

EDUCATION

- UC Davis** Davis, CA
Bachelors in Computer Science *Jun. 2017*

PRODUCTS

- EQE** OpenResty, iOS, Cydia Substrate, LuaJIT, C, Objective-C
Audio platform *Released Dec. 2017, still under active development*
 - Description:** System-wide parametric equalizer and playback history tracker for jailbroken iOS. It ties into a web service where people can view the equalizer presets and playback history of other users, akin to Last.FM. Available on Cydia.
 - Relevant tech:** Multithreaded programming, inter-process communication, SQLite (for saving playback history), maintaining a production server, providing user support, reverse engineering, iOS application development, maintaining/expanding a large (~25KLOC) codebase.
 - Impact:** Based on unique IPs, 500 daily active users and about 2000 weekly active users. It's also worth mentioning that EQE is the only system-wide parametric equalizer for mobile devices (EQE is the only one for iOS, and none exist for Android).
 - More info:** <https://eqe.fm/about>
 - Source code:** <https://github.com/rweichler/EQE>
- Cylinder** iOS, Cydia Substrate, Lua, C, Objective-C, Core Animation
Animation platform *Released Feb. 2014*
 - Description:** iOS runtime modification/framework (in SpringBoard) for custom icon animations while swiping through the homescreen. For example, you can make your icons animate to take the form of a 3D cube or a snake. Animations come from user-made Lua scripts using a custom API I designed. Available on Cydia.
 - Impact:** 4.5 million cumulative downloads (the latest update with 1.2 million downloads). The Lua API facilitated the creation of about 50 custom "effects" by users. Cylinder is basically a de-facto tweak when it comes to jailbreaking, for example it's frequently used to demo WIP jailbreaks.
 - Source code:** <https://github.com/rweichler/cylinder>
 - Subreddit:** <https://reddit.com/r/cylinder>
- EqualizerEverywhere** iOS, Cydia Substrate, Lua, C, C++, Objective-C
System-wide graphic equalizer *Released Jul. 2014*
 - Description:** iOS runtime modification that adds a 10-band equalizer to the Control Center. It applies to the system audio output (in the mediaserverd process). Available on Cydia.
 - Impact:** This was the only system-wide equalizer for iOS until I made EQE, which essentially cannibalized this. Had around 100,000 users in total (it's hard to pinpoint due to not having any analytics other than a download count of paying users, this is extrapolating from the 9,000 paying users using Cydia's 92% piracy rate).

WORK EXPERIENCE

- Quixey** Palo Alto, CA
Software Engineer (Intern) *Jan - July 2012*
 - Quixey Challenge:** Worked on a 3-person team developing a web-based recruiting platform, using the Meteor framework.

PERSONAL PROJECTS

- Lucy:** Open source Lua / Objective-C bridge and runtime analysis/debugging tool for iOS. <https://github.com/rweichler/lucy>
- jjjj:** Open source GUI package manager for iOS (with a dpkg backend, similar to Cydia). <https://github.com/rweichler/jjjj>
- Aite:** Open source build system (like GNU Make). <https://github.com/rweichler/aite>
- Sunnyveil:** A from-scratch 3D game engine with an emphasis on Lua scripting. It has bindings to the Bullet physics engine and OpenGL.
- Wuigi:** Open source Mario clone written in Java. <https://github.com/rweichler/wuigi>