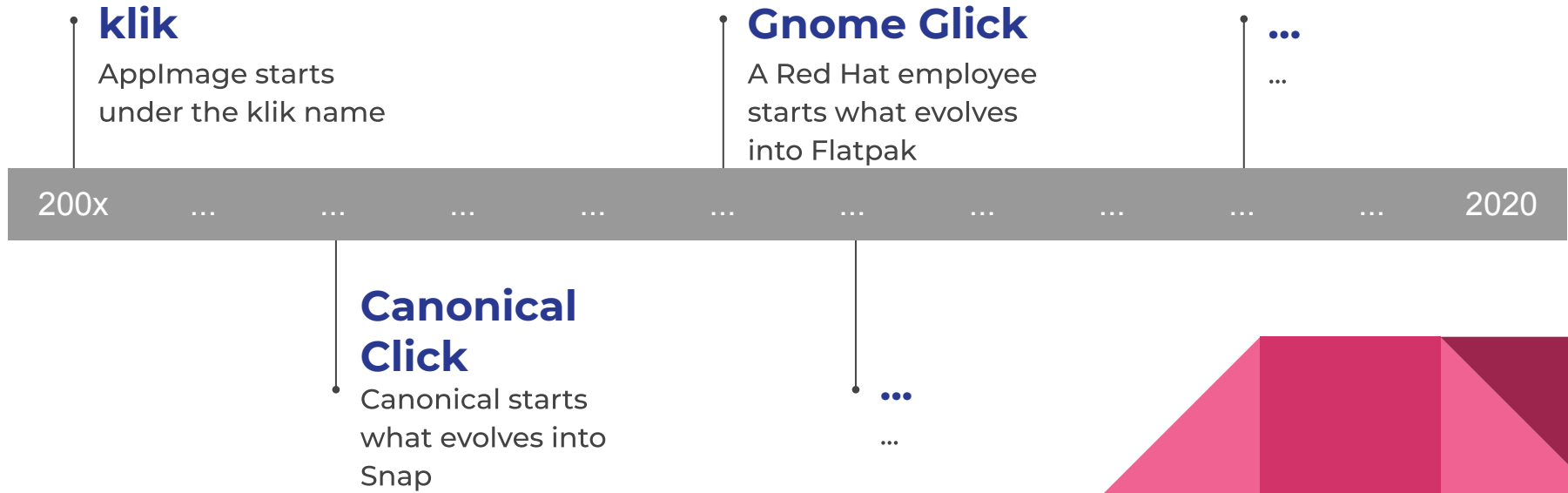


Upstream packaging

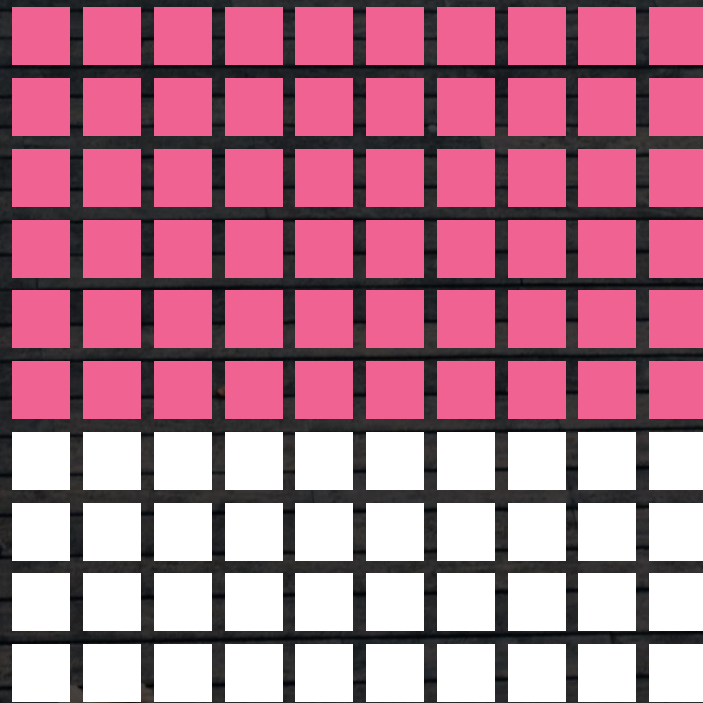
No gatekeepers,
between authors and
users.



