Yoann Sculo

Embedded Linux Engineer

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5 years experience in embedded Linux integration and development
25 consumer electronics devices experience

Experience

Bookeen   **Paris, France**
Embedded Linux Engineer   *April 2013 – present*

- 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 - OMAP 3611/3621 and Allwinner A13 processors
- **11 products**: NolimBook Plus HD, Cybook Ocean, Cybook Muse Essential, Cybook Muse FrontLight, Cybook Odyssey Essential, Cybook Odyssey Frontlight2, Saraiva Lev, Saraiva Lev com luz, Nolimbook, Nolimbook+, Cybook Odyssey Frontlight

Archos   **Igny, France**
Software Engineer - Linux/Android   *August 2011 – January 2013 (18 months)*

- 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
- Developped 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   **Boulogne-Billancourt, France**
Embedded Software team leader - Responsible of 2 persons   *January 2010 – July 2011 (19 months)*

- 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)
- Was exhibitor at the CES 2011 in Las Vegas - Managed the worldwide developer community.
- Played key role in submitting ideas, developing the whole system from scratch and solving deep technical issues
- Wrote software and hardware specifications for the next product running on Android (Major Alfred)
- C, shells (sh/bash), Python, Javascript, Git, Jira
- **2 products**: Karotz, Major Alfred

CNES (French Space Agency)   **Toulouse, France**
Intern - Long term navigation for a planetary exploration robot   *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 - Processor of 30MHz with 5Mb of memory.
- Integrated my work into the martian environment simulator.
- C programming and optimization for an embedded Linux system target (Leon)
- Improved segmentation algorithms for ground numeric models.

Education

University of Technology of Troyes   **Troyes, France**
Master's degree in Information and Telecommunication Systems   *2005 – 2009*
Specialty in mobile technologies and embedded systems

Technische Fachhochschule Berlin   **Berlin, Germany**
6 months Erasmus exchange program   *2006*
General scientific courses

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

Languages	**C, Unix Shells**, Python, Java - Web development: PHP/HTML/CSS
Embedded System	Good knowledge in embedded Linux, custom Linux OS assembly from scratch, and software integration. Bootloader and kernel development - x86, ARM, MIPS, ETRAX targets and PIC/Atmel microcontrollers Cross compilation toolchains and Linux programming (Android, Buildroot, crosstool-NG, uClibc, glibc, Busybox, bootloaders, etc.)
GNU/Linux tools	make, gcc, gdb, gdbserver, ddd, valgrind, qemu
Tools	**Git/repo**, SVN, software forges (Trac, Jira, ...) - Agile & Scrum methods
Protocols	Wifi, Bluetooth, BLE, RFID, Zigbee, GPS, I2C, USB, RS232, ...
Misc	Free software licences - Digital electronics - Datasheets, PCB layouts and schematics reading. Good knowledge of production in China.

Projects

EmbeddedMap	Interactive map of companies working on the embedded systems, electronics and industrial market.
Massprod	Manufacturing and validation free software for the consumer electronics industry Hardware/SMT validation, PCBA test, prototyping tools, FCC/CE certifications, yield control, etc.
JobCatcher	Job offers aggregator with filtering features
Other	Contributor on OpenStreetMap - Miscellanous Free softwares
2005 – 2009	Created and developed a web based game - Simerion Handled a team of 4 people - Specified, conceived, developed and administrated the game Twice an exhibitor at the French video game festival in 2007 and 2008 in Paris PHP / MySQL, Ajax (home-made framework) and Javascript programming - SVN, Trac, Debian

Other

Hobbies	Badminton, Running, Reading, Drawing, Comics Attending technical events and conferences (Fosdem, Kernel Recipes, ParisEmbedded, Make Things ...) Technical writing on my blog.