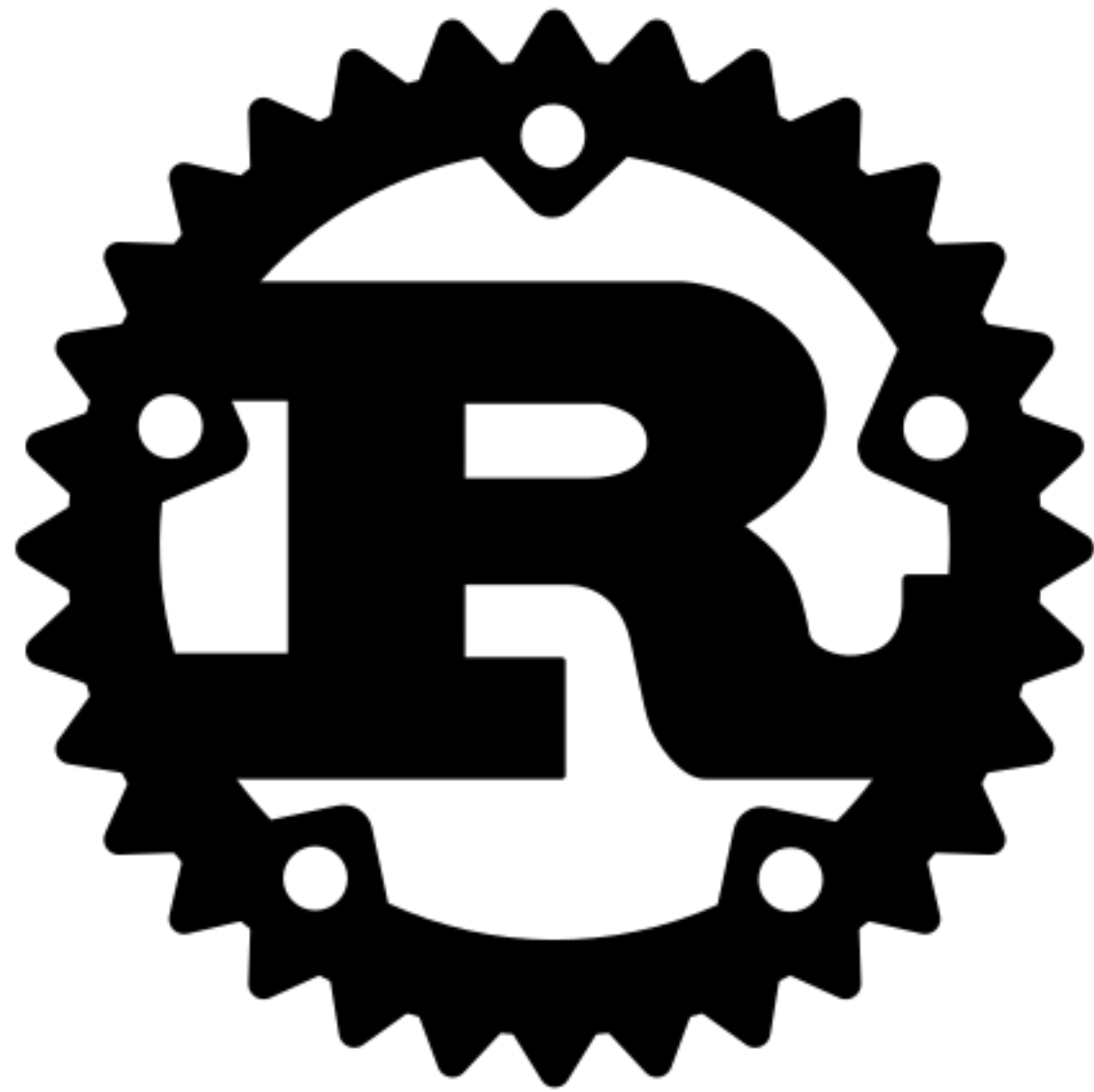


Rust

+

Wayland





Wayland



Wayland is intended as a simpler replacement for X,  
easier to develop and maintain.

Wayland is a protocol for a compositor to talk to its clients  
as well as a C library implementation of that protocol.

– [wayland.freedesktop.org](http://wayland.freedesktop.org)



Wayland

YAD x

< October > < 2018 >

Mon	Tue	Wed	Thu	Fri	Sat	Sun
24	25	26	27	28	29	30
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4


YAD x

Cancel OK

YAD x

Cancel OK

YAD



Hue: 0 - +

Red: 255 -

Green: 255 -

Blue: 255 -

255

Color name: #FFFFFF

Cancel OK

Cancel OK



Wayland

Unlike X, the Wayland input stack doesn't allow applications to snoop on the input of other programs (preserving confidentiality), to generate input events that appear to come from the user (preserving input integrity), or to capture all the input events to the exclusion of the user's application (preserving availability).

– <https://lwn.net/Articles/589147/>



Wayland

wl\_seat  
wl\_keyboard  
wl\_shell  
zxdg\_output\_manager\_v1  
zwp\_tablet\_manager\_v2  
gamma\_control\_manager  
orbital\_screenshooter  
zwp\_idle\_inhibit\_manager\_v1  
zwp\_input\_method\_manager\_v2  
zxdg\_decoration\_manager\_v1  
zwp\_pointer\_constraints\_v1



Wayland

# Weston



Wayland

Weston



GTK+ 3



Qt 5



Wayland



Weston  
Gnome-shell  
Sway

Way-cooler

Rustland Fireplace



Rust



GTK+ 3



Qt 5



Wayland

But wait,  
why?



Rust



# Purism

We believe people should have secure devices that protect them rather than exploit them. To that purpose, we provide everything people need in a convenient hardware and software product. We offer high-quality privacy, security, and freedom focused computers and software.

# What should a window manager be?

Reliable

Fast

Smooth

Quick to build



Rust

# What should a window manager be?

Reliable

Fast

Smooth

Quick to build

Type system

Zero-cost abstractions

Concurrency?

Ergonomics, libs?



Rust

# Libraries?

Fireplace

Way-cooler

Rustland

**smithay**  
**client toolkit**

**smithay**

**wayland-client**

**wayland-server**

**wlroots-rs**

**wlc-rs**

**wayland-client**

**wayland-server**

**wlroots**

**wlc**



Rust

# perceptia & skylane

Mesa links to the wayland C libs and expects the client to give it pointers to C structs from this lib to initialize an OpenGL context. As such, if you want to support OpenGL, both client-side and server-side, you need to use the official C libraries.

– levanfsg on Reddit



Rust

Let's get down to business!



Rust