

Alternative Lamps

Final Project Appendix
Physical Computing Term 1

Dec 10, 2018

By Rachel Max



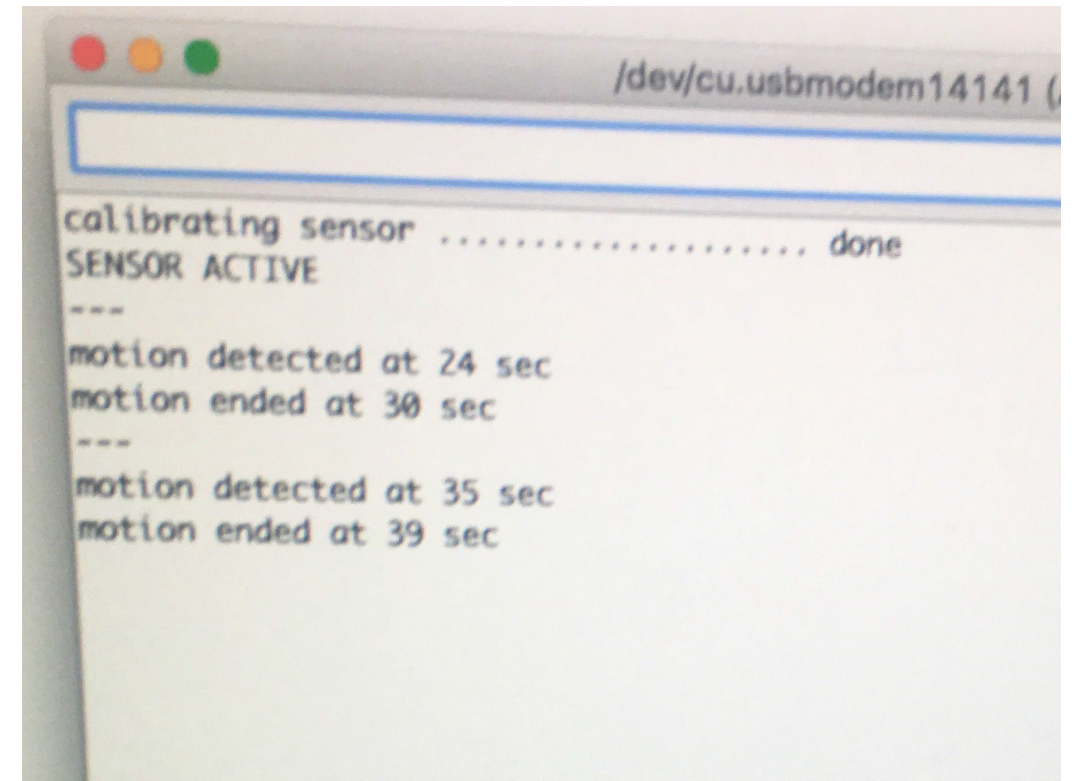
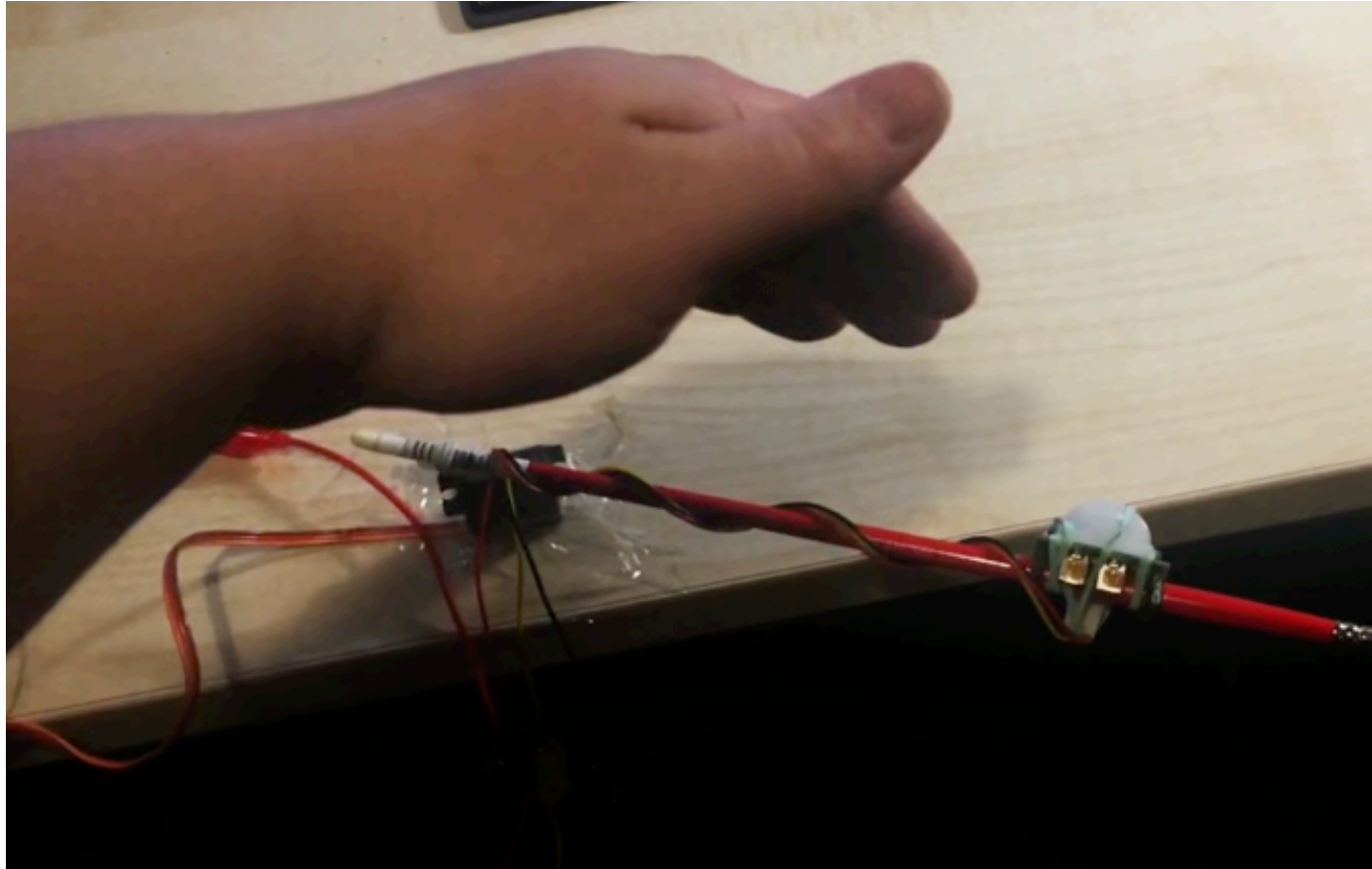
The project *Alternative Lamps* imagines a world where there are no simple on/off switches. What if one had to spend time with an object and learn how to interact with it?

