

# Survey on Accident Detection System and Alert

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**Abstract**— In extremely inhabited countries like Asian country, every 3.7 minutes a death swoops in. a number one explanation for the world burden of public health and fatalities is road accidents. The loss of human life attributable to accident is to be avoided. Traffic jam and current are major facts that cause delay to car, as most of the countries follow planned sequence of traffic lights. Typically the accidents also are not detected in time that conjointly in several cases results in loss of life. The thought here is to produce an intelligent stoplight System, which might facilitate the car reach the destination in minimum doable time by providing an adequate route of passage. In conjunction with this a controller is to be work on vehicles, which might facilitate in totally automatic detection of the prevalence of accident and find the vehicle similarly.

**Key words:** Accident, Congestion, Predetermined, Intelligent, Traffic Control

## I. INTRODUCTION

Traffic management on the road has become a severe problem of today's society attributable to Growth of the urbanization, industrialisation and population; there has been an incredible growth within the traffic. With growth in traffic, there's incidence of bundle of problems too; these issues embody traffic jams, accidents and traffic rule violation at the significant traffic signals. This successively has associate degree adverse impact on the economy of the country moreover because the loss of lives. So problem given on top of can become worst within the future. In order to confiscate the necessity of dominant traffic congestion and implementing ITLS, we can use Arduino board Processor beside RFID technology. The matter of traffic signal management may be solved by RFID primarily based system. With this technique, we can take into account the priority of various forms of vehicles and additionally take into account the density of traffic on the roads by installing RF reader on the road intersections. Radio frequency identification could be a technique that uses the radio waves to spot the item unambiguously. RFID is a technique that's wide employed in the varied application areas like life science, commerce, security, Electronic toll assortment system, access control etc. There area unit 3 main parts of RFID: RFID tag, RF Reader and information. The Vehicular System provides info of a vehicle like speed, position, through a GPS module and identity of a vehicle to a watching station and to a mobile phone in line with a particular event hold on during a program or a question from a watching station. 760 Accelerometer senses the collision of the vehicle and sends this info in real time to a hospital/police station. The watching station show this information on GUI additionally holds on this info in database for any method in line with a program. The system is beneficial in a lot of application like surveillance, security, tracking, which can be installed in lading trucks,

cars, motorcycle, and boat. The system may be employed in several applications.

## II. LITERATURE SURVEY

### A. Automatic Accident Detection and Ambulance Rescue with Intelligent Traffic Light System

A novel idea is proposed for controlling the traffic signals in favor of ambulances during the accidents. With this system the ambulance can be maneuvered from the ITLS can be proved to be effectual to control not only ambulance but also authoritative vehicles. Thus ITLS if implemented in countries with large population like INDIA can produce better results. The ITLS is more accurate with no loss of time. But there may be a delay caused because of GSM messages since it is a queue based technique, which can be reduced by giving more priority to the messages communicated through the controller.

### B. An Approach to Make Way for Intelligent Ambulance Using IoT

Firstly it is fully control of Traffic management control. GPS, GPRS and network, upon those technologies Internet of Things is found, to construct an intelligent traffic monitoring system, which can serve a good facility to make a path to ambulance in traffic load to reach the hospital which makes the latter as a part of the former. Secondly, intelligent traffic monitoring system based on Internet of Things has a number of advantages such less cost, high reliability, never affected by adverse weather, all weather operations etc. Thirdly, the technologies of Internet of Things makes it possible that a complete automation in monitoring system from data detect to data transmission, and to intelligent decision-making, from vehicle management to highway congestion control. Because fully automatic monitoring and management for vehicles and highways in an intelligent traffic monitoring system based on Internet of Things can completely realized, it will have a broad applying perspective.

### C. Automatic ambulance rescue system using shortest path finding Algorithm

In a critical situation many vehicles faces accident, due to this lot of person lost their lives. Some people can be saved at that time, but because of lack of information, time and place, it may not be possible. Using the vehicle black box concept the accident happened can be detected with the help of GPS and GSM systems. The victim can be admitted in the hospital by the ambulance section as soon as possible by controlling the traffic signals. Therefore the black box concept can provide for road safety hence it creates a safe driving for the driver and give security for the life and property of the public. The successful implementation of the PTMS can continuously provide field data and valuable experiences to test and evaluate the effectiveness of the ACP

approach for solving the management difficulty of real-world complex systems. Vehicular ad hoc networks (VANETs) have emerged as an application of mobile ad hoc networks (MANETs), which use dedicated short-range communication (DSRC) to allow vehicles in close proximity to communicate with each other or to communicate with roadside equipment. Applying wireless access technology in vehicular environments has led to the improvement of road safety and a reduction in the number of fatalities caused by road accidents through development of road safety applications and facilitation of information sharing between moving vehicles regarding the road.

