

# C

C is one of the most widely used programming languages, having managed to hang on for decades while old rivals faded. It is valued for their power, speed, and ability to allow novice programmers to learn (through errors) how computers really work.

This C library is brought to you by the efforts of Steve Strom at Penn State Behrend. The C library was written from the ground up and so has a different feature set from the Finch Java library. Functions currently available in the C library are covered in the documentation that you can find inside the FinchC zip file in the Documentation folder (start with `_finch_8c.html`).

## C - Command Line Compilation

Download and unzip the FinchC zip file for your OS.

Ensure that you have a gcc C compiler installed. For windows, we recommend using [MinGW](#).

Type the following incantations to compile the program:

- Windows: `gcc -o programName programName.c Finch.c hidapi.dll`
- Mac: `gcc -pthread -o programName programName.c Finch.c libhidapi.dylib`
- 64-bit Linux: `gcc -pthread -o programName programName.c Finch.c -lhidapi64`
- 32-bit Linux: `gcc -pthread -o programName programName.c Finch.c -lhidapi32`

To run the program:

- Windows: simply type your program's name with no extensions. You may hit a runtime bug complaining about a missing `msvcr100d.dll` file. You can download the file [here](#).
- Mac: Type `./` followed by your program's name.
- Linux: Type `./` followed by your program's name.

LINUX USERS ONLY:

- You will need to install libusb-1.0. To do so, run `sudo apt-get install libusb-1.0-0-dev` in any terminal window.
- You will need to run a script prior to running the Finch for the first time. Make it executable by typing `chmod +x Configure` and then run `sudo ./Configure` in the top level directory of the download.

## Important Files and Folders

The following files and folders are common to all C downloads:

Finch.c and Finch.h - The Finch class source and header files.

hipapi.h - The header file for [HIDAPI](#), the third-party cross-platform class used to communicate over USB.

hidapi.dll (Windows), libhidapi.dylib (Mac), libhidapi32/64.so (Linux) - Contains the HIDAPI library.

main.c - A program which tests all of the Finch class functions and provides access to them with a simple command line interface.

dance.c - A starter program that has the Finch perform a simple dance.

Documentation - A local copy of the Finch C class documentation

License.txt - Licensing information for the Finch C package.

### Version Information

Version 1.00 of the Finch C package is now available and has been successfully tested on Windows 7 64-bit, Mac OS 10.6, and Ubuntu 12.10.

### Known Issues

We have not included 32-bit support for Mac. If you are in need of this, please contact us.

Revision history:

Version 1.00 (12/5/2012) - Initial release.