The project started with a PIR sensor but I found the range too great and the sensor overly sensitive for the purposes of these lamps. I attached it to a moving arm so it became a recursive exercise - triggered by its own motion. The project developed using an Ultrasonic Distance Sensor. Several iterations were attempted including one with wheels and motors but ultimately two lamps were produced - one which requires to be yelled at several times to turn on and one requires several passes of proximity and motion.

The habitat for these lamps is a world full of friction - where nothing works as expected. Every technological interaction takes time, patience, and problem solving. What if all interactions were transactional?

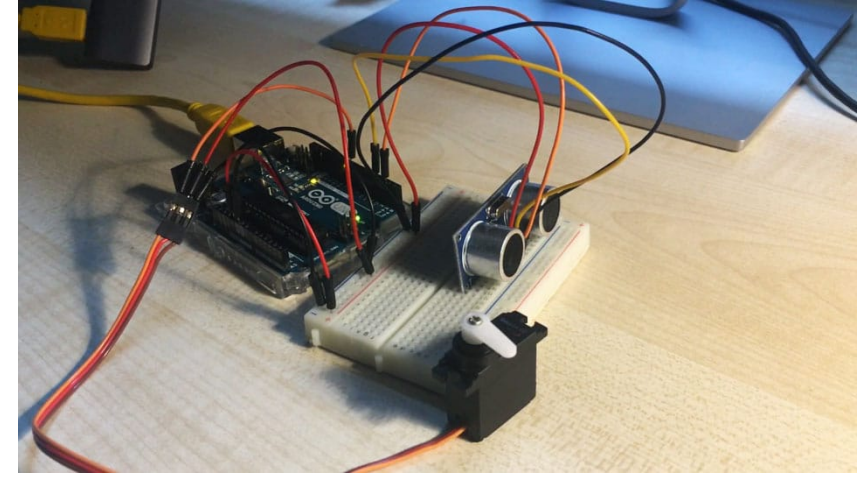
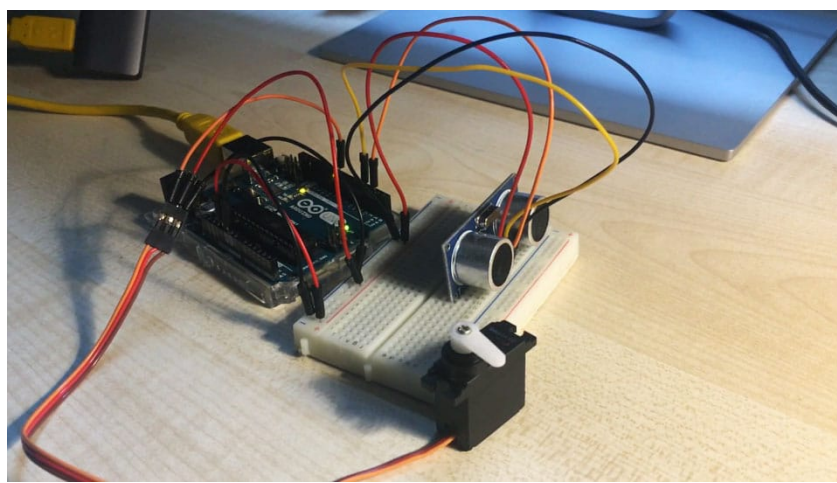
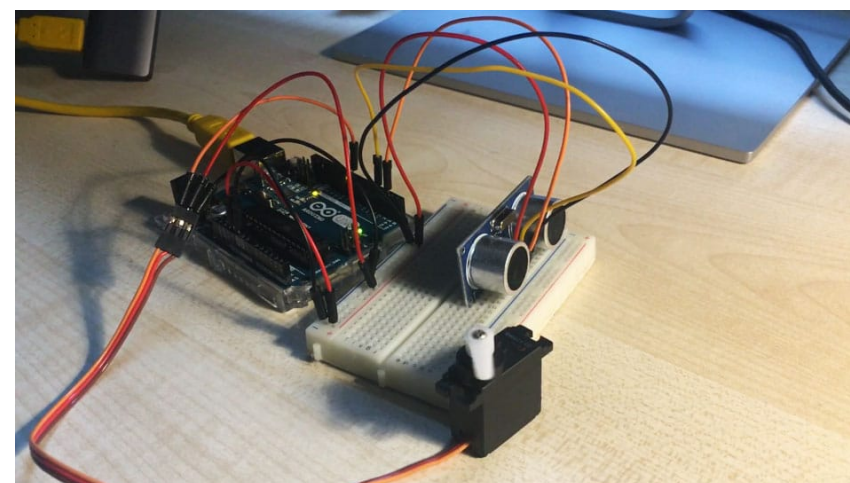
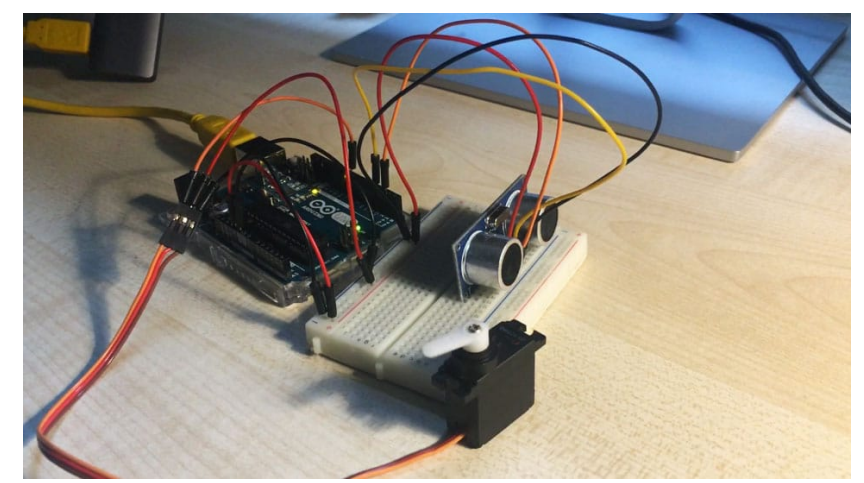
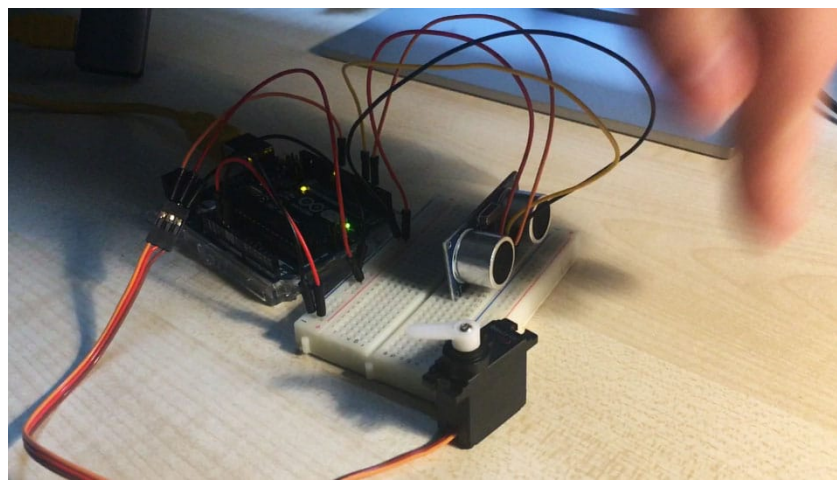
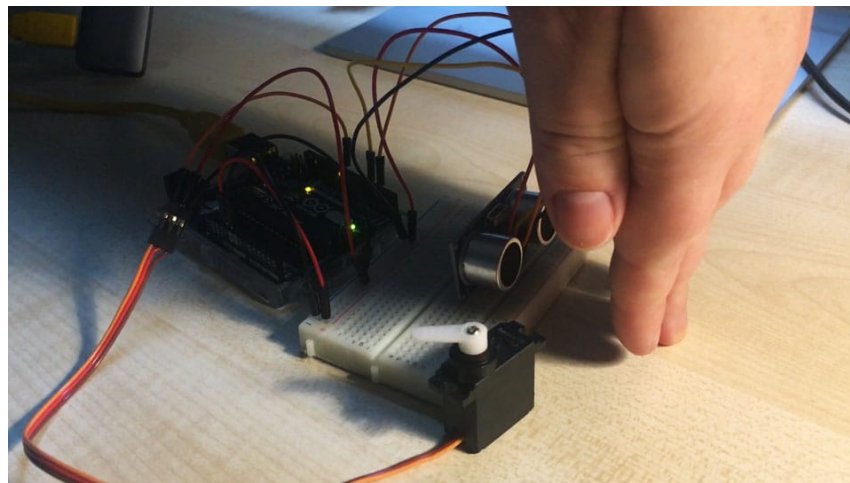
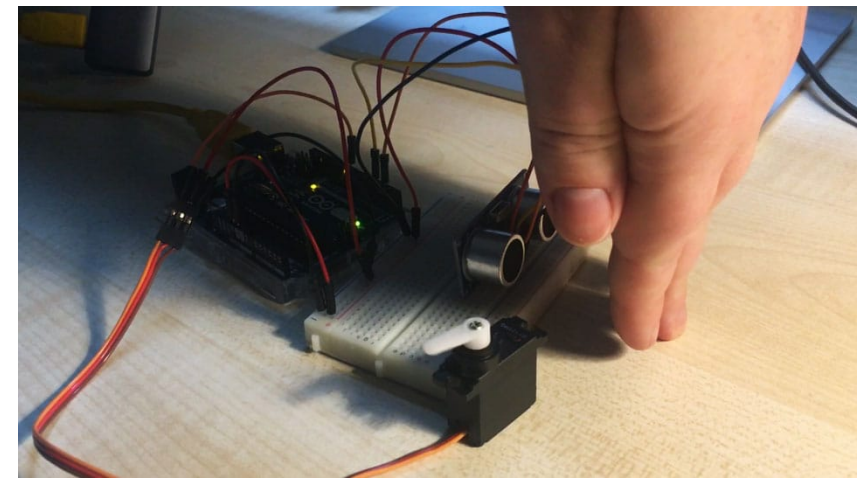
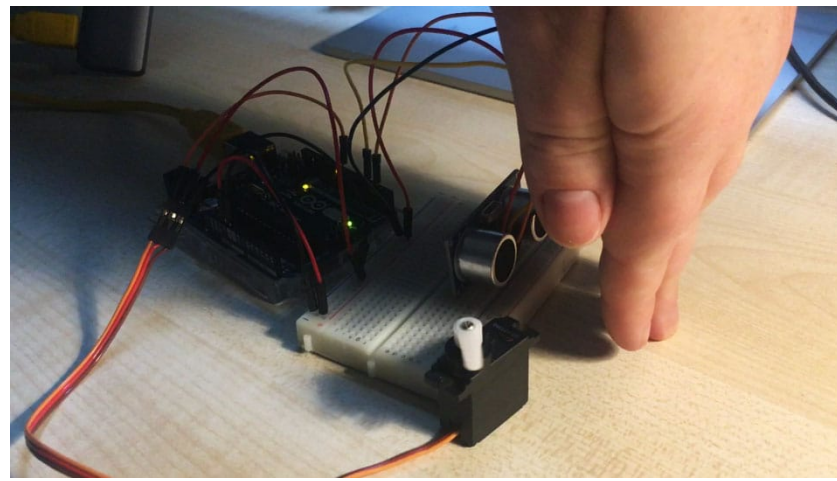
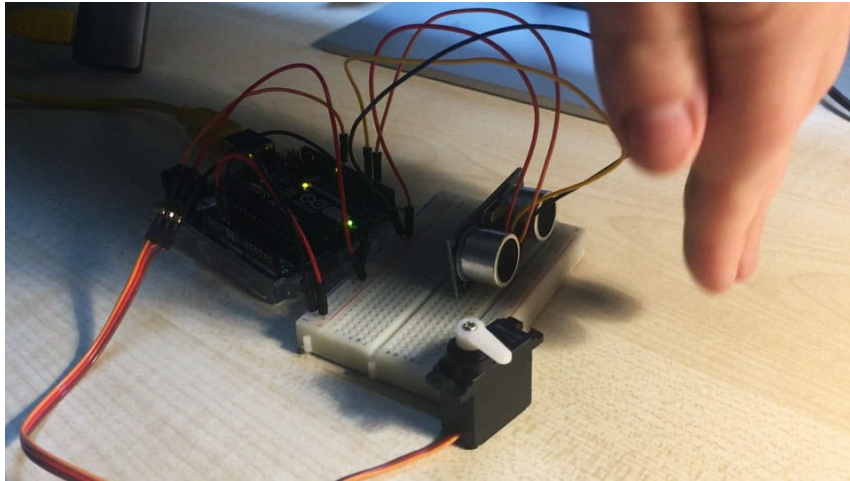
Project Development