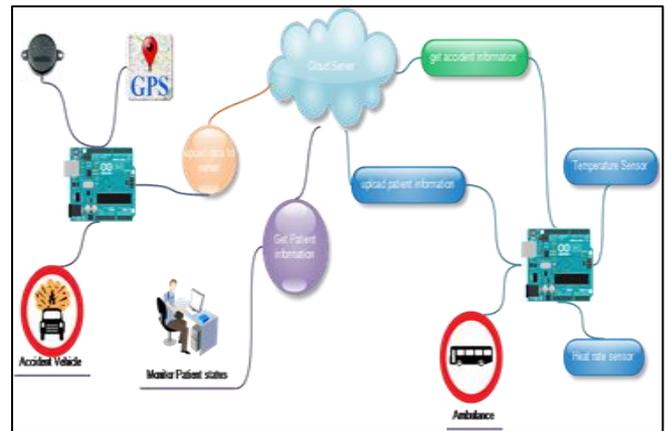
#### D. Smart Traffic Light Control and Congestion Avoidance System during Emergencies Using Arduino and Zigbee 802.15.4:

In this paper they have proposed a smart traffic light control and congestion avoidance system during emergencies. The system consists of two parts: Smart traffic light control system and Smart traffic routing system. First part of the system controls the traffic light system smartly for emergency vehicles and second part of the system tries to avoid congestions caused by traffic jams. The overall system is based on Arduino. The Arduino used in the system is Arduino which is uno family based. The system contains IR proximity sensor/distance sensor, Arduino and Xbee pro which are mounted on the either sides of roads and in emergency vehicles respectively. The IR system is activated whenever any vehicle passes on road between IR proximity sensor and Xbee pro. Arduino controls the IR system and counts number of vehicles passing on road. Arduino also store vehicles count in its memory. Based on different vehicles count, the Arduino takes decision and updates the traffic light delays. The traffic light is situated at a certain distance from the IR system. Thus based on vehicle count, Arduino defines different ranges for traffic light delays and updates those accordingly.

### III. METHODOLOGY

This whole project is split into 2 modules.

- First is the transport detection once accident happens. The vehicle features an Arduino controller fastened in it that is interfaced with devices like gas sensor, temperature sensor and shock device. These sensors square measure fastened at a predetermined worth before accident. But when accident happens the worth of one of the device changes and a flavoring to a predefined variety (of the ambulance) is sent through gsm. The GPS module that is additionally interfaced with the controller conjointly sends the placement of the vehicle. When the message is received by the motorcar, our work to produce a transparent route to the motorcar starts.



- The motorcar features a controller ARM that is interfaced with the RFID tag sends magnetic force waves. Conjointly the guts beat device and therefore the temperature device placed within the ambulance send a daily record of the patient through GSM to the hospital. This provides enough time for the doctor to organize. This module not solely focuses on one facet of accident handling, however it covers all the possible ways that to produce facilitate save the life in an accident.

### IV. PROPOSED ALGORITHM

- 1) Establish the exact connections.
- 2) Initialize GSM module.
- 3) Initialize GPS module.
- 4) Wait for threat conditions.
- 5) If any conditions arise then access GPS receiver.
- 6) 6. Send accessed GPS data to the predefined number through GSM as SMS.
- 7) In the mobile terminal immediately receiving SMS open the android app.
- 8) In the app, it directly shows the position of the vehicle.
- 9) From this terminal, the position of vehicle is send to a predefined number.
- 10) While running the code related to this algorithm its every status is reflected on application.

### V. CONCLUSIONS

In this paper, a completely unique plan is planned for dominant the traffic signals in favor of ambulances throughout the accidents. With this method the motorcar may be maneuvered from the ITLS may be proved to be effectual to regulate not solely motorcar however conjointly authoritative vehicles. Therefore ITLS if enforced in countries with giant population like Republic of India will produce higher results. The ITLS is a lot of correct with no loss of your time. However there is also a delay caused because of GSM messages since it's a queue primarily based technique, which may be reduced by giving a lot of priority to the messages communicated through the controller.

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