

JOEY PABALINAS

[Phone]: (808) 741-8896

[Email]: joeypabalinas@gmail.com

[Projects]: <https://github.com/alyptik>

[Blog]: <https://alyptik.org>

C SOFTWARE DEVELOPER

I can't promise you I will know the answer to every problem you give me, but I can promise you won't be able to find a person who will try harder than I will to solve it.

EXPERIENCE

- **NYU Secure Systems Research Lab:** Developer (June 2018 – Current)
 - **Lind:** Single-process sandbox to isolate programs from host systems (fork of Google's **NaCl**).
 - Responsible for userspace emulation of kernel functions and modification of **glibc**.
 - Fixed errors in build system and refactored large part of the code base.
 - Designed pthreads-based emulations of the Linux's **fork**, **pipe**, and **execve** that allow for programs not originally intended to run inside of NaCl, such as the bash shell, to work just as well as on a host system.
 - **CrashSimulator:** System call error injection and analysis (fork of Mozilla **rr**).
 - Responsible for code cleanup and linting, as well as general C-related development.
 - Ported builds from 32-bit to 64-bit by fixing assumptions made by Python modules and C++ code.
 - Helped implement portions of **strace** as both shared and static libraries used by our version of **rr**.

CONTRIBUTIONS

- **Zsh:** Command-line terminal shell.
 - Contributed fix for the [CVE-2018-7548](#) security vulnerability.
- **Linux Kernel:** Free OS kernel used in many web servers/Android phones.
 - Reduced fragility of tag generation script.
 - Refactored and cleaned up Nozomi TTY driver.
- **WeeChat:** Extensible IRC client.
 - Contributed CMake fix for split ncurses and tinfo breaking builds.
- **Mixxx:** Open-source, cross-platform DJ software.
 - Contributed patch for Chromaprint library API change handling.

PROJECTS

- **CEPL (Creator):** C11 read-eval-print loop (REPL).
 - Uses GNU Readline/History for command history and incremental undo.
 - Uses LibELF to generate tab completions for shared library functions.
 - Supports Intel & ATT assembler and C source code output.

EDUCATION

- 2017 — A.A. in Liberal Arts, Leeward Community College.

REFERENCES

- Available upon request.