Open Printing Project Updates - 2021

Joint PWG/Open Printing Meeting
May 4, 2021

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Till Kamppeter - Open Printing Lead

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GSoC 2020 Projects

- **Linux GUI application (can be part of GNOME printer tool) to admin MF devices using IPP System Service:**
  The student's task will be to create an appropriate printer configuration interface for system-config-printer or for the GNOME Control Center.

- **Common Print Dialog Backends (CPDB) Qt implementation:**
  The Qt Print Support framework should be updated with the CPD support. The goal is to provide the CPD GUI features and d-bus communications with the CPD backend support for printing from Qt5 applications on support platforms.

- **IPP scan (or virtual MF device) server (Scanner Application):**
  This task is about adding the scan server functionality. If you have a scanner connected locally (and it scans via SANE), share it as an IPP scanner, advertising itself and accepting jobs using the IPP driverless scanning standard.

- **General Printer Application SDK:**   Goal
  is to get a universal Printer Application SDK (Software Development Kit) to not only convert classic drivers but also to create new printer drivers, from scratch, without PPD files.

- **Make Printer Applications configurable:**
  The student's task is to create libraries, utilities, contribute to the Printer Application framework to get configurability in the Printer Applications. One could perhaps have two students, one for IPP System Service and one for a web interface..

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- **Speed/scaling optimization of cups-browsed:**
  In this project the student should analyse the performance of cups-browsed with many remote printers and optimize it, using things like multithreading for example.

- **Extract raster data from PDFs for direct printing:**
  The student's task here is to find out about suitable raster-only PDF types (at least PCLm should be supported, the more file types, the better), make these files get identified, and write a CUPS filter which extracts the raster data and passes it on as CUPS Raster. The resulting code will get added to the cups-filters project.

  Check here for more details..

7
Projects

14
Mentors

Highest count till date in
OP - GSoC history

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GSoC & GSoD 2020 Students

Jai Luthra
IIT Mandi **(GSoC)**

Sambhav Dusad
IIT Mandi **(GSoC)**

Lakshay Bandlish
IIT Kanpur **(GSoC)**

Mohit Mohan
IIT Kanpur **(GSoC)**

Vikrant Malik
IIT Kanpur **(GSoC)**

Aakash Lahoti
IIT Kanpur **(GSoC)**

Priydarshi Singh
IIT Kanpur **(GSoC)**

Piyush Goyal
IIT Mandi **(GSoD)**

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Rishabh Arya
UPES **(LFMP)**

Abhik Chakraborty
IIT Roorkee **(LFMP)**

Dipanshu Verma
IIT Mandi **(LFMP)**

Nidhi Jain
IIT Mandi **(LFMP)**

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- **cups-filters: Create a single, universal CUPS filter to replace the chain of individual filters**
  To convert the job data format from the input data type to what the printer needs CUPS calls a sequence of different individual filters, each as a separate executable. To reduce the overhead of calling external executables, we will let a sequence of filter functions be called by a single executable.

- **Firmware and other file handling in PAPPL**
  For some printers there are firmware files, color profiles, or other data files needed to make them correctly, also a printer driver could handle firmware updates for the printer. So Printer Applications need a way to let the user upload files and manage them. This will be implemented in this project.

- **GUI for listing and managing available IPP Print/Scan services (or DNS-SD-advertised network services in general)**
  All available printers and scanners will simply be IPP services (physical network printers or Printer Applications) and drivers will be Printer Applications. They are managed by their web administration interfaces and/or IPP System Service. So the user needs to know about the services available and alo needs an easy way to get to their web admin interfaces. In this project an appropriate GUI is developed.

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- **Converting filters to filter functions**
  To allow easy use of the CUPS filters in Printer Applications we convert the individual executables into library functions, the filter functions. Most of them are already converted. This project will convert the missing ones: texttopdf, bannertopdf, pdftoraster, and rastertopwg.

- **cups-filters: Make sure all filter functions work without PPD files**
  We want to get rid of PPD files in the printing process and control jobs by IPP attributes. For this all filter functions also need to work correctly if there is no PPD file assigned to the print queue. This project is about checking all filter functions whether they also work only with printer and job IPP attributes.

Click here for more details.

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GSoC 2021 Mentors & Admins

- **Till Kamppeter**

- **Michael Sweet**

- **Ira McDonald**

- **Smith Kennedy**

- **Danny Brennan**

- **Zdenek Dohnal**

- **Alexander Pevzner**

- **Mohit Mohan**

- **Vikrant Malik**

- **Sahil Arora**

- **Deepak Patankar**

- **Rithvik Patibandla**

- **Nilanjana Lodh**

- **Dheeraj Yadav**

- **Jai Luthra**

- **Sambhav Dusad**

- **Admins:**
  Till Kamppeter
  Aveek Basu

Welcome
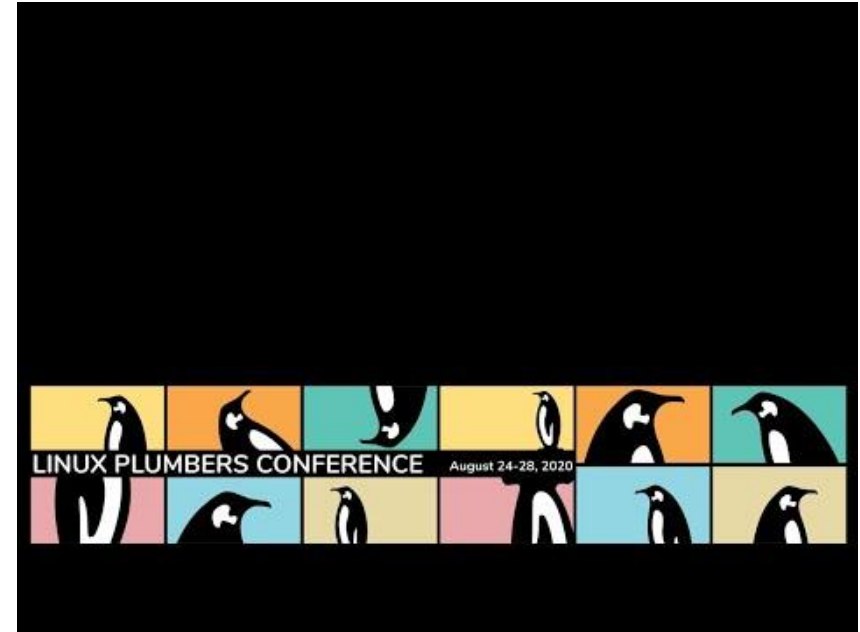**New**
Mentors !!

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Demo Time

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- **Linux Plumbers Conference 2020 (Virtual):**
  Link: https://www.youtube.com/watch?v=MPGh9FUW4as&t=8412s

Upcoming for 2021:

OP plans to participate in Plumber's 21 & Linux Foundation Mentorship Program

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Thank You !!

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Telegram: Join Us
Email: basu.aveek@gmail.com.

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