

## Jérôme FLESCH

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32 years old

Nationality: French

Driver's licenses: Car and motorcycle

# Software Engineer

## Professional experience

Since Sept. 2017

### Java, C and Python developer on Android systems - Card and ticket validators

Development on Parkeon Axio Touch validators:

- Frontend development: Android WebView, Javascript (ReactJS)
- Middleware development in Java/Android
- Low-level user-land libraries in C/C++
- Linux kernel development (printer simulator for testing)
- Tests written in Python
- Android 4 and 5

*Tools used:* Android, Java, C, Python 2.7, Linux, C (GCC, Bionic/glibc, ARM), Subversion, Git, shell scripts, Jira

Celad / Flowbird, Besançon, France - <http://www.parkeon.com/>

Dec. 2012 - July 2017

### C and Python developer on GNU/Linux and Android systems - TV decoders

- Middleware development on Canal+ TV decoders (GNU/Linux ; "le cube"; terrestrial and satellite TV) (from Dec. 2012 - May 2016 and from April 2017 to now):
  - C programming (GCC / glibc)
  - Tests written in Python
  - Update detection (DVB or HTTP)
  - Downloading and playing of on-demand videos (HTTP)
  - Playing of HLS streams (HTTP)
  - Configuration of bootloaders for system updates using a dedicated EEPROM
- Development of the graphical user interface of the Proximus TV decoders (ADSL) (May 2016 - April 2017):
  - Python and Java programming
  - Interactions with the Android platform (settings synchronisation)
  - Synchronisation with other Android applications
  - Network settings screens
- Technical leader from January 2014 to June 2014.

*Tools used:* Android, Python 2.5, Linux, C (GCC, ARM/SH4), Git, Mercurial, shell scripts, Agile methodology, Gitlab

Wyplay, Allauch, France - <http://wyplay.com/>

Feb. 2009 - Dec. 2012

### C developer on BSD systems - Network firewalls

C/Unix programming on NETASQ firewalls of series F, U and US.

Mainly in charge of the following software modules :

- High availability mechanism
- Reporting
- Support of the internal Ethernet switches
- Filtering rules parsing and validation

*Tools used:* FreeBSD, GCC (x86), Subversion, Git, Mantis, Sqlite

NETASQ, Lille, France - <http://www.netasq.com/>

March - August 2008

**End-of-study internship (part of the UTBM curriculum) - Internationalization**

Creation of a tool for graphical interface testing. This tool helped ensure that translations wouldn't have unexpected side effects. Done as member of the internationalization team.

*Tools used:* Java, MySQL, Perforce

Google, Mountain View, USA - <http://google.com/corporate>

Sept. 06 - Feb. 2007

**6 months internship (part of the UTBM curriculum) - Network firewalls**

Creation of an object base shared in memory and accessible to various services and processes used on the NETASQ firewalls (C Unix programming).

*Tools used:* FreeBSD, GCC (x86), Subversion

NETASQ, Lille, France - <http://www.netasq.com/>

April - mid-June 2005

**2.5 months internship at the end of the two-year technical degree**

Web interface prototyping, using JSP servlets, OJB, Struts and Tomcat, for the Compact Muon Solenoid (CMS) tracker configuration database exploitation. The CMS is an experiment made by IrES which is part of the Large Hadron Collider (LHC) made by CERN.

*Tools used :* Java, J2EE, OJB, Oracle9i, CVS

Subatomic Research Institute (IrES), Strasbourg, France - <http://in2p3.fr/>

## Education

2005-2008

**Engineer's degree in software engineering** (equivalent to a Master's degree)

Main field: Real time systems, Embedded and Mobile computing at the Université de Technologie de Belfort-Montbéliard (UTBM), France.

2003-2005

**Two-year technical degree in telecommunications and networking** (DUT GTR).

at the IUT of Colmar, France.

## Computer science skills

**Operating systems**

**GNU/Linux:** Debian, Fedora, Ubuntu

Experienced. Daily use at home and work since 2001.

**BSD:** FreeBSD

Experienced.

