

# Quentin Comte-Gaz

Electronic and software engineer

**Date of birth:** 03/13/1991  
**Marital status:** Single  
**Citizenship:** French

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## Languages

- ▶ French: Native Speaker
- ▶ English: Fluent (Worked in Switzerland speaking English at work for 9 months, TOEIC 830 in 2011)
- ▶ German: Basic (Worked in Swiss German for 9 months)

## Professional career

### 04.2018 – Now: Test, validation and automation engineer (C++/Qt/Python)

*Médiane Système / Frésenius Kabi – Echirolles/Brezins, France - Job*

- ▶ Development and use of a C++/Qt application allowing users to make and launch dynamic test scripts in Python 3 to validate the different integration phase of constraining systems in medical as well as C++ libraries.

### 09.2017 – 03.2018: Embedded systems developer

*Witekio GmbH – Friedberg, Germany - Job*

- ▶ 4 months: Design of an API for office coffee machines used to send data and configure the device remotely (C++ 11, Qt5.2, Protocol buffers, embedded Linux, ARM).
- ▶ 1 month and a half: Design of a REST API allowing to control a reglophare from a web application and modification of the existing Qt application to better manage results and archive (CivetWeb, QJson for old versions of Qt, C++, Qt4.6.3, PhyCARD-i.MX 6, Embedded Linux).
- ▶ 15 days: Improve of the VPU driver for a BSP under WAC 2013 to integrate the management of a dual screen.

### 03.2016 – 08-2017: C++/Qt software developer on medical devices

*Médiane Système / Frésenius Kabi – Echirolles/Brezins, France - Job*

- ▶ My mission was to develop a communication library with Fresenius's Exelia products (C++11/Qt, MQTT, TFTP, UDP, Protocol buffers, TWAIN scanner, Modbus) and to test the source code (Google Test ...). An HMI to have a graphical overview to communicate with the products of the company was also implemented in order to be usable by the various services of the company. A smaller part of the work involved creating plugins for production (HMI to optimize the workflow and test benches). In all cases, a discussion with many services and people in the company was necessary in order to design a viable product.

### 02.2015 – 10.2015: C++/Qt software developer

*New Voice International Ltd – Zürich, Switzerland - Job*

- ▶ Software development of a Drag&Drop configurator for alarms with C++/Qt for a dynamic company designing MobiCall alarm server. A common task I had to do was to fully developed software from design to release. The scope of skills I improved is quite huge:
  - Working as a team on a common project.
  - Write high quality code with unit testing, code review and code style guide and automated build infrastructure.
  - Working on many development topics from implementing OS dependent functions (without Qt) to UI design.
  - Working on non-development topics (Be in contact with providers, create or modify SVG icons).

### 10.2014 – 01.2015: C software developer at Sagem Defense & Security

*Altran Technologies – Vélizy Villacoublay, France – Consultant/Job*

- ▶ Software development of augmented reality binoculars JIM-LR (mostly designed for the army). My main task was to develop interfaces between the software and the hardware. Deadlines made the project quite stimulant.

### 02.2014 – 07.2014: Drivers and secure applications internship

*Thales Communication & Security – Gennevilliers, France - Internship*

- ▶ Creation of secure applications (ARM A9 Trust Zone), drivers and tools to measure hardware performance.
- ▶ Creation of drivers with Posix interrupts for PikeOS hypervisor (SYSGO).
- ▶ Creation of tools to measure performance and presence of hardware components (caches, processor ...).

### 06.2013 – 07.2013: Embedded systems internship

*UXP – Seyssinet Pariset, France - Internship*

- ▶ Creation of a library and integration of a RTOS for an embedded calculator (LPC17xx).

## Academic background

### 2015 – Now: Self-learning languages, programming languages, moocs ...)

*Duolingo, Sololearn, Openclassrooms, FunMooc, ...*

- ▶ Duolingo: Learning languages (mostly English and German)
- ▶ Sololearn: Learning programming languages (Python 3+, C++, C#, SQL, CSS3, HTML5, PHP, JS ...)
- ▶ Moocs: Learning of various subjects (computer security, management, Linux, robotics ...)

### 2011 – 2014: Engineer at the ENSEA – Electronics and computing (~MASTER)

*Embedded systems specialization*

- ▶ Electronics (Analog and Digital), Computing (Java, C), Microprocessors, Bus and industrial networks, RTOS, Sensors, Win. CE, Embedded Linux, automotive embedded systems, Physics of semiconductor components, Management, Data Structures, Sampling and discrete systems, Feedback control, Energy conversion, Electromagnetism, Quantum Physics, Probability, Cryptology, identification and security.