Timeline



**Visit
appimage.github.io
to see over 1,000
applications in
AppImage format**



An aerial photograph of New York City at dusk. The sky is a mix of dark purple, blue, and orange. The city is densely packed with skyscrapers, many of which have their lights on. The Empire State Building is prominent in the center, with its top lit in red and green. The Hudson River is visible on the right side of the image. The text "Fact or fiction?" is overlaid in the center in a large, white, sans-serif font.

Fact or fiction?

A close-up photograph of a person's hands working on a circuit board. The person is using a soldering iron to solder a component. The background is blurred, showing some lights and a dark surface. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**It's complicated
to install
an Applmage.**

(People actually ask
Google how to do it!)

A close-up photograph of a person's hands using a stylus on a tablet. The background is blurred, showing some bokeh lights. The word "Fact" is overlaid in white text on the left side of the image.

Fact

You don't "install" an Applmage.

You just use the file manager to set the executable bit and double-click the Applmage to launch it.

A close-up photograph of a person's hands writing on a whiteboard with a marker. The background is blurred, showing what appears to be a workshop or office setting with various tools and equipment. The text 'TODO For You' is overlaid on the image in a large, white, sans-serif font.

TODO For You

Nautilus and Konqueror should ask the user what to do when they double-click an ELF file without the executable bit.

Just like Deepin does.

A close-up photograph of a person's hands using a compass to draw on a drafting table. The person is wearing a dark long-sleeved shirt. The background is blurred, showing some bokeh light effects. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**AppImages are not
sandboxed.**



Fact

No enforced sandboxing, but the user may opt into it.

E.g., Firejail has
AppImage support.

A close-up photograph of a person's hands working on a wooden surface. The person is wearing a dark long-sleeved shirt. Their right hand is holding a pencil, and their left hand is resting on the wood. The background is blurred, showing some bokeh lights. The text 'TODO For You' is overlaid on the image in white, bold, sans-serif font.

TODO For You

Enable bubblewrap or
your favorite sandbox
to run AppImages.



Myth

**The Linux ecosystem
does not need this.**



Fact

- ❖ Applications packaged as an AppImage can run on many distributions (including Ubuntu, Fedora, openSUSE, CentOS, elementaryOS, Linux Mint, and others)
 - ❖ One app = one file = super simple for users: just download one AppImage file, [make it executable, and run
 - ❖ No unpacking or installation necessary
 - ❖ No root needed
 - ❖ No system libraries changed
 - ❖ Works out of the box, no installation of runtimes needed
 - ❖ Optional desktop integration with `appimaged`
 - ❖ Optional binary delta updates, e.g., for continuous builds (only download the binary diff) using `AppImageUpdate`
 - ❖ Can optionally GPG2-sign your AppImages (inside the file)
 - ❖ Works on Live ISOs
 - ❖ Can use the same AppImages when dual-booting multiple distributions
 - ❖ Can be listed in the AppImageHub central directory of available AppImages
 - ❖ Can double as a self-extracting compressed archive with the `--appimage-extract` parameter
 - ❖ No repositories needed. Suitable/optimized for air-gapped (offline) machines
 - ❖ Decentralized
-

Fact



**Linus Torvalds
thinks this is very cool.**

Subsurface is now
distributed as an
ApplImage.



TODO For You

Try it out.
Report issues.
Make AppImages.

A close-up photograph of a person's hands using a drafting compass on a light-colored surface, likely a table. The person is wearing a dark long-sleeved shirt. The background is blurred, showing some bokeh lights. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**This is competing with
Flatpak and Snap.**



Fact

Applmage is very different from Flatpak and Snap.

Applmage (klik) predates them by almost a decade.

They don't deliver one file = one app.



