Cody Brocious

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Skills

Expertise: File format and network protocol reverse-engineering, development and debugging tool development, embedded software development, compiler development, project management.

Programming languages: C, Python, x86 assembly, C#, Nemerle, Boo, Ruby, Javascript.

Employment

Chief Technology Officer — *Unified Platform Management Corporation*
December 2008—Present

- Reverse-engineered wire protocols for hotel locks and related peripherals.
- Implemented a web-based hotel front desk system compatible with the industry leader's devices.
- Implemented a Python to Javascript compiler that supports macros.
- Developed comprehensive testing procedures to lower maintenance and support costs.

Chief Technology Officer — *Broken Fractal Ventures*
September 2007—December 2008

- Implemented an advanced deobfuscator for the obfuscation used in Apple's Quicktime.
- Reverse-engineered the Apple FairPlay DRM scheme.
- Implemented a GStreamer plugin to enable the use of FairPlay-encumbered media on Linux.
- Implemented a GStreamer plugin to allow the easy streaming of music to Apple Airport Express routers on Linux.
- Implemented a Banshee plugin to allow seamless purchasing from the Amazon MP3 store.

Lead Engineer — *Falling Leaf Software*
February 2006—September 2007

- Completed initial research into conversion of Windows binaries to Mac OS X.
- Designed and implemented framework to enable conversion of Windows binaries to OS X and Linux, relinking as necessary.
- Designed a high-performance, cross-platform intermediary library for use in game porting.
- Implemented large portions of the Win32 API on top of aforementioned intermediary library.
- Reverse-engineered the Direct3D 10 shader format.
- Designed and implemented a recompiler to convert Direct3D 10 shaders into GLSL shaders.
- Implemented a compatibility library to allow the execution of basic DirectX 10 applications on Windows XP.

Software Engineer — *MP3tunes, LLC*
May 2005—July 2007

- Developed an iTunes plugin to allow synchronizing music to non-Apple devices.
- Assisted in the design of a music locker system.
- Developed iTunes, TiVo, and Winamp plugins to allow seamless locker access.
- Co-developed an application to synchronize music to/from the locker.
- Developed a set of debugging and development tools for the Nokia 770 and N800 tablets.
- Developed a locker playback applet for Nokia tablets.

Other work

- **PyMusique** — First complete open source client for the iTunes Music Store, enabling purchases on Linux. Covered in Forbes, PCWorld, CNet News.com, and others.
- **File Format Reversing - Everquest II VPK** — File format reverse-engineering crash course article, published on OpenRCE. *http://www.openrce.org/articles/full_view/16*
- **iPhone Dev Team** — Reverse-engineered various components on the iPhone and worked on the original unlock.
- **Emokit** — Reverse-engineered the Emotiv EPOC brain-computer interface to enable open, cross-platform development. Covered in H+ Magazine, Boing Boing, Hack a Day, and others. *http://github.com/daeken/Emokit*
- **Renraku** — Pure-managed research OS. *http://github.com/daeken/RenrakuOS*
- **Pyvascript** — Python to Javascript compiler supporting macros. *http://github.com/daeken/Pyvascript*