Stabilizing Chromium’s Wayland support

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Agenda

1. Relevant Chromium architecture
2. History of ozone/wayland
3. Current status
4. Moving towards stabilization
Relevant Chromium architecture
Relevant code areas

- //chrome/browser - high-level browser code
- //ui/views - "Views" desktop UI toolkit
- //ui/aura - windowing and event abstraction
- //ui/ozone - platform abstraction
- //ui/platform_window - platform abstraction
- glue
Ozone

• platform abstraction layer handling low level input and graphics
History of ozone/wayland
Timeline

- **2013**: Debut of Ozone, Crosswalk, and Intel's downstream [ozone/wayland](#).
  - WebRuntime that ran natively on Wayland-based systems
  - Good community adoption
- **2014-2015**: Tizen EFL
- **2015**: Entered maintenance mode circa m49
- **2016**: First upstream [ozone/wayland commit](#)
  - Goal: testing proposes of Ash/Chrome on linux desktop
For quick access, place your bookmarks here on the bookmarks bar.
Timeline

- Mus+Ash
  - New built-in windowing system targeting ChromeOS
    - UI service
    - Legacy IPC -> Mojo
  - Igalia was targeting linux desktop
Timeline

- 2017: discussions with Google (rjkroege@, reveman@ at FOSDEM)
  - Bring up and prototype (downstream)
Timeline

• 2018: discussions with Google (sky@ rjkroege@)
  ◦ Rework on top of Aura/Views
  ◦ Begin of upstreaming ozone/wayland fork
Timeline

- 2019: Consolidation of the existing X11 code and \texttt{ozone/x11}
- 2019: Wayland/Host and Wayland/GPU
  - refactoring of the \texttt{ozone/drm} to share GBM related code
- 2020-2024: Lacros
Lacros timeline

- goal: decouple browser from window manager on ChromeOS
Lacros timeline

- 2015: first Exo commit
- 2020: start of Lacros?
Lacros timeline

- what happened between 2020 and 2024?
Lacros timeline

- 2024
  - finch trial
  - users can opt-in
    - lacros support
    - lacros only
    - lacros primarily
Current status
Current status

- Wayland support still experimental, must be enabled manually:
  \[ --ozone-platform=wayland \]
  \[ --ozone-platform-hint=auto \]

- Incomplete list of things that were fixed:
  - screen sharing (without audio)
  - basic IME
  - `interactive_ui_tests`
  - window decorations, rounded corners
  - hardware acceleration
Demo time!
Moving towards stabilization
Stabilization blockers

• areas that still need work:
  ○ drag and drop
  ○ (fallback) tab dragging
  ○ fractional and mixed scaling
  ○ IME
Questions?