OpenPrinting

GNOME/GTK Printing BoF

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GUADEC, July 30, 2023

Printer Setup Tool: How it works currently

- **Printer setup tools**
  - CUPS web admin interface `http://localhost:631/`
  - CUPS command line tools: **`lpadmin`**, **`lpinfo`**, **`lpstat`**
  - **`system-config-printer`** – GUI
  - GNOME Control Center – Print module – GUI
  - **`cups-browsed`** – daemon – Automation of setup
- Tools **control CUPS**, the running **cupsd**
  - List available printers and drivers and create print queues
  - List queues and jobs
  - Modify queues
  - Server settings: Owner/everyone can cancel jobs, debug mode, ...

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Printer management in the New Architecture

- We assume any form of the New Architecture
  - The **CUPS Snap** - OR -
  - **CUPS 3.x** or newer
- **All Printers are driverless IPP printers**, native or Printer Applications
- CUPS auto-creates virtual queue for each IPP printer → **No manual queue creation required**
- CUPS fully automatic → **Admin action moves to the IPP printers**
- **Tasks**
  - **List IPP services**
    - Buttons to web admin interfaces, IPP System Service, ...
  - **Discover non-driverless printers**
    - Find Printer Applications, local and in Snap Store

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Printer Setup Tool: GUI Design

- **Similarities** between old and new
  - **Main Window**
    - Old: List CUPS queues, buttons/pop-up to modify
    - New: List IPP devices, buttons to web IF/IPP System Service
  - **Add-Printer Window**
    - Old: List printer devices and drivers, create CUPS queue
    - New: List non-driverless printers, install Printer Application, open Printer Application’s web interface

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Printer Setup Tool: GNOME Control Center

- **Support for classic CUPS AND New Architecture**
  - No hard dependency between GNOME and CUPS versions
  - Current CUPS already supports IPP services, Printer Applications, …
- **Main view**
  - CUPS queues with “Set options”, “Change driver”, “Remove queue”, …
  - IPP service with “Open web admin interface”
  - IPP: Group entries of same hardware device/Printer Application
- **“Add Printer” dialog**
  - Discover non-driverless printers
  - Search for both classic drivers and Printer Applications

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GNOME Control Center “Printers”

- Main discussion with drawings by Mohit Verma and Elio Qoshi
  https://github.com/vermamohit13/GSOC_2022_Summary/issues/1
- Drawings by Mohit Verma
  - Main View
    https://drive.google.com/file/d/1hPpdW0icnZIE1nJhw6jRFj9YfmsO70pB/view?usp=sharing
  - Add Printer
    https://drive.google.com/file/d/1wg1xxPqM2C2K0H__MTAvzRiWDj8fIJgo/view?usp=sharing
- Screencasts by Mohit Verma
  - Main View
    https://drive.google.com/file/d/1LYw0T150sV3o4vJkkqScmAFz-ThMlsgb/view?usp=sharing
  - Add Printer
    https://drive.google.com/file/d/1eSJinN_NxyimeTPr_ZQDc0omeI-0lZwH/view?usp=sharing

