

Open Printing Project Updates - 2020

Joint PWG/Open Printing Meeting
May 5, 2020



Open Printing
making printing just work

Aveek Basu - Program Manager
Till Kampeter - Technical Lead

- **Generic Framework to turn legacy drivers consisting of CUPS filters and PPDs into Printer Applications:**

Printer Applications are simple daemons which emulate a driverless IPP network printer on localhost, do the conversion of the print jobs into the printer's format, and send the job off to the printer. And as a physical driverless IPP printer they advertise themselves via DNS-SD and provide their capability information on (IPP) request from the client.

- **IPP: iptool test suite for IPP System Service:**

To develop additional iptool test scripts for all new operations, objects, attributes defined in IPP System Service v1.0 (e.g., Create-Printer).

- **IPP: iptool test suite updates for IPP errata updates:**

To develop additional iptool test scripts for IPP errata including IPP Document Object v1.1, IPP Job Extensions v1.1, and IPP 3D Printing Extensions v1.1.

- **Improve the pdftoraster filter to not need copying Poppler source code or using unstable APIs:**

One of the filters, pdftoraster, rasterizes PDF files into CUPS/PWG Raster, uses Poppler but makes use of unstable APIs of Poppler, requiring frequent modifications when Poppler gets updated. The task for the student is here to improve pdftoraster's interface with Poppler, for example using Poppler's PPM (generic raster) output and converting it into CUPS/PWG Raster.

- **Turn the scp-dbus-service of system-config-printer into: ●**

System-config-printer was written in Python and therefore scp-dbus-service is also written in Python. This makes it depend on Python and the related libraries to get loaded into memory when started. This can cause delays during boot. The student's task is to turn the scp-dbus-service of system-config-printer into C, either as D-Bus service (would work out-of-the-box with many GUIs) or as a C library with API (simpler), ideally both. This will make it easier to write printer setup tools in practically any programming language.



GSoC 2019 Students



- **Dhiraj Yadav**
Indian Institute of Technology Mandi



- **Sharad Shukla**
Indian Institute of Technology Mandi



- **Aakash Lahoti**
Indian Institute of Technology Kanpur



- **Tanmay Anand**
Indian Institute of Technology Kanpur



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- **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..



- **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 multi-threading 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 2020 Mentors & Admins

- **Till Kamppeter**
- **Michael Sweet**
- **Ira McDonald**
- **Smith Kennedy**
- **Danny Brennan**
- **Zdenek Dohnal**
- **Alexander Pevzner**
- **Thierry Ordissimo**
- **Dongxu Li**
- **Sahil Arora**
- **Deepak Patankar**
- **Rithvik Patibandla**
- **Nilanjana Lodh**
- **Dheeraj Yadav**
- **Admins:**
 - Till Kamppeter
 - Aveek Basu

Welcome
New
Mentors !!



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OP Issues Fixed

- 117 # Graceful/Consistent handling of zero-page jobs : *Jai Luthra*
- 130 # Huge issue with CUPSD : high CPU usage when starting with lot of printers : *Jai Luthra*
- 95 # Replace cupsTempFd() with tmpfile() : *Jai Luthra*
- 135 # CJK text file printing : *Sambhav Dusad*
- 176 # HP Designjet T1100 Impossible to print landscape - always autorotate : *Sambhav Dusad*
- 193 # Tray/InputSource setting is ignored : *Sambhav Dusad*
- 201 # driverless generates wrong Input Slots for a Xerox B215 : *Sambhav Dusad*
- 02 # openprinting-ppds: MemoryError : *Sambhav Dusad*
- 194 # SAMSUNG C410W don't work : *Priyadarshi Singh*
- 125 # The IPP Everywhere "driver" and system-config-printer : *Priyadarshi Singh*
- 125 # NewBrowsePollQueuesShared option? : *Vikrant Malik*

**Thank
You
Students !!**

**Special Thanks to
Sambhav** for
fixing highest
number of bugs..



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OP Initiatives

- **Linux Plumber's Conference 2019 (Lisbon - Portugal):**

OP participated at Linux Plumber's 19. We had a 4 hrs Micro Conference session on Printing in Linux. **Speakers:** Aveek, Till & Rithvik

Link: <https://linuxplumbersconf.org/event/4/sessions/52/#20190910>

Media Coverage: <https://lwn.net/Articles/798916/>

- **Linux Foundation Member's Summit 20:**

Our submission, "Revitalizing an Open Source Community - Nurturing the new contributors to carry on the baton" was accepted for LFMS 20. Aveek & Till were invited as speakers. Unfortunately due to COVID 19 the event got cancelled.

- **Open Printing Mini Conference:**

We had a mini Open Printing Conference with the students of Indian Institute of Technology Mandi at their campus on Nov 19 .



