**SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY**

**Abstract**

Road accident nowadays has become a national catastrophe for over populated developing countries. One of the main cause of accident in the sensitive public zones like school, college, hospitals etc. and sharp turning points is the over speed of vehicles avoiding the speed limit indicated in the traffic sign board. Drivers endanger the lives of passengers, pedestrians and fellow drivers not limiting their vehicle speed in these sensitive public zones. The main objective of the proposed system is to operate the vehicles in a safe speed at critical zones minimizing thepossible risk of unwitting accidents and casualties.This project paves 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.The controls are taken automatically by the use of a wireless local area network. The system operates in such way that the accident information is passed to the vehicles entering the same zone to take diversion to avoid traffic congestion.

**Project description**

**Smart connected Signs for Improved Road Safety**

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.

Software used

* Python IDLE
* IBM Watson IoT platform ,Node Red Service , Cloudant DB

Hardware used

* ESP8266 Arduino UNO

**Road accidents survey:**

|  |  |  |
| --- | --- | --- |
| **parameters** | **2019** | **2020** |
| Number of accidents | **4,49,002** | **3,66,138** |
| Number of persons killed | **1,51,113** | **1,31,714** |
| Number of persons injured | **4,51,361** | **3,48,279** |
| Accident severity | **33.7** | **36.0** |

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* **Correlating extreme weather conditions with road traffic safety:A Unified Latent Space Model**

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