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ACCIDENT DETECTION AND REPORTING SYSYTEM USING WIRELESS SYSYTEM

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Abstract: In today's world as the population increases day by day the numbers of vehicle also increases on the roads and highways. This results in more accident because of rider's poor behaviors such as speed driving, drunk driving, riding without helmet protection, riding without sufficient sleep etc.In most of the accident cases, the victims loses their lives because of unavailability of medical facilities instantly. To locate position "Accident Detection and Reporting System" is used to savelives by making the medical facilities arriving on time. To resolve this problem we are developinga wireless system using Accelerometer, GPS and GSM for accident detection and reporting. If any accident occurs, this wireless device will send automated message and call the police, family members giving the exact position where the crash had occurred.

Index Terms **- Accident detection, Wireless system, MEMS Accelerometer, GPS device, GSM modem.**

1. INTRODUCTION

IN TODAY'S WORLD AS THE POPULATION INCREASES DAY BY DAY THE NUMBERS OF VEHICLE ALSO INCREASES ON THE ROAD AND HIGHWAYS. THIS RESULT IN MORE ACCIDENT THAT LEADS TO THE TRAFFIC JAMS AND PUBLIC NOT GET HELP INSTANTANEOUSLY. SO ROAD SAFETY IS ONE ISSUE THAT NEEDS SPECIAL ATTENTION. IN MOST OF THE ACCIDENT CASES, THE VICTIMS LOSE THEIR LIVES BECAUSE OF UNAVAILABILITY OF MEDICAL FACILITIES ON THE RIGHT TIME. THE CRUCIAL TIME BETWEEN THE ACCIDENT AND GETTING VICTIM MEDICAL ATTENTION CAN OFTEN BE THE DIFFERENCE BETWEEN LIFE AND DEATH. THIS ACCIDENT DETECTION AND REPORTING SYSTEM IS USED TO SAVE THE LIVES BY MAKING THE MEDICAL FACILITIES ARRIVING ON TIME. IN THIS PROJECT WE DEVELOPED A GPS/GSM FOR ACCIDENT DETECTION AND REPORTING. IF ANY ACCIDENT OCCURS, THIS WIRELESS DEVICE WILL SEND AUTOMATED MESSAGE TO EMERGENCY MEDICAL SERVICES (EMS) AND FAMILY MEMBER GIVING THE EXACT POSITION OF THE SPOT WHERE THE CRASH HAD OCCURRED. SO THEY CAN PROVIDE PROPER MEDICAL TREATMENT TO PATIENTS. THIS SYSTEM IS USED TO RECORD INFORMATION RELATED TO ACCIDENT LIKE TEMPERATURE DATA, POSITION DATA ETC. THIS SYSTEM IS ALSO USED TO DETECT WHETHER THE DRIVER WAS IN DRUNKEN STATE AND THE VEHICLE WOULD NOT START THEREAFTER. THE WHOLE SYSTEM IS BASED ON ARM CONTROLLER. THIS CONTROLLER IS USED TO CO-ORDINATE ALL THE ACTIVITIES IN THE SYSTEM.

1.2 OBJECTIVE

Accident Detection and Reporting System using GPS and GSM Module has been developed for vehicleaccident detection and reporting. It provides crucial information to emergency responders in the earliest possible time to provide better safety.

1.3 PROBLEM STATEMENT

Whenever accident being met, the nearby people call the ambulance. The problem associated withthis is that the victims depend on the mercy of nearby people. There is a chance that there are no people nearby the accident spot or people who are around neglects the accident. This is the flaw in the manual system.

