

# Reed Weichler

<https://github.com/rweichler>

<https://twitter.com/rweichler>

Email : [rweichler@gmail.com](mailto:rweichler@gmail.com)

## EDUCATION

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- **UC Davis**

Davis, CA

*Bachelors in Computer Science*

*Sept. 2012 – Jun. 2017*

## CURRENT PRODUCTS

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- **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. The equalizer itself is accessed via an app on the homescreen, which is used to control the system audio output. 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:** EQE was recently released to a limited audience (on December 15th, 2017, only installable on devices with a jailbreak), so the verdict isn't clear yet. As of December 28th, there are about 500 daily active users and about 3000 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>

## OLDER PRODUCTS

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- **Cylinder**

iOS, Cydia Substrate, Lua, C, Objective-C

*Animation platform*

*Released Feb. 2014*

- **Description:** Cylinder is an open source "platform" for iOS which modifies the home screen (SpringBoard) to allow users to create custom icon animations while swiping through their apps. For example, you can make your icons animate to take the form of a 3D cube or a snake. Animations are created through user-made Lua scripts, or by combining animations that others have created. Available on Cydia.
- **Impact:** 45 icon animation scripts are currently bundled with Cylinder. 29 of them were made by users, the rest written by me. At one point it had around 500,000 active users, but unfortunately the iOS jailbreak platform is becoming less popular/viable with each passing year, so that number is slowly trending downwards.
- **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:** EqualizerEverywhere is an iOS runtime modification that adds an equalizer to the Control Center. It applies to the system audio output (in the mediaserverd process), so it not just restricted to a single app. This is useful when the music app you are using does not have an equalizer built-in. There are 10 bands, ranging from 60Hz to 16KHz. 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).

## PERSONAL PROJECTS

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- **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). Currently being used in a WIP jailbreak for iOS 11.1.2. <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>