Rithvik, Till & Aveek at **Linux Plumber's 19**



Dhiraj, Aveek & Sahil with the other students of IIT- Mandi

Upcoming for 2020:

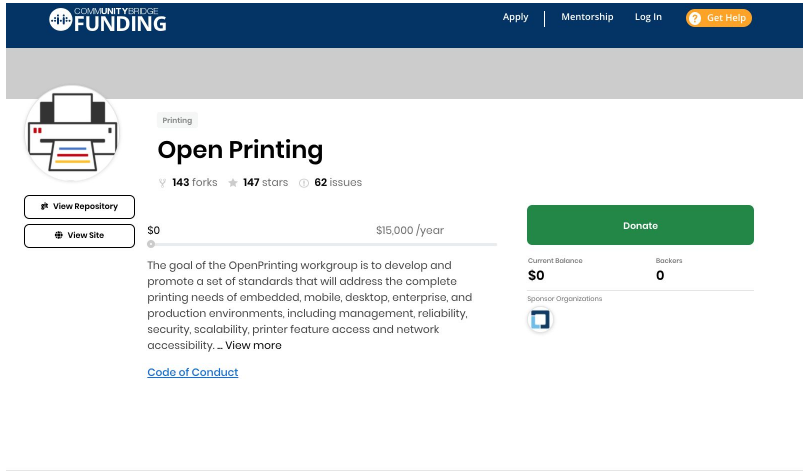
OP plans to participate in Plumber's 20 & Linux Foundation Mentorship Program



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The Linux Foundation - OP Community Bridge



COMMUNITY BRIDGE FUNDING

Apply | Mentorship | Log In | Get Help

Printing

Open Printing

143 forks | 147 stars | 62 issues

View Repository | View Site

\$0 | \$15,000 /year

The goal of the OpenPrinting workgroup is to develop and promote a set of standards that will address the complete printing needs of embedded, mobile, desktop, enterprise, and production environments, including management, reliability, security, scalability, printer feature access and network accessibility. [View more](#)

[Code of Conduct](#)

Donato

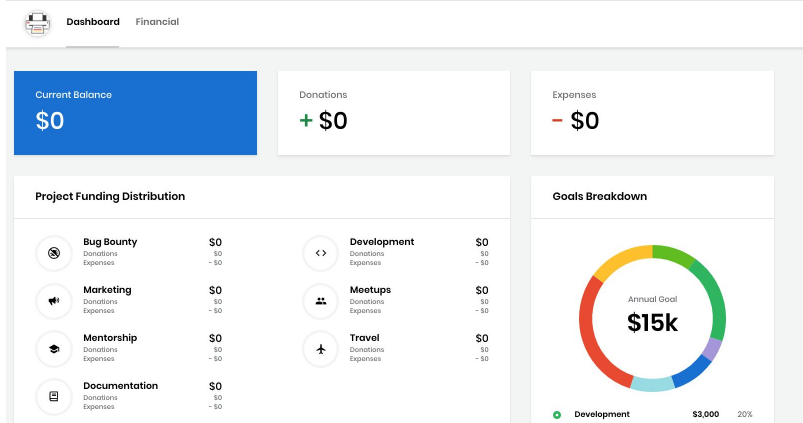
Current Balance: \$0 | Backers: 0

Sponsor Organizations

We need your support in growing Open Printing and making it a stronger organization.

Help us to help you in a better way.!!

Special Thanks
to **Kate Stewart &
Jeff Licquia** from
The Linux Foundation
for mentoring us.!!



Dashboard Financial

Current Balance: \$0

Donations: + \$0

Expenses: - \$0

Project Funding Distribution

Category	Donations	Expenses
Bug Bounty	\$0	-\$0
Marketing	\$0	-\$0
Mentorship	\$0	-\$0
Documentation	\$0	-\$0
Development	\$0	-\$0
Meetups	\$0	-\$0
Travel	\$0	-\$0

