Ideation Phase

Literature Survey

Date	03 September 2022
Team ID	PNT2022TMID52039
Project Name Project	Signs with Smart Connectivity for Better Road Safety
Maximum Marks	4 Marks

Sl.no.	Title, Author and Year	Concept	Disadvantages	Future work
1)	An IoT Architecture for Assessing Road Safety in Smart Cities. AUTHOR: Abd-Elhamid M. Taha	1) HMM(Hidden Markov Modelling) is used for modelling time server system. 2) Four six hours time windows are used.	1.It does not deals with the driving awareness of the road safety during long trips.	Future works involves exploring further applications, especially in the context of raising driving awareness of the road safety conditions during their helps.
2)	Development if an IOT based Real time traffic monitoring system for by the governance . AUTHOR: Mohammed Sarrab. Published:17 oct 2020	1) This research provide real time traffic monitoring for traffic update through road side message unit . 2) The proposed system uses magnetic sensor nodes to collect real time vehicle information.	1.As the project uses WiFi to communicate however their energy consumption and solution to recharge them are not considered. 2.More over the proposed system is tested only in the context of the signals of road.	1)The first dimensions is suggesting on optimal route for the drivers based on real time data. 2) The communication of road side display units and traffic signals have to be established.
3)	Accident Prevention and Road safety in Hilly region using IOT module . Author: Bhumika R	1) Emergency administration by piezo electric sensor. 2) Mishap aversion in sloping track utilize real time system.	Cloud Updating takes more time to update.	An android application can be Used from monitoring the speed'

4)	**Application of IoT and Artificial Intelligence in Road Safety** AUTHOR: Arnav Thakur Published: 14 May 2019	1)The prototype is designed using Raspberry Pi, Pi Camera, sensors for monitoring driver's eye movements, detecting yawning ,detecting toxic gases, and alcohol consumption to prevent accidents and to provide safety assistance to the drivers. 2)An integration with Artificial Intelligent (AI) can be used to detect microsleep.	1)The current body of knowledge lacks a method for quantitatively evaluating the effectiveness of such technologies, which probably is one reason why they have not been deployed widely. 2)The infrastructural, issues such as road zoning, planning, & other construction related concerns become significant problems for implementing this technology.	The Safe System goals and strategies focus on providing a road traffic system free from death and serious injury. The Safe System guides the planning, design, management, operation and use of the road traffic system so as to provide safety in spite of human fallibility.
5)	**Traffic sign symbol comprehension: a cross-cultural study.** AUTHOR: David Shinar Robert E. Dewari ,Heikki Summala and Lidia Zakowska. Published:2004	1)Three types of analyses were conducted. The first was a series of Analyses of Variance aimed at assessing variations in sign comprehension as a function of country, and type of driver. 2)The second type of analysis sought to identify the level of comprehension and variations among drivers of different countries in the comprehension of the specific signs studied here. 3) The third analysis investigated some of the differences in sign comprehension among the different signs	1)The most dangerous type of misunderstanding.	Sign comprehension varies greatly among drivers in different countries so to improve the signs which can identify by every drivers The improved usage of local signs needs to be higher than the non local signs.
6)	**Smart roads: A state of the art of highways innovations in the Smart Age.**	Self-healing technology is a new field within material technology that can find interesting applications in the road design process.	Issues such as security of data flow and storage; privacy and personal responsibility; traffic safety and protection of weaker users; any new forms	In the future scenario that sees the total presence of self-driving vehicles in an extensively interconnected environment, even the

			of pollution, to the detriment of human health and the environment.	problems relating to the management of non-signalized intersections can be adequately resolved.
	AUTHOR: Andrea Pompigna			
7)	Advances in smart roads for future smart cities.

AUTHOR: Francisco J. Martinez

Published:2020 | 1)There are several methods to harvest energy from roads. Some use sunlight while others use mechanical vibrations produced by vehicles as they transverse the road to generate electrical energy. 2)Solar energy captured on roads can be used to power street lights, signage and traffic signals. The energy harvested can also be stored or fed to the electric power grid. | 1)Poor visibility of traffic signs. 2)Challenges in placing signs. 3)Difficulty in remembering the highway code. | 1)Smart roads will be an indispensable part of smart transport for future smart cities. 2)In the future, there will be mergence of three major grids: the information grid, the electric grid, and the transportation grid. |
| 8) | Integrated system for monitoring road safety performance in cities

Author: G. Al-Haji

Published: 2011 | This mainly aims at in road safety, there are three main types of monitoring that are generally used, which are: Process Monitoring, Outcome Monitoring and Target Monitoring. The importance and usefulness of having a fourth type of monitoring, so-called Integrated Monitoring, that links process, outcome and targets together. | 1)If there is a failure in any area of process-outcomes-targets, the development in a city will fail as well. 2)Thus any successful action plan in road safety has to link process, practices to the targets results. | If the plan shows poor performance in any areas, changes can be made before a worsening situation will actually start. Therefore, integrated monitoring system may provide an early and direct warning signal to policy makers, practitioners and public. |
| 9) | Communication and Network Technologies of IOT in Smart Building: A survey | 1)They use coAp protocol to integrate devices with different Hardware 2)For data exchange purpose system addresses sensors and activators via ipv4 and ipv6 or zigbee protocols are used | 1)Installation are reconnection are difficult. Because every devices must be connected to every allow devices. | Hardware components has to be made in expensive and this can be obtained by 3D painting. |