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Research paper

Smart alert for smart transportation

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Abstract

Road accident is mostly happened to a road user, though they happen quite often. The most unfortunate thing is that we don't learn from our mistakes on road. Most of the road users are quite well aware of the general rules and safety measures while using roads but it is only the laxity on part of road users, which cause accidents and crashes. Main cause of accidents and crashes are due to human errors. Many of the road accidents occurs in the human errors by overriding, drink and drive and don't follow safety precautions on roads. Various national and international researchers have found these as most common behavior of Road drivers, which leads to accidents [4].
So, we came up with an application to alert hospital emergency and cops. all the users can easily handle this application when accident emergency occur. In the same way we can save life of a person by occur road accident.

Keywords: *Piezo Electric Sensor, Compression Sensor, Application, Police Station And Hospitals, Thermos Sensor, Fire Station*

1. Introduction

This application we invented was comes under from intelligent transportation system(ITS).the application aims is to be create service relating to be transfer information to the transport &traffic management in the same way it transfers information to cops, hospitals through the piezo electric sensors and also by using thermo we can alert to fire stations it was an directive of the European directive union 2010/40/EU comes from 7 July 2010(ITS system) to be used information and communication technologies are to be applied to be used in road transport by using infrastructure vehicles and users and to be manage the traffic and mobility to be communicate the information .it have improve efficiency to be in transport is in situations such as road transport, communication etc.,.

***Wireless communications**
***Computational technologies**
***Floating car data/floating cellular data:**
1. Triangulation method
2. GPS based methods
3. Vehicle re-identification
4. Smartphone-based rich monitoring

***Sensing technologies:**
1. Inductive loop detection
2. Video vehicle detection
3. Bluetooth detection
4. Audio detection

In this application we involve the cloud technology that is to be a method information technology services in which resources are retrieved from the internet through the web-based tools and applications. simply, we say that transfers information through the internet.
GPS and GSM are to be used to find the location. It supports both offline and online.

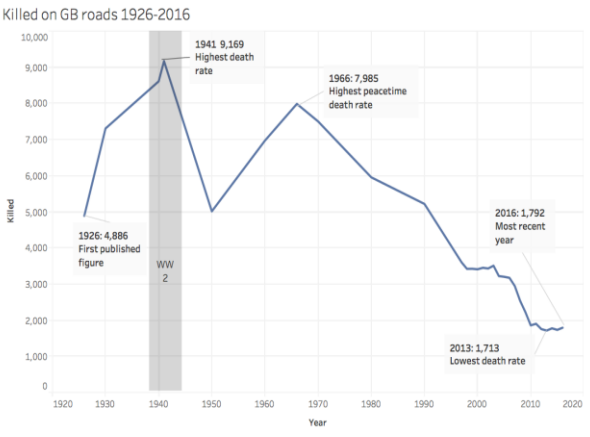
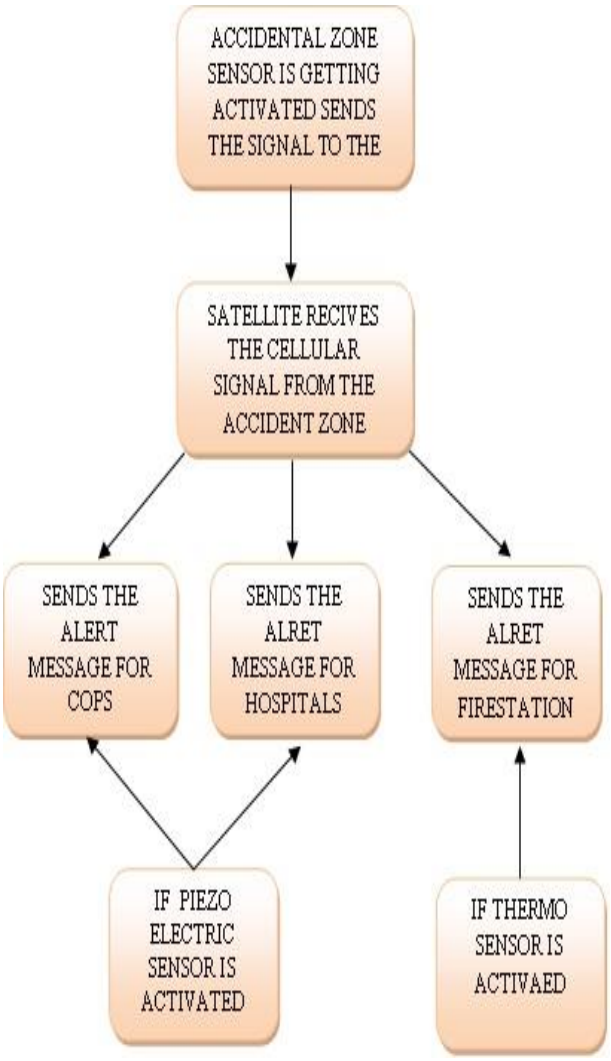


Figure 1 Road accident data from 1926-2016

The above graph represents the no of people's loss their life by road accidents starting from 1926 till 2016.

