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CART 360
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Final Assignment THEN

Documentation

Reflection

The final turn out wasn't the initial intention, but it was still successful in a way. The loudness of the building interior did not help in creating a quiet environment for the cat robot to react with. Although the final approach where seeing a robot cat made choosing on my own decision to interact nicely with it gives the point of my project some success. If it were presented in my basement, the results would have been slightly different, although the servo wheels did not grip the ground and proceeded to do the turning as I had previously tested them to do so, the weight of the cat and the weak grips did not allow for this to happen unfortunately. Overall this was a good project I enjoyed making. I would add on to it a better set of wheels, some maneuvering capabilities, obstacle avoiding, and maybe more robotics involved with the legs to make it move fluidly. To create the cat, I used LEGOS, metal mesh, servos with elastic bands as the grips, and using zip ties to secure all of the parts. Adding some fake fur fabric on top and some whiskers for a familiar feel to interact with on the outside. The wires were secured with electrical tape and taped to the breadboard and the arduino accordingly. I look forward to building more robotics in the future. Using sensors can be quite tricky when one forgets the environment the product will be exposed to! Lesson learned!

Research & the internet!

The internet has provided me with, arduino projects, instructables, youtube, adafruit, sparkfun, arduino library.

Range finder instruction

<http://www.circuitbasics.com/how-to-set-up-an-ultrasonic-range-finder-on-an-arduino/>

<http://www.instructables.com/id/Arduino-Range-Finder-Tutorial/>

https://create.arduino.cc/projecthub/javier-munoz-saez/arduino-mp3-player-distance-sensor-fun-6b1bce?ref=search&ref_id=range%20sensor&offset=11

https://create.arduino.cc/projecthub/mtashiro/autobot-using-lego-nxt-motors-and-sensor-56ad60?ref=search&ref_id=range%20sensor&offset=17

https://create.arduino.cc/projecthub/deligence-technologies/obstacle-detection-bot-using-ultrasonic-sensors-and-arduino-cde0b2?ref=search&ref_id=range%20sensor&offset=14
(circuit setup and devices used helped a lot)

<http://randomnerdtutorials.com/complete-guide-for-ultrasonic-sensor-hc-sr04/>

soundboard info

<https://forums.adafruit.com/viewtopic.php?f=8&t=119338>

<https://learn.adafruit.com/adafruit-audio-fx-sound-board/triggering-audio>

sound sensor

<http://randomnerdtutorials.com/guide-for-microphone-sound-sensor-with-arduino/>

<http://henrysbench.capnfatz.com/henrys-bench/arduino-sensors-and-input/arduino-sound-detection-sensor-tutorial-and-user-manual/>

<http://www.instructables.com/id/Simple-FC-04-Sound-Sensor-Demo/>

https://www.youtube.com/watch?v=85_AqIRWwiU

serial

<https://www.arduino.cc/en/Reference/SoftwareSerialWrite>

servos

https://www.packtpub.com/mapt/book/hardware_and_creative/9781849517584/9/ch09lvl1sec63/multiple-servos-with-external-power-supply

<http://www.themakersworkbench.com/tutorial/triggering-servo-using-hc-sr04-distance-sensor-and-arduino>