PIR Sensor on swinging arm

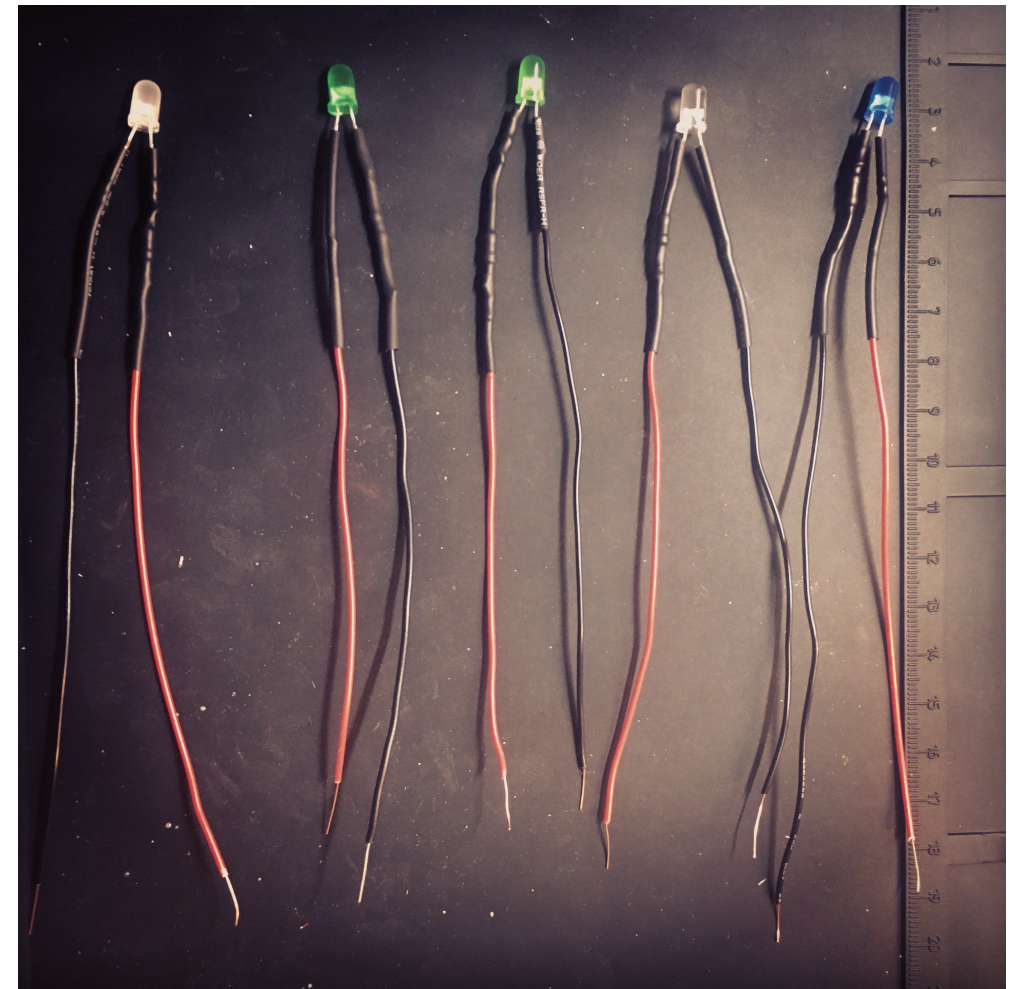
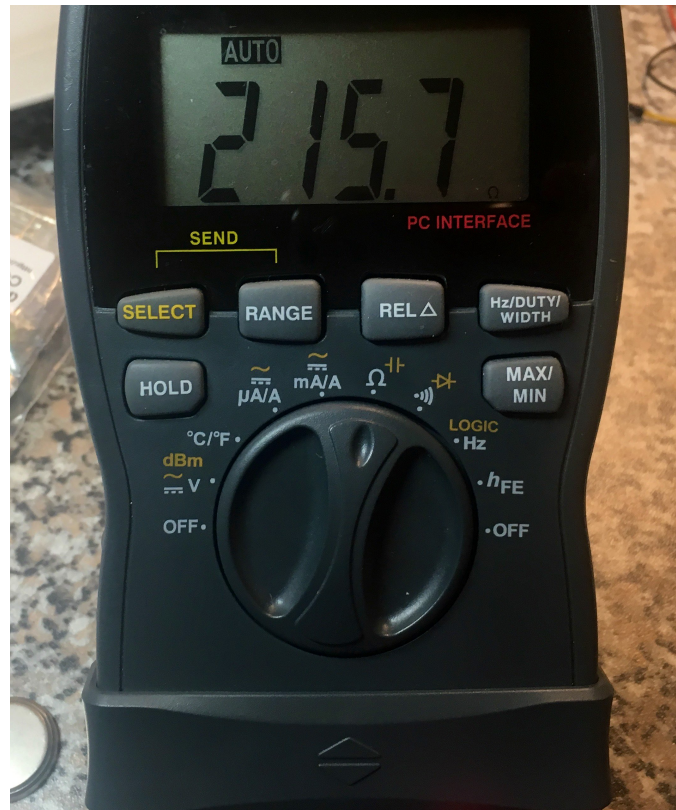


