Project Objectives

Team ID	PNT2022TMID48891
Project Name	Signs with Smart Connectivity For Better Road Safety

Signs with smart connectivity for Better road safety

Skills Required :

1. Python

2. IOT Cloud Platform

3. Node - RED

4. IBM Cloudant DB

Project Description :

- To replace the static signboards, smart connected sign boards are used.
- These smart connected sign boards get the speed limitations from using weather API and update automatically.
- Based on the weather changes the speed may increase or decrease.
- Based on the traffic and fatal situations the diversion signs are displayed.
- Guide(Schools), Warning and Service(Hospitals, Restaurant) signs are also
- displayed accordingly.
- Different modes of operations can be selected with the help of buttons.

Project Objective :

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. Safety application is research and industrial initiative which aim to contribute to the global advancement of automobile industry. In this project we focus on smart connected sign boards get the speed limitations from a web app using weather API and update automatically and based on the weather changes the speed may increase or decrease and also based on the traffic and fatal situations the diversion signs are displayed, Schools, Hospitals, Restaurant places signs are also displayed accordingly.

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. Clearly, intelligent roadway placards can be a vital part of our driving experience. They enable a better way for drivers to access the information they need in real time on the roads. These signs can increase awareness of upcoming issues, which people might otherwise discover too late. They may also augment the functionality of driverless vehicles. The value of implementing this technology should not be

underestimated. Smart roadway indicators have the potential to increase cost-efficiency, which eases the burden on governments and taxpayers. They facilitate a

smoother driving process for both human drivers and autonomous vehicles. The placards can be more user-friendly than the analog route signs we currently employ. Above all, they may ultimately lead to a safer network of roads for everyone. Smart roadway signage is not simply an objective for the future. Two UK companies have collaborated to produce these signs for use on England's roads.
The signs are technologically advanced, with graphics and text that drivers can see clearly. The messages are easy to comprehend quickly, keeping drivers informed of route conditions as they change. In addition to enhancing the roadway experience for users, this new signage costs less to maintain than traditional indicators. The new signs require fewer materials and less cabling, resulting in less time, upkeep, and expense. Increasing volumes of traffic are using municipal road infrastructure, with severe consequences for traffic efficiency and the safety of road users. Vulnerable roads users (VRUs), such as pedestrians or cyclists, are involved in 46 % of lethal

accidents. Exchanging information between road users increases their perception and is thus a critical building block to improve this situation. We have presented a system, to alert the driver about the speed limits in specific areas and reduce the speed of the vehicles in sensitive public zones without any interference of the drivers where controls are taken automatically by the use of a wireless local area networks

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