**Music Glove Documentation: Part 1 - Hardware**

The hardware aspect of this project consisted of compiling the components, and putting them all together.

The instructions I am working from (http://theglovesproject.com/category/diy/) suggested sewing together a glove from scratch. As I have no experience working with fabric, I opted to buy a pair of gloves to use as a base.

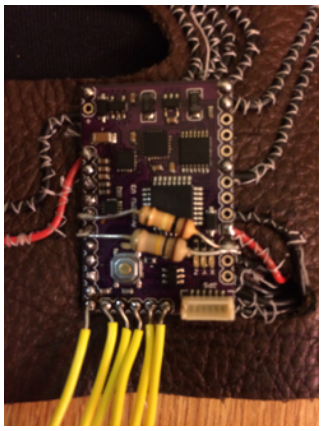
*Pictured is the unused left glove; the right one is what I'm working with.*

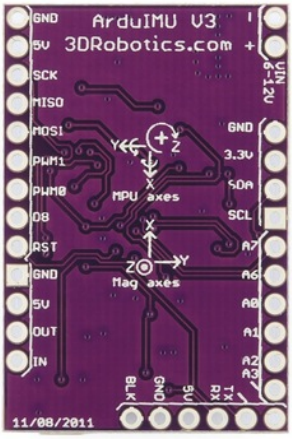

The instructions use neoprene for the material of the wristband on which all the components are attached. As an aesthetic choice (and because it was easier to acquire than neoprene), I decided to use leather for the wristband instead.

*Pictured is the left wristband; the right one is what I'm working with.*

The main electrical component of my glove is a DIYDrones ArduIMU V3, an arduino micro-controller with an accelerometer and a gyroscope.

*Left: ArduIMU in the wristband, with additional resistors. Right: ArduIMU pinouts*

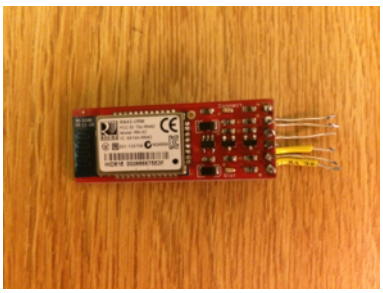





In addition to the main chip, there is the 3.7v li-ion battery and charger:

And the connector. I tried three different methods of connecting the glove to my computer before it actually succeeded. A Bluetooth breakout board, FTDI-USB breakout board, and a simple FTDI-USB cable.

*Left: Bluetooth breakout. Middle: FTDI-USB breakout. Right: FTDI-USB cable.*



In the end, the simplest and least elegant method, the USB cable, worked.

In putting together all the hardware for the glove, I had to learn how to use a soldering iron and a sewing machine. While soldering to an arduino was hard as a beginner, the precision necessary for sewing wires into leather was probably the hardest part of this project so far, as it was rather slow-going and required lots of trial and error.