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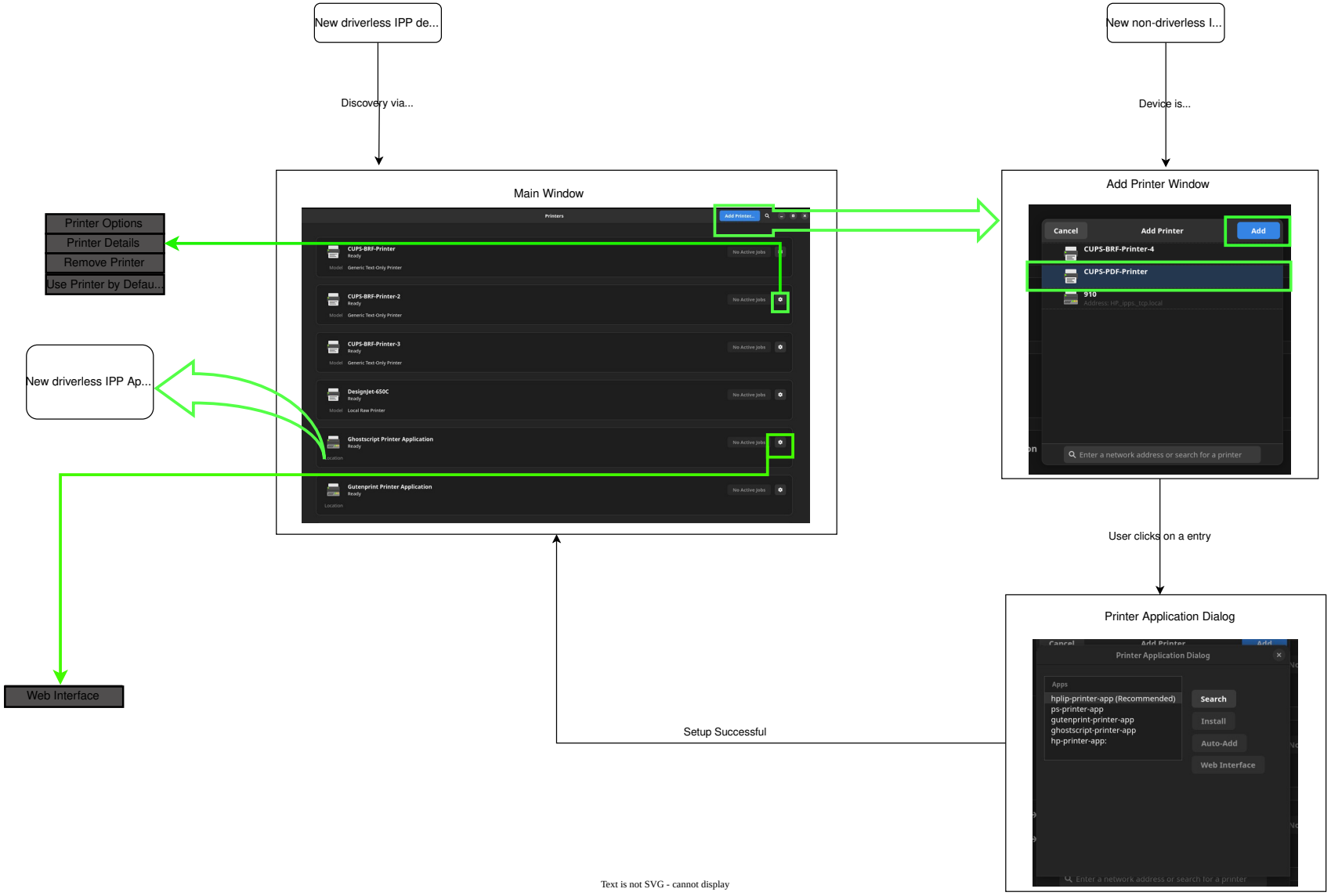
G-C-C “Printers” – Main View – Mohit



