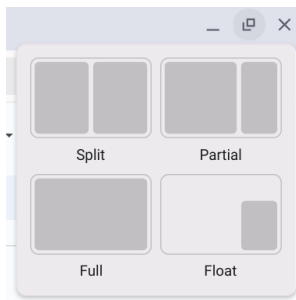

cTile: A Window Management Extension for ChromeOS

11 Aug 2024

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Introduction:

ChromeOS has no good options for easily arranging / positioning windows on larger displays, such as large 4K TVs that are used as a display - we are limited to the 50/50 window snapping options or the choices provided when hovering over the Maximize Window button:



Other plugins exist, but don't deliver the functionality of being able to easily and quickly snap windows into pre-defined grids. An example of an existing window manager plugin for Chrome is [Tiling Window Manager for Chrome OS](#). This is an auto-tiling window manager that doesn't deliver the desired functionality of what is being proposed here. Other extensions manage only Chrome windows, not all windows.

This project hopes to change this by creating a Chrome extension for Chrome OS that works similarly to the gTile extension for GNOME (Linux). If you don't have access to Linux / GNOME, gTile functionality in action can be seen in this YouTube video:

<https://youtu.be/R2k9PG-TXFE?si=cIUidy7dW12Y4x7V&t=265>

gTile is open source software (as this project will be), and can be found on Github here (including user documentation):

<https://github.com/gTile/gTile>

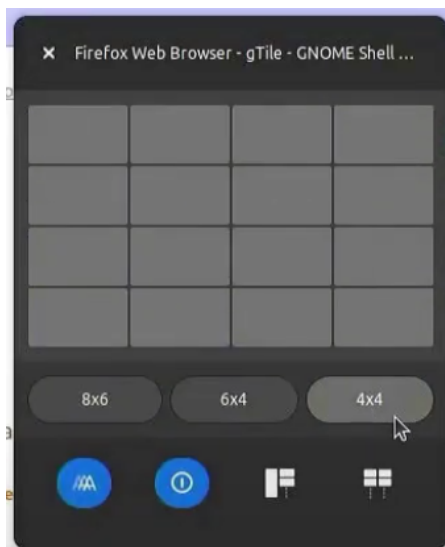
gTile has been around for a long time and is quite feature-rich and mature, with myriad complex keyboard shortcuts etc. This project aims to deliver the basic functionality of gTile without all the bells and whistles, which can come in later versions.

Development and Release:

The application will be released as open source software and hosted on Github. Copyright should be assigned to Graham Innes. I will be guided by the developer for recommendations on which language should be used.

Functionality of initial version 0.1:

- An overlay window from which the user can interact with the extension can be summoned either by clicking on the extension button within the browser, or by using a keyboard shortcut. The currently active window (whether a Chrome window, or any other window) is the window that cTile shall affect (resize / snap etc.).
 - For reference, gTile uses shortcut Super + Enter by default - maybe Launcher + Enter is a suitable default shortcut on ChromeOS.
- Example overlay interface from gTile - cTile can be similar.



- User chooses a tile or multiple tiles from the grid layout to snap the active window to the corresponding location on the screen. Interaction can be via:
 - Mouse:

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- By clicking a single tile, the window is positioned and resized to that tile.
 - By dragging over multiple adjacent tiles, the window is resized to cover both of the tiles selected.
 - Once the click or drag is complete, the active window snaps to the selected area and the overlay closes.
 - Keyboard:
 - Cursor keys to move between tiles.
 - Shift + cursor keys to select multiple adjacent tiles.
 - Enter to select a tile or tiles. Windows snap according to the user's choice and the overlay closes.
 - One of three predefined grid layouts can be chosen from the overlay interface, such as 4x4 (4 tiles wide, 4 tiles high). Selecting different a layout changes the the selected grid layout for the user to snap windows to. New layouts can be defined in the extension's options interface.
 - Grid layouts can be customized from within the extension options.
 - By default, the following layouts should be set: 2x2, 3x1, 4x2
 - The first layout should be selected by default, but the previous selection (if any) should always be remembered for the next invocation.
 - Multi-monitor support: The overlay interface should appear on all displays when invoked - if the user chooses tiles of an overlay interface that is on another display, the selected (active) window should snap to the selected location on that display (window moves to another display).
 - Extension Options:
 - Grid Layouts: Allows the user to define up to 5 different grid layouts by entering the layouts into a text field separated by a comma. For example:
 - 2x2,3x3,2x4
 - 3 layouts are defined, with layouts 2x2, 3x3 and 2x4 (in that order).

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- Shortcut key: Allow user to bind a different keyboard combination to invoke the overlay interface. It should be easy to reset to the default keyboard combination Launcher + Enter.
 - Other behaviors:
 - Any window within ChromeOS should be able to be affected by this extension, not just Chrome windows.
 - Pressing escape, or clicking on anything outside of the interface should close the overlay interface.
 - Overlay interface should be movable by dragging so the user can see content below the overlay.
 - Grid layouts apply globally, not on a per-display basis (that is, when the overlay interface is invoked, the displayed layout will be the same for all displays).