### 2009 – 2011: PTSI-PT\* Student (Preparatory school for Engineering School)

## Qualifications

### Programming, electronics, protocol and standard

- ▶ **Programming languages:** C++ (+++), Low level C (++) , C (+), Assembly (+), Java (+), VHDL (+)
- ▶ **Scripts and web languages:** Python 2.7+/3+ (+++), Linux Shell (+++), SQL MySQL/PostgreSQL (+++), HTML5 (+++), CSS3 (++) , PHP (+), JavaScript (+), Lua (+)
- ▶ **Protocols:** UART RS232-RS485 (+++), UDP (+++), MQTT (+++), FTP(s) (+++), Modbus (+++), SSL/TLS (++) , CAN (++) , I2C (++) , SSH (++) , TFTP (++) , TWAIN (++)
- ▶ **Libraries:** Qt C++ (+++), Protocol Buffers (++) , STL C++ (++) , Boost C++ (+)
- ▶ **Small libraries:** CivetWeb (++) , QJSON (++) , PythonQt (++)
- ▶ **Auto-Test:** Google Test (+++), QTest (++)
- ▶ **Operating Systems / RTOS:** Windows (++) , Linux (++) , RTOS VxWorks and FreeRTOS (++) , Hyperviseur PikeOS (+), Android (+)
- ▶ **Project and code management:** Github/GitLab/Bitbucket (+++), SVN (+++), Gerrit (+++), Jenkins (++) , Javadoc-Doxygen (+++), Jira (++)
- ▶ **Microcontrollers and boards:** Arduino and ESP8266 (+++), NXP LPC17xx ARM Cortex M3 (+++), Raspberry Pi 1/2/3 (+++), i.MX6 ARM Cortex A9 / PhyCARD, STM32F1xx ARM Cortex M3 (++) , Blackfin 537 (+), Spartan-3E (+)
- ▶ **Standards:** Medical ISO 13485 (++) , Quality ISO 9001 (++)

(+++ Very good, ++ Good, + Basic knowledge)

### Software

- ▶ Development: Qt Creator, Eclipse, Keil µVision, Xilinx, Wind River, WampServer, Dependency Walker, Inno Setup
- ▶ Office: Slack, LibreOffice, Microsoft Office, Lotus Notes, yED, Graphviz, LaTeX, Photoshop, Gimp, Inkscape
- ▶ Communication: Wireshark, Putty, MobaXterm, Mosquitto
- ▶ Modeling: Balsamiq Mockups (HMI design), OrCAD Pspice (Schematics), Eagle, Cadence
- ▶ Formal and numerical mathematics: Matlab (contenant Simulink), Maple

### Technical projects

- ▶ « Resume website » with HTML 5/CSS 3/PHP (personal project): <https://quentin.comte-gaz.com/en>
- ▶ Attempt to create CyberSeptoid Company (design of a prototype to secure the CAN buses in cars)
- ▶ Numerous Arduino C ++ libraries (personal project): Wireless Controller, RFID Reader, I2C EEPROM, Temperature Sensor, Brightness Sensor, Proximity Sensor, Hygrometer: <https://github.com/QuentinCG?tab=repositories&q=arduino>
- ▶ Numerous plugins in bash and Python 2.7/3+ for the voice assistant [OpenJarvis](#) (personal project): Send mail/SMS/calls, camera, traffic, smart light bulbs, facial recognition, Youtube player, control with Facebook: <https://github.com/QuentinCG?tab=repositories&q=jarvis->
- ▶ GSM module library with Python 2.7+/3+ (personal project): <https://github.com/QuentinCG/GSM-TC35-Python-Library>
- ▶ Smart light bulbs library with Python 3+ (personal project): <https://github.com/QuentinCG/Milight-Wifi-Bridge-3.0-Python-Library>
- ▶ Website template for OVH mail accounts management with PHP/HTML/CSS/JS/API OVH (personal project): <https://github.com/QuentinCG/OVH-Email-Manager-Website>
- ▶ Software to check the security of FTP(s) servers with Python 2.7+/3+ (personal project): <https://github.com/QuentinCG/FTP-Security-Scanner>
- ▶ Cryptology program with JAVA (personal project made for ENSEA school): <https://quentin.comte-gaz.com/safeforall/>
- ▶ Autonomous alarm system based on STM32 and XBee with C (last project at ENSEA school): [https://quentin.comte-gaz.com/ensea/projet\\_2A\\_Systeme\\_d\\_alarme\\_sans\\_fil.pdf](https://quentin.comte-gaz.com/ensea/projet_2A_Systeme_d_alarme_sans_fil.pdf)
- ▶ Stock management program with SQL/PHP/JS (personal project): [https://quentin.comte-gaz.com/projets\\_perso/stockmalin\\_2014.pdf](https://quentin.comte-gaz.com/projets_perso/stockmalin_2014.pdf)
- ▶ Other current projects: Available on my Github <https://github.com/QuentinCG>

## Activities

- ▶ Travelling: Asia (China, Japan, Singapore, South Korea), Europe (Czech Republic, Spain, Sweden, Luxembourg, Andorra, Italy, Monaco, Portugal, UK, Germany ...), Australia
- ▶ Sport: Tennis, Swimming, Cycling
- ▶ Computing technology
- ▶ Reading: Science-fiction, Fantasy, News
- ▶ Photography