



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 that connect objects from Home to Internet (IoT). It consists of a gateway, named Kizbox, that connects 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 homemade 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 developpers and minimizes errors when releases are built.
- I developped homemade 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 developped in C++.
- I developped kernel modules and I did board 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.
I made a market search about the mobility of the Australian students.
- 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 platform is power-supplied by a Li-ion battery and uses the Freescale MXC13783 IC as Power Management IC. It runs Nokia S60 (Symbian OS). I developed the driver in C++ using Symbian mechanisms.
- 2007 **2nd year Engineer Trainee**, *Sagem Monotel*, 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 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 powercuts. 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 use the latest PolarSSL Library API. I also fixed a bug with the polling mechanism that causes a timeout while processing SSL handshake with distant server.

OPKG I improved CURL integration by allowing to set libcurl related options into configuration file. I also fixed unexpected behaviors.

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.
- Polytech'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 practicing).
- Photography Landscape, Canon EOS 500D

References

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