<https://vimeo.com/300190632>

Ultrasonic Distance Sensor triggers Servo

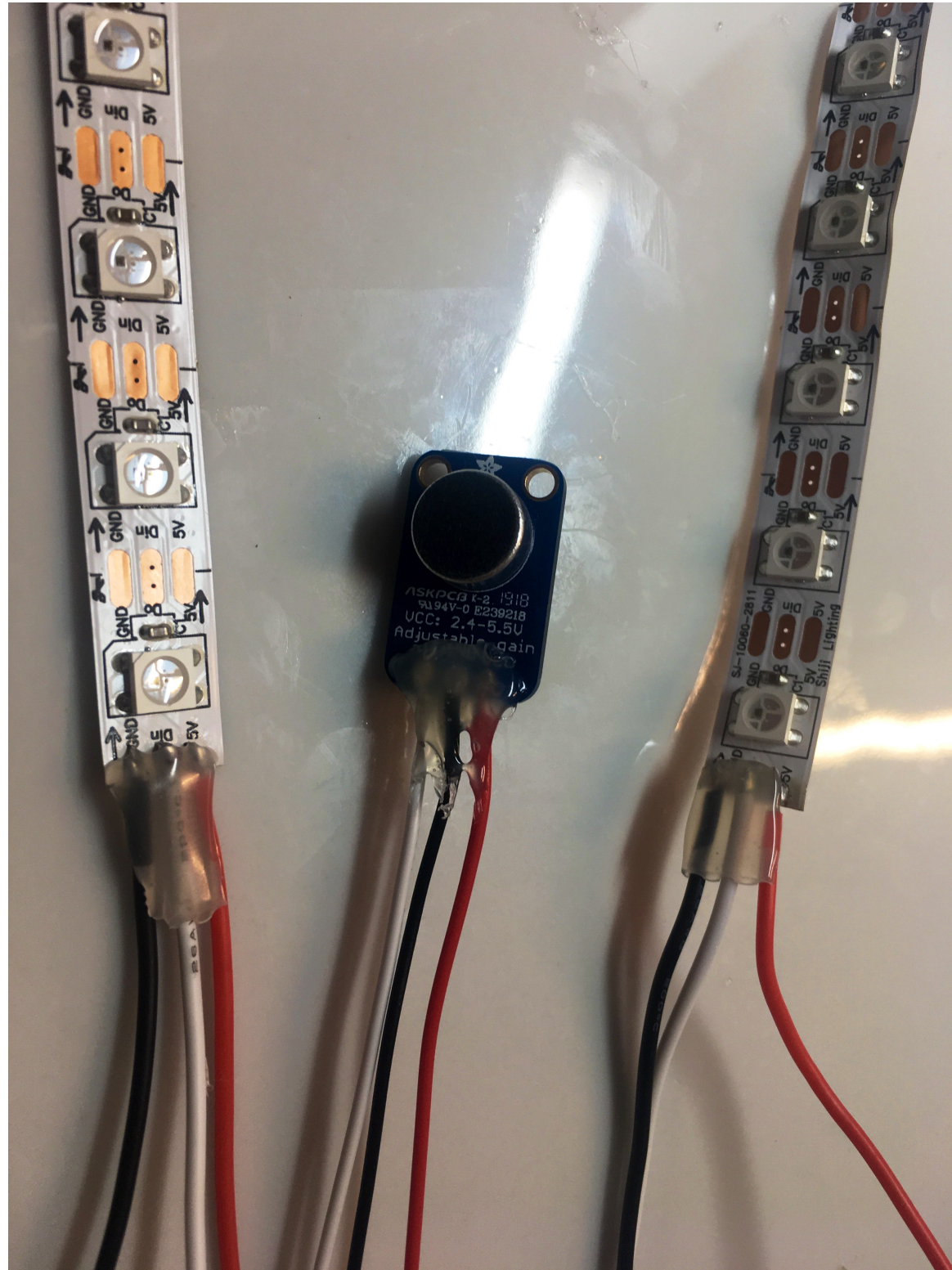


Adding Resistors to LEDs



I tested all the components and then soldered resistors to the anode. Some broke and I fried a couple of LEDs before turning down the heat on the soldering iron and the heat gun.

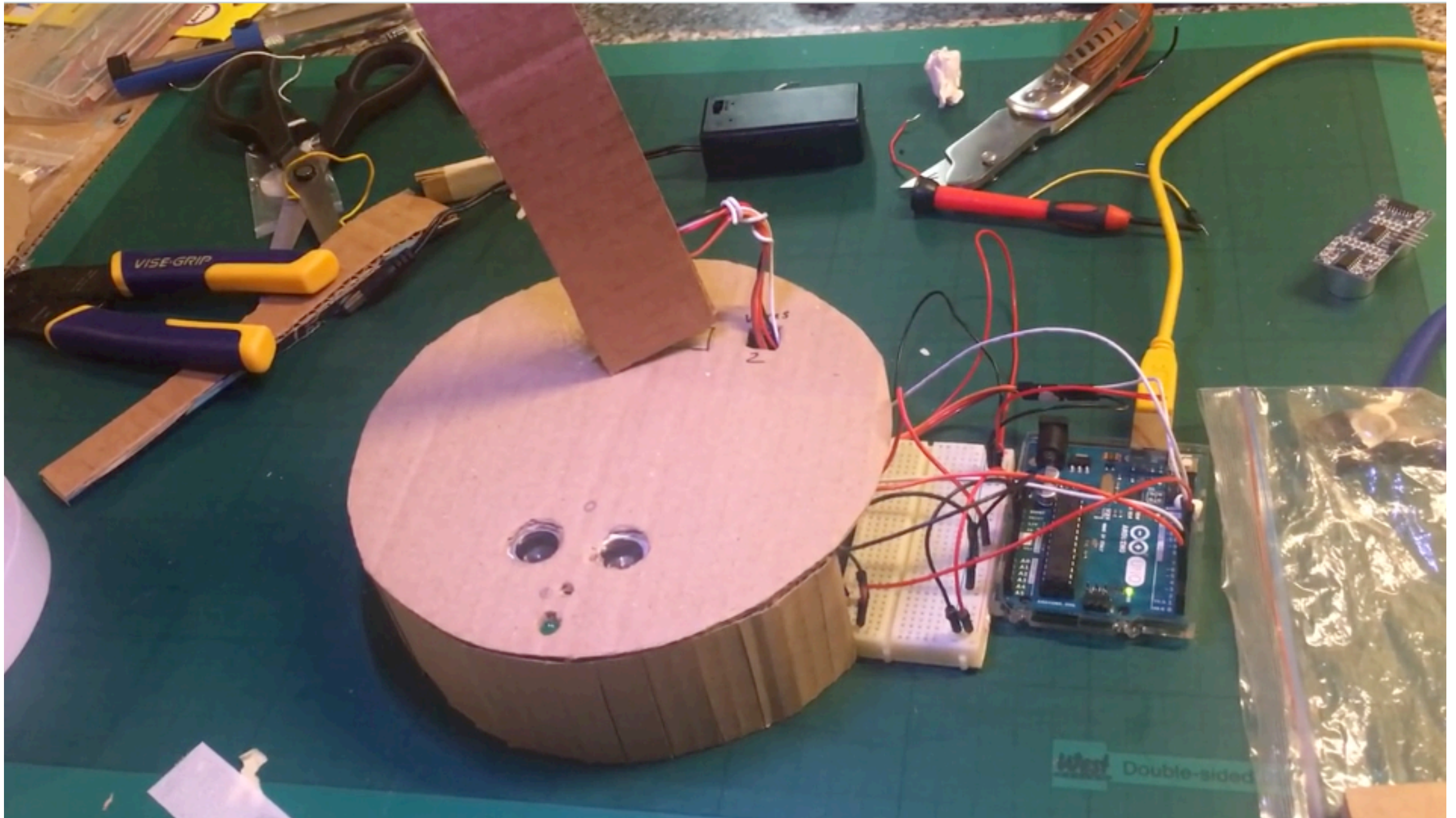
Strong Connections



To make sure the connections were super strong, I applied hot glue to any weak spots.

