Wirelessly Controlled Car
ECE 153B Project Proposal
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Overview:

For this project, we intend to design a wireless electrical car that is built and extended from a STM32 microprocessor board. We will implement a stop function for it that whenever it detects an object before it, it will automatically set on break. We will communicate with this car via bluetooth by implementing a software application with direction buttons. The car will turn in response to the commands given on the software through the UART Bluetooth module. The distance sensor will make sure that whenever the car is going to hit something ahead of it, the break will be on.

Peripherals:
1. HC-05 Bluetooth Module
2. Four Step Motors
3. Ultrasonic distance sensor

Software Design:

We will configure the board so it can be reached and make responses to the input signals sent from the software wirelessly. In order to have it turn to different directions correctly, we will figure out how each motor on the wheels should behave with corresponding turning commands/interrupts.

Goals:
1. We will configure the board so it supports bluetooth connectivity.
2. We will create a software application interface to control the car wirelessly.
3. The car can respond to the control correctly.
4. The response time should be minimized; there should be no lag.
5. The distance sensor functions correctly and when it detects something at a set distance, the car will be on break.

<u>Group Responsibilities</u>:

Jenny will research the Bluetooth connectivity between the car and the software application interface and set up the UART for wireless communication. Renny will configure the car with implementation of the distance sensor and the UART connection. Both of us will work on the software application for controlling the car.