

Ideation Phase

Define the Problem Statements

Date	19 September 2022
Team ID	PNT2022TMIDI3488
Project Name	Project - Signs with smart connectivity for better road safety
Maximum Marks	2 Marks

Signs with smart connectivity for better road safety :

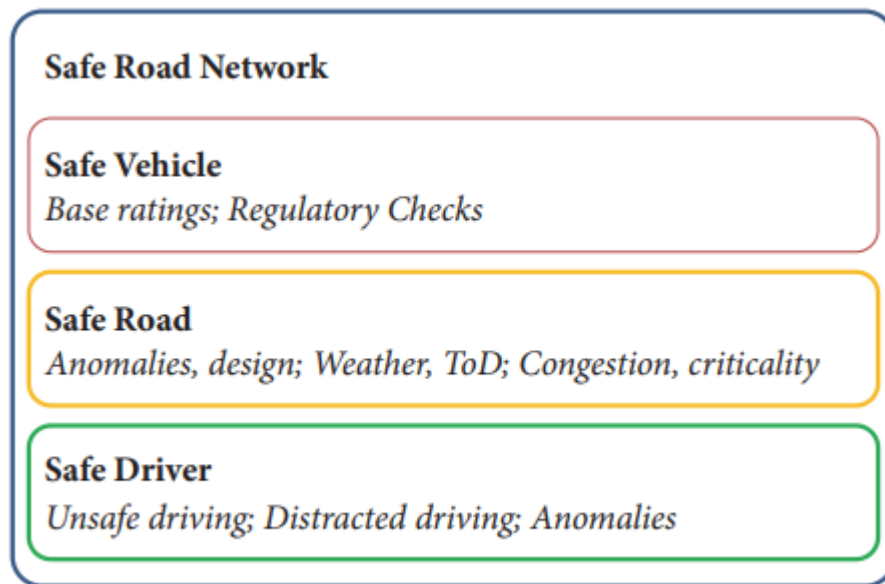
This project will replace static signs with smart signs that can adjust speed restrictions based on the weather and climate, display detour instructions in the event of an accident, and display alert messages in the event of hospitals, schools, or roadworks.

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



As we all know, road signs are the most vital role for road safety. 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 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.



References :

- [1] J.Jin, K.Fu, and C. Zhang, "Traffic sign recognition with hinge loss trained convolutional neural networks," IEEE Transactions on Intelligent Transportation Systems, vol.15, no. 5, pp. 1991-2000, 2014.
- [2] J. Greenhalgh and M. Mirmehdi, "Recognizing text-based traffic signs," IEEE Transactions on Intelligent Transportation Systems, vol. 16, no. 3, pp.1360-1369, 2015.
- [3] Y. Yang, H. Luo, H. Xu, and F. Wu, "Towards real-time traffic sign detection and classification," IEEE Transactions on Intelligent Transportation Systems, vol.17, no. 7, pp. 2022-2031, 2016.
- [4] X.Lu, Y.Wang, X. Zhou, Z. Zhang, and Z. Ling, "Traffic sign recognition via multi-modal tree-structure embedded multi-task learning," IEEE Transactions on Intelligent Transportation Systems, vol.18, no. 4, pp.960-972, 2017.