

# Connecting the dots with Portals

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# About

- GTK and GNOME dev for 20+ years
- Opinion haver on the Internet
- Work at Igalia
- First time at LAS

# The story so far...

- In the beginning there was POSIX
- Fine if you're writing CLI tools...
- In 1998...
- On a random Unix machine...
- Which may or may not work

# Along comes freedesktop.org

- GNOME and KDE collaboration space
- Organically grown
- Sharing interfaces for interoperability
- Prelapsarian Golden Age of the Linux desktop

# Things fall apart

- Specifications, not standards
- Slow death by bikeshedding
  - "Open source", not "open mic night"
  - How open is too open?
- Breakdown in communication

**Meanwhile...**

# New packaging formats

- Flatpak, Snap
- Disintermediation of software distribution

# Sandboxing

- Isolate applications from the system
  - Syscalls may not work
  - No host file system
  - IPC is constrained
- How do you interface with the host and user?



# Portals/1

- Security boundary between sandbox and host
- Multiplexer: `xdg-desktop-portal`
- Multiple backends
  - Configurable order and interface resolution
  - Desktop components can provide their own portals/backends

# Portals/2

- Runs on the host, exposed inside the sandbox
- Does not **need** a sandbox

# State of the portals/1

- Started in 2016
- Bit of a lull between 2019 and 2022
- Pace has picked up again
  - Thanks to Georges Stavracas and Sebastian Wick
  - Many thanks to Simon McVittie for helping with keeping the lights on

# State of the portals/2

- 2022:
  - Background apps monitoring
  - Global shortcuts

# State of the portals/3

- 2023:
  - Drop Autotools, move to Meson
  - Input capture
  - Remote sessions: restore and clipboard support

# State of the portals/4

- 2024:
  - New website, new documentation
  - Portal selection configuration
  - GetHostPath/xattr for document portal files
  - Notification v2
  - USB portal

# State of the portals/5

- 2025:
  - Application registry
  - New testing framework (Sebastian's presentation)

# State of the portals/Next

- More portals
  - HID raw portal, Accessibility, FIDO2, Media Sharing, ...
- More backends
  - xdg-desktop-portal-xapp (Cinnamon, MATE, Xfce)
  - xdg-desktop-portal-lxqt (LXQt)
  - xdg-desktop-portal-cosmic (COSMIC)
  - xdg-desktop-portal-dde (Deepin)
  - ...



# Portals... by default

- High level functionality
  - Accessing files, printing, shared settings, screenshot/screencast, remote sessions, ...
- Base platform API for applications
  - Desktop projects provide backends for better integration
- Always check for portals first
  - GTK4/libadwaita

# Needs work

- Desktops need portal implementations
  - `xdg-desktop-portal-gtk` works as a backstop, but it's GTK3
- Applications need to be portal-aware
  - toolkits
  - `libportal`
  - D-Bus

# Needs help

- Development has ebbs and flows
- Not enough people to review contributions
- High potential for architecture astronauting
- Second system syndrome

**Thank you**

# Questions

