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Firefox Wayland post mortem

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Firefox Wayland state

- Developed on Fedora (Gnome), paid by Red Hat.
- Shipped as stable since Firefox 121.0 (8 months ago).
- 20% of users are on Wayland (XWayland before)
- Fedora, Arch Linux, Ubuntu 22.04+
- Started 10 years ago after switch to Gtk3 (Bug 635134)
- ESR128 / Thunderbird 128 / RHEL
- Mutter (GNOME)
- Kwin (KDE)
- Sway, Weston etc.

Firefox Wayland pros

- Security (app sandbox)
- HiDPI support, multi-monitor
- Works better on Xwayland (D&D, popups etc.)

Firefox Wayland cons

- Popups
- Focus
- Testing (Fedora)

Firefox Wayland state

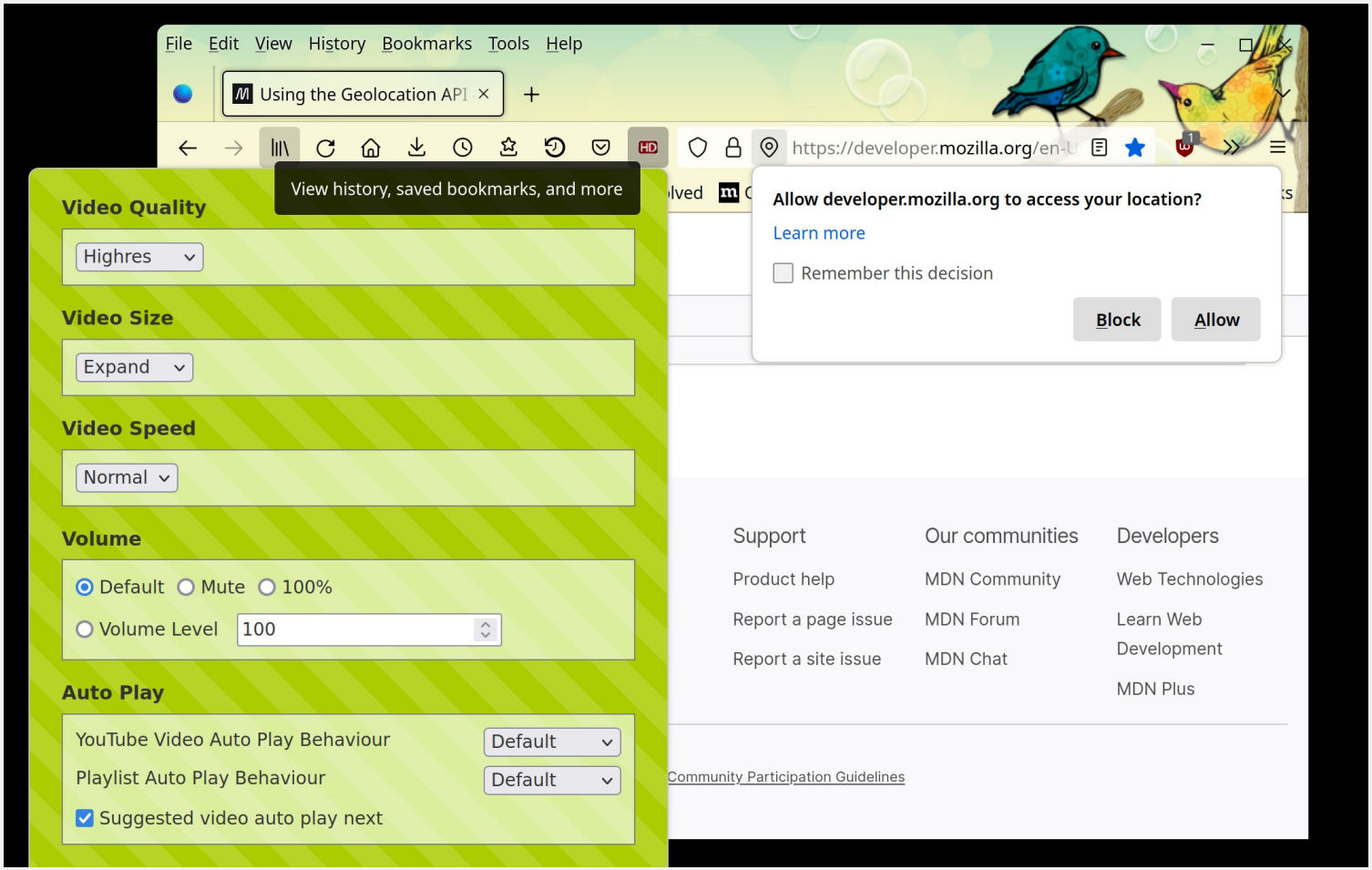
- Patient is stable
- Fixing protocol corner cases & minor issues
- Missing automated testing (Nightly)
- Missing PIP Always-on-top
- Different focus handling
  - Focus steal / focus transfer

