Team 16
Project Testing Assignment
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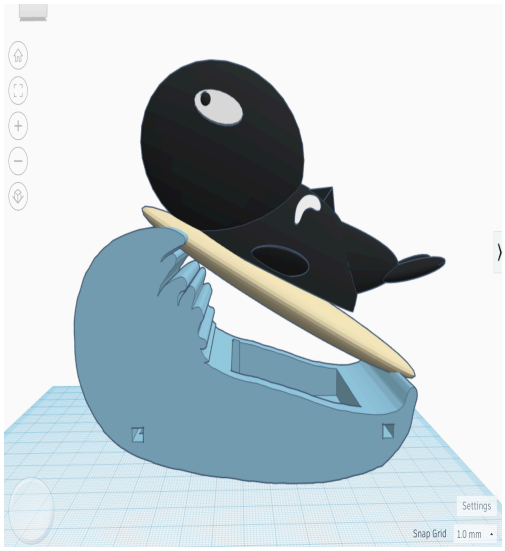
Project Design Lead/Hardware Lead:

Talked to TA Maddie about 3d printing approval and since we 3d printed we are good.

The design of the robot has stayed the same but while 3d printing we made a few changes so that the chassis better met our engineering specifications. The chassis was scaled down on the x-axis by 5% and the holes needed to be redone because they didn't align with the motor mount. The 3d printing failed 5 times before we successfully printed it. We successfully printed it by rotating about the axis so there was less build support and plate adhesion. To allow for the motors we are adding a box on the bottom to mount the wheels and instead using the wave cosmetically.



Software Lead:
Link to the required video:
https://drive.google.com/file/d/1FYOUrdPGUK4RY22zBtnCDxLSzCbi2Hwj/view?usp=drivesdk

Project Lead:
Our robots functionality and performance is working very well and is reaching all the goals set. It can follow a line, knows when to go forward, backwards etc. This is extremely important because in order for it to meet the proper requirements, it needs to follow a line. No, there are no deviations from the engineering specifications given.

Product Testing lead:

Components:	target value for weight:	other target values after test trial 1:
wave (with hardware attached)	> or equal to 1 lb	size: 5x5 (not including height)
power supply	N/A	single 9V battery did not supply enough power. A new power source must be found
assembly time	N/A	< 5 minutes
speed	N/A	N/A (at this time)
sensors	N/A	are calibrated, but needs further testing

Group:

Within creating this robot, many issues could arise to create issues with the safety and operational methods. Exposed wires could be a big hazard with users, especially children. If a wire was exposed and it was frayed, then it could cause electrical issues and potentially shock the user. With the software, if anything was coded incorrectly, then the robot would not function the way it needs to. This can create a problem since the robot could injure the user with the misappropriated actions. Currently the issues that have been raised with the design is the 3D printing failing. The wave took over a week to print and had sizing issues. The wheels did not fit into the chassis of the robot and had to be replaced on a wooden plate below it. This wooden plate allows the motors to fit and have a free range of motion. This has led to several design changes and had us rethink what will most effectively achieve our engineering specifications. We have changed the chassis to better meet our specifications and make the robot more efficient. The battery also created an issue since powering the robot has been an issue. The sensors work when it is plugged into a wall outlet or computer. But it does not work when relying on the batteries alone.