



Internship: implement SquashFS support in U-Boot

Bootlin

This document was taken from <https://bootlin.com/blog/2020-internships/>

Company overview

Bootlin proposes development and training services around embedded Linux and its kernel. Founded in 2004 and now employing 12 people, it has gained a strong reputation for its expertise in Linux kernel development and embedded Linux system integration. With a mostly international customer base, Bootlin works for major semiconductor vendors and multiple embedded system makers.

With strong roots in Free Software and Open Source, Bootlin releases all its training materials for free under a free documentation license, and makes a great number of contributions to the Linux kernel and to other community projects. Bootlin often appears in the top 20 worldwide list of companies contributing to the mainline Linux kernel.

Bootlin also invests a lot in the involvement of its engineers in the technical community, which gives them visibility and a good reputation beyond the limits of the company employing them, which is quite rarely offered by other companies throughout the world.

Internship topic

U-Boot is the most popular open-source (*bootloader*) on embedded platforms. It is therefore a de-facto standard in terms of open-source bootloader.

SquashFS is a read-only, compressed file system, offering interesting performance features. This file system has been supported by the Linux kernel for a long time, but not by the U-Boot bootloader. This for example prevents U-Boot from being able to read files from partitions with SquashFS.

The goal of this internship will be to add SquashFS support to U-Boot and contribute the new code to the official U-Boot project, until it is accepted and merged.



Supervision

The intern will work in a team of embedded Linux and kernel engineers, with a very strong level of expertise.

Useful skills

- Familiarity with embedded Linux (for example through experiments on Raspberry Pi or equivalent)
- Knowledge of Git
- Experience in C programming
- Basic understanding of how an operating system works, in particular the principles of filesystems.
- Understanding the way open-source communities work, and ability to communicate with it (IRC, e-mail, etc.)

Practical information

- Who can apply: all students from the European Union, studying in a European University
- Location:
 - Colomiers, in the Toulouse metropolitan area, France, reachable by train.
 - Oullins, in the Lyon metropolitan area, France, reachable by subway.
- Dates: between February and September 2020
- Gross monthly compensation: between 500 and 1000 EUR, according to profile (end of studies or half-way, experience, etc.)
- Duration: at least 4 months
- How to apply: send your resume and interests to jobs@bootlin.com