Text is not SVG - cannot display

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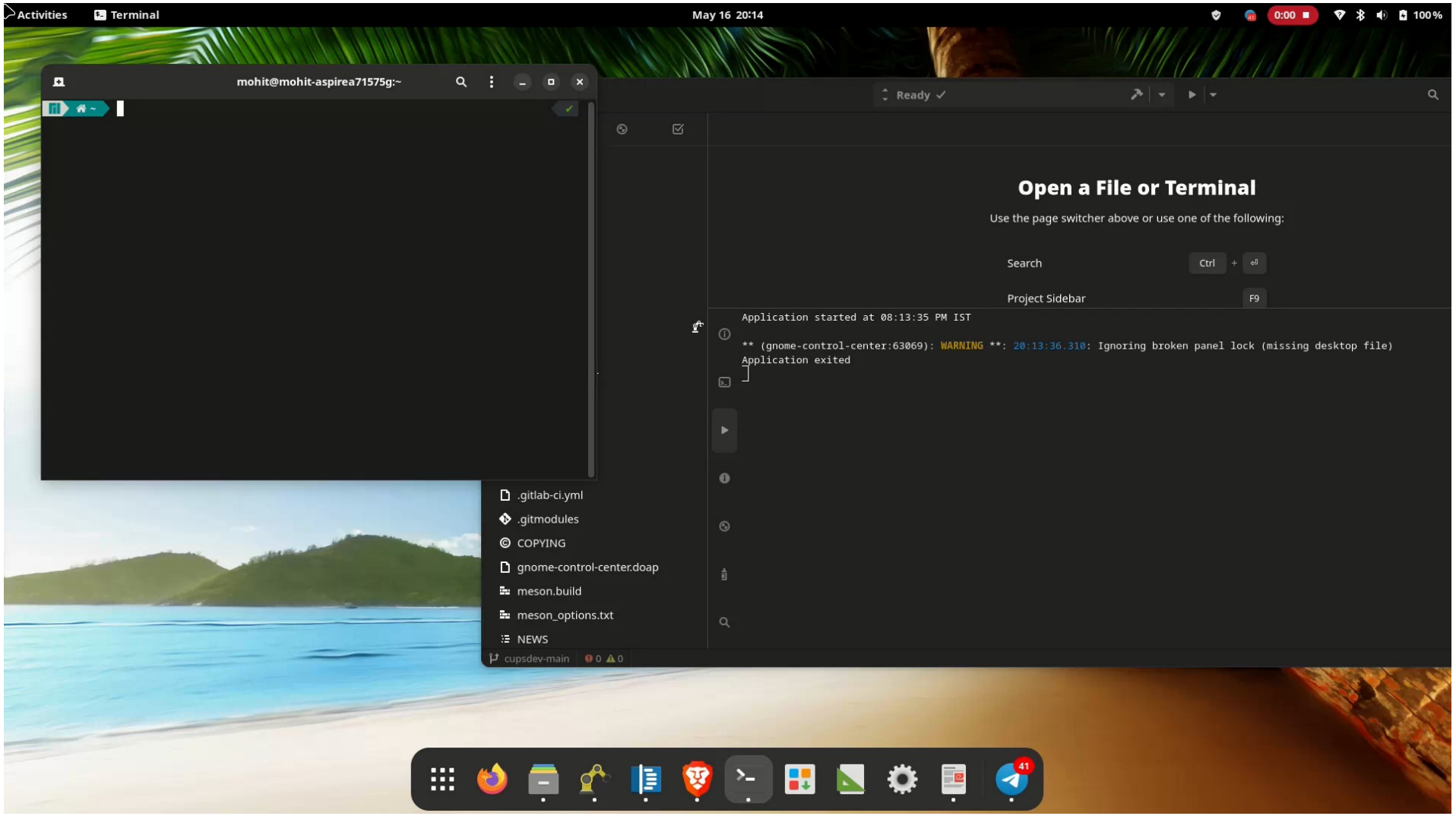
G-C-C “Printers” – Main View – Mohit



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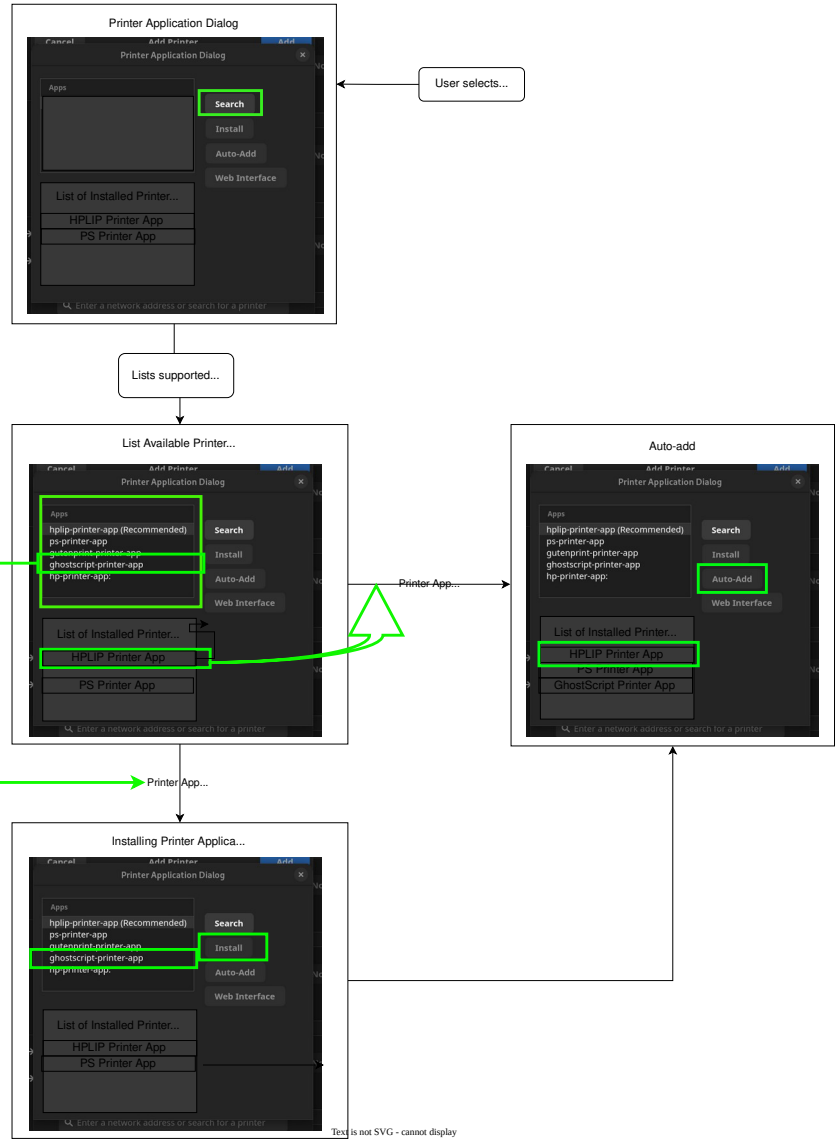
G-C-C “Printers” – Add Printer – Mohit