Main road blocks

- Various Wayland compositor bugs (D&D popup rendering)
- General Gtk3/Wayland integration
  - wl_output, data devices
- Rendering to GtkWidget (Gtk3)
  - wl_subsurface, mContainer
- Multi-thread rendering (WebRender/ Compositor / GtkMain thread events)
  - Offscreen rendering, missing wl_surface (before/after creation)
  - Frame callbacks, VSync
- Clipboard – async/sync
- D&D
- Wayland freeze – ping (wayland-proxy)
- Popup windows

Wayland popup nigthmare

- wl_subsurface vs. xdg_popup
- xdg_positioner
  - Gtk4 xdg refresh (resize, move)
  - Gtk3 map/unmap
  - Map/unmap for hierarchy changes
- wl_subsurface mutter bugs (tooltipy)
- xdg_positioner bugs (mutter/Gtk - map)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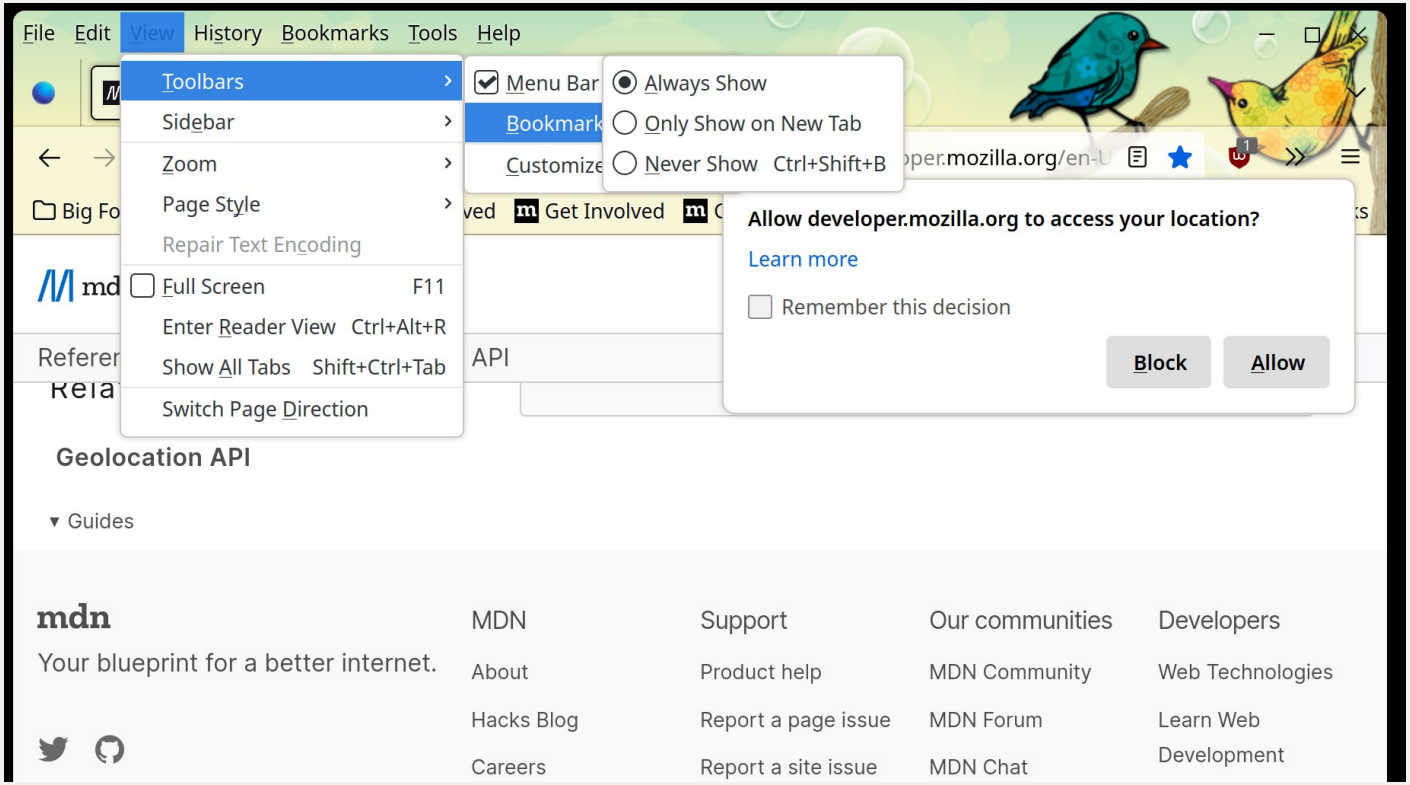
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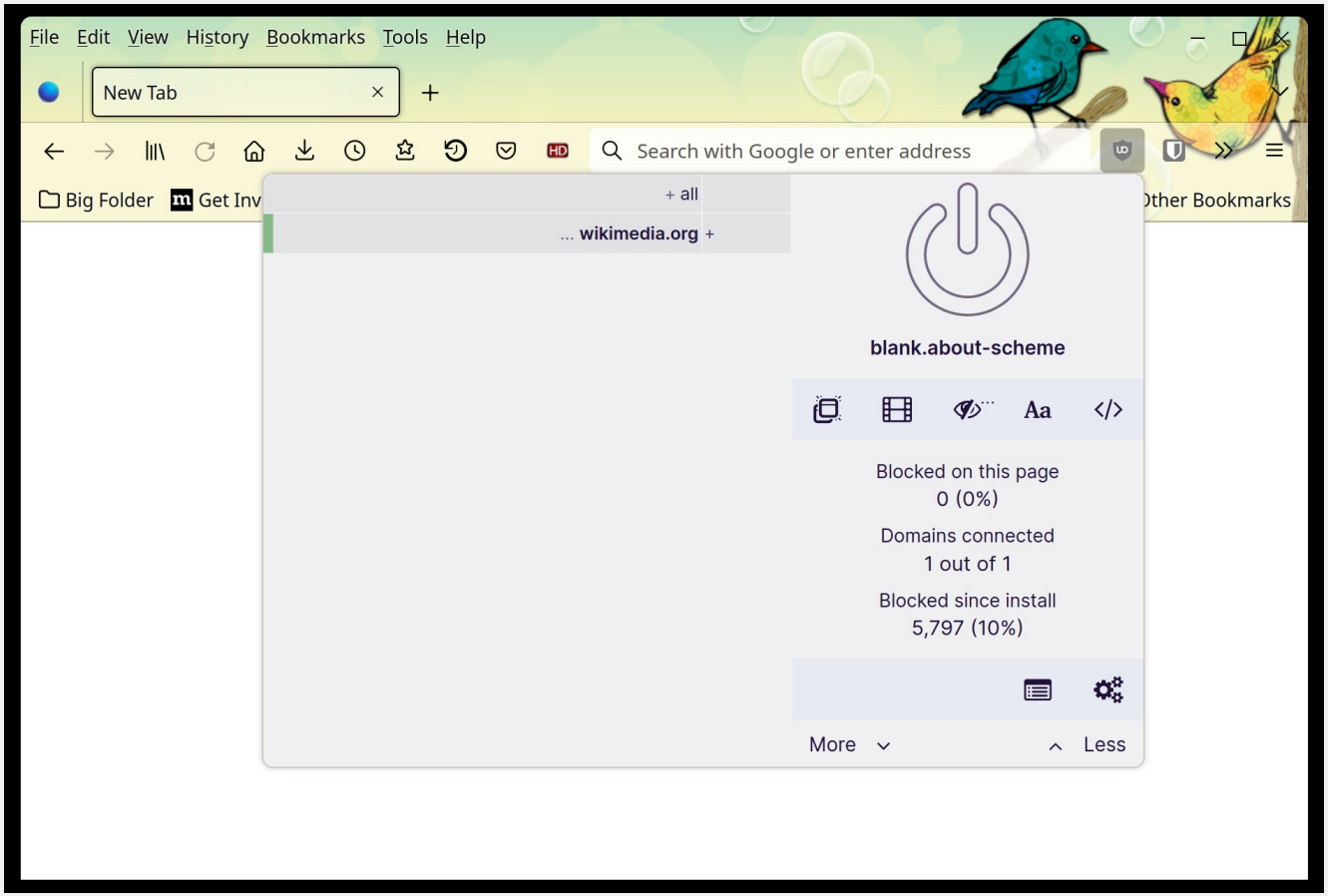
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5,797 (10%)
More
Less

Further development

- Aim Gtk3 limitations (missing direct rendering, popups)
  - Move to Gtk4 or backport to Gtk3
- Update automated upstream testing
- Fix proxy to process pings

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