2. LITERETURE REVIEW

Ashish Kushwaha et al. in [1] have proposed GPS And GSM Based Accident Alarm System to find the vehicle accident location by means of sending a message using a system which is placed inside the vehicle system. Author has used assembly programming for better accuracy along withGPS and GSM. In this project, whenever a vehicle meets with an accident immediately vibration sensor will detect the signal and send it to the microcontroller. Microcontroller sends the alert message through the GSM to an authorized mobile no. An alternate condition can be allowed by pressing a switch, in order to interrupt the flow of sending the message in case

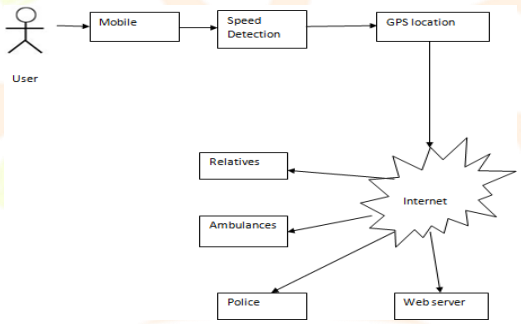
of no casualty.Hu Jian-ming, Li Jie, Li Guang-Hui et al. in [2] proposed a stolen vehicle recovery system. The system ensured increased safety and credibility. It used C8051F120 microcontroller and a vibrationsensor. The vehicle owner gets the message regarding the vehicle location at specific intervals through GSM.C.Prabha et al. in [3] have presented Automatic Vehicle Accident Detection and Messaging System Using GSM and GPS .In this paper an accelerometer can be used in a car alarm applicationso that dangerous driving can be detected. This paper is useful in detecting the accident precisely by means of both vibration sensor and Micro electro Mechanical system (MEMS) or accelerometer. In this project GPS is used for tracking the position of the vehicle, GSM, ARM controller is used for saving the mobile number in the EEPROM and sending the message to it when an accident has occurred.T. Krishna Kishore et al. in [4] emphasized on a system that is cost effective and also inculcatesthe modern internet facility for networking purposes. Linux operating system has been used alongwith General Packet Radio Service(GPRS).Advancements include more exact identification of thevehicle location at all times, data transfer facilitation, and freedom from software monitoring. Nirav Thakor et al. in [5] have presented Automatic Vehicle Accident Detection System Based onARM &GPS to detect the vehicle accident with the help of vibration sensor or MEMS sensor. GPSmodule captured the location of vehicle accident and a message is transmitted with the help ofGSM modem or for symptoms like heart attack, he has to press a single switch provided in thesystem. By pressing this switch a message is transmitted by the GSM module to the help centrewhich contains the location of car provided by GPS with the information of the user.

3 .EXISITING SYSTEM

It is common scenario that people die unnoticed during accidents, especially during night time. Communication is possible only through telephone calls. There is no system to inform the rescueforces when the driver is seriously injured. During night time most of the accidents are unnoticedwhich leads to loss of life. Even though the technology is developed road accidents are increasingday by day.

3.1 PROPOSE SYSTEM ARCHITECTURE:-

In our project user have used android app for accident detection and reporting in our mobile. If user drives a vehicle then system starts setting the particular speed. If vehicle speed down then notification message is arriving to the user. If user not reply this massage then accident is happenis considered. If accident is happen then user replay this message and the accident detection and reporting massage are send to the user family member, police and ambulance also using gsm andgps



3.2 MOBILE APP:-

A mobile application is a computer program or software application designed to run on a mobile device such as a phone, tablet, or watch. Apps were originally intended for productivity assistancesuch as email, calendar, and contact databases, but the public demand for apps caused rapid expansion into other areas such as mobile games, factory automation, GPS and location-based services, order-tracking, and ticket purchases, so that there are now millions of apps available. In our system we create the android app which is used for accident detection and reporting.

3.3 SYSTEM REQUIREMENT SPECIFICATION:-

3.3.1 HARDWARE REQUIREMENT:-

1. Android mobile phone sensor

3.3.2 SOFTWARE REQUIREMENT:-

1. Android ADT Bundle
2. SQLite Database

4. CONCLUSION

An innovative wireless system using Accelerometer and GPS tracking system has been developedfor vehicle accident detection and reporting. This vehicle accident detection and reporting systemsprovide crucial information to emergency responders in the earliest possible time. The crucial timebetween the accident and getting victim medical attention can often be the difference between lifeand death. This system provides better safety rather than no safety. Sensors and the switches/othercomponents used in our system is distributed throughout the car hence provides more flexibility while mounting into the vehicle. Using the open source android adds another advantage as we canwork on top of some already built APIs for GPS and GSM interfacing hence decreasing the total project completion time. Overall we have increased the system performance from every perspective which we could.

5. REFRENCES

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