



Gaël PORTAY

Embedded Linux Engineer

Working experiences

Vocational

July 2010–
September 2015 **Embedded Linux Engineer**, *Overkiz SAS, Somfy group*, Archamps.
Overkiz is specialized in Cloud Computing for Home-Automation. It develops a solution which connects objects from Home to Internet (IoT). It consists of a gateway that links home-automation devices to its servers. We can control objects from Home thanks a smart-phone and Web-Services. I was part of the Embedded Team who develops Embedded Linux System of gateways.

- I was co-maintainer of our home-made Embedded Linux distribution. I did integration of software from Open-Source community.
- I was also responsible for the deployment of the embedded software updates.
- I set up the Yocto Build System that builds the embedded software. It builds from scratch the whole embedded software. Yocto allows to save hours to the embedded developers and minimizes errors when releases are built introduced by human operations.
- I developed home-made frameworks and applications to support new home-automation protocols into our gateways. I was also in charge of developing the application that creates the connection between the box and the server. Frameworks and applications are both developed in C++.
- I developed kernel modules and I did two boards bring-up and mainlined them inside into Linux kernel sources.
- I also contributed to Open-Source projects (see Open-Source Contributions section).

Training Periods

- 2009 **Master Trainee**, *LC Mobility*, Australia.
LC Mobility is specialized in receiving foreign Ph. D students. I made a market search about the mobility of the Australian students in Australia.
- 2008 **3rd year Engineer Trainee**, *Freescale Semiconductors*, Toulouse.
I was responsible for the development of a battery-charging driver on Freescale smart phone platform (ARM-11 based). This mobile-phone is power-supplied by a Li-ion battery. It runs Nokia S60 (Symbian OS). I developed the driver in C++ using Symbian mechanisms.
- 2007 **2nd year Engineer Trainee**, *Sagem Monetel*, Valence.
I was in charge of memory optimization (dynamic and static) of a C application embedded in a banking terminal powered by two ARM processors. I used listing and map files generated by the free GNU/GCC compiler to locate heavy memory structures. I reduced the application size by more than 30%.

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2004 **Technical Trainee**, *Sagem Monetel*, Valence.

I was in charge of changing the compiler of an embedded C application to the free GNU/GCC compiler. I also developed a benchmark to demonstrate the power of a payment terminal during a transaction.

Open-Source Contributions

Linux Kernel I added two Atmel SoC based device-trees.

Atmel I brought support for UBI. The goal is to improve critical upgrades against unexpected power-cuts. Critical volumes, such as kernels or bootloaders, are duplicated and stored in UBI static volumes. The bootstrap simply checks the volume integrity using update flag from UBI headers.

CURL I upgraded libcurl to that it is compatible with the latest PolarSSL Library API. I also fixed a bug with the polling mechanism that causes a time-out while processing SSL handshake with distant server.

OPKG I improved CURL integration to allow libcurl related settings into configuration file. I also fixed unexpected behaviours.

Dropbear I removed compilation warnings from the entire project.

Miscellaneous

2000–2006 **Casual Jobs**, *Miscellaneous Employers*.

Education

2008–2009 **Master MAE**, *IAE, Grenoble*, 5-year *University degree*.

Last year of Master in Management and Business of Administration.

2005–2008 **Master 3I**, *Polytech'Grenoble, Grenoble*, 5-year *University degree*.

Engineering degree in Industrial Computing and Microelectronic.

2004–2005 **DEUG TIC**, *University of Savoy, Chambéry*, 2-year *University degree*.

in Information Technology.

2002–2004 **DUT ISI**, *IUT, Valence*, 2-year *Academic and Technical degree*.

in Industrial Computing.

2001–2002 **DEUG SV**, *University of Savoy, Chambéry*, 2-year *University*.

First year of a 2-year University degree in Biology.

School projects

2009 **LHOG Minatec**, *900 MHz amplifier*, Grenoble.

Conception of a GSM 900 amplifier at LHOG Minatec (micro-nano technology laboratory). Design, simulation, layout, assembly, tests and characterization.

2008 **LHOG Minatec**, *CMOS 6 bits accuracy ADC*, Grenoble.

Conception of an Analog to Digital Converter in AMS CMOS 0,35u technology at CIME Minatec (micro-nano technology laboratory). CMOS comparators had been designed using Cadence, and the Corrector and the Decoder developed in VHDL.

2006 **Polytech'Grenoble**, *ASM HC12 assembler*, Grenoble.

Conception of an assembler for the 68HC12 instruction set. This command line tool was developed in C on Linux.

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- 2005 **University of Savoy, Windows Desktop Search, Chambéry.**
Conception of Desktop Search for Windows. I developed the application in Java using the Eclipse environment. The engine indexes all files from the computer and enables searching files by file name using regular expressions. The UI was build thanks Swing framework.
- 2004 **IUT of Valence, 2D Game Engine, Valence.**
Conception of a basic 2D game engine using Microsoft Direct Draw library. The player moves in a 2D map with collision handling. I developed the engine in C++.

Languages

- French **Mother tongue**
- English **Good knowledge** *I spent one year travelling around Australia and New-Zealand (from April 2009 to March 2010). I scored 765 at TOEIC in 2008.*

Computer skills

- Computer literacy Microsoft Office, Eclipse, Xcode, \LaTeX
- Programming languages Shell/Bash scripting, Python, C/C++, STL, Assemblers (68k, MIPS), Java, VHDL
- Others Linux Kernel, Git, Autotools, Cross-compilation, Yocto

Interests

- BDE/BDS Member of Student Association at Polytech'Grenoble.
- Poly-tech'Grenoble Organization of the Integration event in 2006 (350 students, 3 days).
Organization of two Ski event in 2006 and 2007 (400 students, 3 days, 11 engineering school from France).
- Mountain Ski and hiking.
- Table tennis Player, referee and coach (9-year practising).
- Photography Hobbyist, Canon EOS 500D

References

- Overkiz, SAS. Florent PELLARIN, Chief Operational Officer (f.pellarin@overkiz.com)