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2. Related Works

This article had discussed smart on-board transportation management monitor and notify the vehicle either offline or online in which based on geographical location, such feature is a geocasting. Which is the process by which a traffic accident is automatically detected and relayed to the nearest hospital or health centre, police station as well as to all vehicles in geographical proximity [2]. Intelligent traffic alert system that warns drivers of potential dangers on the road using audio and visual alerts? The ITAS consists of transmitter units installed on the side of the road that broadcast vital information such as the speed limit, road conditions, and unexpected traffic situations to drivers in real-time over the commercial FM radio frequency band. On the receiver side, the system uses the radio already present in the vehicle to deliver audio alerts that help keep drivers informed on road and traffic conditions[3]. This article the author discussed the various parameters like alcohol consumption, seat belt status, temperature, speed of vehicle, accident of occurrence and theft of vehicle continuously with the help of various sensors and devices used, thereby reduces the road accidents and vehicle thefts. This system can be implemented to any type of vehicle [6].

3. Proposed Work

In this application we are using cellular data (online, offline) to track the location of the vehicle through GPS or using GSM .in the same way using sensors they are Piezo electric sensor and compression sensor by using through micro controller to send the information into the satellite. The satellite sends the information when the accidents occur nearest to the hospital, police station and fire station. if any fire occurs in the accidents thermos sensor sends information to the fire station. These all location, vehicle number, driver name all will be displayed into the monitor screen which is placed in hospital, police station and fire station nearest to the accident occurs. piezo electric and compression sensors which is used to sense the vehicle. it takes 30 seconds delay time because it verifies the persons in the car are safe or not.

4. Result

The project aims to overcome death's in road accident by using this application. this application is used by alerting the emergency care center and cops nearby accident occurs in the form of alert messages by locating through the GPS using cellular system. By using this application immediately, the emergency care center responds and save the life of persons. The project shown the figure has been implemented and works as expected and will prove to be very useful.

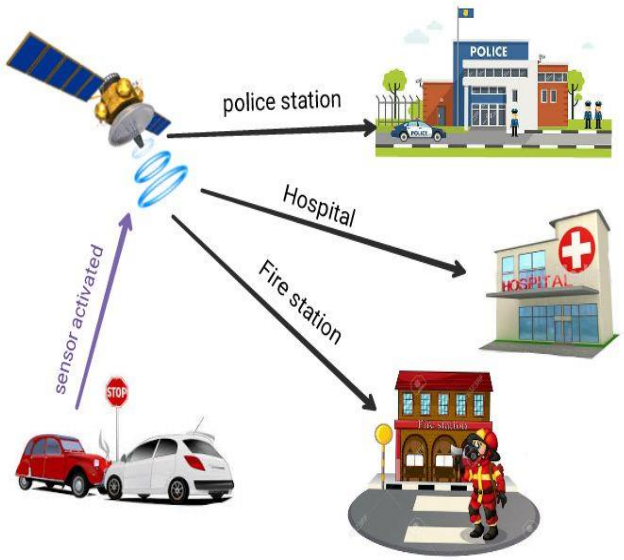


Figure 2. Shows the accident occurs how the messages has been sent.

In figure 2, it represent the flow of collision between vechicle and sensors get activated, the sensed information has transmitted to satellite, From satellite it immediately broadcast the information to nearby police station, hospital and fire station. Then the immediately necessary actions has been taken care and save the life.

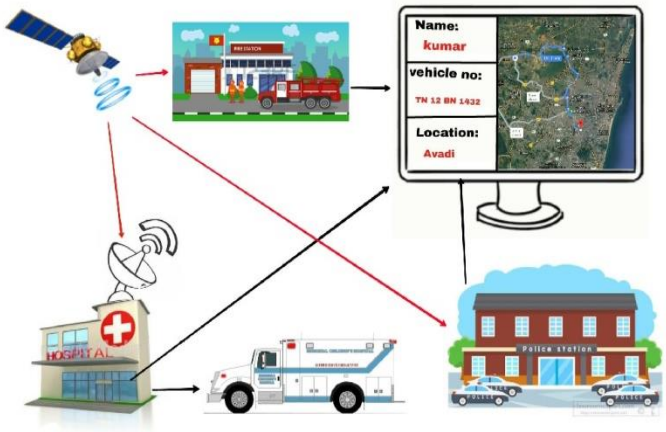


Figure 3. shows that how it will be monitoring in emergency stations.

5. Conclusion and Feature work

Therefore, by this application we conclude to overcome the death rate in accident by using this application through alert messages to emergency care centers and cop to respond immediately to save the lives.

In feature work what we conclude that to reduce the delay time for send information from sensors to satellite and from satellite to monitors to be displayed in hospitals, police stations and fire stations. In the same way in our solution just we send alert messages from satellite to emergency stations so it can be developed alert messages into video modules and it takes less storage in cloud. The cost of the compression sensor is high so without using compression sensor the piezo electric sensor can be developed to be sensed. And it is developed to monitoring the how the accident occurs it will be useful in police verification.

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