Review of Accident Reporting and Prevention System

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Abstract: Speeding and drunken drive are the basic reasons for vehicle accident. Many lives could have been saved if emergency service could get accident information and touch in time and if drunken drivers are prevented from driving. Vehicle accidents are one of the most leading causes of casualty. The time between an accident occurrence and the emergency medical personnel are dispatched to the accident location is the important factor in the survival rates after an accident. By eliminating that time between an accident occurrence and the first responders are dispatched to the scene decreases mortality rates so that we can save lives. In this paper we are focusing about the all the existing system or analogies for accident reporting and prevention to compile a new system which is enhanced and concise of existing attributes. Above all we are thinking about the system which reduce time of action such as intimation to police, intimation to traffic police, intimation to family, intimation to hospital and many more aspect.

Keywords: Vibration detection, GPS, GSM, MEMS, ARM, Emergency call system, Alcohol gas sensor, Raspberry Pi, Ultrasonic Sensor, SMS, Microcontroller 8051, Location Tracking.

I. INTRODUCTION

Road Transport leads the transportation mediums in India. But the road conditions in the country is pitiable. Traffic Collisions, Motor Vehicle Collisions (MVC) to be specific, occur when motor vehicles accidentally collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction, such as a tree or pole. In the recent periods, the population and technological growth has exceeded to the limits of extremes. As the populace is increasing rapidly it discursively implies high number of vehicles. Loopholes in traffic management, ignorance to follow proper traffic guidelines and sometimes twist of fate contributed together gives rise to a higher figure of Motor Vehicle Collisions. The result of these three is devastating for some. Some costing economical losses, some medically and for some unfaithful life itself. Statically, Road collisions are the second highest death reason for the people between ages 15 to 50. The Paper hence discusses a severe subject, death rate which a message is sent to the close ambulance to make available medical support. This system [3] overcame the boundaries of [1] and [2]. But it has limitation due to which delay in the time of implementation, message and reply because PIC does not provide finest compiler and application support and also has slow speed of operation taking 4 clocks /instruction cycle. Since most of the traffic accidents are due to the human faults, [4] provides alogical approach to study the behaviour of the driver under all the potential threats. Driver behaviour sketching system [5] uses a fussy logic to compute the score for dissimilar drivers by providing route topology, weather conditions, and detects the uncertain driving events and also the probable threats. In order to detect the collision in road scenes, an algorithm was developed to calculate crash...
possibilities [6]. This is effective in terms of collision warning, crash evading and also mitigation. But it doesn’t provide the support during its aftermath of accident. The system [7] includes microcontroller, GPS and GSM to send message about the vehicle crash to the given numbers like ambulance, police station, etc.

This system [8] which would help to locate vehicle that initiated hit and run accident and also provides emergency medical support in order to mitigate the fatalities in road accidents. Thus the driver who caused accident leading to injury or death and left the scene of accident would be subjected to serious criminal charges. The continuous and intervallic monitoring of the vehicle will reduce the number of accidents in the roads.

This system [9] has accident avoidance technology which would decrease the accident of the vehicle in crowd areas. This vehicle accident avoidance, revealing and aware systems provide emergency response with crucial information at the earliest possible time. Dropping the time between when an accident takes place and when it is detected can reduce mortality rates.

This system [10] designed as ashrewd anti-theft system that uses GPS and GSM system to prevent theft and to decide the exact location of vehicle. The system contains GPS module, GSM modem, Infrared sensors, DTMF decoder IC MT8870DE, 8051 microcontroller, relay switch, vibration sensor, paint spray and high voltage mesh. GPS system is also installed in the vehicle for sending the info to the owner of the vehicle because GPS system can only receive the vehicle position information from satellites. This system automatically sends the message for help to ones relatives. The defensive measures like engine ignition cutoff, fuel supply cutoff, electric shock system (installed on steering wheel) and paint spray system are installed in the vehicle which is controlled using user or owner GSM mobile. The owner can lock or unlock his/her vehicle with the help of SMS. This system is for low range vehicles to provide them extreme security.

This paper [11] gives the shortest path by controlling traffic signals in favour of ambulance. By this system the time interval is abridged by applying the RF technologies that pedals the traffic signals. The precedence of service to the ambulance follows the queuing methodology through server communication. This ensures the reduced time delay between the accident location and hospital.

This paper gives the framework which is positioned in moving vehicle to detect accident and report to In Case of Emergency (ICE). The initial responder is getting notice through GPS and in addition to that the vehicle accident zone longitude and latitude information is obtained through GPS and GPRS. The given system can save life as the ICE team reaches the spot on time, take care of the victim and give medical treatment on time. The black box will accounts the voice of victim after the accident occurs which will be used for further analysis.

III. CONCLUSION

An accident is an unforeseen and unintentional event. In today’s world road accidents viewpoint among the leading cause of human death. Road safety for driver is an essential requirement of society. As the Number of vehicles increase day by day, Collision of vehicle also increases extensively, in this situation this paper fulfills the purpose of saving lives first by analysis the loophole in the existing systems. A system is needed which the system which reduce time of action such as intimation to police, intimation to traffic police, intimation to family, intimation to hospital and many more aspect.

REFERENCES