

**CPE 470: Auto Mobile
Robotics**

Team 4

Project 3

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Overview

This week, the project at hand was for our team to build a line following robot! The robot's functionalities were to follow a black line and reach a yellow paper and then we needed to guide the robot back home making some noise. Once the robot arrived at the yellow paper, it started to blindly seek its home. In order for the robot to move in the direction of its home, we had to scream to trigger the sound sensor. The louder the sound we made the more straight the robot went. Eventually going to its home.

Problems/Solutions

The first issue we had with this project was the initial build of the robot, which included figuring out the right sensors. After building the robot, we started to program the movement, which led to another problem. When the robot turned left or right in the corners of the black line, it would get stuck there and not leave the corner. Once we changed the position of the sensors and the variables in the code, the robot was able to maneuver around the corners with ease.

The next problem was trying to figure out how the robot was going to navigate home. We decided to have the robot rotate on one wheel in a circular motion until a certain decibel level was read with the sound sensor. Once the sound sensor triggered, the robot would turn on its other wheel and start driving forward. After one second, the robot would turn off that wheel and start to spin again, awaiting for the sound sensor to trigger again. After randomly screaming at the robot, we were able to get the robot to head home successfully!

Conclusion

This contest is easily one of our best competitions we have completed so far. Everything worked perfectly and we got an excellent time to navigate home. I hope that our next competition will prove to be better as we are advancing well with it! Below is a picture of our robot before our competition!

