Self-side-parking System on a Toy Car

ECE 153B Project Proposal

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Overview

I am going to build a self-side-parking system on a toy car. In this project, the microcontroller will replace the control board on the toy car. When the program starts, the car should be able to find a parking lot with suitable size with sensor. When a suitable space is found, the parking function will start. It will control the motor in the toy car to park the car into the space. The user can start this function by both pressing the joystick on the board or a Bluetooth adaptor.

Periperals:

1. Ultrasonic Range Finder (radar sensor if necessary.)
2. Motor and direction control on the toy car.
3. Bluetooth adaptor
4. Kinetic sensor on the board.

Software Design:

1. Bluetooth and the interrupt of the joystick to trigger the whole progress.
2. Sensor to find a suitable space. (need the car to go forward, this will move the sensor)
3. Parking progress with kinetic sensor. (the sensor here may be optional)

Goals:

Allow the user to side-park by a single click.

If there is not a suitable parking space, send back message or alarm to the user.

Group Responsibility:

Since this is a single person group, I have to do all the staff, and the project may look little bit simpler. However, the parking progress will need more time to adjust because it is a fully auto progress and need to be relatively more precise.