Goal

- Be able to implement a system that is affordable and efficient to all car users.
- APT will address accident prevention by alerting drivers when they are traveling to closely to neighboring vehicles.
- APT will document vehicle performance, and disable certain features on cellular devices while the vehicle is moving.
- Overall this system will be cost effective, portable and easy to use.

Motivations and Objectives

- Motivations
  - To be able to fix the issue new drivers in regards to accidents by setting up different alerts with different features.
  - Being able to implement safe/hands free driving practices by integrating Bluetooth technology.

- Objectives
  - APT’s main functionalities will include the following parameters: Distance from front, Distance between lanes and Distance from the back.
  - Learning about Arduino’s relationship with speaker, bluetooth, and ultrasonic sensors.

Methodology

- Methodology
  - Step 1
    - Figure out how the Arduino can be used to send messages.
    - Designing Wiring Schematics for the Arduino in regards to speaker, bluetooth, and ultrasonic sensors.

- Step 2
  - Learning about Master Slave
  - Transferring Data between Arduinos.

Research Challenges

- Coding the Arduino (different parameters.
  - Led, nRF Chip ,Speaker,Ultrasonic Sensor.
  - Designing Schematic for each attribute.
- Master Slave with the Arduino
  - Transferring Data.
  - Using two different Arduinos to communicate.
- Building the Entire System
  - Building Schematics for sonar sensor.

Acknowledgement

We would like to thank Hana Godrich for being so supportive and guiding us through this wonderful learning experience.

Results

- Connecting Arduino with Ultra-Sonic Sensor.
- Being able to implement arduino with speaker system, and using different voltages to increment sound.
- Using Bluetooth (Michael input)

References