

## Review Paper on Automated Vehicle Speed Control Via Wireless Technology

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### Abstract

*Vehicles are considered to be one of the greatest invention of human. Worldwide road accidents is considered to be a big issue and if we see charts number is incrementing day by day due to increase in the number of vehicles. Today with the help of technology we are able to use electronics with automobile industry which is resulting to be good i.e. in terms of safety features and various other aspects. In recent years due to upgradation in electronics fields we are able to control things wirelessly (wi-fi) instead of using cluster of wires which as a resulted to reduced weight, complexity of the circuit. The purpose of this exploration is to build a system which can automatically increase or decrease the acceleration of the vehicle according to the speed limit. With the group of various sensors we are able to achieve this. The group includes tachometer, accelerometer, odometer, speedometer . On, the dashboard we are able to see the response of the various sensors according to the work they are doing and giving response in the form of controlling vehicle. With the help of this we are able to implement the embedded system with the automobile engineering industry.*

**Keywords:-**G.P.S, Wireless module(wi-fi), Curve Warning system.

### Introduction

According to various survey conducted 80% of fatal accidents occurs due to humans blunder which may be alcohol consumption, dizziness, Over speeding. In this 80% of accidents most of are due to over speed which proved to be life snatcher. To decrease the number of accidents there have been various attempts by the traffic department, traffic researchers. One of the most reliable solution is to communication of the embedded system with various other automobile parts like motor, shaft. This is possible by the output generated by the sensors and according to it reacting to the situation accurately. This technology can be seen in some of the new vehicles with hefty amount of money. These system are highly reliable as if the driver is not attentive it may prove to be a life saviour. With the help of signals transfer between satellite and the G.P.S. system present in the vehicle the vehicle is able to adjust the suspension system and also increase or decrease the speed of the vehicle. Best example of this can be cruise control. In this the car maintains a constant speed over a long straight highway which can be beneficial. There is one drawback of this that is it can not slow down at turns, but recently a solution has

came for this that is curve warning system (cws). With the help of G.P.S. and satellite communication advancements the system can now able to know the turn ahead and slow down at right time. The main aim is to control the speed according to road ahead and to drive under safe speed limits to prevent accidents.

**Intelligent Transportation System (ITS)**- This system is implemented in some of the countries like U.K. The main purpose of ITS is to upgrade the already developed advancements, improve the prolonged traffic problems with the help of detection, receivers, sensors communication. Dynamic Route Guidance System (DRGS) is part of ITS which provides further road traffic conditions and various other parameters. All information related to traffic density is present due to collection of various components like video detection, inductive loop detector, microwave detection etc.



[1]

## Literature Review

In Md. Abdus Samad Kamal [2] proposed a effective solution for controlled and effective traffic control system. Its prime focus is to predict the traffic ahead and according to it increasing or decreasing the speed of the car which helps to reduce the number of accidents. It also tells us about the smooth flow of the traffic as there is continuous communication between the cars which can be via sensors. So, the overall impact is that it helps reduce traffic in a efficient and effective way.

In S.P. Bhumkar [3] has written about the fatigue issue which may prove to be fatal while driving. This research paper gives us the detail about a system that detects the driver mental or physical condition which may include alcohol consumption, sleepy. The components include various sensors like alcohol, gas, fuel sensor and also with software Google maps the location. By the communication between all of these sensors and software we are able to control the vehicle automatically.

In Rubini.R [4] has proposed a system which can be beneficial to the traffic control management. In her system whenever a driver violates the speed limit or any other traffic sign. This works on the signal transmission from the traffic signal sign to the vehicle coming

by. The traffic signal has Zigbee transmitter sends the limit of speed and then the vehicle coming by receives the the limit or any other sign like "steep slope ahead " or "School ahead" which lets the vehicle know by the receiver present on the vehicle. Then the car will slow down according to it.

In Sunil R. Kewate [5] research paper enlightens about the improvement of road infrastructure. He has proposed Intelligent Speed Adaptation (ISA) system which can control the vehicle according to road ahead. In this with the help of multiple color sensor the speed of vehicle can be controlled. It works by detecting the color strip present on the highway which are coded in the form of speed limit and the color sensor present on the car will detect and will set it speed according to the given limit.

In Jyotika Kapur [6] there has been increase in the number of accidents. This has lead to give number of attempts to lower the number. In this paper they have given a solution which may improve the drivers skill and to prevent accidents. In this a system which has Bluetooth module will tell the driver about the jeopardy ahead. It shows the distance between the drivers car and the car ahead on the dashboard display of the car. Then according to it necessary action will be taken.

In Gummarekula Sattibabu [7] This paper gives solution about the drivers negligence towards the traffic lights and other violation of rule. So, to aware driver about violation of lights it is accomplished by RF technology. The main purpose is to display the information related to speed control, violation of traffic signal to display on the display in car. If this solution is taken into consideration, large number of accidents can be reduced.

In G.Sathya [8] papers has discussed about "AARS using 3G technology". With the help of this technology the ambulance will not have wait in the traffics jams. Instead with the help of GPS device present in the ambulance with communicate with the traffic lights and let them know the current position, with the help of this the traffic lights will automatically control the traffic flow so, that the ambulance has no longer to wait in the long traffic queues. So, this system is beneficial in case of emergency.

In F.Parvez Ahmed [9] has proposed the method with which can have a smooth driving experience. With the help of G.P.S. and Wireless module we can control the vehicle to drive in save speed limit. In this we have a base station which is used for frequency modulation(FM), gives signal to the receiver end and then the system which may be any vehicle operates in critical mode. All this information can be seen on the dashboard display which will aware the driver about various aspects like speed limit at a specific highway or street.

## Conclusion

The main purpose of this purpose is to design a system to prevent fatal accidents and to keep the driver attentive while driving safely in critical zones. In real time this experiment is very difficult. So, to overcome these obstacles, this review paper succeeded in alerting the driver speed within the limits and letting us know the critical points. The whole system on which experiments are conducted is done in controlled way and one of the major benefit is that it is done on small volume with high reliability and accuracy. It has a bright Future as it will reduce accidents up to some extent .

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