

Mario Signorino

vitae::curriculum

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Birth: Milan, January 31, 1978 • Present residence: Milan, Lombardy, Italy

Skills:

C/C++ • Qt • Linux/Linux Embedded • Desktop Applications • Python • Django • Web Applications • UX

Overview:

Software engineer and full stack developer. Long experience in design, development and deploy of multi-platform, distributed applications on desktop, web and embedded systems. Linux embedded, multi-thread, event-driven and network low level programming. Experience in TCP/UDP Nat traversal. Qt/QML on embedded and desktop. Technical and customer-facing roles. Motivated in designing and implementation, and in turning research into programs. Experience in building scalable web applications also as SaaS, and REST Api. UX design and usability.

Experience:

May 2015 – Today – Software engineer – Savannah Simulations ag:

Design, development of “SimWalk”: a real time simulation system for train, metro stations and airports. Cloud integration on amazon infrastructure and Json interface. Software used: C++, boost, cmake on Windows and Linux.

Jan 2015 – Today – Software engineer – Kalpa, Wabtec:

Design, development of a “Portable Test Equipment” application for a train brake system. Tools: Windows and QT.

Jul 2010 – Sept 2015 – Software engineer – SSM (Horgen, Zurich):

Design, development and testing of an embedded application to control textile machinery and yarn processing. Platform: WindowsCE/Linux embedded. A QT Gui connected through network (custom RPC made from scratch) to a demon handling hardware (via Canbus). Development of multiple remote clients: Win32, OSX, Linux, iOS, Android plus an ERP integration.

Jan 2013 / May 2013 – C++ Embedded Consultant – Altran for Cefla Dental Group:

Design, development and testing of an embedded application for a dental unit. Interface made on json files descriptor to be easily re-stylable. Connected to CanBus through the socket linux interface. Software used: Ubuntu ARM distribution, QT SDK, json as a gui description language.

Jul 2012 – C++ Embedded Consultant – Altran for Technogym:

Bug fixing. Analysis of the main library used in the company: design of a new and modern framework to supersede an old and obsolete software running on many company product. Software used: Ubuntu ARM, QT SDK, oprofile.

Feb 2010 – Software Engineer – Freelancer:

Symbian client for Buxfer.com using “QT for Symbian”.

Sept 2009 / Dec 2009– Software Engineer – Calzoni s.r.l. :

Implementation of a simulator for a “Stabilized Glide Slope Indicator”: Qt interface running on Ubuntu live system. Connected through CanBus and Udp to the real device. Main libraries used: QT, BciCan lib.

Jun 2008 / Feb 2009 – Software Engineer :

Design, development and testing of a complete cell phone software written from scratch. Written with QT and extensible with “applications” made in form of dynamic loadable plugins. Features: calendar, contacts, gps and gsm calls. The software is currently in production. Platform: Linux on ARM9. Libraries: eldk, oprofile, gdbserver.

Nov 2007 / Today – Software Engineer – Label s.r.l:

Design, development and testing of an embedded application for the industrial weighing in the animal husbandry field. Developed in C++ with Qtopia to run on a ARM9 board (Atmel AT91SAM9263). The Gui is driven through Touchscreen (and/or JogDial) and is connected to daemon for hardware I/O and data storage. Multiplatform (ARM, unix/win 32/64 bit). Main libraries and tools used: Qtopia, eldk, oprofile, gdbserver, Efl (Enlightenment).

2007 Jun / Oct 2007 – Freelance Web Developer – DesignWeb (Montreal, Canada):

Web site engine for hotels. Booking-online, rating from customer, calendar and reception backend.

Dec 2006 / Jan 2007 – Software Engineer – Elever:

Design and development of several web application. Deep and strong use of Web 2.0 technologies. Coordinator of



other PHP programmers. Significant projects: web Photo Community, flickr.com inspired, integrated with Google Maps and with advanced research features. Web calendar, inspired by Google Calendar. Small web and c++ applications for minor software house in Milan. C++ development on MacOSX.

