Over Speed Detection on Highway

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***Abstract*- Automatic vehicle monitoring has turned out to be a very crucial scenario in the current years. It may develop into possibility by executing the following technologies. This project targets to propose system, which detects speeding vehicle over a specific speed limit and immediately report to concerned authorities. At present, road accident rates have raised so, there is a necessity for developing a system that detects and over speeding vehicle. The implementation of present smart vehicle over speeding detector using internet of things determines al the road traffic information automatically with intelligence. The smart vehicles are suitable with over speeding detector that has capability for recording, storing and information sharing about the vehicle's speed. A smart vehicle over speeding sensor is employed and is combined with IOT in order to decrece the vehicle's speed at particular places like accident proned zones. If this smart sensor technology is used the safety parameters, then avoidance of accidents may be attained. The system sends the data wirelessly. If the over speeding vehicle is detected, then the sensor sends data to concerned authorities. The purpose of the purposed sensor is to decrease high death rates because of accidents.**

***Index terms*- microcontroller, LCD screen, power supply, cloud admin etc**

I.INTRODUCTION

The Road safety is one of the major aspects in the present environmental and social safety. The increasing trend of road vehicles create serious traffic problem. In order to overcome these problems, many automobile device industries and vehicle manufacturers have tried to propose speed control techniques in order to keep up a vehicle safe distance. In this direction, the effort is going on devising a security driving application for vehicles by new rising IoT-oriented technology, which is employed for devising a more effective solution. The IoT (Internet of Things) is the interrelation of distinctly identifiable embedded computing appliances inside the existing infrastructure. IoT provides sophisticated connectivity of systems, services and devices, which goes beyond M2M (Machine to Machine Interactions) and covers different domains and applications. This interrelation of embedded appliances like smart objects is implemented in all automation enabling modern applications such as Smart Grid. The target of this project is to propose and develop a new Smart Vehicle Over speeding Detector using IoT technology for alerting information about over speeding vehicles. The smart vehicle over speeding detector is very essential for the human life as there are so many accidents in road every day. This study gives a general idea about a smart vehicle over speeding detector and also concentrates on the functionality of the over speeding detector by use of IoT technologies. In addition, the current research concentrates on the various methods for controlling the over speeding radars using literature survey. Further this research explains the technical working of the speeding detector and benefits associated with it. Thus, the proposed analysis will act as an eye opener for the future researches and it provides new insights about particular topic for the researchers and academic Introductionians.

II LITERATURE SURVEY

In 2009, Kaweepap Kangkittis introduced vehicle speed detection system. Using vehicle speed detection, video frame differentiation. This system is using video camera to measure vehicle speed and detect the speed vehicles.

In 2014, Nadarjan Jayarama, Jayavrinda Vrindavanam introduced the Automobile speed violation detection system using RFID and GSM technologies using detection speed, global system for mobile communications (GSM), Radio frequency identification (RFID), PIC (18F45K22) microcontroller, passive tag, traffic rules, camera.

This system is to traffic management and detecting over speed detection.

In 2014, Sarmad Majeed, Zohaib, Rehan Hafiz introduced Automated Over speed detection and reporting system by using RF-section, analog to digital converter, Doppler effect, This system is to detect over speed of vehicle and extracts the license plate along with informing the toll.

In 2014, Kiran Kumar, Pallavi Chandrakant, Santosh Kumar, Kushal KJ introduced Vehicle Speed Detection in Video frames using Corner detection by using speed detection, video processing, computer vision, frames subtraction, edge detection, image segmentation, corner detection, frame masking. This system is to manage traffic and avoid accidents at cheaper price.

In 2015, Monika Jain, Praveen Kumar, Priya Singh, Chhavi Narayan Arora, Ankita Sharma introduced Detection of Over Speed Vehicles on Highways by using IR transmitter, IR receiver, Timer. This system is to control the rash driving on highways and minimizes the difficulties of traffic police department.

In 2015, Vijin P, Suhail Basheer V, Shaab Mon PK,Sabin MK,Nikhil V,Nisi K.introduced Advanced vehicle speed detection system and Billing system(AVODABS) using Speed detection, billing. This system is to over speed detection and billing system has been proposed the vehicle over speeding.

In 2016, Jin-Xiang Wang, introduced Research of vehicle speed detection algorithm in video surveillance using center of mass, feature extraction, velocity estimation, motion detection.

In 2017, Kishor Kumar, Chandrashekhar K.V,Nikita A,Manish B introduced Vehicle Speed monitoring system by using ardiuno, speed sensor, gsm module and magnetic switches. This system to remove accident cases and to provide safe journey by controlling high speed of detection.

