Xavier Del Campo Romero

Software engineer

CONTACT

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SKILLS

Programming languages:
· C
· C++
· Bash
· Python
· Rust
· WebAssembly

Tools and standards:
· CMake
· GNU
· POSIX
· FreeRTOS
· Linux
· NuttX
· Docker
· Qt
· SQL
· Git
· SVN
· KiCAD

Microcontroller families:
· STM32
· ESP32
· AVR
· STM8
· Cypress BLE
· PIC16

Languages:
· English (Advanced)
· Spanish (Native)
· Catalan (Native)

EDUCATION

Universitat Rovira i Virgili
Degree in Electrical Engineering
Tarragona, Spain
09/2010 - 05/2015

Certificate in Advanced English (CAE)
2014

Tinkerer, down-to-earth developer and free and open source software advocate.
I have collaborated for +10 years with many projects used by thousands of people.
High-quality software and excellent teamwork are always my top priorities.

RELEVANT WORK EXPERIENCE

Midokura, Barcelona, Spain — 09/2021 - 08/2025

Japanese Sony subsidiary with 50+ employees dedicated to AI and Edge computing.

Senior Software Engineer

I was part of a specialised team of 10+ developers with vast knowledge in embedded systems, compilers, kernels and communication protocols. Our mission was to build the low-level runtime for AITRIOS™, Sony's edge AI sensing platform for vision applications.

- Designed and wrote a solution that enabled inter-device communications with only a 8 KiB footprint, a 10x reduction in size over previous solutions.
- Encouraged the use of my own HTTP server library, libweb, to enable more complex integration tests that uncovered several bugs.
- Found and fixed several design flaws in the runtime, reducing CPU usage between 20% and 80%, while also fixing several long-standing flaky tests.
- Found an undocumented, hard-to-reproduce regression in NuttX that required bisecting over 600 commits.

Orain Technologies, Rubí, Spain — 02/2020 - 04/2021

Startup with 25+ employees and +22K customers in Europe dedicated to payment solutions.

Software Engineer

Our mission was to enable vending machines out in the field with Bluetooth, using the end user's smartphone as the gateway to a cloud service where operators subscribed to for targeted advertising, promotion campaigns and inventory tracking.

- Replaced the older, weaker encryption scheme with robust, end-to-end encryption between the device and the cloud service.
- Designed a new board based on the ESP32 microcontroller that reduced costs over 70%.
- Refactored and removed software bloat, with a 40% reduction in size.
- Implemented a TCP/IP server on several testing machines with a real-time plotter on the desktop, drastically improving productivity.

E.G.O., Lliçà de Vall, Spain — 11/2015 - 08/2019

Germany-based international company with 650+ employees and 640M$ in revenue.

Key Reference Engineer — 2018-2019

Software Engineer — 2015-2018

My mission was to lead a software team specialized in industrial and household refrigerators and guide teams with in-depth, specific knowledge about the final application.

- Secured the success of a new +10M$ project, personally credited to our team by our customer.
- Designed and implemented several desktop tools that replaced otherwise manual work, improving productivity and customer satisfaction.
- Designed and implemented a robust and efficient Bluetooth-enabled solution from the ground up.

Xavier Del Campo Romero

Software engineer

Aside from my work as a professional software engineer, I have voluntarily contributed to and authored many free and open source software projects. Some of the most notable contributions are listed below:

FREE AND OPEN SOURCE SOFTWARE

Speed Dreams https://www.speed-dreams.net

02/2024 - present

Free and open source motorsport simulator written in C++ under the GPLv2-or-later and Free Art License.

Project leader

After several minor contributions between 2022 and 2024, I was elected for the role once the former leader left the project. Since then, my focus has been on modernizing the project to current standards, while ensuring software freedom.

- Migrated the project from Subversion to Git, while also migrating from SourceForge to Forgejo.
- Started a collaboration with the Libre en Communs non-profit foundation (https://a-lec.org/), who kindly donated a virtual private server and packaged the project for GNU Guix.
- Did a massive refactoring of the CMake-based build system and AI driver code, while enabling cross-compilation for Windows with the MinGW toolchain.
- Enabled CI/CD with Forgejo Actions and Podman/Docker, building AppImages and Windows executables for every pull request while relying exclusively on free software.

slcl https://gitea.privatedns.org/xavi/slcl

01/2023 - present

Minimalistic cloud storage solution written in C under the AGPLv3.

Author

slcl was created out of frustration with existing cloud storage solutions such as Nextcloud (https://nextcloud.com) and their perceived bloat. These are its main features:

- Private file storage with user-configurable quota. Files can also be shared publicly with URL. Directories can be downloaded as .zip files. Optional picture thumbnail generation with ImageMagick.
- Extremely easy to maintain: very few dependencies, portable to any Unix-like system, with static Linux binaries built with musl available.
- No client-side JavaScript. User database is kept on a simple JSON file, with credentials hashed with Argon2id.

libweb https://gitea.privatedns.org/xavi/libweb

01/2023 - present

HTTP server library written in C under the AGPLv3-or-later license.

Author

Originally part of slcl, libweb evolved as a separate library that allows users to build web servers easily, with a tiny memory footprint and only one dependency.

NanoWasm https://gitea.privatedns.org/xavi/nanowasm

01/2023 - present

WebAssembly interpreter written in C under the Mozilla Public License.

Author

NanoWasm includes several unique features not found in other WebAssembly interpreters: it is written in strict ANSI C for maximum portability, does not require a heap, is asynchronous and I/O-agnostic. These features make it an ideal choice for resource-constrained devices such as microcontrollers.

qwadb https://gitea.privatedns.org/xavi/qwadb

2025

Graphical WebAssembly debugger written in C++/Qt under the AGPLv3.

Author

qwadb allows to debug WebAssembly applications interactively at the lowest level and inspect WebAssembly-exclusive features, such as linear memory, global memory or local variables.