

Ozone-Wayland Support in Chromium

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GENIVI Browser Requirements

- Should use Chromium
- Should have **no user interface**
- Should provide D-Bus API
 - Vendors will create derivative browsers utilizing the D-Bus API

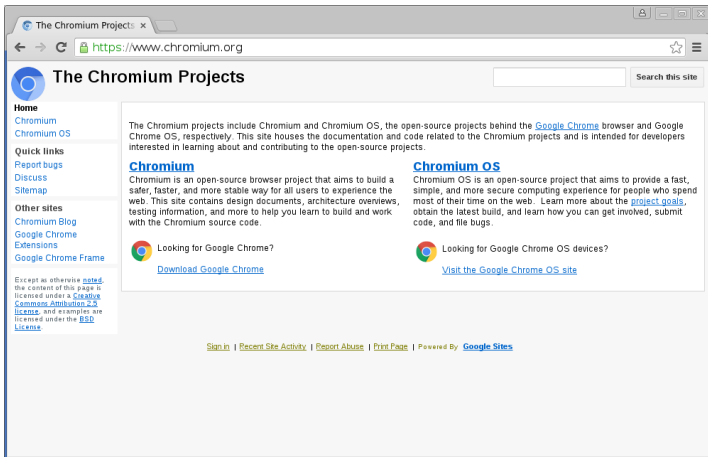
- D-Bus
- Chromium
- Ozone
- Wayland
- Ozone-Wayland

- Dominant IPC framework on GNU/Linux
- Exposes objects with signals and methods
- Intended for UNIX sockets (but can run over TCP too!)

- D-Bus
- Chromium
- Ozone
- Wayland
- Ozone-Wayland



- Open source web browser and **operating system**
- Basis for proprietary Google Chrome browser
- Chromium is a **project**, not a **product**



The Chromium Project: x

← → ↻ <https://www.chromium.org> ☆ ☰

The Chromium Projects

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The Chromium projects include Chromium and Chromium OS, the open-source projects behind the [Google Chrome](#) browser and Google Chrome OS, respectively. This site houses the documentation and code related to the Chromium projects and is intended for developers interested in learning about and contributing to the open-source projects.

Chromium


Chromium is an open-source browser project that aims to build a safer, faster, and more stable way for all users to experience the web. This site contains design documents, architecture overviews, testing information, and more to help you learn to build and work with the Chromium source code.

 [Looking for Google Chrome?](#)

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Chromium OS

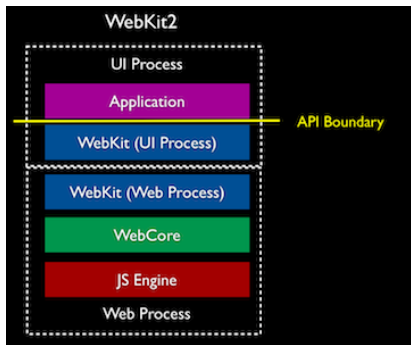
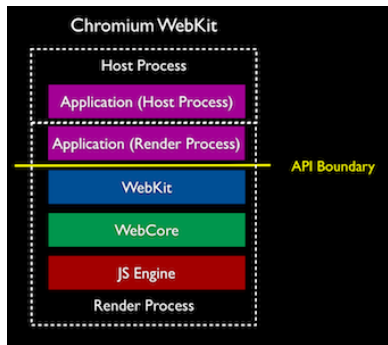
Chromium OS is an open-source project that aims to provide a fast, simple, and more secure computing experience for people who spend most of their time on the web. Learn more about the [project goals](#), obtain the latest build, and learn how you can get involved, submit code, and file bugs.

 [Looking for Google Chrome OS devices?](#)

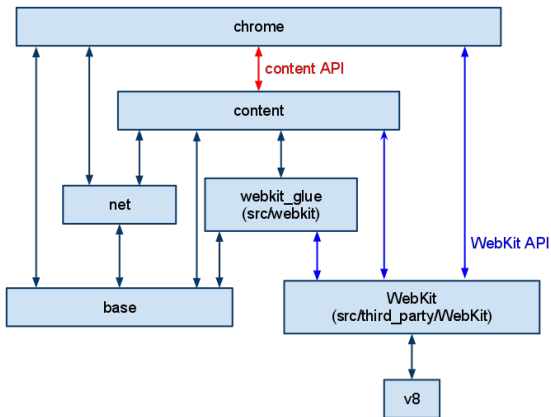
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- WebKit fork
- More specifically, fork of WebCore



- Content API sits below UI layer
- Handles **multiprocess** management of web views
- Roughly equivalent to WebKit2 API



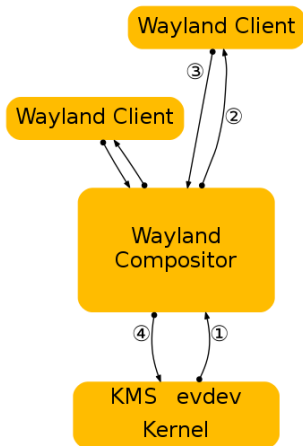
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- Platform abstraction layer for Chromium
- APIs to encapsulate platform-specific details
- Implementations: libcaca, GBM, Wayland

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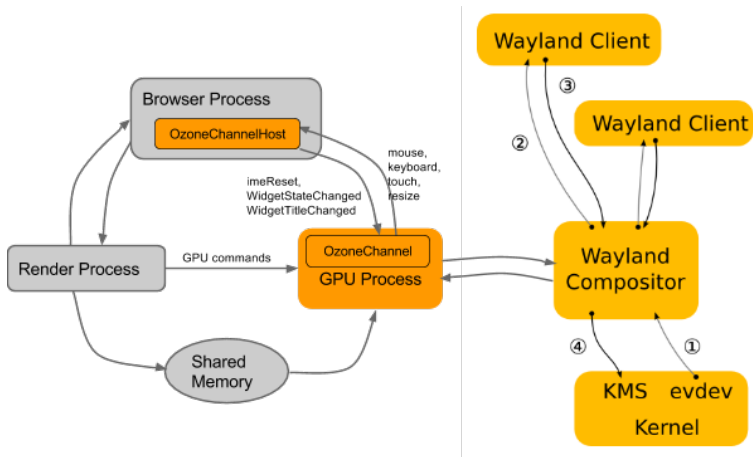
What is Wayland?

- Modern replacement for X
- Dramatically simpler
- Applications can be untrusted



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Ozone-Wayland Architecture



- Most things work
- Pages render well
- Many things need implemented
- Still generally unstable

Ozone-Wayland: What Needs Implemented?

- Fontconfig integration
- Multiseat
- Window resizing
- Window movement
- Minimize
- Drag-and-drop
- Copy/paste
- Text selection
- More!

Building a Browser on Ozone-Wayland

- One Wayland connection per application; Ozone-Wayland owns the connection
- Derivative browsers should implement **nested compositor** approach

- Ozone-Wayland is needed for any Chromium-based browser.
- Ozone-Wayland is **incomplete** and will require additional development effort.
- Ozone-Wayland requires **long-term maintenance investment**.