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EE 292

Proposal: Arduino Project

For the Arduino project our group wanted to create an adaption to the original Arduino car’s object detector. The goal of the project is to use the proximity sensor of the Arduino to not sense objects that are in its path, but to sense its position in terms of its elevation. When the Arduino is on level ground the program should just move forward until it notices a drop in elevation, such as the drop off that occurs at the edge of a table. The goal of the project is to have the car run autonomously on a table top and not fall of it. The proximity sensor can be converted to do the task by having the sensor face the ground instead of facing the front of the car. The program would have to be tweaked in order to do the opposite of what it currently does now, moving forward before detecting an object and reversing and turning before it hits the object. The main components that are required for the car are the components already present in the Arduino kit. Some extra components could be a few more wires and leds to be able to show by lighting up that there is a drop in elevation ahead noted by the turning of the motors from their original paths. The only other parts needed would be a bracket to hold the sensor itself to the position needed for the function of the car. The current position of the items on the car might need to move to put as much weight over the wheels as possible to make the car turn easier and to be able to escape from a table top edge it gets extremely close to. The project is designed to be able to stay on a flat surface that is surrounded by cliffs, table top edge, and not fall off while running autonomously.