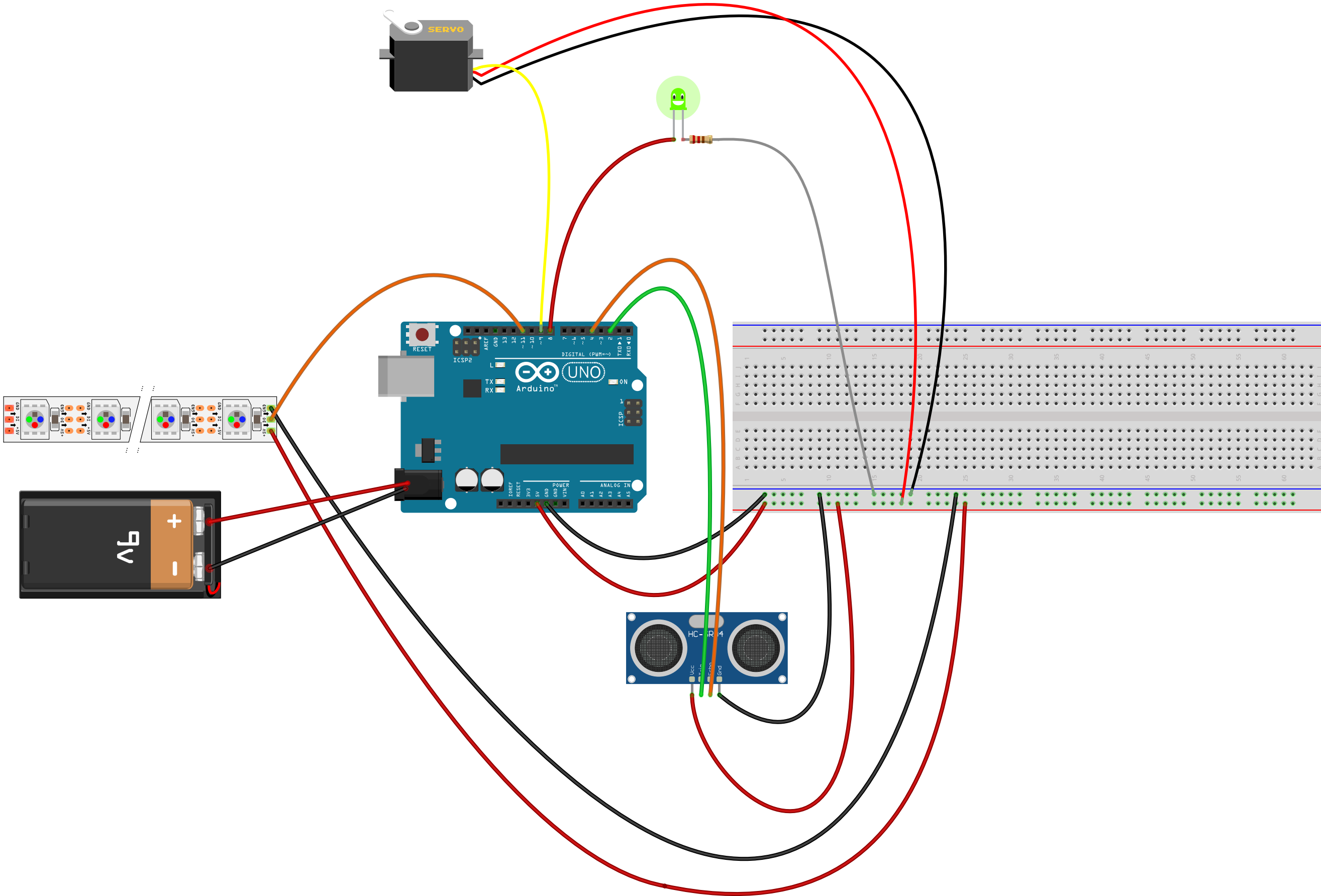
Swinging Arm on Servo

This video shows a rotating arm on a lamp using a servo. The servo makes a lot of noise and the arm swings in an awkward way. Although I'll bring this version to the demo, I opted to abandon further development of this iteration.

