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CART 360

Professor Elio & Sabine

December 4th, 2019

"THIS = THEN = \underline{THAT} "

Insights & Future Development

This project has truly been a roller coaster of emotions, filled with challenges, small victories, but most importantly, really interesting learnings. In fact, as cheesy as it sounds, when I look back at what I knew at the start of the semester, versus what I was able to do now, I still get a feeling of being proud and surprised by what I was able to imagine and create in the physical world, even though a lot of my initial ideas didn't make it to the end. This is actually one of the biggest insights I have had during this project, how important the ability to reorganize and keep going after facing roadblocks is. In fact, I started out by planning about 5 different sensors, complete with immersive mini-games, and a customizable experience, even including the plushie to move towards a different object. This initial idea would be super fun as a toy on the market, but it missed the mark for my level of experience and knowledge, as well as pursuing the deeper significance, and with all this complexity, its theme and message became clouded. Following the proposal, I realigned my ideas and tried to simplify my concept, but once again, I didn't really think my deeper message through, and lost sight of what experience I wanted my viewer to have. Therefore, while completing my final (for now) artifact, I now know how important the angle of the project is: it's good to have many technical and physical ideas for the object, but the priority should be the overall meaning of what you're trying to create. Don't lose sight of what you want the experience to be, take care of the main mechanism, the most important part to convey your meaning, and then comes your time to select your physical components, and add complexity to your idea.

For the future development of my toy, I would love to be able to actually solder everything to have it inside my plushie, since I unfortunately encountered some last minute problems and because of my weaker planning, I wasn't able to fully integrate it in my bear plushie. Also, I would love to add more capacitive sensors to my artifact, such as the legs or the tail, and have them also change depending on the emotional state of the bear, so you could physically interact with it more. Also, in class, Elio had talked about the colour changing material, which I think would be super awesome to integrate in my plushie with the emotional state changes. Another thing that I would like to add in the future was a heat pad, which I had the idea about a week before the due date, but it wouldn't have

shipped on time, and the store itself where they sold it was too far and I did not find the time to make the trip to get one, but that would be the one thing I am most looking forward to adding, since it would allow the plushie to not only receive the "love" and attention from you, but give it back to you in the form of a comforting source of heat. It would also really add to the whole haunted vibe I desired, as if the plushie was alive, and generating heat on its own. I think adding that would really take my project to the next level.

Notes and Documentation



Template and instructions found on

Started to sew.

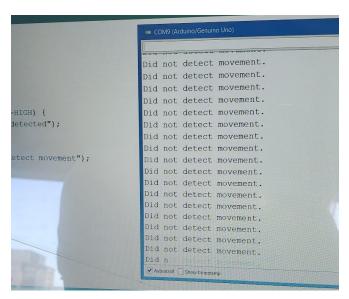


https://www.purlsoho.com/create/2013/05/30/mollys-sketchbook-wool-and-liberty-teddy-bear/

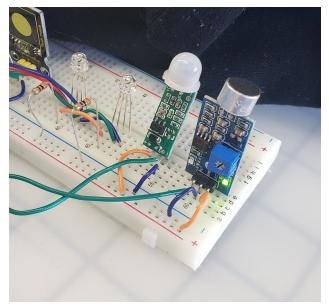
Progress! Starting to take form



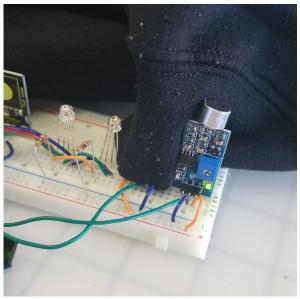




Even with the sensor hidden, Serial.println would say the opposite, "motion detected!"

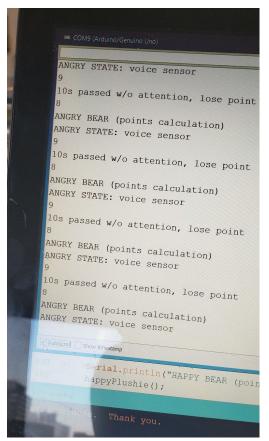


Wanted to add a motion detector, and the plushie only works when motion is detected, otherwise, is asleep. Did not go as planned!



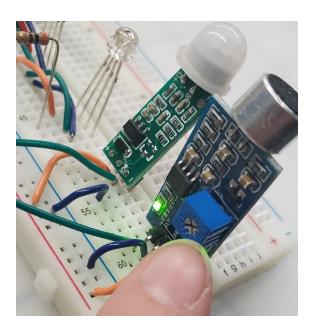
Tried 3 different sensors until I found one that seemed to work with my code well!

← This is the one I ended up keeping

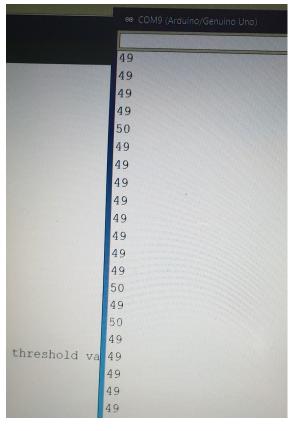


Another problem encountered: when adding the sound detector, plushie cannot go into the "Angry" state, keeps going back to neutral, gaining back the point he just lost.

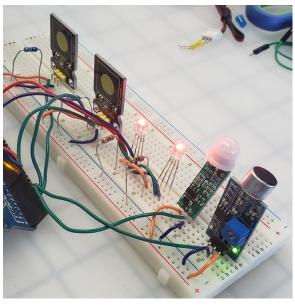
Found the problem! Adjust sensitivity...

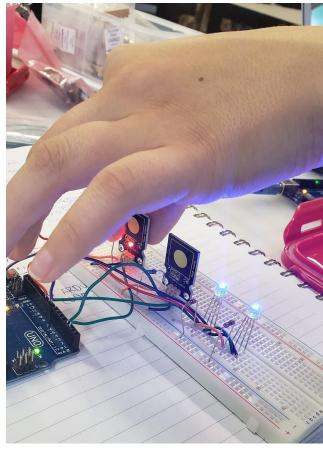


Values were previously about 1000 when "silent" (normal room volume), by adjusting the sensitivity, we can estimate a more precise threshold.



The most important part of my plushie: capacitive sensors. Depending on the emotion of the plushie, your actions will be received and interpreted differently.





← The final breadboard set up: 2 LEDS are the eyes of the plushie, the motion detector is the

nose of the cute bear, and the sound detector will be placed near its neck, allowing it to listen to the ambient sound properly.



The final body of the plushie, all hand sewn with thick details also added for aesthetics, to try to make it look really handmade and almost childish, innocent.