Myth

**There must be ONE
way to install software
on Linux.**

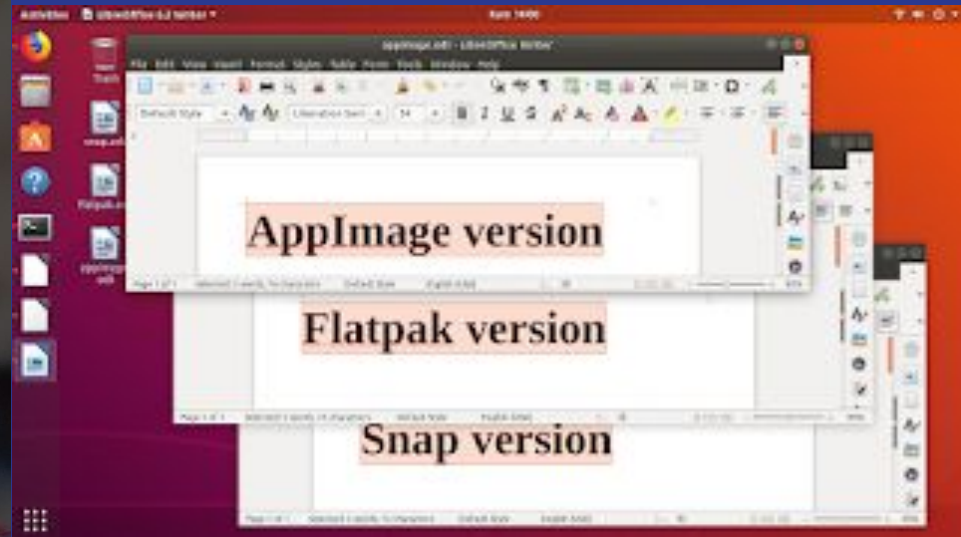
A close-up photograph of a person's hands working on a wooden surface. The person is wearing a dark long-sleeved shirt. Their right hand is holding a pencil, and their left hand is resting on the wood. The background is blurred, showing some bokeh lights. The word "Fact" is overlaid in white text on the left side of the image.

Fact

Multiple ways to get applications can happily coexist.

E.g., AppImages can run nicely alongside distribution packages, Snaps, and Flatpaks.

Fact



Source: <https://www.ubuntubuzz.com/>

A close-up photograph of a person's hands using a white marker to draw on a whiteboard. The background is blurred, showing what appears to be a workshop or office setting with various tools and equipment. The lighting is soft, and the overall tone is professional and focused.

TODO For You

Distributions and
desktop environments:

Be agnostic about the
way in which
applications are
delivered.

Don't favor one!

A close-up photograph of a person's hands using a compass to draw on a drafting table. The background is blurred, showing some bokeh lights. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**AppImage has
no traction**

A close-up photograph of a person's hands, wearing a dark long-sleeved shirt, using a pencil to draw on a large sheet of paper, likely a blueprint or technical drawing. The background is blurred, showing some bokeh light effects. The overall scene is dimly lit, with the focus on the hands and the drawing.

Fact

**AppImage
has lots of traction.**

Over 1,000 tested
applications in the
catalog.



Fact

**AppImage
has lots of traction.**

Inkscape

Krita

Kdenlive

Kdevelop

Scribus

...

A close-up photograph of a person's hands working on a 3D printed object on a table. The background is blurred, showing some bokeh lights. The word "Fact" is overlaid in white text on the left side of the image.

Fact

**AppImage
has lots of traction.**

Adobe

JetBrains

Microsoft

Prusa

Ultimaker

...

A close-up photograph of a person's hands writing on a whiteboard with a marker. The background is blurred, showing what appears to be a workshop or office setting with some equipment and lights.

TODO For You

Distributions and
desktop environments:

Be agnostic about the
way in which
applications are
delivered.

Don't favor one!

A close-up photograph of a person's hands using a compass to draw on a drafting table. The person is wearing a dark long-sleeved shirt. The background is blurred, showing some bokeh lights. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**Sounds a lot
like static linking.**



Fact

**AppImage
is not like static
linking.**

Images
Translations
AppStream metainfo
Icons

...



TODO For You

Desktop environments:

Use the icons,
metadata,... that come
inside AppImages
in Nautilus,
Konqueror,...

A close-up photograph of a person's hands using a pencil on a drafting table. The background is blurred, showing some bokeh lights. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**AppImages are
bloated.**



Fact

AppImages are often smaller than other installation methods.

E.g., Only a subset of Qt for Qt applications, not the whole framework.

Everything stays compressed.



Fact

AppImages are often smaller than other installation methods.

LibreOffice 6.2

- ❖ Snap: 543 MB
- ❖ Flatpak: 519 MB
- ❖ AppImage: 248 MB

Source: <https://www.ubuntubuzz.com/2019/06/comparing-libreoffice-62-versions-appimage-flatpak-snap.html>



Myth

**AppImages are
a security nightmare.**

A close-up photograph of a person's hands working on a circuit board. The person is using a soldering iron to solder components. The background is blurred, showing some lights and a desk. The word "Fact" is overlaid in white text on the left side of the image.

Fact

AppImages are as secure as what the author puts inside them.

They don't need to be installed, so at no time they need root.



Fact

AppImages are as secure as what the author puts inside them.

The author of an AppImage is responsible for keeping the ingredients fresh.



Myth

**Is it a lot of work for
the application author
to keep AppImages
fresh.**

A close-up photograph of a person's hands working on a wooden surface. The person is wearing a dark long-sleeved shirt. Their right hand is holding a pencil, and their left hand is resting on the wood. The background is blurred, showing some green and blue bokeh lights.

