PROJECT DESIGN PHASE –II

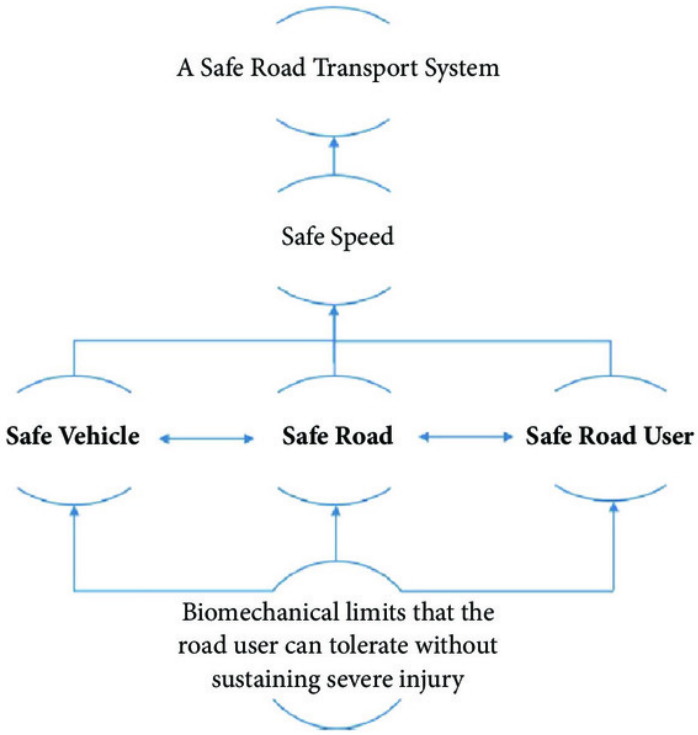
TECHNOLOGY ARCHITECTURE

DATE	10 October 2022
PROJECT NAME	Road safety
MAXIMUM MARKS	4 Marks
TEAM MEMBERS	S.Nithyakalyani V.Harshini R.Akshaya vairalaxmi R.Sneha

TECHNOLOGY ARCHITECTURE:

The Safe System (SS) approach to road safety emphasizes safety-by-design through ensuring safe vehicles, road networks, and road users. With a strong motivation from the World Health Organization (WHO), this approach is increasingly adopted worldwide. Considerations in SS, however, are made for the medium-to-long term. Our interest in this work is to complement the approach with a short-to-medium term dynamic assessment of road safety. Toward this end, we introduce a novel, cost-effective Internet of Things (IoT) architecture that facilitates the realization of a robust and dynamic computational core in assessing the safety of a road network and its elements. In doing so, we introduce a new, meaningful, and scalable metric for assessing road safety. We also showcase the use of machine learning in the design of the metric computation core through a novel application of Hidden Markov Models (HMMs). Finally, the impact of the proposed architecture is demonstrated through an application to safety-based route planning.

TECHNOLOGY ARCHITECTURE DIAGRAM:



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