Input observers beyond focus

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XDC 2024 / Lightning Talk

Who? Philipp Käser, Zurich, Switzerland

- Site Reliability Manager @ Google
- Day job: Run Google Cloud IAM
- Coding fun: Replace X11 stack (Window Maker)

Window Maker: Screenshots

WindowMaker

Wayland: Surface & input events

Currently: Pointer position from `wl_pointer`

- **enter** / **leave** for for `wl_surface`, indicating "pointer focus"
- **motion** (& other events) sent **only** when having "pointer focus"

=> no information about pointer position when outside surface or obstructed.
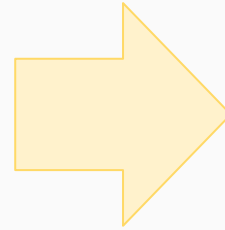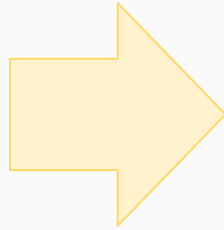
(similar: `wl_keyboard`, `wl_touch`)

But: `zwp_relative_pointer_manager_v1` ?

- Also "only emit events when it has focus"
- Useful for mouse motion – does not give pointer position

Use-case: Application dock - "landing area"

1. Dock for application launchers: Drag-and-drop applications into it.
2. **When the "drop" comes near: Visually prepare "landing site" (or make space)**
3. Accept drop & integrate

Need: Observe input events "beyond focus"

- Permit `wl_surface` to receive pointer events when **not having pointer focus**
  - Position? Yes.
  - Buttons? No.
  - Axis? No?

- How? `wl_surface` can be mapped anywhere, any shape, any # of times.
  - Provide relative position of pointer

- Only pointer position?
  - The most obvious visual item a surface can react to
  - `wl_touch` closely related
  - Let's not get ahead of ourselves…

Why don't I just...?

Contribute...?

See: [Wayland-protocols !335](#)

"Draft: Add input-observation protocol"

Keep for myself?

Useful beyond:

- **Accessibility tool**: Highlight pointer position
  (eg. with zwlr_layer_surface_v1)

- Pointer **gestures**
  (standalone tool, prototyping)

- Xeyes 😜
  (terrible example for my case)

Input observers beyond focus

end.

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https://github.com/phkaeser/wlmaker
https://gitlab.freedesktop.org/wayland/wayland-protocols/-/merge_requests/335

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