Jan 2006 / Dec 2006 – Software Engineer – Babelgum.com:

Babelgum project: design and development of a distributed network architecture for media exchange among clients in p2p mode and their centralized services integration. DHT. Design of the flows and of the band consumption in videos exchanging. Clients' geo-localizing. Design and development of the network protocol (among heterogeneous services). Design of an algorithm to minimize connection latencies between hardly reachable clients (Nat, proxy, firewalled). Design, development and testing of an application server with high reliability and high performances to manage clients' reachability and availability. Application's main aspects: non-blocking architecture able to manage many thousands of simultaneous connections using the least amount of threads and system resources possible; internal queue message system to avoid deadlock and delays on messages handling; design of automatism and auto-discovery system among same type servers to distribute working load and to manage potentials malfunctioning; safe server SSL. Design, development and testing of the clients' exchanging data system core. Main aspects: fruition's QOS on video downloading; minimum load on centralized server and clients' auto-adjustment to determine latencies, bandwidth, network environment, reliability of connected clients.

Design and development of a thread-safe and virtualized library to access to a local HD storage.

Platforms: unix/win 32/64 bit. Main libraries and tools used: cvs, VisualStudio2005+VisualAssist, Kdevelop, Eclipse, g++, gdb, valgrind, doxygen, QT4 (qmake, pri, pro), OpenSSL, Curl, PHP, CPPUnit, AquaDataStudio. Bugzilla. All the software has been made in C++ with low level use of BSD socket.

Feb 2003 / Nov 2005 – Software Developer – TvBlob:

Design and implementation of a streaming system's server side (video communication p2p, RTP on UDP) and its communication protocol (XML, SOAP like). Development of an high performance XML parser (network oriented). Design, implementation and testing of centralized services and of their frontends. Main aspects: the system was conceived to keep persistent connection to clients through light and scalable processes; these processes had only to relay XML messages to classic services (or to their wrappers). In this way it was possible to standardize a lot of classics systems like LDAP, Directory, IM with other developed from scratch.

System administration of company's server. Platforms: unix/win 32/64 bit. Main libraries and tools used: vim, doxygen, cvs/subversion, gcc, gdb, memprof, valgrind, autotools, glib, upnplib, libxml2, OpenSSL, ffmpeg, apt packaging. Languages: C, C+, C++, PHP, lua, python (use and development of wrapping to tests purpose).

1999 / Jan 2003 – Software Developer – Multiple companies:

PHP developer.

Personal projects:

- An SDL clone of Bomberman game – 2000
- Domotic: MiniITX machine able to manage remotely an entire house – 2002
- C / GTK application to steer toy trains on a plastic model – 2002
- Clone of the famous dockbar (MacOs X) for Linux – 2002
- Alternative multi-platform Upnp C library for embedded devices (with python wrapping) – 2002
- Qt Gui to use like car-system (GPS, MP3-DVD player) – 2003
- Home Jukebox with infrared remote controller and LCD display – 2005
- Task manager (Tutos / Gtimer style) – 2005
- Caterpillar rf-controlled model (BT/WI-FI) with FOX Board ACME and video-camera wireless – 2008
- Fpcalc: Mobile phone fares comparing tool – 2011
- GnuDiary: a qt desktop application to keep a personal secret diary with QT, Webkit and cryptography – 2013
- In progress: framework WEB for high load website; my system capitalises an high contemporaneous number of clients to reduce load on the central HTTP server, redistributing contents and using the bandwidth of clients

Other:

I have a wide ability on generic developing: starting from assembling a PC up till wood carving. My experiences, jobs and hobbies (from brick layer to set designer), gave me the opportunity to study several materials processing method. I developed an higher than usual attention to interpersonal communication and to dynamics that often occur in offices and in work teams. Passion for psychology and communication techniques.

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