**Android:**

Good knowledge

**Programming**

**C** (Unix/Linux): Experienced

**Java** (J2SE / Swing / Android): Skilled

**Javascript:** Basic knowledge

**Python 2.5, 2.7 & 3.x:** Experienced

**C++ (Linux):** Basic knowledge

**Databases**

**SQLite:** Skilled

**MySQL:** Good knowledge

**Networks**

**IPv4:** Skilled

**DVB:** Good knowledge

**IPv6:** Good knowledge

## Languages

<b>French</b>	Native
<b>English</b>	Read, written and spoken fluently 6 months internship in the US (2008) TOEIC 2006: 780 / 990
<b>German</b>	Very basic knowledge

## Non-professional activities

<b>Since November 2013</b>	<b>Volunteer at the French Red Cross</b> , Marseille, France <ul style="list-style-type: none"><li>• First aid:<ul style="list-style-type: none"><li>◦ Since 2013, Certified First Responder (volunteer at first-aid stations)</li><li>◦ Since 2016, First Responder Team Leader</li></ul></li><li>• "Samu social" (charity work):<ul style="list-style-type: none"><li>◦ From 2013 to 2017: Volunteer</li><li>◦ From 2015 to 2017: Team Leader</li></ul></li></ul>
<b>Since June 2011</b>	<b>Developer of Paperwork</b> <p>Paperwork is an open-source graphical user interface to make papers searchable quickly and easily (scanned and PDFs).</p> <p>The creation of Paperwork has implied the development of various open-source libraries:</p> <ul style="list-style-type: none"><li>• Pyocr: a Python wrapper for OCR tools (Optical Character Recognition)</li><li>• Pyinsane: a C/C++/Python library for the Sane API (scanner support on GNU/Linux systems) and the WIA2 API (scanner support on Windows systems)</li><li>• Libpillowfight: A C/Python image processing library (C/Python). It provides various algorithms: Stroke Width Transformation (text detection), Automatic Color Equalization, Gaussian blur, Sobel operator, Canny edge detection, and Unpaper's algorithms (post-processing for scanned sheets of paper).</li></ul> <p><i>Tools used:</i> Python 3, GTK (GUI), Sane (scanner support), Tesseract (OCR), Git, C/C++ (Linux/Windows), CMake</p> <p><a href="https://openpaper.work/">https://openpaper.work/</a></p>
<b>March 2012 - Dec. 2012</b>	<b>Volunteer at the local animal shelter</b> , Lille, France <i>Organisation:</i> LPA (Ligue Protectrice des Animaux), Lille
<b>June 07 - August 2007</b>	<b>Google Summer of Code 2007</b> <i>Role:</i> mentor <i>Organisation:</i> Freenet project Inc. ( <a href="http://www.freenetproject.org/">http://www.freenetproject.org/</a> ) <i>Project:</i> "Echo". A publishing software designed to create blogs on top of the Freenet network.
<b>June 06 - August 2006</b>	<b>Google Summer of Code 2006</b> <i>Role:</i> student <i>Organization:</i> Freenet Project Incorporated ( <a href="http://www.freenetproject.org/">http://www.freenetproject.org/</a> ) <i>Project:</i> " Thaw ", a GUI for filesharing and forums on top of Freenet, written in Java / Swing. <i>Tools used:</i> J2SE, Swing, Ant, Hsqldb <a href="http://code.google.com/intl/en/soc/2006/freenet/about.html">http://code.google.com/intl/en/soc/2006/freenet/about.html</a> <a href="http://wiki.freenetproject.org/Thaw">http://wiki.freenetproject.org/Thaw</a>
<b>Febr. 07 - Febr. 2008 &amp; Sept. 05 - Febr. 2006</b>	<b>Network co-administrator of a student computer network</b> , Belfort, France At the student lodge called "La Riverotte" (about 200 computers)
<b>April 2005</b>	<b>Prologuin 2005 finalist (national programming competition)</b> <a href="https://prologuin.org/archives/2005/final/scoreboard">https://prologuin.org/archives/2005/final/scoreboard</a>