Car Accident Detection System Using Smart Phone

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ABSTRACT

The Smart phone is major public communication device. The road accident is the major problem of human death in this era, due to more damages on the road there are more possibilities of causing road accidents. The number of accidents due to unsafety of road increased day by day and causes of this the traffic issue increased on road and also causes huge loss of life and property because of the poor emergency facilities. Hence we have to provide better facilities that can reduce the accident and save the public life. Our system is divided into two tasks, first is accident detection and second is sending alert to nearby hospital, police station, nearby app user and emergency contact (relative).

Keywords: Accelerometer, gyroscope, GPS, Smart phone, GSM

ARTICLE INFO

I. INTRODUCTION

Malnutrition The high demand of automobiles has also increased the traffic hazards and the road accidents. Life of the people is under high risk. This is because of the lack of best emergency facilities available in our country. An automatic alarm device for vehicle accidents is introduced in this paper.

As we know that Smart phone is major public communication device.In day today life everyone is using the smart phone for the each and every little thing so we decide to develop a application to detect car accident based on smart phone technology.

In a existing system whenever an accident is happen we have to call the ambulance and rest all things manually. Sometime this is not possible to call an ambulance if no one is there for help it causes death of victim. Sometime nearby people does not response to the victim just because fear of police and investigation. Due to this entire scenario, we have to decided to develop a smart phone application which will work on two phases.

II. LITERATURE SURVEY

1] Nagarjuna R Vatti, PrasannaLakshmi Vatti, Rambabu Vatti, Chandrashekhar Garde "Smart Road Accident Detection and communication System",in proceeding of 2018 IEEE International conference on current trends toward converging Technologies,Coimbatore,India.

In this paper, the authors made an attempt to develop a car accident detection and communication system which will inform the relatives, nearest hospitals and police along with the location of the accident.They used IOT based concepts and also used wireless sensors to detect the accidents.the disadvantage of this system they had used Arduino board which is hardware.The future work of this system that an android app can be developed for this in which instead of just receiving the co-ordinates of the location,it can be exactly pin pointed on the map.The heart rate can also be continuously monitored by the app to determine the driver's condition till the medical help arrives.[1]

2] Naji Taaib Said Al Wadhahi, Shaik Mazhar Hussain, Ashfaq Hussain, Ajay Vikram Singh "Accidents Detection and Prevention System to reduce Traffic Hazards using IR Sensors",IEEE International Conference paper 2018.

In this paper Author develop the system using IR sensor. In this paper the system is proposed to avoid the traffic congestion by giving warning to the driver.IR sensor warns the driver when the distance between two neighbouring vehicles is beyond threshold value.The detection phase is carried out using IR sensors that could detect and alert the people by sending SMS.This technologies can contributed to reduce traffic hazards.[2]

3] Usman Khalil,Adnan Nasir,S.M. Khan,T. Javid, S.A. Raza, A. Siddiqui "Automatic Road Accident Detection using Ultrasonic Sensor"

In this paper Author develop the system using Ultrasonic sensor.It provides the facility to detects accident not only in street situation but also under various natural conditions A Bayesian quickest change detection formulation was proposed to optimize the trade–off between average detection delay and false alarm rate. .The practical realization of this system is under process.[3]

4] Yasitha Warahena Liyanage, Daphney–Stavroula Zois, Charalampos Chelmis "Quickest free accident detection under unknown post-accident condition"

In this paper a Bayesian quickest change detection formulation was proposed to optimize the trade–off between average detection delay and false alarm rate.Bayesian quickest change detection approach for accurate freeway accident detection in near–real–time based on speed sensor readings. Disadvantages of this system is it is hardware based and very costly.[4]

5] Arif Shaik, Natalie Bowen, Jennifer Bole, Gary Kunzi, Daniel Bruce, Ahmed Abdelgawad "Smart Car: An IoT Based Accident Detection System"

This paper describes the feasibility of equipping a vehicle with technology that can detect an accident and immediately alert emergency personnel. When there is a car accident someone has to actively seek help such as calling 911 for emergency services. There is no automatic notification to the police,

ambulance, friends, or family. The Internet of Things (IoT) can be used to produce an automatic notification and response to the scene. The proposed device is designed to save lives by having emergency personnel respond to accident scenes quicker, as well as track the felons who decide to flee the area of an accident in which they were involved.[5]
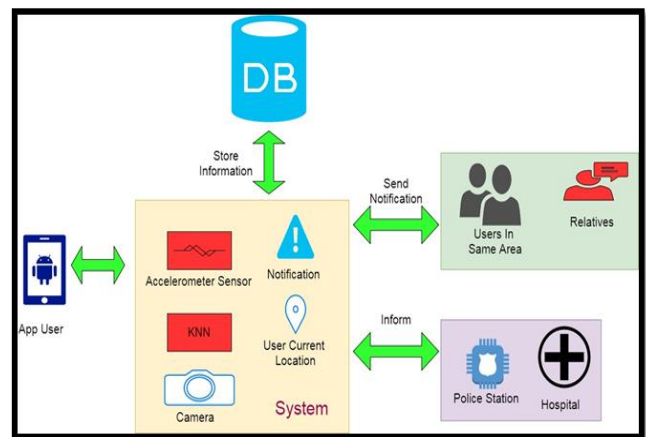
III. PROPOSED SYSTEM

Fig 1. Proposed system

In propose system use place his/ her mobile on desk at the time of driving. Accident is detected with the help of accelerometer sensor. When accident occurred it check accident is occurred or not. Its check false alert by sending alert message to application user. If user not respond then system take photo from front camera and send to the nearest police station. System also inform to nearest hospital, user relatives, also nearest application user to avoid traffic.

IV. CONCLUSION

The purpose of our project is to provide the application which will reduce the required time and also notify police station, hospital, User relative, Nearest user in short span of time and save the life of the injured person in the car.

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