

Donald Carr

carr.donald@gmail.com

Objective: Play a key role in developing and shipping desirable hardware/software which sees broad adoption and tangible market success.

Work Experience

- **Shaper Tools : Senior Software Engineer, San Francisco, USA, 06/18/17–Present**
 - Core skills exercised on a day to day basis include Qt, C++, Linux, Yocto, QML, C, JS, git
 - Extensive i.MX6 familiarity with a shipping product
 - Contribute to large sophisticated C++/QML codebase
 - Complete ownership of embedded Linux stack. Architected entire system with intent. (watchdogs, systemd lifecycle)
 - Complete ownership of broad litany of secondary apps (splash screen, crash dump uploader, recovery app)
 - Responsible for kernel maintenance/extension. (Implemented/integrated device encryption, spread spectrum functionality, multitouch)
 - Integrated Breakpad support into OS/build process
 - Introduced shipping image binary reproducibility (robust release management)
 - Entirely refactored/extended update system/application
- **Chaos Reins (embedded Linux/Qt consultancy) : Chief Technology Officer, San Francisco, USA, 07/01/16–06/18/17**
 - Core skills exercised on a day to day basis include C, Linux, EFI, Docker, git, bash
 - Architected/implemented EFI restore functionality/OS using buildroot (8 meg big restoration/bootstrapping image)
 - Architected/implemented atomic a/b partition update system bootloader based on systemd-boot (gummiboot)
 - Architected/implemented Docker based OS provisioning/deployment engine for pushing (and receiving) atomic OS updates
- **The Qt Company (formerly Digia USA Inc): Principal Consulting Services Engineer, Silicon Valley, USA, 09/15/13–04/30/16**
 - Core skills exercised on a day to day basis include Qt, QML, Chromium (Qt Web Engine), modern C++(11/14), Linux, git, bash
 - Using/tracking/extending the Qt code base on a daily basis

- Architecting complete device stacks for Qt/Linux based appliances
 - Developing predominantly in C++/QML; Node, Python and bash employed/utilized where sensible
 - Responsible for architecting and implementing the Ubuntu based Bluescape environment/runtime; crafting infrastructure for packaging, systematic updates and the ongoing automated maintenance of these deployed appliances
- **Sencha : Senior Software Engineer, Silicon Valley, USA, 09/01/12–09/12/13**
 - Core skills exercised on a day to day basis include standard C++, C, GTK, GLIB, Linux, git
 - Working with/tracking/extending the Chromium (Webkit/Blink) code base on a daily basis
 - Designing, implementing and extending additional Javascript APIs extended within Sencha Desktop Packager
 - Small development team ensures that everyone touches (Implementation, debugging and building) all platforms (Mac, Linux, Windows)
 - Shipping Sencha Desktop Packager, a cross platform web runtime, with consistently spaced releases and satisfying the needs of our primary internal consumer, the Sencha Architect team
- **Nokia : Principal Engineer, Silicon Valley, USA, 03/01/09–09/01/12**
 - Core skills exercised on a day to day basis include Qt, C++, QML, Linux, git
 - Identifying, communicating and bridging the gap between customer requirements, common/likely Qt pain points and the inherent capabilities/limitations/quirks of a variety of embedded boards/devices from vendors such as Broadcom, Sigma Designs, Intel, TI, Freescale, Trident, Nvidia and AMLogic (all of whom I have worked directly with)
 - Qt bring up, debugging, optimization and hand off on a subset of the above devices
 - Heavily seasoned with embedded Linux (across all its manifestations) development, system intricacies, cross compilation and toolchain related complications
 - Experienced at building any part of the Linux stack for a prospective embedded device and familiar with many broadly available platform solutions and vendor specific Linux platforms
 - Responsible for Qt advocacy and architectural justification at customer meetings, trade shows and global developer events
 - Responsible for conceptualizing, pioneering and then actively developing Qt Media Hub as part of a three man development team

- **Wimba Inc.: Software Engineer, New York, USA, 09/01/07–02/28/09**
 - Part of a small team actively developing (planning, speccing, designing, implementing, testing and debugging) and deploying a cross platform video enabled XMPP chat client targeting the education sector (product URL: http://www.wimba.com/products/wimba_pronto/)
 - Product comprises a large Qt C++ codebase and a large set of associated 3rd party libraries that need to be actively maintained
 - Directly responsible for several key modules in product and comfortable with the general design/implementation of functional modules from first principles
 - Responsible for build system (qmake) and extending project with accessibility and internationalization support
 - Developing with mac/vs2005/mingw development toolchains
 - Responsible for NSIS and DMG installer configuration scripts
 - Release Manager responsible for automated deployment scripts and all deployed releases
 - Responsible for setting up and maintaining an automated Build-bot based build system
- **Trolltech ASA: Support/Presales Engineer, Oslo, Norway, 02/01/06–06/30/07**
 - Intermediary role between internal and external developers
 - Qt/X11, Qt/MinGW and Qtopia Core (Qt/Embedded) specialized support engineer
 - Troubleshooting, assessing and debugging foreign (external) and internal code
 - Expert with the GNU/X11 development environment and the associated tools
 - Experience with cross compiling and deploying Qt/Qtopia applications to embedded targets
 - Example design & creation using Qt/Qtopia Core (Rapid proof of concept design, live coding)
 - Training customers (developers), demoing Qt and dealing with large technical audiences in QA sessions
 - Managing a dynamic task list under solid time constraints

Education

- **Bachelor of Science Honours Degree (BSch) at Rhodes University, Grahamstown, South Africa, 2005**
 - Double major, distinction in both Computer Science and electronics
 - Awards

- * **Best Short Paper: “Extending reinforcement learning to Tetris”**
 - * **Best Computer Science Honours Project/Thesis: “Adapting Reinforcement Learning to Tetris”**
 - * **Awarded: Science Faculty Dean’s list, Academic Half-Colours**
 - * **Merit scholarships awarded: Honours, JK Bennie Bursary, Trevor Williams, Postgraduate Assistance Bursary, Masters**
- **Bachelor of Science Degree (BSc) at Rhodes University, Grahamstown, South Africa, 2002–2004**
 - **Double major, Computer Science and Physics, Distinction in Computer Science**
 - **Awarded: Science Faculty Dean’s list, best C++ project, academic rebate scholarships**

Skills

- **Qt**
- **C++, QML, C, JavaScript, Bash**
- **Cross platform C++ (embedded) development/debugging/deployment**
- **Linux adept (Yocto/Buildroot/Arch/Ubuntu/Gentoo)**
- **Git**

References available upon request