Fact

Services like the Open Build Service can keep AppImages fresh for you.

It automatically builds a new AppImage as soon as an ingredient (dependency) changes.

A close-up photograph of a person's hands using a pencil to draw on a drafting table. The background is blurred, showing some bokeh lights. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**AppImages cannot
be updated.**



Fact

AppImageUpdate.

Only download the bytes that have actually changed.

Keep both versions.

A close-up photograph of a person's hands, wearing a dark long-sleeved shirt, working on a technical drawing or blueprint. The hands are holding a pencil and appear to be in the process of drawing or erasing. The background is blurred, showing some indistinct shapes and colors, possibly a workshop or office environment. The overall lighting is soft and focused on the hands and the drawing.

TODO For You

Application authors:
Put update information
into your AppImages



TODO For You

Qt application authors:

Make your Qt application easily self-updateable from its menu by dropping a Qt plugin into the ApplImage



TODO For You

Desktop environments:

Use AppImage update
information and/or
libappimageupdate
e.g., in Gnome
Software, Discover...

A close-up photograph of a person's hands working on a circuit board. The person is using a soldering iron to solder components. The background is blurred, showing some lights and a dark surface. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**Are AppImages for
64-bit Intel machines
only?**

A close-up photograph of a person's hands working on a circuit board. The person is using a soldering iron to solder components. The background is blurred, showing some lights and a dark surface. The word "Fact" is overlaid in white text on the left side of the image.

Fact

**AppImages can be
built for many
architectures**

- ❖ Intel 64-bit
- ❖ Intel 32-bit
- ❖ ARM 64-bit
- ❖ ARM 32-bit
- ❖ ...

A close-up photograph of a person's hands working on a breadboard. The hands are positioned over various electronic components, including what appears to be a microcontroller and several resistors. The background is blurred, showing some bokeh lights. The text 'TODO For You' is overlaid on the left side of the image.

TODO For You

Application authors:

Also provide

- ❖ ARM 64-bit
(PineBook Pro,...)
- ❖ ARM 32-bit
(Raspbian,...)



Myth

**AppImages don't
really run everywhere.
I can't run them on
CentOS 6...**

A close-up photograph of a person's hands typing on a keyboard. The background is blurred, showing bokeh lights. The word "Fact" is overlaid in white text on the left side of the image.

Fact

**The author of an
AppImage decides
what to put inside.**

By bundling
EVERYTHING (down to
glibc) you can make
ones that run virtually
everywhere.



TODO For You

- ❖ Think about your target audience
 - ❖ Ensure that at least all still-supported Ubuntu releases (and other distributions of similar age) are covered
 - ❖ Consider to bundle **EVERYTHING** if needed (e.g., Scribus does it)
-

A close-up photograph of a person's hands using a pencil to draw on a technical drawing or blueprint. The background is blurred, showing some bokeh lights. The word "Myth" is overlaid in white text on the left side of the image.

Myth

**AppImages must be
built on ancient,
outdated build
systems**



Fact

Always develop applications for the oldest system your users might still have.

General best practice, not Applmage specific.

If not viable, bundle **EVERYTHING.**



TODO For You

- ❖ Develop, build, and test your applications on the oldest systems your target audience might still have
- ❖ Yes, CentOS 7 is still widely used... so is Ubuntu LTS
- ❖ Don't assume your users to have the latest of everything

...if you can't, bundle
EVERYTHING

A close-up photograph of a person's hands, wearing a dark long-sleeved shirt, working on a technical drawing or blueprint. The hands are positioned over a large sheet of paper, with one hand holding a pencil and the other resting on the paper. The background is blurred, showing some indistinct shapes and colors, suggesting an office or workshop environment. The lighting is soft, highlighting the texture of the paper and the skin of the hands.

Myth

**AppImage is a
one-man show.**



Fact

Always develop applications for the oldest system your users might still have.

General best practice, not Applmage specific.

If not viable, bundle **EVERYTHING.**

On #Applmage on freenode, you will meet over 70 people, including...



probono

Applmage founder and promoter of the one app = one file philosophy and surrounding UX concepts



TheAssassin

Key contributor and maintainer of ApplmageUpdate, libappimage, and many Applmage-related tools



azubieta

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor



srevinsaju

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor

Q&A

<http://appimage.org>

[awesome-appimage list on GitHub](#)

[#appimage on irc.freenode.net](#)