

Marco Barisione

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Profile

A versatile software developer with more than ten years of professional experience, and a further five years working on high quality and widely used free software projects.

Motivated to deliver high quality, reusable and maintainable code through thoughtful design and development, rigorous code review practices, and testing, while also understanding the practical need for timely solutions and bug fixes.

Capable of proactively taking initiative and ownership of tasks and issues. Experienced leading teams, both local and distributed, delivering high customer satisfaction.

Enjoys working within a technically challenging environment on innovative products requiring good problem solving skills. Particularly interested in middleware development on Linux or macOS, either desktop, server or embedded.

Technologies

Languages

C, C++, Python, Objective-C(++), Unix Shell scripting

Tools

GNU GCC, GNU Make, GNU autotools (automake and autoconf), GDB, Xcode, clang, LLDB, Git, GitHub

Libraries

POSIX and other Linux APIs, glibc, GLib/GTK+/GNOME APIs, WebKit (internals), Cocoa (mainly for daemons and non-UI programs), GCD

Work

10/2016 – present

Undo, Principal Software Engineer

- Leading and line managing teams of up to 10 engineers responsible for new features and addressing bugs and other issues.
- Developing the LiveRecorder engine which records, rewinds and replays Linux user space programs.
- Responsible for interviewing engineering candidates, and for formalising and updating the interview process and questions.
- Adding support for new features, often involving supporting new machine instructions, new syscalls and new Linux distributions.
- Leading initiatives to refactor and update multiple areas of the codebase.
- Helping improve the development process, in particular by improving the coding guidelines and communications within the team.
- Improving the integration of the UDB Time Travel Debugger with GDB to replay and debug recorded program executions.
- Fixing issues and adding features to GDB, and submitting to the GDB maintainers.
- Developing features to help reproducing, recording and analysing concurrency bugs, both for threaded programs and for systems using multiple processes.
- Improving the test infrastructure and libraries to make testing more reliable and fast, and new tests easier to write.

03/2015 – 09/2016

Bromium UK, Member of Technical Staff

- Responsible for developing the Safari component of Bromium's security product on macOS, involving building a stand-alone virtualised web browser, modifying Safari and WebKit, writing unit and integration tests, and using up-to-date security engineering practices.
- Developed an architecture to run independent browser tabs across multiple micro-VMs (local lightweight virtual machines) to achieve security through containerisation.
- Modified WebKit to provide extra functionality, including containerisation policy, and securely proxying WebKit internal APIs.
- Maintained an up-to-date fork of WebKit to reliably provide support for Safari and macOS updates, and established coding guidelines for maintaining the modifications, ensuring safe and easy integration with upstream updates.
- Ensured the product is secure, and that a compromised micro-VM cannot affect the host system. This involved modifying our IPC system and improving on Apple's marshalling and de-marshalling API.
- Proactively investigated and fixed issues reported by customers, involving debugging through analysis of logs and crash reports.

03/2008 – 03/2015

Collabora (open source consultancy), Principal Software Engineer

- Led several teams (of up to 10 team members), ensuring that our software met the expected quality, matched our customers' requirements, and that the team was happy and efficient.
- **Raspberry Pi Foundation:** Optimised WebKit and the WebKit-based Epiphany browser for the Raspberry Pi. Added custom features, and improved user experience through more efficient use of the GPU.
Developed a proof of concept desktop environment and compositor for the Wayland display server protocol.
- **Nokia:** Developed the integrated smart address book and chat applications for Linux-based Nokia phones (N900 and N9) on the Maemo platform.
Developed example applications for the N900 platform showing how to integrate third party applications with the Maemo platform.
- **Intel:** Wrote custom applications and developed a custom desktop environment for netbooks.
- **Smart TV Alliance (including LG, Panasonic, Toshiba):** Developed TV conformance tests and a SDK to allow third party developers to write HTML5-based applications.
- **Manufacturer of gaming devices for Las Vegas casinos:** developed a Linux and WebKit based platform, allowing the customer to run new and existing games alongside custom content provided by casinos.
- **iRex Technologies (Philips spin-off):** modified and improved WebKit GTK+ to make it suitable to use on e-book readers.
- Developed several of the initial features of the GTK+ port of WebKit, including downloads, caching and popups.
- Upstream contributions to several components of the GNOME project.
- Customisations of various open source programs for our customers' needs.

Open Source

2002 – present

- Submitted several patches to GDB to fix bugs and add new features.
- Developed the regular expression API for GLib. GLib is the base library used by GNOME and GTK+, and is shipped on million of devices.
- Worked on the Telepathy IM framework. Part of this project was sponsored by Google as part of their 2007 Google Summer of Code. This was later used by Nokia on some of their phones.
- Implemented syntax highlighting in the GtkSourceView widget and in Gedit, the default GNOME text editor.
- Developed Karton, a tool based on Docker to transparently run Linux programs on macOS, on another Linux distro, or on a different architecture.
- Contributed to the Italian translation of the Dive Into Python book by Mark Pilgrim.
- Contributed to other free software projects, in particular to several components of the GNOME desktop environment for Linux.

Education

05/2005 – 01/2008

MSc in Computer Engineering

Laurea specialistica in Ingegneria Informatica

Politecnico di Torino, III Facoltà di Ingegneria, Turin, Italy

09/2001 – 05/2005

BSc in Computer Engineering

Laurea triennale in Ingegneria Informatica

Politecnico di Torino, II Facoltà di Ingegneria, Vercelli, Italy