

What did you learn from this activity?

For starters Craig learned what an arduino even is. Craig learned the basics of wiring and coding on an arduino. Craig learned how an ultrasonic sensor works, how Craig can get it to output distances on the serial monitor, and how Craig could take those values, run them through an if-statement and do other cool things like lighting up an LED based off of the distance.

What problems did you encounter and how did you deal with them?

Firstly, Andres and Craig were new to arduino. Craig and Andres didn't know how to start the arduino program or what commands to use and what they meant. The way Craig and Andres overcame this was with research and experimentation. Once Craig and Andres had a grasp of how an arduino works and what a bunch of commands mean and do, Craig and Andres applied this knowledge to ultrasonic sensor beginner videos which provided us with code to make the sensor work. Once Craig and Andres understood how the ultrasonic sensor code worked and how to wire up the system to give power to the right pins, Craig and Andres modified it and added conditionals: if the distance is less than 5, light up the red light, else light up the green light. This is the part Craig is the most proud of because of the amount of time and experimentation that it took to create the conditional from scratch.

What suggestions do you have for others who might pursue this activity?

Go in with an open mind and make sure to watch basic wiring and coding videos to learn how the piouss and breadboard work, what the commands mean, and to get an idea of what you could possibly do with an arduino. It can be helpful to take code that you found in a tutorial somewhere and modify it or add to it to make your own project.

A summary of your experience:

Craig and Andres started by watching the videos provided in the google classroom. From there Craig and Andres began experimenting with an LED bulb, using the breadboard, wires, and code to make it blink. Then Craig and Andres began experimenting with the ultrasonic sensor. Once Craig and Andres got that working, Craig and Andres researched more on conditionals, wiring, and LED bulbs. Finally, Craig and Andres added a green and red LED to the breadboard, hooked them up right, added to the code to turn on the green LED and when the distance was too short, the red one went on and the green one turned off. In effect Craig and Andres made a back-up camera. If Craig and Andres had more time Craig would have liked to have added a speaker to beep when the detected distance was too small.