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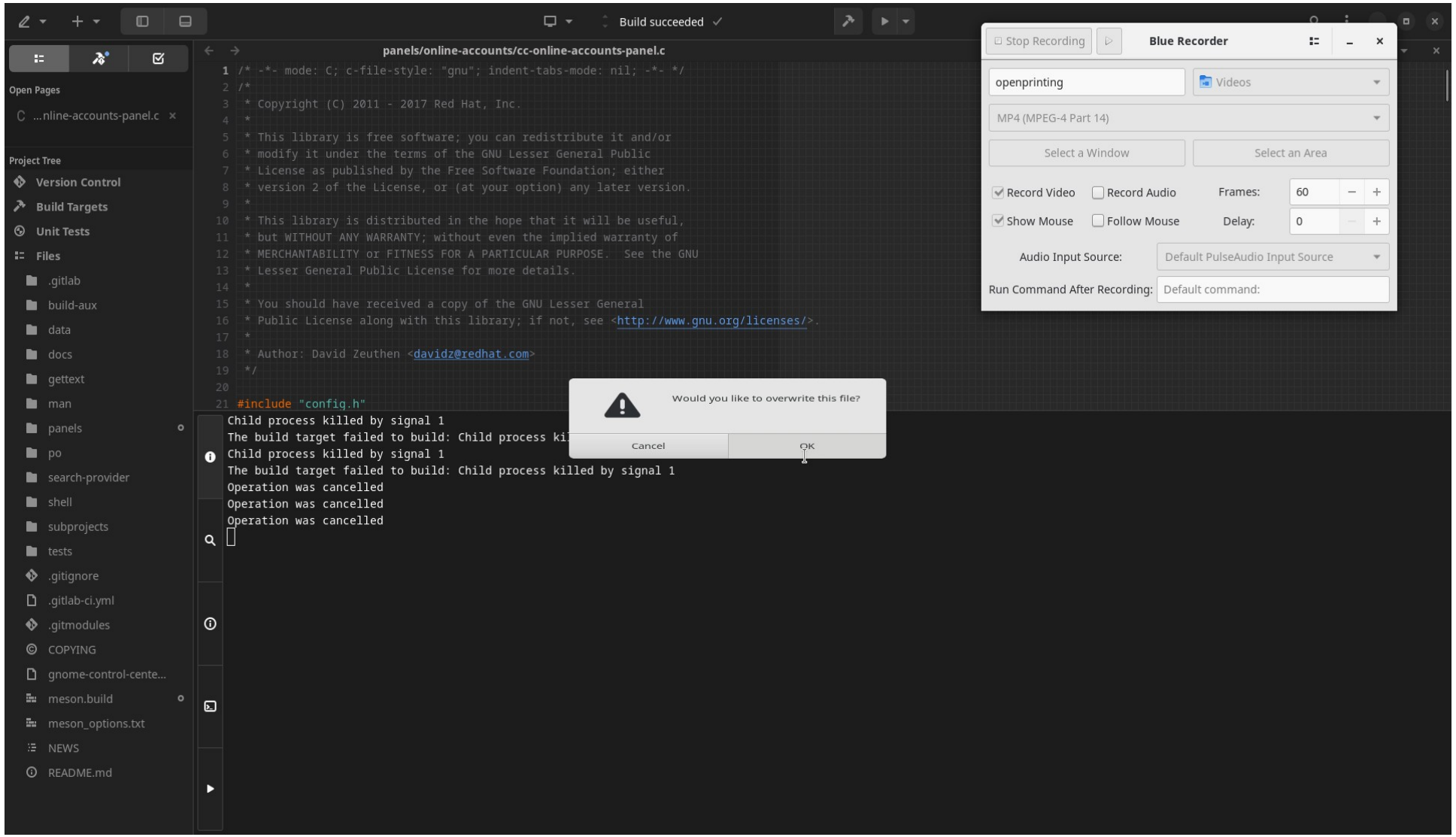
G-C-C “Printers” – Add Printer – Mohit



