

# Flatpak and KDE

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# Who is this?

## KDE developer since 2003

KDE+Flathub

KPDF/Okular

Translations

Releases

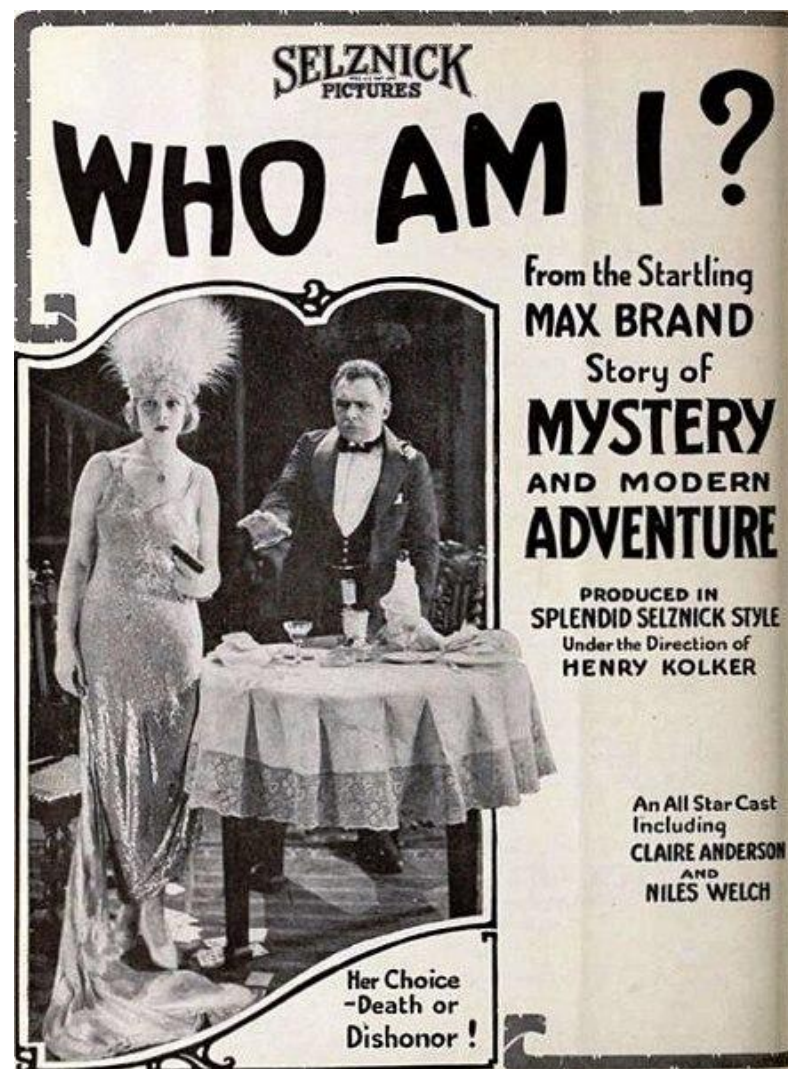
kdegames

kdeedu

KDE España

KDE e.V.

A little bit of everything :)



# Happy ~~birth~~-KDE-day to me!

r237159 | kde | 2003-07-15 09:47:15 +0200 | 2 lines

Account for Albert Astals Cid (aacid) created by dfaure.



20 years

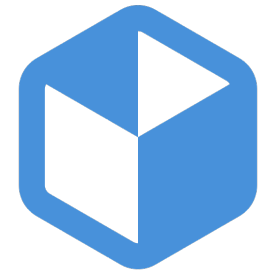


# What is flatpak?

flatpak.org says

“The future of apps on Linux”

“A new world for application developers”



