IoT Based Signs with Smart Connectivity for Better Road Safety

IDEA 1:

ABSTRACT

- In present Systems the road signs and the speed limits are Static. But the road signs can be changed in some cases.
- We can consider some cases when there are some road diversions due to heavy traffic or due to accidents then we can change the road signs accordingly if they are digitalized.
- This project proposes a system which has digital sign boards on which the signs can be changed dynamically.
- If there is rainfall, then the roads will be slippery, and the speed limit would be decreased.
- There is a web app through which you can enter the data of the road diversions, accident prone areas and the information sign boards can be entered through web app. This data is retrieved and displayed on the sign boards accordingly.

ADVANTAGES

- Reduces driving risks
- Maximum protection
- Less maintenance

DISADVANTAGES

- The main disadvantages include the high cost of most applications.
- Road transport infrastructure and travel is vulnerable to extreme weather changes and flood like seasons.

IDEA 2:

ABSTRACT

- Connected vehicle technology aim to solve some of the biggest challenges in the transportation in the areas of safety, mobility and environment.
- The safety application for Intelligent Transport System (ITS) is one of the main objectives in this project.
- In this project we focus on V2V communication, once cars are connected which can share data with other cars on the road and which help to reduce Highway accidents.
- Ultimately, vehicles are connected via multiple complementary technologies of vehicle to-vehicle (V2V) and vehicle-to-infrastructure (V2I) connectivity based on Wi-Fi, GPS, Dedicated Short Range Communication (DSRC).
- VANETS are also considered as one of the most important Simulator for safety of intelligent transportation systems. The use of the DSRC technologies support low latency vehicle-to-vehicle (V2V) communication.

ADVANTAGES

- Saves the life and vehicles from meeting with an accident.
- Highly safe ride.

DIASADVANTAGES

- Some connection loss between the vehicles can lead to accidents.
- Miscommunication between the connected vehicles also results in accidents.

IDEA 3:

ABSTRACT

- Within the mountain roads, there'll be slim roads with tight curves. In such forms of things, the driving force of a vehicle cannot see vehicles coming back from the alternative aspect. because of this downside, many individuals lose their lives.
- The solution for this downside is alerting the driver regarding the vehicle coming back from an alternative aspect.
- We will alert the driver by inserting an inaudible sensing element in one aspect of the road before the curve and keeping the junction rectifier light-weight alternative aspect of the curve, so if the vehicle comes from one finish of the curve sensing element can sense the vehicle and junction rectifier light-weight glows at the other aspect as Red.
- By gazing at the red junction rectifier light-weight driver will become alert and might prevent the speed of the vehicle.

ADVANTAGES

- Accident-free techniques
- Defensive driving offers maximum protection as you know how to handle road rage and speeding
- Save on insurance cost

DISADVANTAGES

- Fast riding can cause accidents even if we get an alert.
- Not following the speed limit also cause some danger in this type of case