

## EXPERIENCE

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- **Superhuman** San Francisco, California  
*Software Engineer* *May 2018 - Aug 2019*
  - Email productivity startup. Notable users: Steve Huffman (Reddit), Michael Lopp (Apple), Nat Friedman (Github). It was a small company when I joined. 6 engineers (including me) + 2 engineering managers. I worked with a team of 4 on the iOS app (Swift, Objective-C, C++, JavaScript). I also occasionally contributed to the web frontend (Electron / React) and the backend (Go / Postgres / Redis / GCP).  
I fixed many crashes/bugs that affected thousands of paying users, added UI/UX improvements to make navigating the app easier and more pleasant, automated the build system to tag the git repo for easier debugging, reduced a significant amount of tech debt, and more.
- **Cydia** *Feb 2014 - May 2018*  
*Indie iOS Developer*
  - See "Cydia Products" section for more details.
- **Quixey** Palo Alto, California  
*Software Engineer (Intern)* *Jan 2012 - July 2012*
  - Helped build the Quixey Challenge (recruiting tool) using the Meteor framework (JavaScript).

## CYDIA PRODUCTS

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- **EQE (released 2017) / EqualizerEverywhere (released 2014)**: EQE has two components. A system-wide parametric equalizer (the only of its kind on iOS) and a Last.FM-like service that lets users create a profile, track their playback history, post on a message board, and keep a backup of their presets online. The iOS side required reverse engineering, audio DSP, app development, and low-level iOS systems engineering. Server-side, I used OpenResty (an nginx distribution) for the application, with Postgres for persistent storage and Redis as a message broker. It can handle about 10K requests per second on a cheap \$3.50 VPS. It used to be a commercial product until Cydia Store shut down in December 2018. About 8,000 weekly active users. More info: [eqe.fm/about](http://eqe.fm/about)
- **Cylinder (released 2014)**: Animation "platform" that exposes a Lua API for cool icon animations when swiping on the home screen. Over 2.5 million total downloads and probably more than 100K active users.  
Review: [youtube.com/watch?v=Y-Pk-XDVj-o](https://youtube.com/watch?v=Y-Pk-XDVj-o) Source: [github.com/rweichler/cylinder](https://github.com/rweichler/cylinder)

## OPEN SOURCE CONTRIBUTIONS

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Non-exhaustive.

- **Zebra**: Initial R&D and localization support. <https://github.com/wstyres/zebra>
- **Cylinder**: Author / Maintainer. <https://github.com/rweichler/cylinder>
- **gmusicapi**: Reduced network usage for certain types of tracks. <https://github.com/simon-weber/gmusicapi>

## OTHER PROJECTS

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Non-exhaustive.

- **Meatpick**: Basic Calendly clone. <http://meatpick.com>
- **gbrc**: Gameboy emulator, written from scratch in C. Runs Pokemon Red.
- **Lucy**: Lua / Objective-C bridge and runtime analysis/debugging tool for iOS. <https://github.com/rweichler/lucy>
- **jjjj**: GUI package manager for iOS (based on dpkg, similar to Cydia). <https://github.com/rweichler/jjjj>
- **Aite**: Custom build system used to develop software for Cydia. <https://github.com/rweichler/aite>
- **Sunnyveil**: 3D game engine written in C and LuaJIT. Has Lua bindings to Bullet (physics engine) and OpenGL.
- **Wuigi**: Mario clone (kind of like Mario Maker), written in Java. <https://github.com/rweichler/wuigi>
- **Luna Roja**: Edit of mGBA, giving online multiplayer to Pokémon Red. <https://hax.iimarckus.org/topic/7112/>

## SKILLS

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- **Languages**: C/C++, Lua/LuaJIT, Objective-C, Swift, JavaScript, Python, Go
- **Tools / Software**: SQLite, C FFIs, OpenGL, Git, Vim, devKitARM (Nintendo 3DS toolchain)
- **Backend / Infra**: OpenResty (nginx "distribution"), Postgres, FreeBSD, Redis
- **iOS**: Core Audio, Xcode, build automation, Objective-C / LuaJIT interop, Realm, IDA, cycript, MobileSubstrate, Objective-C runtime, inter-process communication, RxSwift

## EDUCATION

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- **Recurse Center**: Jan 2020 – March 2020
- **UC Davis**: Computer Science, Class of 2017
- **Homestead High School**: Cupertino, California