In 2017, T. Rajesh, M. Arunpandian, A. Indhumathi, B.Pratheepa introduced Multipurpose Vehicle Detection System by using Radio Frequency Identification(RFID), speed sensors, RFID reader. This system is to receiving all details regarding vehicle and its owner by using RFID technology for control the accidents caused due to over speeding.

In 2018, Mohammed Gufran Haseeb, Ankit Kumar, Sujeet Kumar Horo, Ashish Tiwary. Introduced Highway over speed detector and Alarming system using Light transmitter, LDR, code, memory. This system is to check speed of vehicle on highways so to remove accident causes & to provide safe journey by controlling high speed of the vehicle & and ease to control rash driving on highway.

III. OBJECTIVE

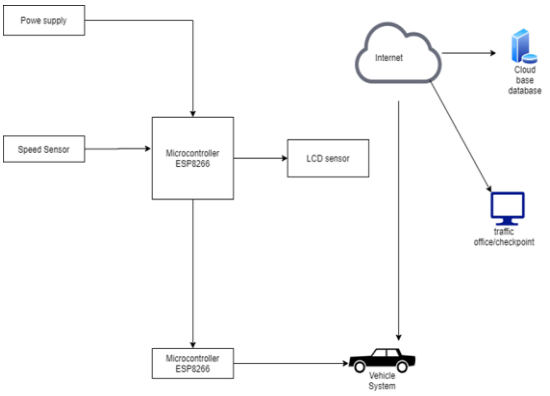
Designing speed monitoring system to monitor the speed of travelling vehicle in highways. Reporting illegal speeds to central server if the driver continues with the high speed. improve safety.

IV. MOTIVATION

The project targets to propose a system, which detects speeding vehicles over a specific speed limit and immediately report to concerned authorities, which will reduce road accidents rates which have raised now.

System Architecture:

Over speeding has been identified as a major cause for traffic accidents. The accidents due to high speed result in crashes, dangerous injuries and death. who statistics showed that in high-income countries, speed contributes to about 30 percentage of deaths on the road, while in some low-income and middle income countries, speed is estimated to be the main contributory factor in about half of all road crashes. Controlling vehicles speed can prevent crashes occurrence and reduce the impact when while driving on highways, drivers should not exceed the maximum speed limit permitted for their vehicles. However, accidents keep on occurring due to speed violations as drivers follow their speedometers and control their speed according to them, and reduce the speed if they find it to be exceeding and beyond their control. A high way speed checker comes handy for the traffic police, especially against the speed limit violators because it provides the digital display to detect any vehicle speed if the vehicle exceeds the permitted speed limit. The makeup of these highways, sometimes leads to accidents because most of the times, there is no rule to govern speed limits on these highways. To overcome this problem, we have implemented a circuit called as a speed checker for highways. This kit is inexpensive and it is used for considering the average and high speed of vehicles that move on the highways or roads.



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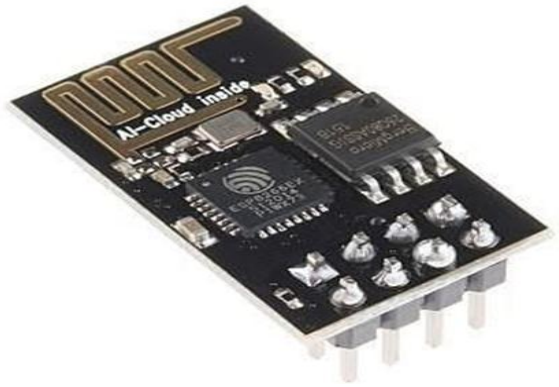

Fig. 1 Microcontroller ESP8266

MicrocontrollerESP8266

The chip first came to the attention of Western makers in August 2014 with the ESP-01 module, made by a third-party manufacturer Ai-Thinker. The ESP8285 is an ESP8266 with 1 MiB of built-in flash, allowing for single-chip devices capable of connecting to Wi-Fi. The very low price and the fact that there were very few external components on the module, which suggested that it could eventually be very inexpensive in volume, attracted many hackers to explore the module, chip.

V. CONCLUSION

Since number of accidents on highways increases day by day so it is necessary to check speed of the vehicles on highways so as to remove accident cases and to provide a safe journey by controlling high speed of the vehicle. It also minimizes the difficulties of traffic police department and make ease to control the rash driving on highways. The police can perform their duties while sitting in control room and can provide their service with more ease and accuracy. This project developed and tested in the laboratory and found to operating satisfactory in the test condition. The accuracy is very high. SITRC, version of this template was provided by courtesy of since number of accidents on highways increases day by day so it is necessary to check speed of the vehicles on highways so as to remove accident cases and to provide a safe journey by controlling high speed of the vehicle. It also minimizes the difficulties of traffic police department and make ease to control the rash driving on highways. The police can perform their duties while sitting in control room and can provide

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