<https://playground.arduino.cc/ComponentLib/Servotimer1>

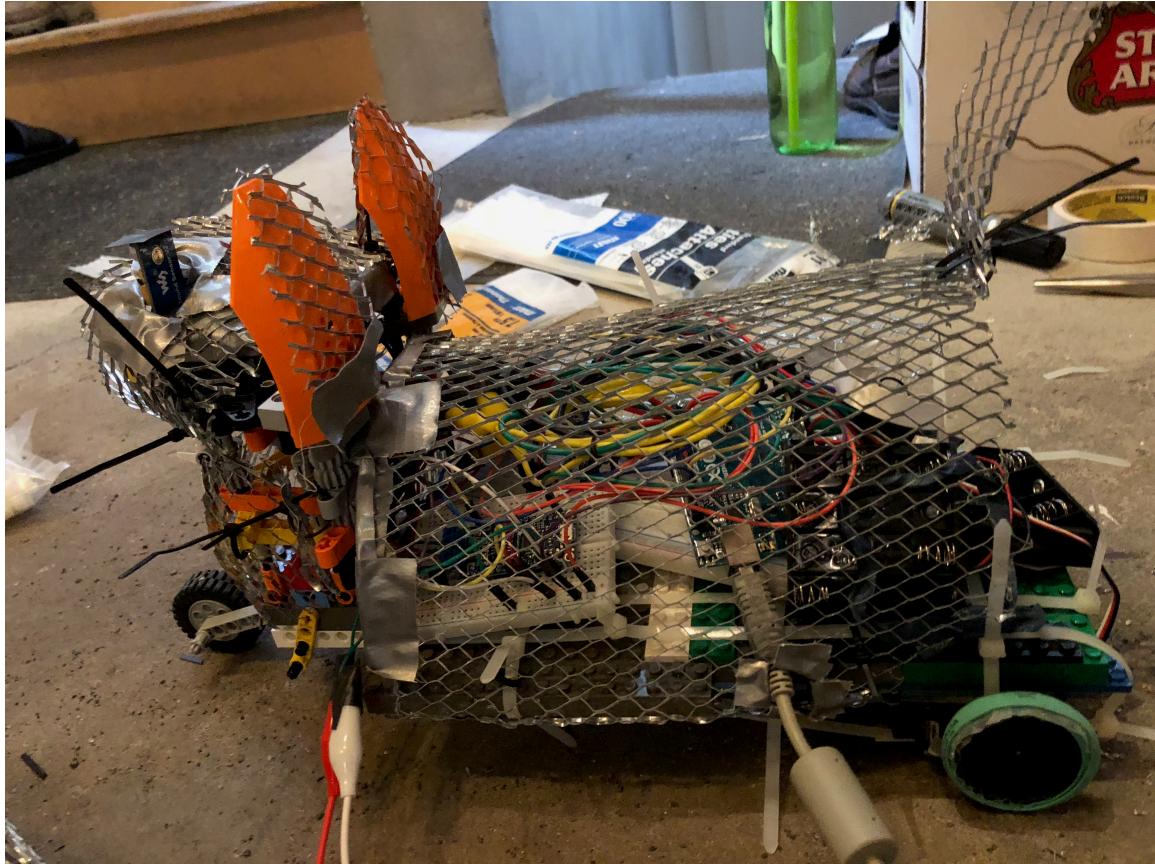
Video links for the progress/documenting, and final product presentation.

Link for final presentation video in higher quality compared to the one posted on github:
<https://youtu.be/ElgDMVVWp4I>

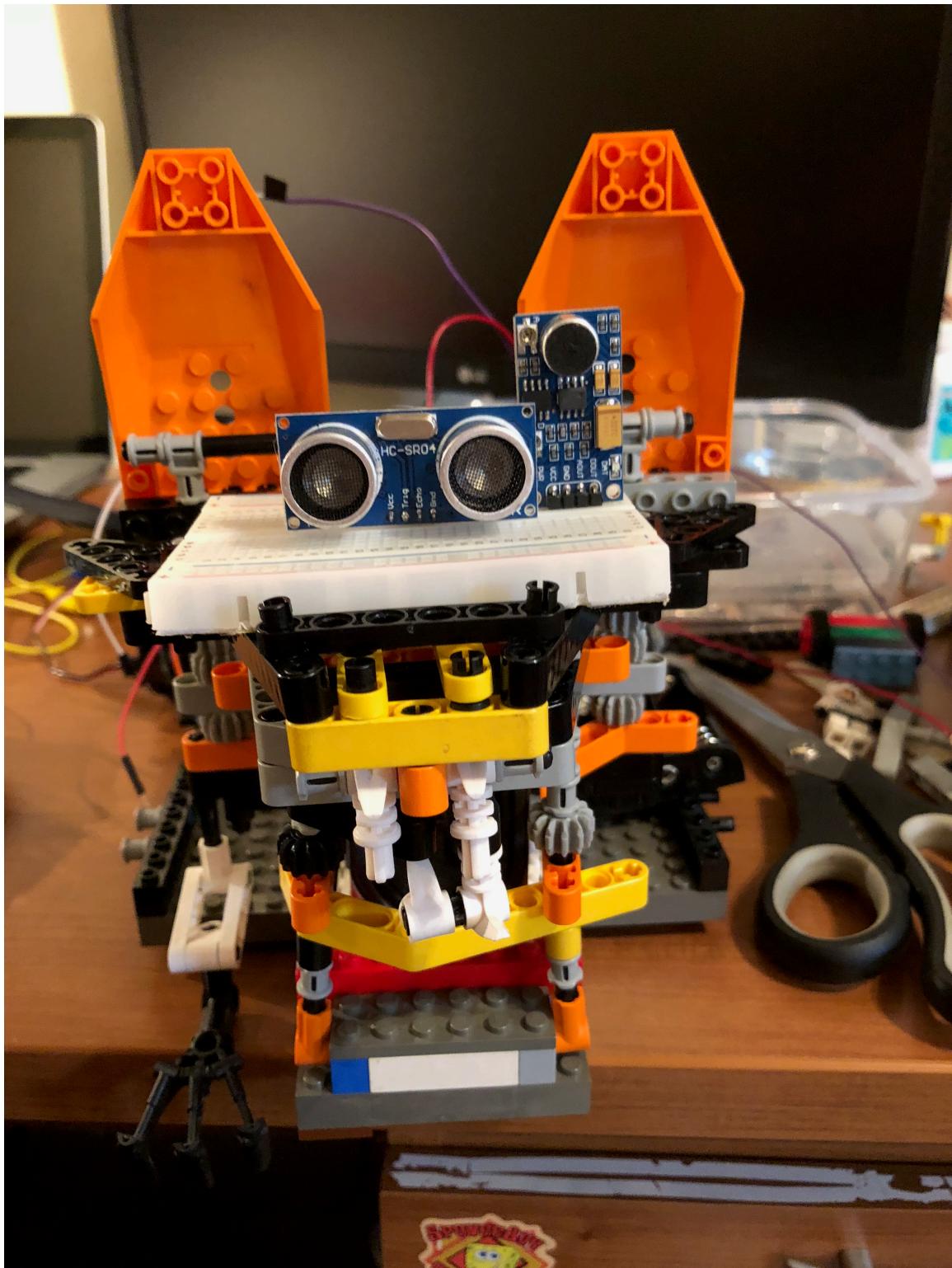
link for final documentation progress video
<https://youtu.be/AFzh5BfvIRg>

