Processing

Processing is an open source programming language and environment for people who want to create images, animations, and interactions. Compared to Java, Processing greatly simplifies and enhances 2- and 3-D image manipulation, audio, and video. Processing is built on top of Java, making an eventual transition to writing code in Java fairly painless.

Documentation and Installation

The Processing library uses the Hummingbird Java library; so you must use the methods described in our Javadocs. After you have downloaded the Hummingbird Processing Library, follow Processing's instructions for installing the library.

Mac/Linux users: You must also copy the files located in CopyToUsrLocalLib to your /usr/local/lib. To do so, use a terminal and navigate to the CopyToUsrLocalLib/yourOS directory and type sudo cp libhidapi32.dylib (or .so) /usr/local/lib/

Structure of the Library Package

The Hummingbird Processing library conforms to Processing's library specification: library - Location of the hummingbird.jar library as well as third-party libraries reference - Location of the Javadocs as well as of licensing details. examples - Contains two example Processing programs written for the Hummingbird. src - Contains a link to the hummingbird source. Additionally, a folder called "CopyToUsrLocalLib" is included with library files that Mac and Linux users must copy to their /usr/local/lib directory.

Example Files

The Processing package includes two example files demonstrating how to read sensors and set LED colors and servo positions in Processing. To see the example files, install the Hummingbird library, then navigate to File->Examples->Contributed Libraries->hummingbird

OS Support

The Hummingbird Processing library works with Windows XP/Vista/7 and Mac OS 10.6/10.7. It has not been tested with Linux. You must have a Java JDK version 6 or greater installed to compile files.

Known Issues

There are two ways to import libraries in Processing - one is by manually typing an import statement like "import edu.cmu.ri.createlab.hummingbird.HummingbirdRobot;;".

The other is to navigate to Sketch->Import Library. The second option does not work for our library, so use the import. Currently, Hummingbird programs take roughly 30-60 seconds launch. We're working on the source of this delay. Our current download does not appear to work on some Mac OS 10.5 computers. We believe this is because Mac OS 10.5 does not come with a 32-bit JVM of Java 6.

On a Mac, you must search for the libhidapi64.dylib and libhidapi32.dylib libraries and copy them into the Mac's /usr/local/lib directory. To find this directory, select Go/Go to Folder in the Finder. If the directory does not exist, you can create it in Terminal with the following command: sudo mkdir /usr/local/lib