Settingsapplikation mit integriertem Plugin System

ReSet

Graduate

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Introduction: This paper expands on ReSet, a settings application developed with Rust for Linux-based systems to be compatible with different graphical desktop interfaces. Its core functionalities of WiFi, Bluetooth and Audio were completed successfully, but additional functionalities require desktop-specific implementation with their own set of rules that need to be adhered to. Therefore, A flexible system where these differences can be handled is needed.

Objective: The main objective is to create a plugin system that allows users to add plugins to extend ReSet's functionalities and enable other developers to create their own or expand on an existing plugin to support more systems. Additionally, a testing framework will be implemented to allow developers to write integration tests for their plugins. To demonstrate that this system works, two exemplary plugins will be developed:

- Monitor plugin: The monitor plugin should allow users set manage display settings such as placement, resolution, orientation etc.
- Keyboard plugin: The keyboard plugin should allow users to add/remove keyboard layouts and change their order

As a side objective, the code base from ReSet was improved to accommodate the plugin system.

Result: The plugin system was successfully implemented and both the monitor plugin and keyboard plugin work as intended. The keyboard plugin is compatible with GNOME, KDE and Hyprland while the monitor plugin is compatible with GNOME, KDE, Hyprland, Sway and more. These plugins demonstrate the effectiveness of the plugin system,

showcasing its potential to handle diverse environment-specific settings. The testing framework was also implemented with some example tests for the plugins. The repository can be found via the QR code.
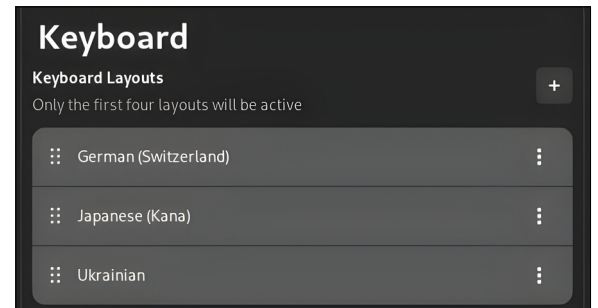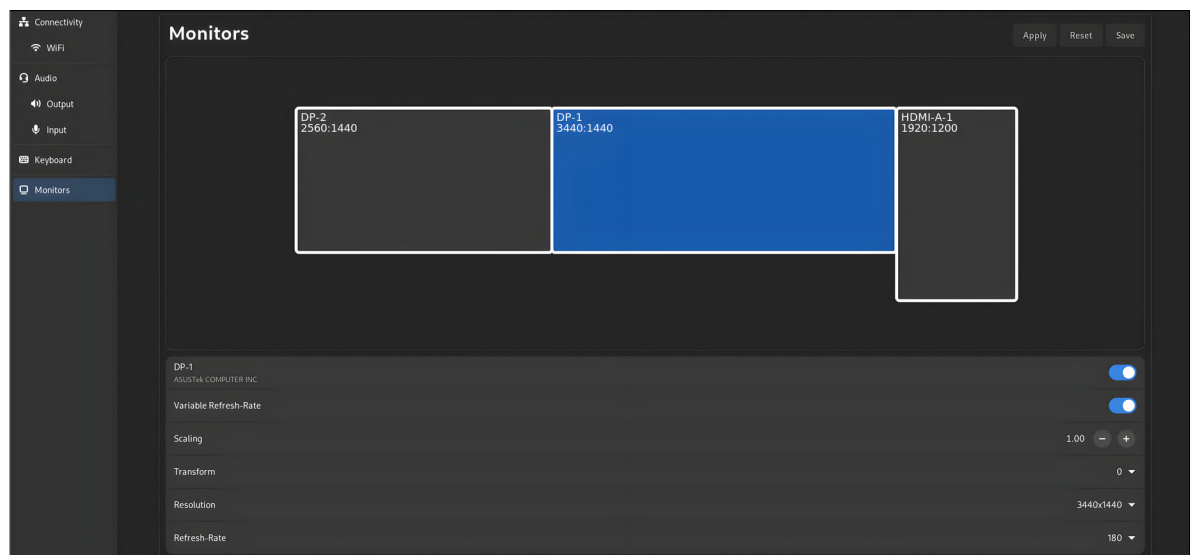
ReSet Logo
Own presentment

ReSet Keyboard Plugin
Own presentment

ReSet Monitor Plugin
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Subject Area
Software, Application Design, System Software