**Flatpak**

It helps the user by helping the developer

# Why flatpak?

Packaging status		Devuan Unstable	22.12.3	Manjaro Testing	23.04.3	PureOS landing	22.12.3
Adélie Linux current	22.04.2	EPEL 8	22.04.1	Manjaro Unstable	23.04.3	Raspbian Oldstable	17.12.2
Alpine Linux 3.11	19.08.3	EPEL 9	22.12.3	MSYS2 mingw	23.04.3	Raspbian Stable	20.12.3
Alpine Linux 3.12	20.04.2	Exherbo	23.04.2	MX Linux MX-19	18.04.0	Raspbian Testing	22.12.3
Alpine Linux 3.13	20.12.3	Fedora 26	16.12.3	MX Linux MX-19 Testing	19.12.3	Rosa 2014.1	4.14.3
Alpine Linux 3.14	21.04.2	Fedora 27	17.12.3	MX Linux MX-21	21.04.3	Rosa 2016.1	18.12.1
Alpine Linux 3.15	21.08.3	Fedora 28	18.04.3	MX Linux MX-21 Testing	21.12.1	Rosa 2021.1	22.12.3
Alpine Linux 3.16	22.04.3	Fedora 29	18.12.2	nixpkgs stable 21.11	21.08.3	Rosa Server 7.3	4.10.5
Alpine Linux 3.17	22.08.3	Fedora 30	19.12.3	nixpkgs stable 22.05	22.04.1	Rosa Server 7.5	4.10.5
Alpine Linux 3.18	23.04.2	Fedora 31	19.12.3	nixpkgs stable 22.11	22.08.3	Scientific Linux 7.x	4.10.5
Alpine Linux Edge	23.04.3	Fedora 32	19.12.3	nixpkgs stable 23.05	23.04.3	Scoop	23.04.3-1448
ALT Linux p9	20.12.3	Fedora 33	20.08.1	nixpkgs unstable	23.04.3	Slackware 14.2	4.14.3
ALT Linux p10	22.12.3	Fedora 34	21.04.1	OpenBSD Ports	22.12.3	Slackware 15.0	21.12.1
ALT Sisyphus	23.04.2	Fedora 35	21.12.2	openmamba	23.04.3	Slackware current	23.04.3
AOSC	22.04.3	Fedora 36	22.12.0	OpenMandriva 4.0	19.04.2	Slackware64 14.2	4.14.3
Arch	23.04.3	Fedora 37	22.12.3	OpenMandriva 4.1	19.12.1	Slackware64 15.0	21.12.1
Arch Linux 32 i686	23.04.2	Fedora 38	23.04.2	OpenMandriva 4.2	20.12.1	Slackware64 current	23.04.3
Arch Linux 32 pentium4	23.04.2	Fedora Rawhide	23.04.2	OpenMandriva 4.3	21.12.2	Slackwarearm 14.2	4.14.3
Arch Linux ARM aarch64	23.04.2	FreeBSD Ports	23.04.3	OpenMandriva Rolling	23.04.1	Slackwarearm 15.0	21.12.1
Arch Linux ARM armv7h	23.04.2	Gentoo	23.04.3	OpenMandriva Cooker	23.04.3	SliTaz Cooking	4.14.3
ArchPOWER powerpc	23.04.0	GNU Guix	22.08.1	openSUSE Leap 42.3	17.04.2	Solus	23.04.2
ArchPOWER powerpc64le	23.04.0	GoboLinux	4.12.0	openSUSE Leap 15.0	17.12.3	T2 SDE	23.04.3
ArchPOWER riscv64	23.04.0	HaikuPorts master	22.04.0	openSUSE Leap 15.1	18.12.3	Trisquel 10.0	19.12.3
AUR	21.07.70_r...	Kali Linux Rolling	22.12.3	openSUSE Leap 15.2	20.04.2	Trisquel 11.0	21.12.3
Artix	23.04.2	KaOS	23.04.3	openSUSE Leap 15.3	20.04.2	Ubuntu 14.04	4.13.3
CentOS 7	4.10.5	KDE neon Testing	23.04.2+p2...	openSUSE Leap 15.4	21.12.3	Ubuntu 16.04	15.12.3
Chocolatey	23.04.2	KDE neon Unstable	23.04.3+p2...	openSUSE Leap 15.5	22.12.3	Ubuntu 18.04	17.12.3
Cygwinn	17.12.3	KDE neon User	22.08.1	openSUSE Tumbleweed	23.04.3	Ubuntu 20.04	19.12.3
Debian 10	17.12.2	KDE neon User LTS	21.04.2	Parabola	20.12.3	Ubuntu 22.04	21.12.3
Debian 11	20.12.3	LiGuroS stable	23.04.2	Pardus 21	20.12.3	Ubuntu 22.10	22.08.1
Debian 12	22.12.3	LiGuroS develop	23.04.3	Parrot	20.12.3	Ubuntu 23.04	22.12.3
Debian 13	22.12.3	MacPorts	4.14.3	PCLinuxOS	23.04.3	Ubuntu 23.10	23.04.3
Debian Unstable	22.12.3	Mageia 7	19.04.0	Pisi Linux	23.04.2	Void Linux x86_64	23.04.2
Deepin	17.12.2	Mageia 8	20.12.0	pkgsrc current	22.08.1	Wikidata	22.12.3
Devuan 3.0	17.12.2	Mageia Cauldron	23.04.1	PLD Linux	23.04.1	winget	23.04.0
Devuan 4.0	20.12.3	Manjaro Stable	23.04.3	PureOS Amber	17.12.2		

