Autonomous Maze Solving

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This project's goal was to develop a system capable of navigating a maze given the system limitations of the Arduino platform. The first step was coming up with the logic behind the path shortening algorithm by modeling different mazes and the paths the robot would take. This resulted in a list of steps the robot could take and its replacements. The next step was to come up with a way to replace values in a string in order to shorten the robot's path through the maze. After the maze solving theory was complete, assembling the hardware was the next step. The infrared sensors required a mounting bracket to attach them to the robot’s chassis, which was modeled and 3D printed. Then the code for directing the robot through the maze was then created. The stability of the robot on the maze is questionable as it has some difficulty navigating the maze, but the maze shortening algorithm is effective at creating a more efficient route through a maze.

Awards Won: