ROBOTIC HAND

A robotic hand that I built out of styrofoam pieces so it can be moved by flex sensors.

Summary

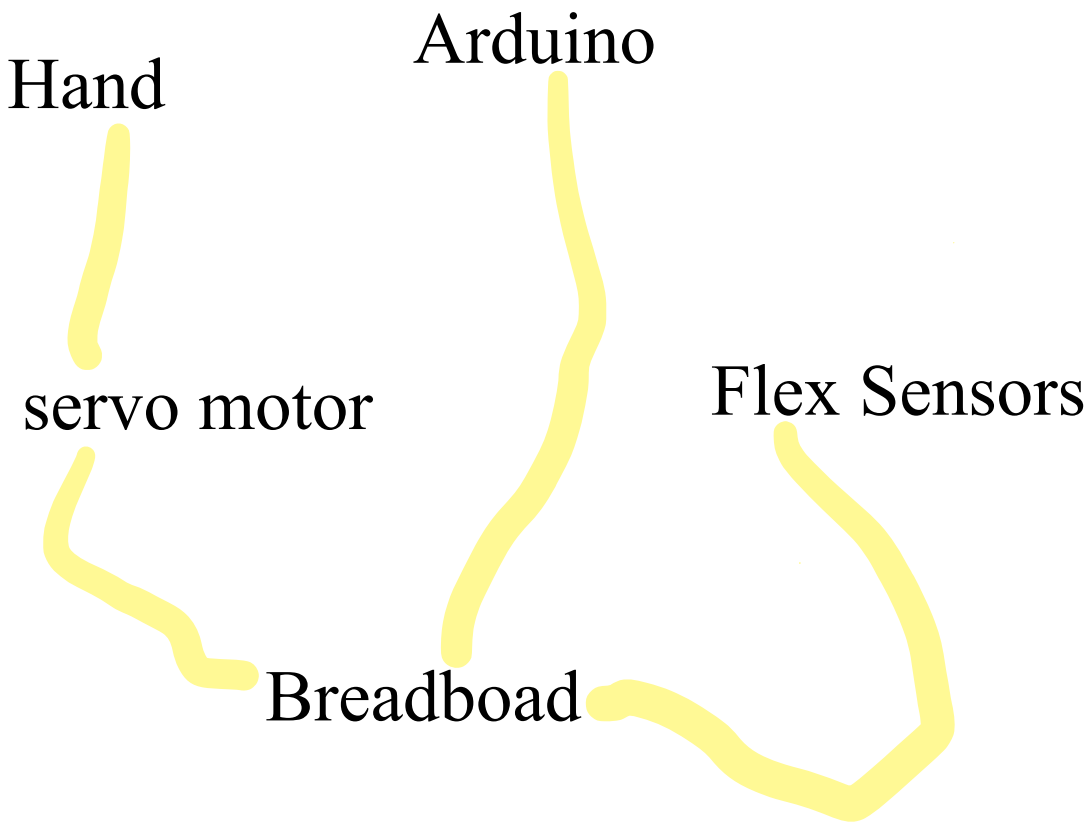
I started off by building the main attraction of my project which was the hand. I traced over my hand on styrofoam then cut out each piece till it completely resembled a hand. I connected each piece of styrofoam with jewelry wire and glued rubber bands to the joints (witch was the back of the hand). Then i pulled the wire to make sure that the styrofoam acted like a finger closing when it was being pulled. When that was done i connected each wire to servo motors and connected the servo motors to a breadboard.

After that i wrote a code for my project and connected the flex sensors to the breadboard. Then i connected the wires that was going into the breadboard into the arduino to match my code that i wrote.when that was all correct i connected the side of the breadboard that had the servo motors and the flex sensors. So in the end when a person moved a flex sensors a piece of styrofoam would also moved.

Component Parts

- ❏ Flex sensors
- ❏ Styrofoam
- ❏ Servo motor
- ❏ Wires
- ❏ Rubber bands
- ❏ Jewelry wire
- ❏ Breadboard
- ❏ Resistor

❏ Arduino



Challenges

What made my project hard was the material that i used to created the hand. Styrofoam was great to use because it was the most least expensive material you can use but it doesn't hold up well. Combined with the rubber band the styrofoam wouldn't always bend correctly when the servo motor pulled it. So finding the right balance in the code that would be enough of a angle to make the styrofoam move was challenging. Also getting the flex sensors to respond when i first plug them up was difficult but after i got them to work they were fine.

Timeline

What did you do in each of the past five weeks?

- Week 1: Write proposal
- Week 2: Build hand
- Week 3: Build hand/ Made code/ Start to program

- Week 4: Finish programming
- Week 5: Present!

Completed Work

GOING TO ADD TO THE

References and links

Tutorials, comments, videos, magazine articles - anything you found that helps you understand your project.