

Yoann Sculo

Embedded Linux Engineer

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7 years experience in embedded Linux integration and development with 35 consumer electronics devices experience.

Experience

Withings

Embedded Software Engineer

Issy-les-Moulineaux, France

September 2016 – Today

Seagate Technology / LaCie

Linux Kernel Development Engineer

Paris, France

March 2015 – July 2016 (16 months - layoff)

- Board bring-up, mainline kernel (3.10 to 4.5) and bootloader development on NAS consumer and business products (ARM and x86).
- Rescue system development (shell/Go), device flashing and embedded OS (NASOS) development.
- Boot time and Samba copy optimization - dual bootloaders and SSD caching studies - New platforms / SoC evaluation
- C, shells (sh/bash), Python, Go, Buildroot, U-boot, barebox, Git, Jenkins - Marvell Armada 370 and 385 processors.
- **9 products** : Personal Cloud & Personal Cloud 2-Bay, Seagate NAS 2-Bay & 4-Bay, Seagate NAS Pro 2-Bay, 4-Bay & 6-Bay + 2 other projects

Bookeen

Embedded Linux Engineer

Paris, France

April 2013 – March 2015 (2 years)

- Development and integration of embedded Linux OS for e-reader products with E Ink & O-paper (OED) screens
 - Board bring-up, loader, bootloader, 2.6.32/3.x kernel, userspace development. Energy consumption optimization (~0.9mA).
 - In charge of firmware deployment in production, manufacturing & flashing tools (MAC/serial), and hardware & software validation.
 - Continuous integration tools, software and hardware quality assurance process setting up.
- C, shells (sh/bash), Python, Buildroot, U-boot, Git/repo, Jenkins, Jira - OMAP 3611/3621 and Allwinner A13 processors
- **13 products**: Letto Frontlight, Nolimbook + HD, Nolimbook HD, Cybook Ocean, Cybook Muse FrontLight, Cybook Muse Essential, Cybook Odyssey FrontLight 2, Cybook Odyssey Essential, Saraiva Lev com luz, Saraiva Lev, Nolimbook +, Nolimbook, Cybook Odyssey Frontlight

Archos

Software Engineer - Linux/Android

Ignny, France

August 2011 – January 2013 (18 months - layoff)

- Worked on Archos Gen 8, 9 and 10 Android products from Froyo (2.2) to Jelly Bean (4.1) - OMAP 3630/4430/4460/4470 processors
- Board bring-up & validation - bootloader, 2.6.x/3.x kernel, init, recovery, charge loop - Android layers: services, daemons, hardware layer
- Developed production tools and custom Linux OS for hardware and software validation. Enduser firmwares deployment.
- Prototyped a home automation gateway running OpenWrt - TP-Link TL-WR703N - Bluetooth Low Energy (BLE), Zigbee
- C, shells (sh/bash), Buildroot, U-boot, Git/repo
- **11 products**: Home automation Gateway, Archos TV Connect, Archos 101 XS, Archos 97 XS, Archos 116 XS, Archos 101 G9, Archos 101 G9 250Go, Archos 80 G9, Archos 80 G9 250Go, Archos 70 IT2, Archos 70 IT2 250Go

Mindscape

Embedded Software Lead Developer - Responsible of 2 persons

Boulogne-Billancourt, France

January 2010 – July 2011 (19 months - layoff)

- Wrote specifications, designed and developed **Karotz** embedded software architecture. From board bring-up to product maintenance.
- Created and set up from scratch the embedded Linux OS / BSP on ARM 920T (Buildroot, uClibc, Busybox, kernel 2.6.28)
- Set up development environment, YAFFS filesystem, factory system restauration and automatic OS updating system, D-Bus based architecture, serial protocol for the Karotz configuration, network connection (LAN/WLAN), mass storage, Karotz SDK, user applications, ...
- Optimized boot time, enhanced system performance and developed inside the Linux kernel (drivers, kernel patching)
- Played key role in submitting ideas, developing the whole system from scratch and solving deep technical issues
- C, shells (sh/bash), Python, Javascript, Git, Jira
- **2 products**: Karotz, Major Alfred

CNES (French Space Agency)

Intern - Long term navigation for a planetary exploration robot

Toulouse, France

July 2009 – December 2009 (6 months)

- Conceived and implemented algorithms of topographic map merging for the [Exomars mission rover](#) (2018)
- Stringent / critical constraints on size and weight (30MHz & 5MB). C programming and optimization for an embedded Linux system target (Leon)
- Integrated my work into the martian environment simulator and improved segmentation algorithms for ground numeric models.

Education

University of Technology of Troyes (UTT)

Master's degree in Information and Telecommunication Systems

Specialty in mobile technologies and embedded systems

Troyes, France

2005 – 2009

Technische Fachhochschule Berlin

6 months Erasmus exchange program

General scientific courses

Berlin, Germany

2006

Languages

French: Native speaker

English: Fluent

TOEIC: 890/990 in 2009

German: Fluent in 2006 (can be reactivated)

ZERTIFIKAT DEUTSCH: 267/300 in 2005

Computer skills

Embedded System

Good knowledge in embedded Linux, custom Linux OS assembly from scratch, and software integration.
Bootloader (u-boot, barebox) and kernel (2.6 - 4.5) development - x86, ARM targets and PIC/Atmel microcontrollers
Cross compilation toolchains and Linux programming (Android, Buildroot, crosstool-NG, uClibc, glibc, Busybox)

Production

Good knowledge in production processes in China, from bring-up to mass production, validation tools, follow-up, testbeds & certifications, bug solving during mass prod, interactions with operators abroad.

Project

Agile & Scrum methods - Planification, Piloting of the subcontractors

Languages

C, Unix Shells, Go, Python, PHP, HTML/CSS, Java

GNU/Linux tools

make, gcc, autotools, gdb, gdbserver, ddd, valgrind, qemu

Tools

Git/repo, SVN, Trac, Jira, Redmine - MySQL and SQLite databases

Protocols

Wifi, Bluetooth, BLE, RFID, Zigbee, GPS, I2C, SPI, USB, RS232

Misc

Free software licences - Digital electronics
Datasheets, PCB layouts and schematics reading.

Projects

Paris Embedded

President of the Paris Embedded association (creation in progress) - www.parisembedded.fr
Events and conferences organization about embedded systems and free software.
Paris Embedded Meetup (since 2014) : quarterly event around embedded systems in Paris (670 members)

Embedded Map

Interactive map of companies working on the embedded systems, electronics and industrial market - embeddedmap.org

Other

Contributor on [OpenStreetMap](#) and [Open Food Facts](#)
Miscellaneous [Free softwares](#)

Other

Hobbies

Running, hiking, reading, drawing, comics
Attending technical events and conferences (Fosdem, Kernel Recipes, ParisEmbedded, Make Things ...)
Technical writing on my [blog](#).