

Automated Dispenser

Group Chiggin Nuggetz

Meet the Team

Justin Wong

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Original Proposal

A dispenser that dispenses on a timer

Based on a cat feeder. Designed for pets

Useful for pets while on vacation



<https://www.raspberrypi.org/blog/pi-powered-cat-feeder/>

Reason for Choosing This Project

Pets do not get over-fed

Time-saving

Easy to control

Relatively cheap comparing to other robots since we reuse Asian quart and 3D printed flapper wheels to build the dispenser

Parts Needed for the Project

1. Raspberry Pi

2. Food Dispenser

Base (Popsicle sticks, screws, nuts)

Two quarts

3D printed flapper wheels

3. Electrical components

- Jumper wires
- Breadboard

Parts Needed for the Project

4. Continuous Servo (FS5103R)
5. Ultrasonic Sensor (HC-SR04)
6. Glue Gun & Drill
7. Cardboard

Assignments

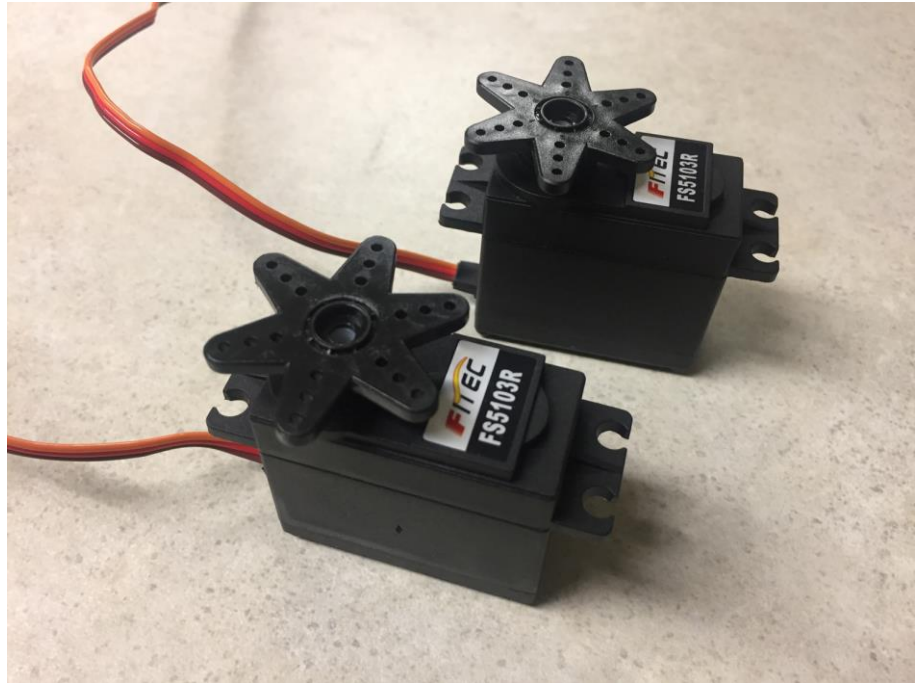
Justin Wong - Building the framework of the dispenser

Tyriek Bryant - Programming and wiring

Ching Laam Yuen - Working on the 3D printed parts

Process

First, we coded the servos to make them turn



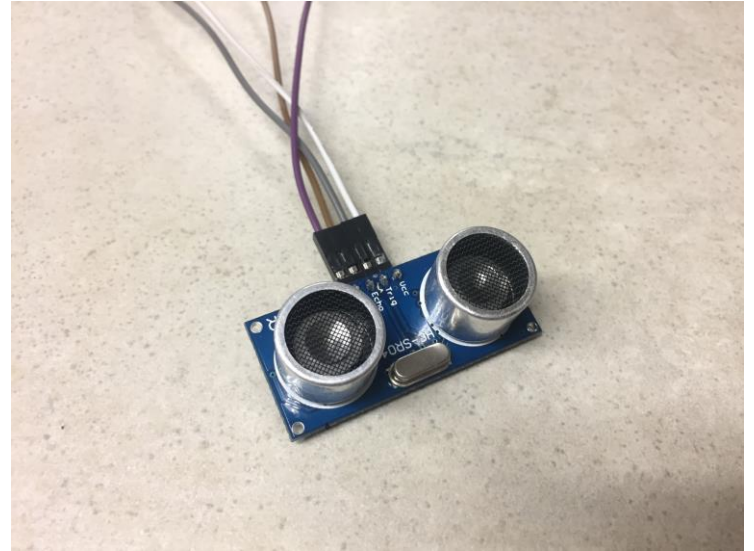
Process

Concurrently we were building the frame of our contraption...



Process

Next we coded the ultrasonic sensor that is used to automate the process.



Process



This is what the overall design looked like towards the end...

Final Project

We have decided to build an automated dispenser, which dispense snacks when one's hand is close to either of the dispensers.

We added an ultrasonic sensor, which sends impulses to raspberry pi in order to generate the continuous servo and dispense snacks when one's hand is close to either of the dispensers.

Citations

Monk, S. (2013, January 9). Adafruit's Raspberry Pi Lesson 8. Using a Servo Motor.

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Retrieved August 03, 2016, from <http://drstrangelove.net/2013/12/raspberry-pi-power-cat-feeder-updates/>

*All photos, except for one on Slide 3, are original photos