

**ACCIDENT ALERT SYSTEM
EMERGENCY SYSTEM**Farha Amreen SA¹, Pooja H N², Prajakta.M³^{1,2,3}*Information Science and Engineering, The National Institute of Engineering Mysore*

Abstract— Accidents threaten human lives more and mainly road accidents are more common today. No one can predict when and how it will occur. Nowadays-even accidents are happening even for standing vehicle by the other one, which is in move .Accident Alert System (AAS) is quite a novel research area.In order to avoid such collisions we have designed the system called “accelerometer based accident alert system” .

This Project presents an automotive localization system using GPS and SMSservices.Many lives could have been saved if the required attention was given at the time of need. With thehelpof this system, the required attention can be given to the victim as the intelligentaccelerometer fitted into the systems alerts the nearby police stations and hospitals.. The system permits localization of the automobile and transmitting the position to the dear ones using GSM technology at his/her request.This system is also provided with emergency switch which can be turned off manually if the victim no longer requires help.Also once the force on accelerometer crosses the require limits,the siren is generated around 2 km area,whichisheard by passerbys to provide help to the victim at the time of need. . Now the world of wireless has inspired an entirely a new way of managing and minimizing the death rate due to auto crash. The scene of a fatal accident is always a theater where man and technology face the ultimate test. Whether the emergency is fire, earthquake or flood, relief or needed medical attention in this case, the stakes are always high.

Keywords:GPS(Global Positioning System),GSM(Global System for Mobile Communication),Accelerometer,Embedded system(any one programming language),messaging to dear ones.

I. INTRODUCTION

New generation of cars are improved in such a way that the number of accidents decreases. Innovative ideas has implemented and emerged in order to reduce the risk ofaccident. During the recent past years, some alarm system and intelligent controlled apparatus have been designed and developed in order to increase the safety of automobiles. Security in travel is primary concern for everyone. This Project describes a design of effective alarm system that can monitor an automotive / vehicle / car condition in travelling. The project name “**ACCIDENT ALERT WITH MANUAL BUTTON**” shows that project is designed to prevent the accident and to inform emergency about an accident that has occurred. This project uses a ACCELEROMETER that detects that accident has occurred and then generates siren and also with the help of GSM notification is sent to dear once.These sensors send a signal to microcontroller.

OURSYSTEM: Our system can be used in any kind of vehicle. When the accident takes place, the alert is automatically sent to the nearby police stations and hospitals for the immediate help but in the existing system the victim has to manually press the sensor and call for help which is not practical incase he is seriously injured. The existing system doesn't generate any siren to get assistance from

the passersby. Also, Our system is an affordable one. Accident alert system makes use of pressure sensors, to sense the accident.

Accident alert system also makes use of GPS(Global Positioning System) to get the information regarding the place of accident and which is further used to notify nearby police stations and hospitals for emergency care.

II. OBJECTIVE OF OUR SYSTEM

As the statistics of accidents are viewed, we can see that the accident are increased day by day. The main objective of the system is to provide help and need for the vehicle user and also detects the accident if occurred and informs the respective authority through wireless technologies such as GSM and GPS. Vehicle Crash alert system is used to recognize the location of the accident and easily to reach the location.

Every second is valuable for the ambulance. The sensors are immediately triggered as soon as the crash takes place. There is no loss of life due to the delay in the arrival of the ambulance. The purpose of the project is to find the vehicle where it is and locate the vehicle by means of sending a message using a system which is placed inside of vehicle system. Most of the times we may not be able to find accident location because we don't know where accident will happen. In order to give treatment for injured people, first we need to know where the accident happened through location tracking and sending a message to dear ones and at the same time siren is generated.

III. EXISTING SYSTEM

There are various proposed projects and a live system in US only. The system detects a crash, built in accelerometer and places a message to let you know it's about to call for help. You can cancel the alert if needed otherwise the app uploads crash details to automatic emergency call center. An agent calls your phone to confirm that you need assistance then request help from local authorities. They can stay online with you till the help arrives. Agents also can call the loved ones to let them know help is on the way. In the existing system, the victim has to manually press the sensor.