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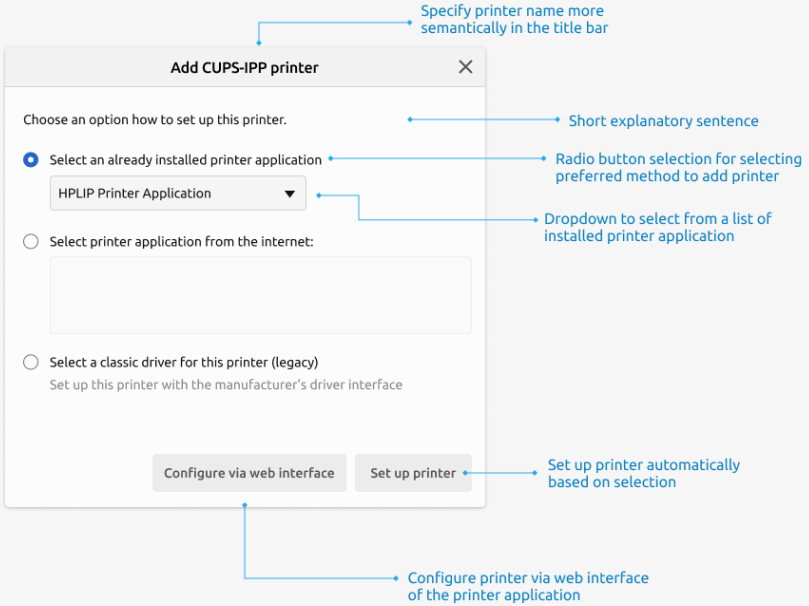
G-C-C “Printers” – Add Printer – Elio

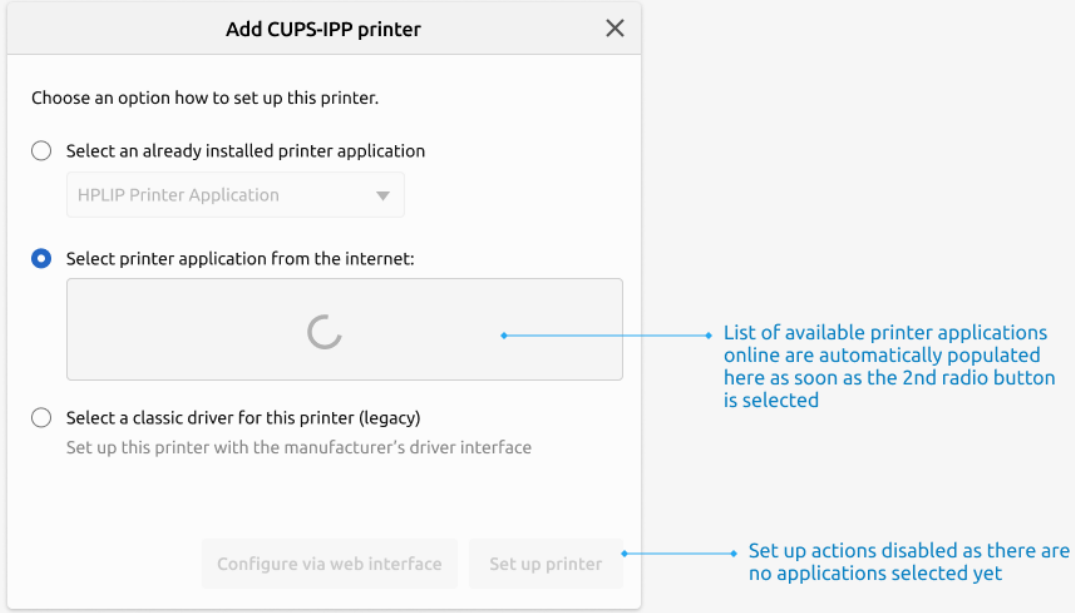
Select Printer Application UX

12 Jun 2023 - Ubuntu Desktop

Select an already installed printer application (default selection)



Select printer application from the internet (results dynamically populated)