Progress photos

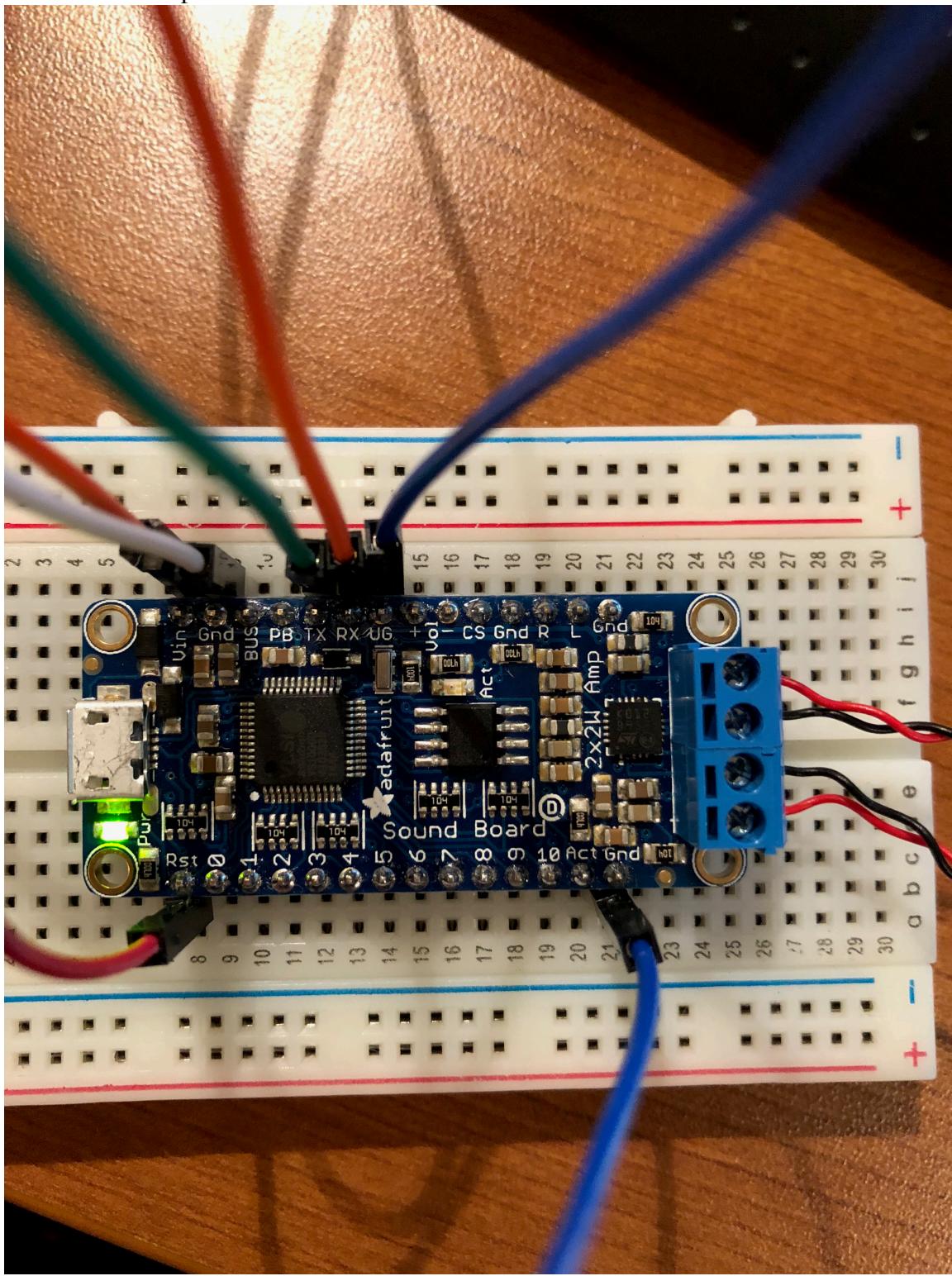
The skeletal mesh body.