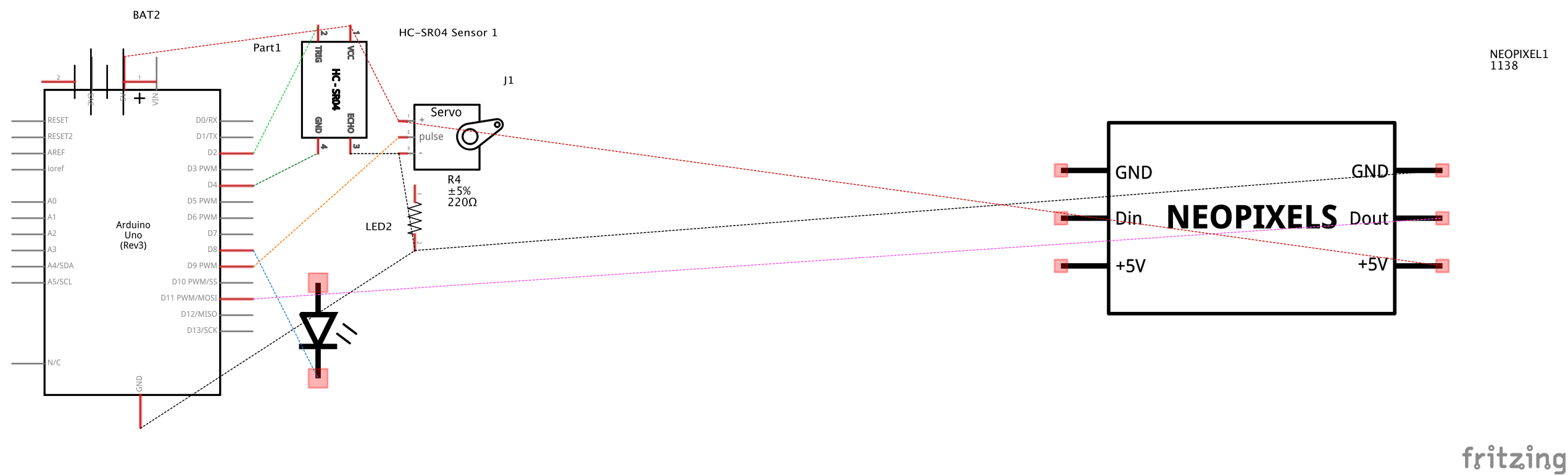


Circuit Diagrams and Schematics

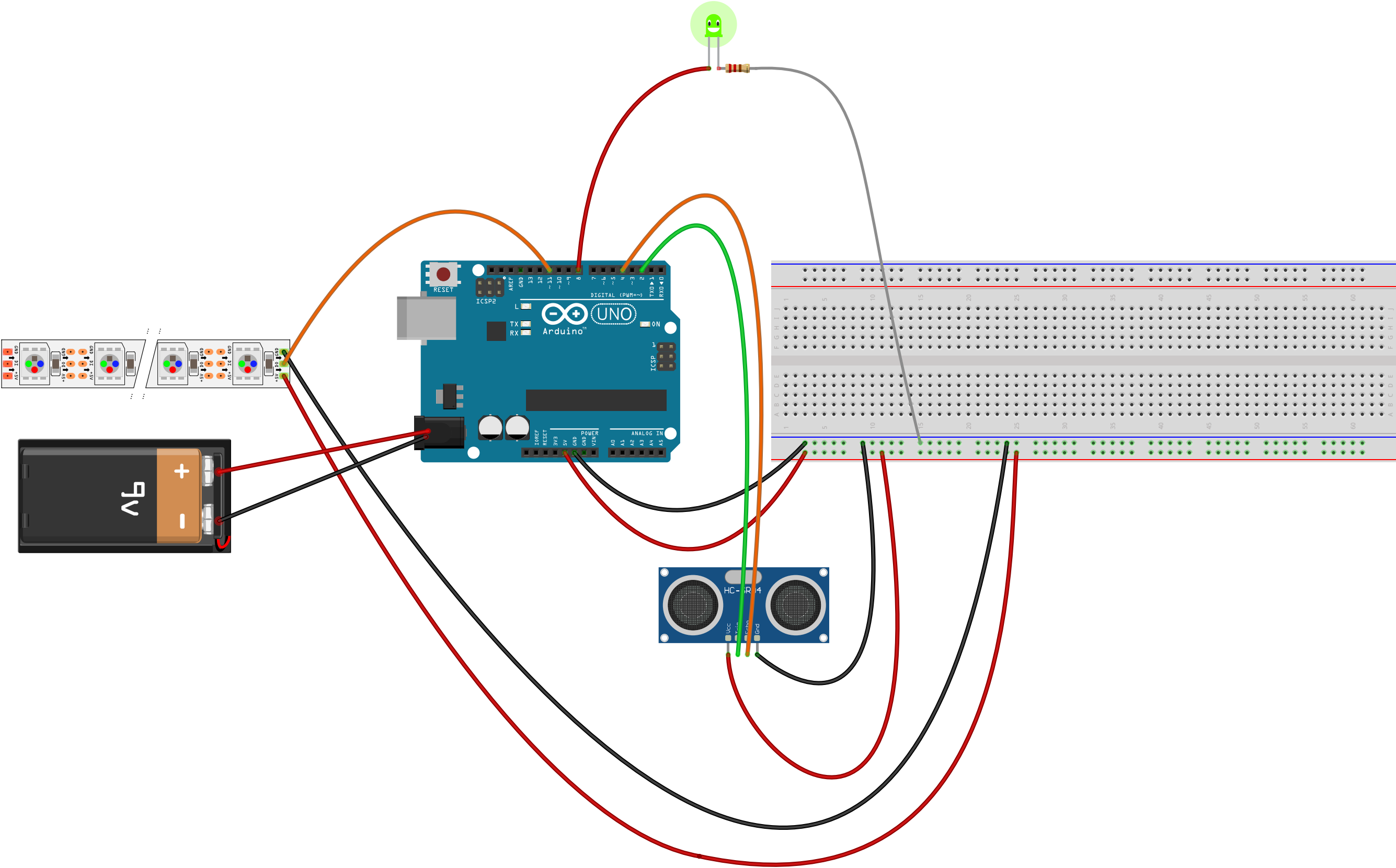
Rotating Arm Lamp Circuit Diagram



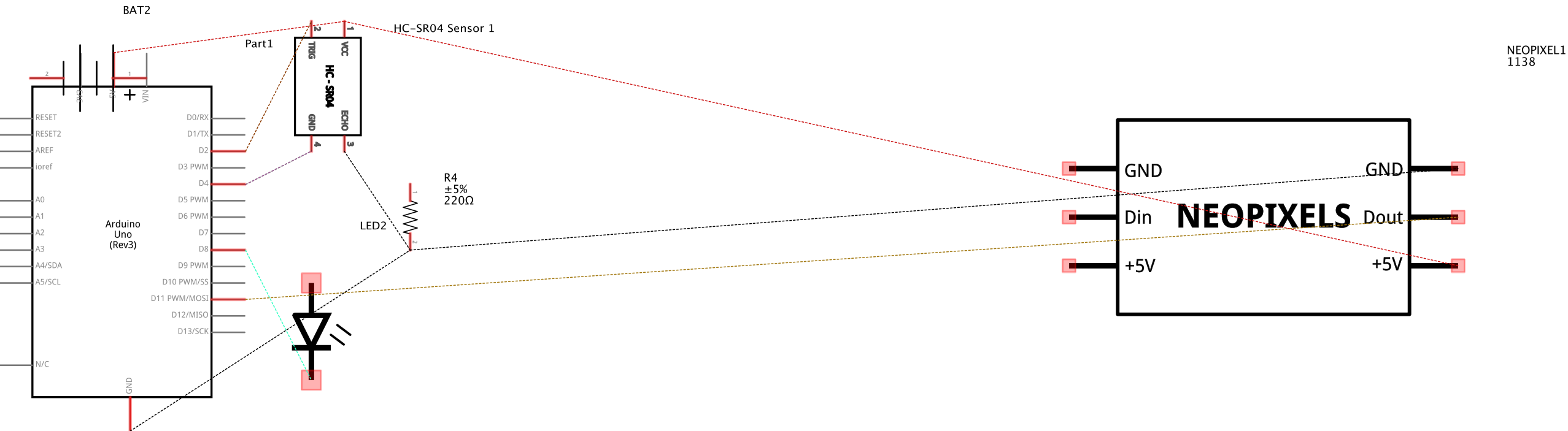
Rotating Arm Lamp Schematic



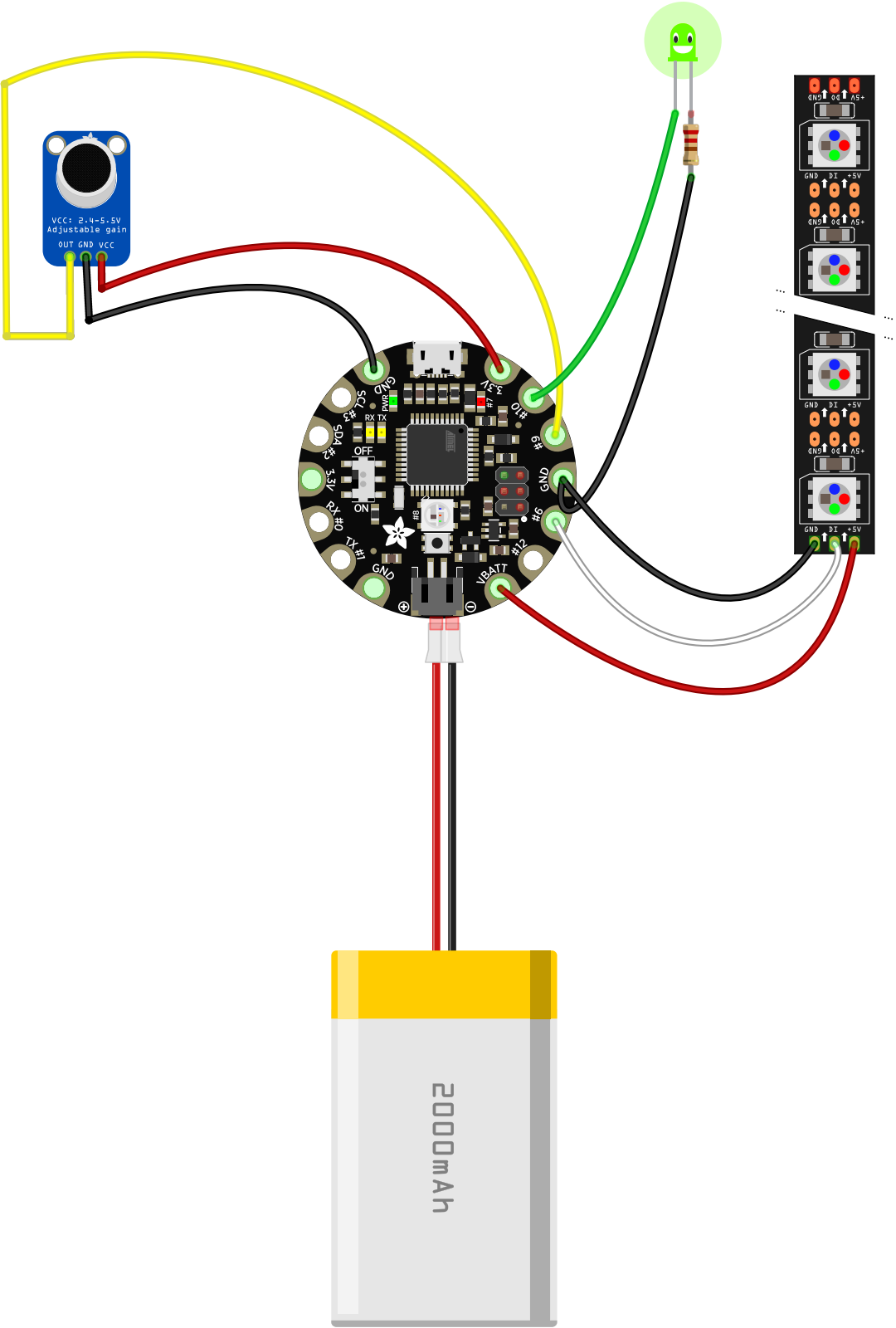
Motion Lamp Circuit Diagram



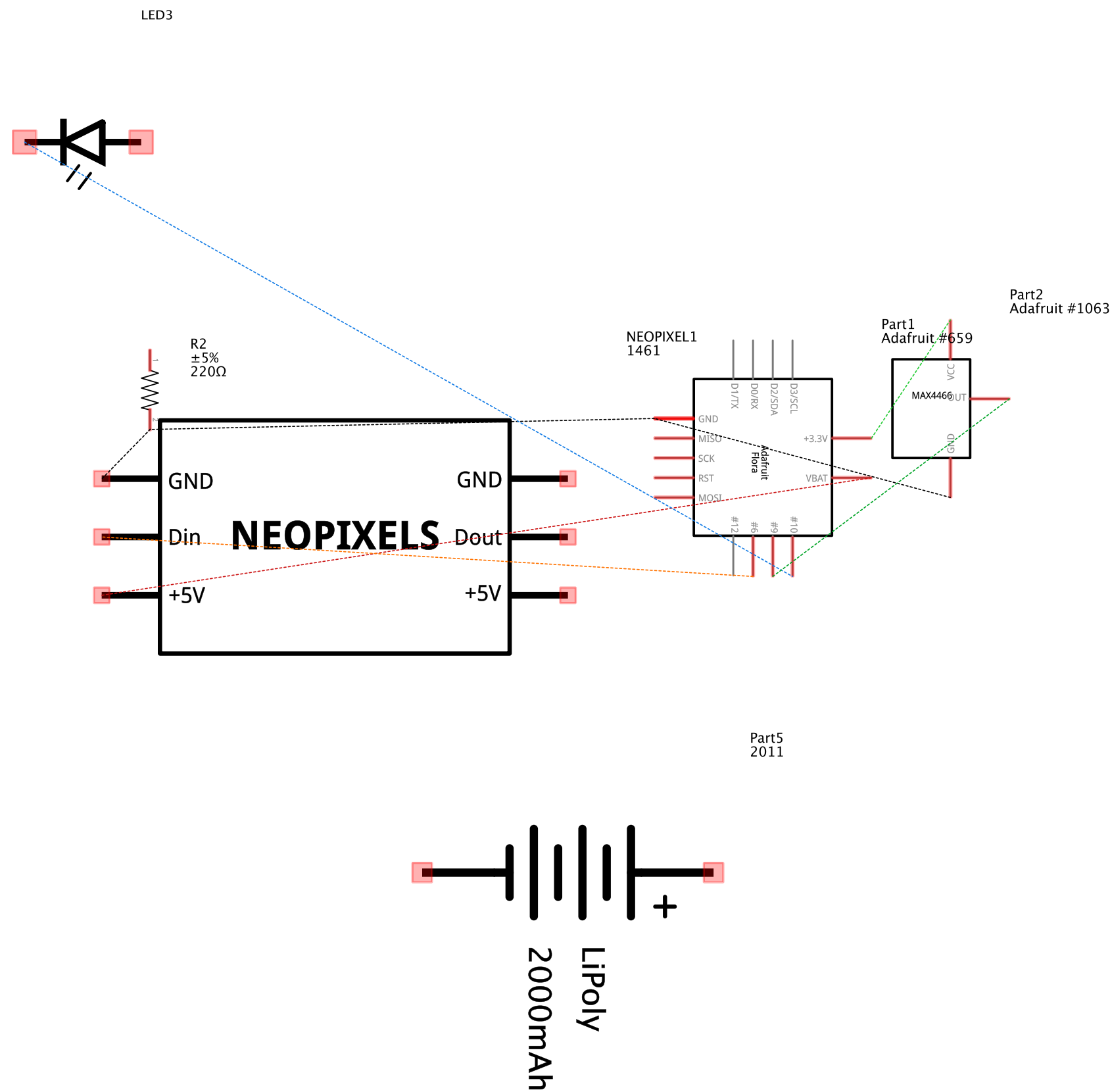
Motion Lamp Schematic



Yell Triggered Lamp Circuit Diagram



Yell Triggered Lamp Schematic



Overall *Alternative Lamps* work well to imagine a complicated and transactional world. I also hope the lamps are fun to use and inspire laughter as well as a touch of frustration.

It is difficult to abandon prototypes and ideas that aren't working as well as imagined. Perhaps these other iterations can be developed in the future.