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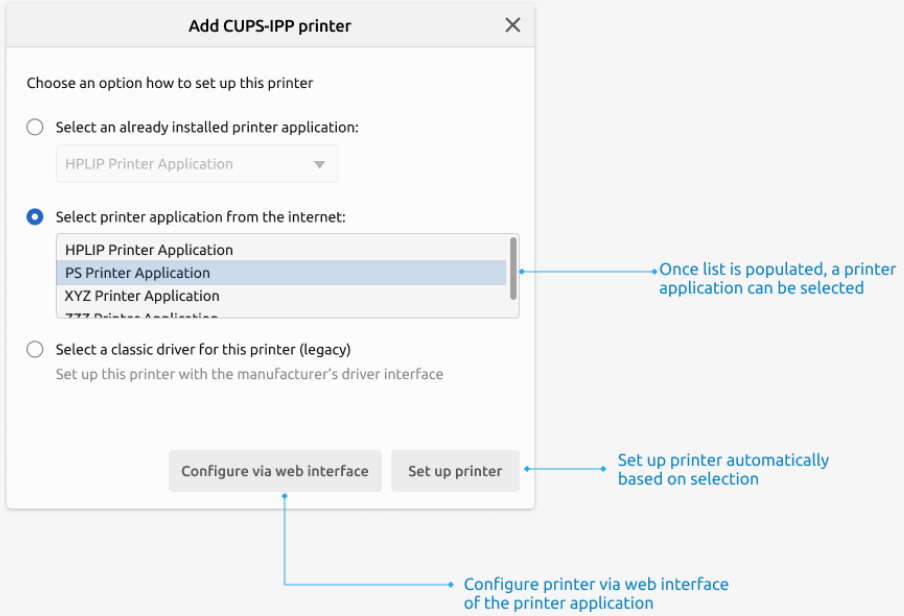
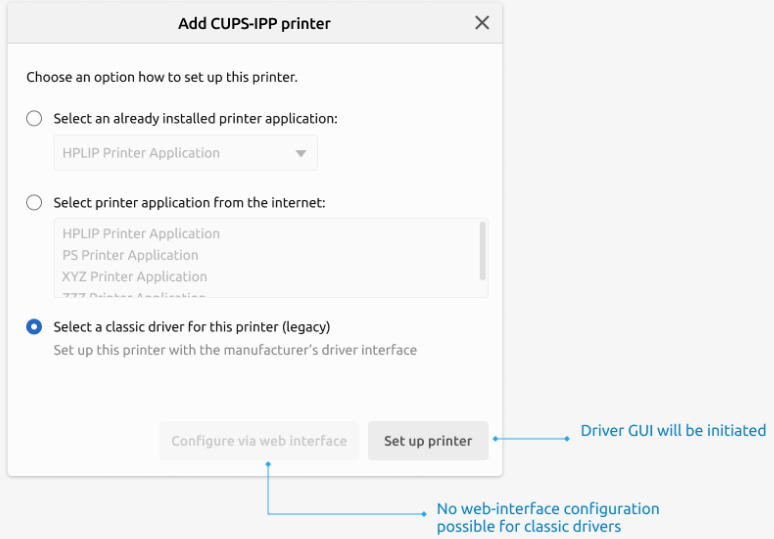
G-C-C “Printers” – Add Printer – Elio

Select printer application from the internet (application selected)



Select a classic driver



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GTK library – Separate Printing API?

- Matthias Clasen posted issue to suggest **moving printing API** into **separate library** or even **separate project**:

  https://gitlab.gnome.org/GNOME/gtk/-/issues/5816

- Matthias started work in this merge request **moving printing API code into separate directory** (already **merged**):

  https://gitlab.gnome.org/GNOME/gtk/-/merge_requests/6067

- Matthias suggests to **keep a minimum print API**:

  https://gitlab.gnome.org/GNOME/gtk/-/issues/5562

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GTK library – Separate Printing API?

- **Why separating**?
  - **Size** of printing code compared to total size of GTK library?
  - **Sophisticated print API rarely needed?**
    - Few apps which print?
    - Minimum API good enough?
  - **Maintainership?** Should be done by separate maintainers?
- **Dependencies**
  - Dependencies on **print technologies** (libcups, cpdb-libs) are print backends.
    - Are the print backends needed for both (included) simple API and (separate) sophisticated API? Do we need new, separate CPDB implementation for the simple API?
  - **Further dependencies:** Rendering? Filtering?

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