- This system is provided only in few states in the US.
- The live system is just an app; hence if the victim isn't carrying his mobile, this is of no help.
- If phone is damaged, help cannot be reached.
- The victim is required to confirm the assistance needed which is not practical in case he is seriously injured.
- This exists only in the higher profile cars.
- The existing system is automatic, if at all the accident is not severe, then the victim cannot stop the siren or prevent the notification from sending to dear ones.

IV. DISADVANTAGES

The live system 'Crash Alert' is US-only and can't work if any of the following occur at the time of the crash:

- Automatic or phone is disconnected or damaged
- Automatic and phone not connected via Bluetooth
- No GPS signal at the time of the crash
- Insufficient cellular signal to upload crash details.

The existing alert system projects include notification only to dear ones and the owner of the vehicle, but not to the emergency stations.

V. ADVANTAGES OF OUR SYSTEM

- This system is an immediate aid system.
- Monitors all hazards and threats.
- Alert messages are sent to the nearby hospitals and police stations.
- It is an affordable system.
- Can be used in any kind of vehicle.
- The alert message regarding the accident is automatically sent,
- This system can be used for a social cause.
- It does not need any operation manually.

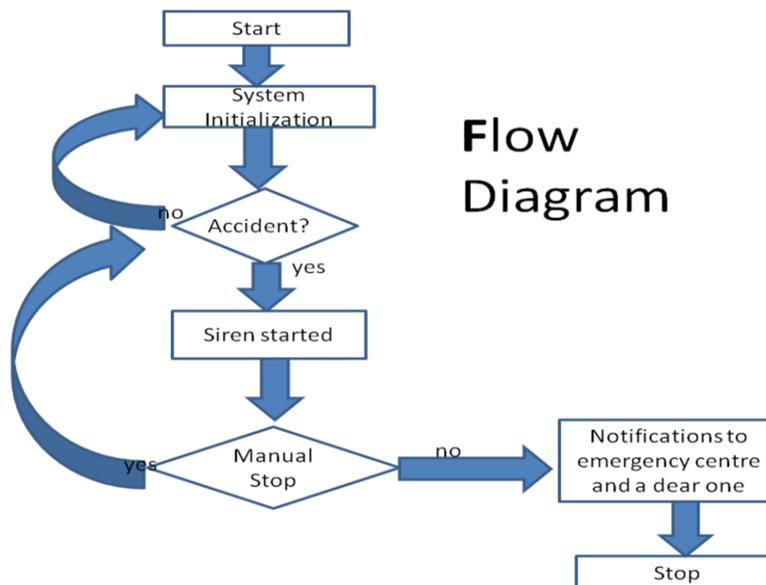
VI. HARDWARE REQUIREMENTS

- Pressure sensors
- Embedded microcontroller
- Portable GPS
- Control database servers
- Mobile phone handsets
- GSM modem
- Accelerometer

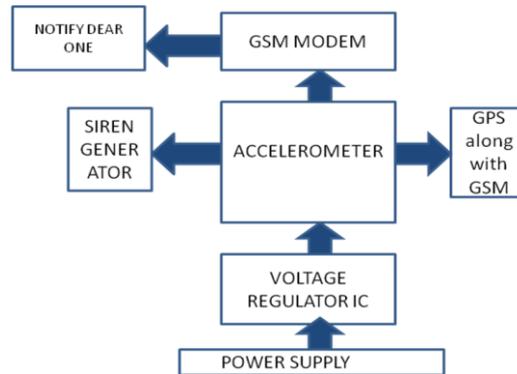
VII. SOFTWARE REQUIREMENTS

- C Program
- Embedded Program
- Google Maps
- Javascript

VIII. FLOW DIAGRAM



IX. DESIGN DIAGRAM



X. SEQUENCE OF ACTIONS

- Initially the system is initialized with power supply.
- The if force on accelerometer exceeds the specified limits, the siren is generated.
- If the accident is not severe, then the victim can manually stop the button.
- Otherwise the notification is sent to dear once with the help of GSM and GPS and mobile device.

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