Purism/Librem/PureOS Updates

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- **Librem 5 November 2019 Software Update** [5]

  In November, we shipped the Birch batch of Librem 5, fixed audio routing, made changes to various apps and shared Librem 5 at various meetups and talks.

  A couple of other articles appeared about software development: Oxidizing Squeekboard described the use of the Rust programming language in the Librem 5?s virtual keyboard, and the Linux 5.4 report covered Purism?s contributions to Linux 5.4.

  The software initially included with Birch was tagged, ready to be installed on the phones that shipped out. The built-in software is provided as part of the amber-phone distribution of PureOS, meaning that the core applications are automatically updated if the user enables updates.

  On a similar note, the Librem 5 Development policy document was created to discuss how core software development is done for the phone?s system software. While this is aimed at

those working for Purism, it is also of interest to the wider community around the Librem 5.

[...]

Work continues to improve power consumption by implementing devfreq driver which allows the frequency of the I/O buses to be reduced. This involved changes to the u-boot-builder tool and the trusted firmware. Changes to the kernel to avoid problems with the display at low frequencies as well as a workaround to adjust frequencies when the power key is pressed also try to find a balance between usability and power saving.

Efforts to save power also involve implementing busfreq support, where the speed of the DDR memory can be reduced as needed. This involved making it work on the devkit.

An issue where the display would be shifted after a resume was fixed.

Support for Bluetooth audio has been enabled, making it possible to use Bluetooth headsets.

The U-Boot bootloader was updated for phones in the Birch shipment.

Changes to the display stack were backported to Linux 5.3 so that the mxsfb driver could be used.

The flashing scripts were updated for Birch devices, dropping the recovery U-Boot image, updating them for the unified kernel and U-Boot and adding support for the board types in the flashing tool.

- **2019 Year in Review: Librem One** [6]

  We currently have quite low storage limits. Our goal for the first quarter of 2020 is to allow paying subscribers to upgrade their storage capacity. This will involve some boring work in the middleware layer, but lays the foundation for Librem Sync and Librem Files, which we hope to release by mid-year.

  [...]

  We have begun the very long road to getting all the software we use (clients and server applications) packaged in Debian, our upstream operating system, so that anyone running a Debian-derived system can apt install any service or client. We aim to make any home-baked software ?flagship-friendly but vendor-neutral?, so there will be sensible defaults for the librem.one domain, but you will always be able to reconfigure the packages to target an alternate domain. Or, for those that like a challenge, you could release your own distribution preconfigured to a service you run.

- **Purism Has Librem 5 Audio Routing Working, Other Software Progress** [7]

Purism has shared an update on their software work for the Librem 5 Linux smartphone over the course of last month.

Most notably they got audio routing to work so phone calls can work out properly. But they are still battling power consumption and other software work to at least make the device seem more like beta quality.

- Fixing audio routing for the Librem 5 Birch batch, allowing this Linux smartphone to actually serve as a working phone. Telephone calls now appear to be working reliably.

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