Project Phase 1

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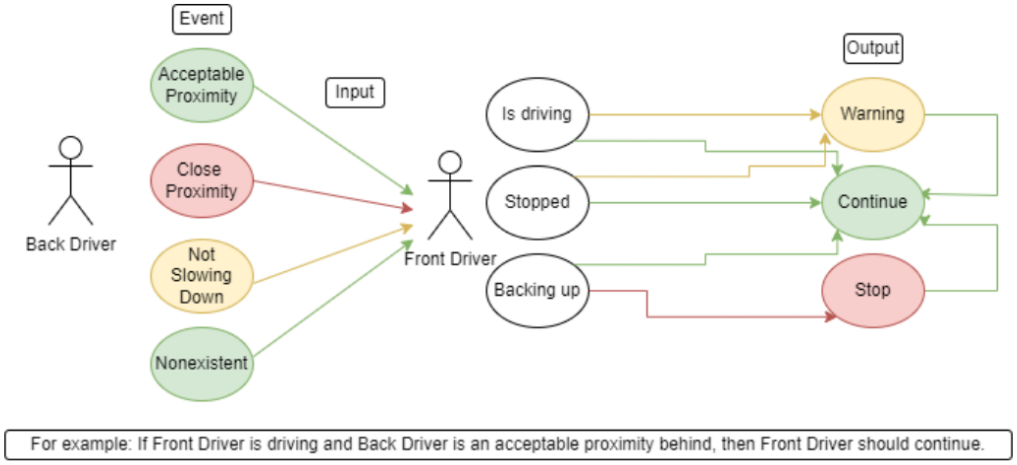
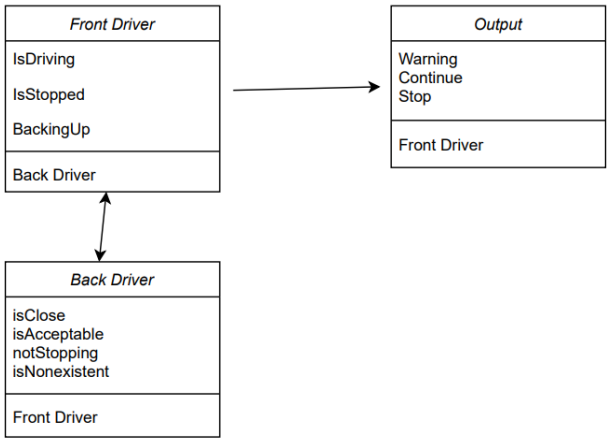
Problem Statement

Companies are always introducing more vehicular technologies to keep drivers safe. It has become an industry standard to have sensors around the car to prevent collisions. Many newer cars have a sensor to tell you if cars ahead of you are coming to a very fast stop, but what if we had sensors on the back to tell us that cars behind us were potentially not stopping. Every single driver has looked in their rearview mirror wondering if the driver behind them is paying attention. This system could especially be useful in states with cold winters and icy roads. What the sensor will do is, depending on the speed and proximity of the nearing object, output a noise to a buzzer. Realistically in cars, this will be connected to the console with the other systems.

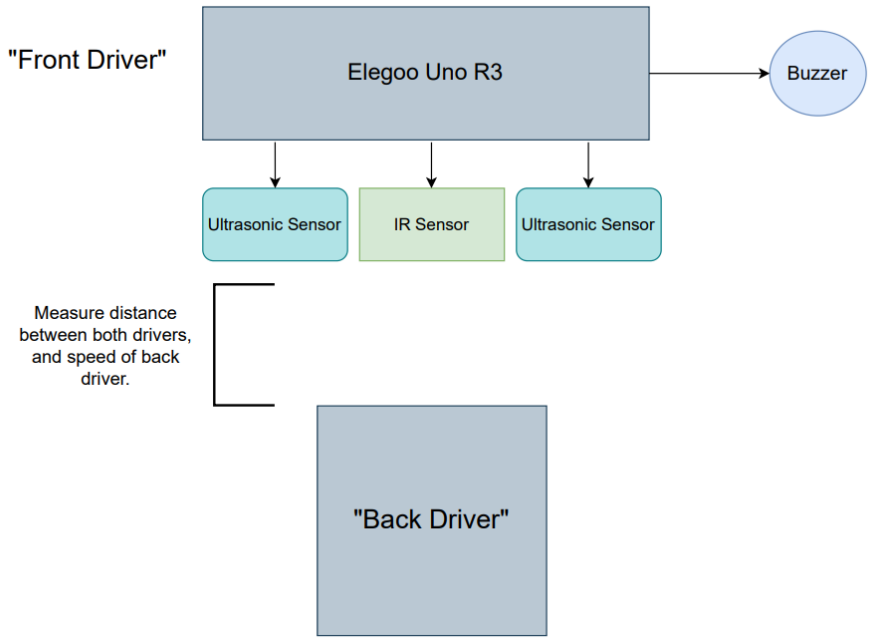
Use Case Diagram



CRC Cards



Hardware Flow Chart



Components

For this project, I am using the Elegoo Uno R3, a buzzer, an ultrasonic module, an IR sensor, and all necessary wires/resistors. Everything is on hand. I am not sure if I will use both sensors or if I will only use one, but there will be at least one sensor.