Smart Transportation

CDS DESE IOT

(Ponnezhil, Amlesh, Srinivasa, Kaumudi and Devyani)

Use Accelerometer sensor to detect following events:

1. Detect Braking (Differentiate between Normal Braking and Sharp Braking)

2. Derive Speed from Accelerometer Data

3. Once detect any sharp braking event, trigger Camera to capture snap of the street view in an interval of 2 secs. Send an Alert to subscribed authority using MQTT broker at Azure Cloud.

4. At the end of a trip, visualize following:

- ✓ Speed profile.
- ✓ Total Distance travelled.

Extra Credit: 1. Detect Potholes and Speed Bumpers on road

2. Smart detector to detect accident and send emergency alert to MQTT broker at Azure Cloud.

SMART PNS

Nikumani Choudhury, Shivam Vinayak Vatsa

Use Accelerometer sensor to detect following events:
1. Detect Improper turn. (Differentiate between proper and improper turn)
2. Detect How many times the Car stopped in a trip.
3. Once detect any improper turn, trigger Camera to capture snap of the street view in an interval of 2 secs. Send an Alert to subscribed authority using MQTT broker at Azure Cloud.
5. At the end of the trip, visualize following:
   - ✓ Total Waiting time in traffic. (assume Car stopped in between only because of traffic in road)

Extra Credit: 1. Detect Potholes and Speed Bumpers on road.
2. Smart detector to detect accident and send emergency alert to MQTT broker at Azure Cloud.

ZEPHYR

Partha, Sonia,Tushar,Saurabh

Use OBD II Scanner to read following parameter from Car:

1. RPM
2. Vehicle Speed
3. Odometer Reading
4. Throttle position
5. O2 sensor

1. If speed of vehicle crosses a certain speed limit (Speed limit can be modified remotely from a web application), trigger Camera to capture snap of the street view in an interval of 2 secs. Send an Alert to subscribed authority using MQTT broker at Azure Cloud.
2. At the end of the trip, visualize following:

✓ Total Distance travelled
✓ Vehicle speed profile

Extra Credit: 1. Detect Servicing status of the Car using O2 Sensor and other parameters
2. Smart detector to detect accident and send emergency alert to MQTT broker at Azure Cloud.

D.A.E.A.M. TEAM

Rajrup, Ravikant, Sarthak, Abhilash K,Amogh MS

Use OBD II Scanner to read following parameter from Car:

1. RPM
2. Vehicle Speed
3. Odometer Reading
4. Throttle position
5. O2 sensor

1. If speed of vehicle crosses a certain speed limit (Let's consider each road has a speed limit, use GPS of Mobile phone to detect geo location and fetch speed limit of that road from backend server), trigger Camera to capture snap of the street view in an interval of 2 secs. Send an Alert to subscribed authority using MQTT broker at Azure Cloud.
2. At the end of the trip, visualize following:
   - Time series plot of Gear level
   - Vehicle speed profile
   - Time series plot of Throttle position

Extra Credit: 1. Detect Servicing status of the Car using O2 Sensor and other parameters

2. Smart detector to detect accident and send emergency alert to MQTT broker at Azure Cloud.