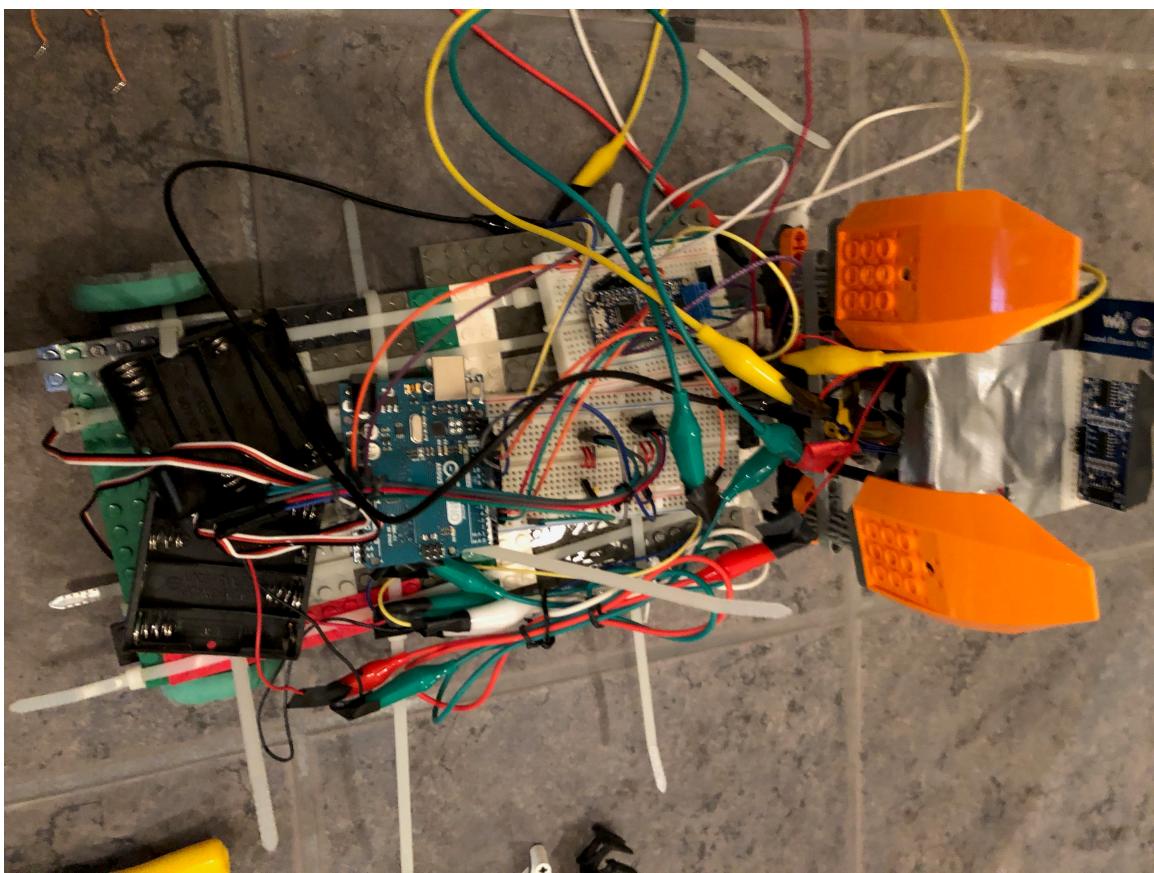
positioning of the sensors on the face of the cat



Soundboard setup



inside the cat setup



final cats



diagram setup

sound sensor I had was not in fritzing, adafruit soundboard was not on fritzing.

