

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING**

IBM – LITERATURE SURVEY

PROJECT TITLE

SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY

(2022-2023)



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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. Software going to use are Arduino IDE, Embedded C. Hardware used, Node Mcu ESP8266.

LITERATURE SURVEY

S.NO	TITLE OF THE PROJECT	ADVANTAGES	DISADVANTAGES	TECHNOLOGY USED
1.	Vehicle to everything (V2X)	1.Improving Traffic Management 2.Improving Fuel Efficiency 3.Providing Driver Assistance 4.Direction and Route Optimization 5.Prevents Possible Crashes	1.Security Risks 2.Concerns of Liability 3.Privacy Issues 4.Potential Distraction to Drivers	1.GPS 2.road sensors 3.Dedicated Short-Range Communications (DSRC) technology
2.	Reliable Smart Road Signs	1..Detection of congestion and reduction of traffic 2.Traffic light timing in real-time 3.Safety from road accidents 4.Reduction in pollution	1.Technological infrastructure and public acceptance 2.Capital intensive	1. Speed sensors 2.Acoustic sensors 3. IP CCTV cameras 4. Smart traffic lights 5. Condition and weather monitoring systems 6.Digital signage.
3.	An IOT Architecture for Assessing Road Safety in Smart Cities	1.Less congested streets 2.Improved traffic and pedestrian safety 3.Extended connectivity alongside transportation infrastructure 4.Enhanced parking and e-tolling.	High cost of most applications	1. V2I (Vehicle to Infrastructure) 2. V2V (Car to Car) 3.V2P (Vehicle to People) 4.V2N (Vehicle to Network) technology.

4.	Smart vehicle connectivity for safety applications	1.Smart vehicle connectivity for safety applications 2.Reduce Highway accidents	At risk of being discovered and hacked	1.Wi-Fi 2.GPS 3.Dedicated Short Range Communication (DSRC). 4. VANETS
5.	Improved Traffic Sign Detection and Recognition Algorithm for Intelligent Vehicles	Accurate recognition rate and average processing time are markedly improved	The inclusiveness and anti-error recognition of the traffic sign recognition algorithm are not optimized.	1.SURF technologies
6 .	Smart roads: A state of the art of highways innovations in theSmart Age.	To increase transport efficiency, Drivers' and pedestrians' safety, clean energy consumption, And to promote sustainability.	Loss of privacy and security of data due to a large amount to store.	1.End user Internet service systems 2.Internet of Things 3.Artificial Intelligence 4.Edge Computing are used for data collection and road automation works
7.	Geographic Information Systems to Improve Road Safety	Pedestrian collisions and clashing, which together account for more than 65% of all fatal accidents will be reduced.	Complexity may occur due to improper traffic management	1.DCRE system 2.RTA method
8.	Traffic Sign Board Recognition and Voice Alert System using Convolutional Neural Network	Traffic signs are automatically detected using the live video stream.	Raspberry Pi board at one's discourse for implementation which is quite costly	1.Raspberry Pi, 2.Voice 3.Alert System .
9.	Vision-Based Traffic Sign Detection and Analysis for Intelligent Driver Assistance Systems	Lane Detection, driver distraction detection, and occupant pose inference.	The problem in TSR is the lack of use of standard Sign image databases. This makes comparisons between contributions very hard.	1.The KUL Data set includes four recorded sequences, tracking experiments

10.	Traffic Sign Detection for Intelligent Transportation Systems	Real time information delivered to the driver	It do not include images captured under unsuitable conditions (At night, cloudy weather, etc.)	<p>1.Road sensors, in-vehicle navigation services, electronic message Signs, traffic management</p> <p>2.Monitoring system alerts the driver to potential danger, or to avoid collisions by implementing safeguards.</p>
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