Goals Breakdown

Annual Goal: \$15k

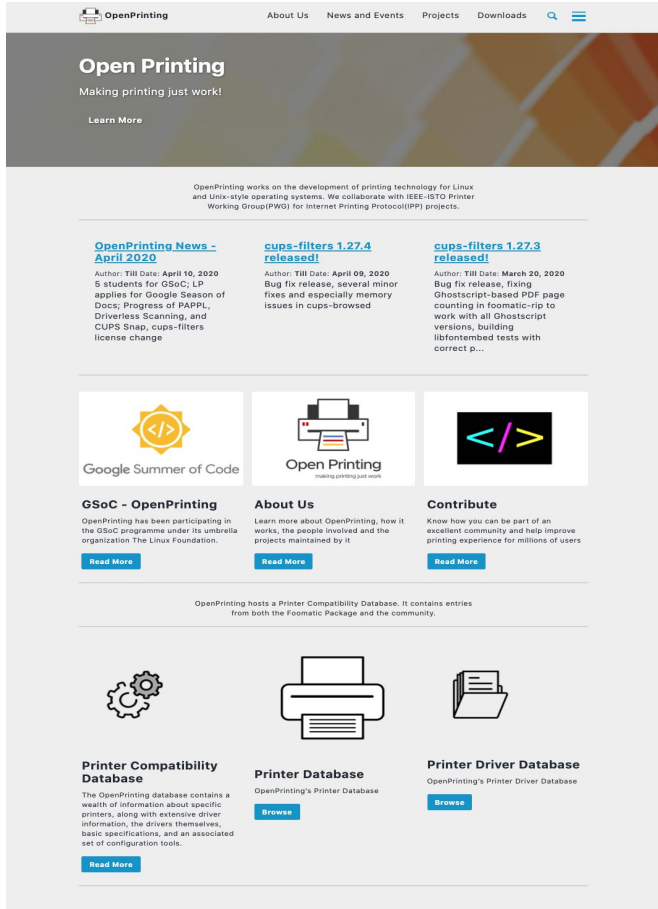
Development: \$3,000 (20%)

Link to Community Bridge Project: <https://funding.communitybridge.org/projects/open-printing>



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OP Website is Full Functional



The screenshot shows the OpenPrinting website homepage. At the top, there is a navigation bar with links for 'About Us', 'News and Events', 'Projects', and 'Downloads', along with a search icon and a hamburger menu icon. Below the navigation bar is a dark grey banner with the text 'Open Printing' and 'Making printing just work!', followed by a 'Learn More' link. The main content area features a paragraph about OpenPrinting's work on Linux and Unix-style operating systems. Below this are three news items, each with a title, author, and date, and a 'Read More' link. The news items are: 'OpenPrinting News - April 2020' (April 10, 2020), 'cups-filters 1.27.4 released!' (April 09, 2020), and 'cups-filters 1.27.3 released!' (March 20, 2020). Below the news items are three icons representing Google Summer of Code, Open Printing, and a code editor. Below the icons are three sections: 'GSoc - OpenPrinting', 'About Us', and 'Contribute', each with a 'Read More' link. Below these sections is a paragraph about the Printer Compatibility Database. Below the paragraph are three icons representing the Printer Compatibility Database, the Printer Database, and the Printer Driver Database. Below the icons are three sections: 'Printer Compatibility Database', 'Printer Database', and 'Printer Driver Database', each with a 'Read More' link.

OpenPrinting works on the development of printing technology for Linux and Unix-style operating systems. We collaborate with IEEE-ISTO Printer Working Group(PWG) for Internet Printing Protocol(IPP) projects.

OpenPrinting News - April 2020
Author: Till Date: April 10, 2020
5 students for GSOC; LP applies for Google Season of Docs; Progress of PAPPL, Driverless Scanning, and CUPS Snap, cups-filters license change

cups-filters 1.27.4 released!
Author: Till Date: April 09, 2020
Bug fix release, several minor fixes and especially memory issues in cups-browsed

cups-filters 1.27.3 released!
Author: Till Date: March 20, 2020
Bug fix release, fixing Ghostscript-based PDF page counting in foomatic-rip to work with all Ghostscript versions, building libfontembed tests with correct p...

GSoc - OpenPrinting
OpenPrinting has been participating in the GSoc programme under its umbrella organization The Linux Foundation.

About Us
Learn more about OpenPrinting, how it works, the people involved and the projects maintained by it

Contribute
Know how you can be part of an excellent community and help improve printing experience for millions of users

OpenPrinting hosts a Printer Compatibility Database. It contains entries from both the Foomatic Package and the community.

Printer Compatibility Database
The OpenPrinting database contains a wealth of information about specific printers, along with extensive driver information, the drivers themselves, basic specifications, and an associated set of configuration tools.

Printer Database
OpenPrinting's Printer Database

Printer Driver Database
OpenPrinting's Printer Driver Database

Thank You
Dhiraj, Sahil,
Nilanjana, Abhishek
and all our students who
have worked on developing
this new OP website.

Web Page: <http://www.openprinting.org/>



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A Note..!!

I'm actually
happy to say
that all
my printers
have been
working fine
for several
years now

"I'm actually happy to say that all my printers have been working fine for several years now..."

Linus Trovalds



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Thank You

Thank You !!

Twitter: Open_Printing

Telegram: Join Us

Email: basu.aveek@gmail.com, till.kamppeter@gmail.com



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