# What is flatpak? - runtimes

“Build for every distro”

“Stable platforms”

“Consistent environments”

“Future-proof builds”

A runtime provides a set of libraries that can be used by flatpak-ed applications.

e.g:

`org.freedesktop.Platform`

`org.kde.Platform`

`org.gnome.Platform`

...

# What is flatpak? - run-time things

Flatpak can run either containerized (ideally) or not (for applications not 100% ready)

There are ~30 portals that help the application punch-out of the container and provide a more desktop adequate UI.

Some of the portals are supported by Qt or KDE Frameworks, others you may need to implement directly in the app.

<https://docs.flatpak.org/en/latest/portal-api-reference.html>

# What is flatpak? - distribution

“Distribution made easy”

One flatpak works for all distros, you can host your own repository or put the flatpak package in an existing one

```
$ flatpak remotes -d
```

```
flathub          Flathub          https://dl.flathub.org/repo/
kdeapps         KDE Testing Applications http://distribute.kde.org/flatpak-apps-testing/
katomic-origin org.kde.katomic build nr 2440 https://dl.flathub.org/build-repo/2440
choqok-origin  -               https://dl.flathub.org/build-repo/107491
```



# What is flatpak? - building

“Full control over dependencies”

“Easy build tools”

```
"id": "org.kde.kgeography",  
"runtime": "org.kde.Platform",  
"command": "kgeography",  
"buildsystem": "cmake-ninja",  
"type": "archive",  
"url": "https://.../src/kgeography-23.04.3.tar.xz",  
"sha256": "459...b7d1646617a9fea5099ecf777b9b",
```

# What is flatpak? - building (II)

Obviously not everything is so easy ^\_^

Kontact json file is 1500 lines long

67 dependencies

Okular json file is 500 lines long

21 dependencies

# Flash Lightning talk!

SAY \*NO\* TO OPTIONAL DEPENDENCIES

Okular has 18 optional dependencies

Poppler has 6 optional dependencies

LCMS has 5 optional dependencies

...got tired to check more ...

Make dependencies mandatory and add the possibility of disabling them one by one with an explicit parameter

# What is flathub?



Flathub is one of many flatpak remotes[1]

- Has its own CI to build packages
- Has its own extra rules to what is considered a valid package
- Hosted in github[\*]

[1] Probably the biggest one

# Flathub – KDE some statistics

- 147 apps on the KDE group
- Firefox has ~3M installs
- Kdenlive has ~575K installs
- Okular has ~200K installs
- KGeography has ~10K installs

# The KDE runtime

Hosted at <https://invent.kde.org/packaging/flatpak-kde-runtime>

Built in flathub CI

One branch per Qt version [\*]

The Qt6 branches do not include KDE Frameworks yet

Updates are manual

# The KDE flathub manifests

Hosted at [https://github.com/flathub/org.kde.\\*](https://github.com/flathub/org.kde.*)

Built in flathub CI

Just one branch for the latest stable version

Updates are automatic [\*]

# The KDE flatpak repository

Nightlies repository, not for stable user use

Hosted at <https://invent.kde.org/packaging/flatpak-kde-applications>

Built in binary-factory

Manifest files are duplicated from flathub :(

Updates are not automatic



# The KDE flatpak CI in gitlab

Can be enabled with `.../gitlab-templates/flatpak.yml`

Manifest should be named `.flatpak-manifest.json`

Make sure to change the Manifest in <https://invent.kde.org/packaging/flatpak-kde-applications> to be a `.remoteapp` file

Manifest files still duplicated from flathub :(

Updates are not automatic

# Questions

Who?

When?

How?

Why?