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Smart phones with built-in sensors can detect emergencies and provide help in the event of an accident.

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Abstract— No one is prepared to see what is occurring in the world today. However, if an accident does occur, nobody will give a damn about it. In order to address this issue, it is planned to create a sensor that can be integrated into smartphones and used for emergency accident detection.The proposed method makes advantage of smartphone sensing of vehicle dynamics to identify driver phone usage, which has several potential applications in the realm of accident safety. The number of vehicles on the road and the number of accidents those vehicles cause are both on the rise. Many individuals are hurt and some of them even die owing to shortage of emergency services. Too often, lives are lost because emergency crews take too long to reach the scene. As a result, it is important to shorten the period of time between an accident and the first time an advertising capability is made available to the user. In the event of an accident, an Android phone may send an alarm message and a link to a map to the closest hospital and police station. In order to detect variations in centripetal acceleration caused by vehicle dynamics, this system makes use of the built-in sensors in cellphones, such as accelerometers and gyroscopes. The presence or absence of an accident may be deduced from these variations in addition to the angular frequency.

Keywords— **Car crash sensors include accelerometers, gyroscopes, alarms, cameras, etc.**

INTRODUCTION

In recent years, scientists have paid a significant lot of attention to road safety as an essential topic for study and action plans. While there has been progress in many areas, there is still one that seems to be seriously lacking interest or, at the very least, lacking in available information and educated discussion. A primary paradox arises when efforts to improve road safety are premised on the idea that the personal automobile is an indispensable part of modern life.

These days, car accidents are a leading cause of mortality worldwide. It's crucial to rescue victims of accidents. However, without a very responsive system, this is impossible.We need technology that detect the accident and notify to the closest hospital and police station. Also Share the news with the closest app user so you may skip the traffic. Break the news to loved ones about the accident

We need technology that detect the accident and notify to the closest hospital and police station. The closest app user should also be notified to minimize unnecessary delays. Share the news of the accident with family. Multiple traffic safety applications may benefit from the proposed system, which leverages smartphone detection of vehicle dynamics to assess driver phone usage. In order to detect variations in centripetal acceleration caused by vehicle dynamics, our system makes use of the accelerometers and gyroscopes included in modern smartphones. The presence or absence of an accident may be calculated from these variations plus the angular velocity involved.

Users of the proposed system would leave their phones on the dashboard. Accident is recognized with the assistance of accelerometer sensor. When an accident happens, it verifies whether or not an accident really happened. By notifying the app's user, it can detect and eliminate false alerts. A snapshot will be taken from the front-facing camera and sent to the closest police station if the user does not answer. The system may also send a message to the local police station, hospital, or user's family members.

Methodologies to implement the system modules:

1. User Login/Registration
2. Accident detection
3. Take photo
4. Inform Nearest Hospital and police station
5. Inform to relatives

PRELIMINARIES

GPS(Global Positioning System)

A GPS tracking unit is a navigation device normally

carried by a moving vehicle or person that uses the Global Positioning System (GPS) to track the device's movements and determine its location. The recorded location data can either be stored within the tracking unit or transmitted to an Internet-connected device using the cellular in the form of (GPRS or SMS). This will helps to relatives, Hospital and nearest Police station to quickly present on accident spot to provide first aid with the help of location provided by GPS Tracker Unit.

GSM

Gsm stands for global system for mobile communication. **Gsm** makes use of narrowband time division multiple access technique for transmitting signals. **Gsm** was developed using digital technology.

ARM Processors

Arm processors are highly used in consumer electronic devices such as smartphones, tablets, multimedia players and other mobile devices. Because of their reduced instruction set, they require fewer transistors, which enables a smaller die size for the integrated circuitry (IC).This helps in this application to Capture the Photos and providing the integrated Sensors like Accelerometer and gyroscope to capture the motions.

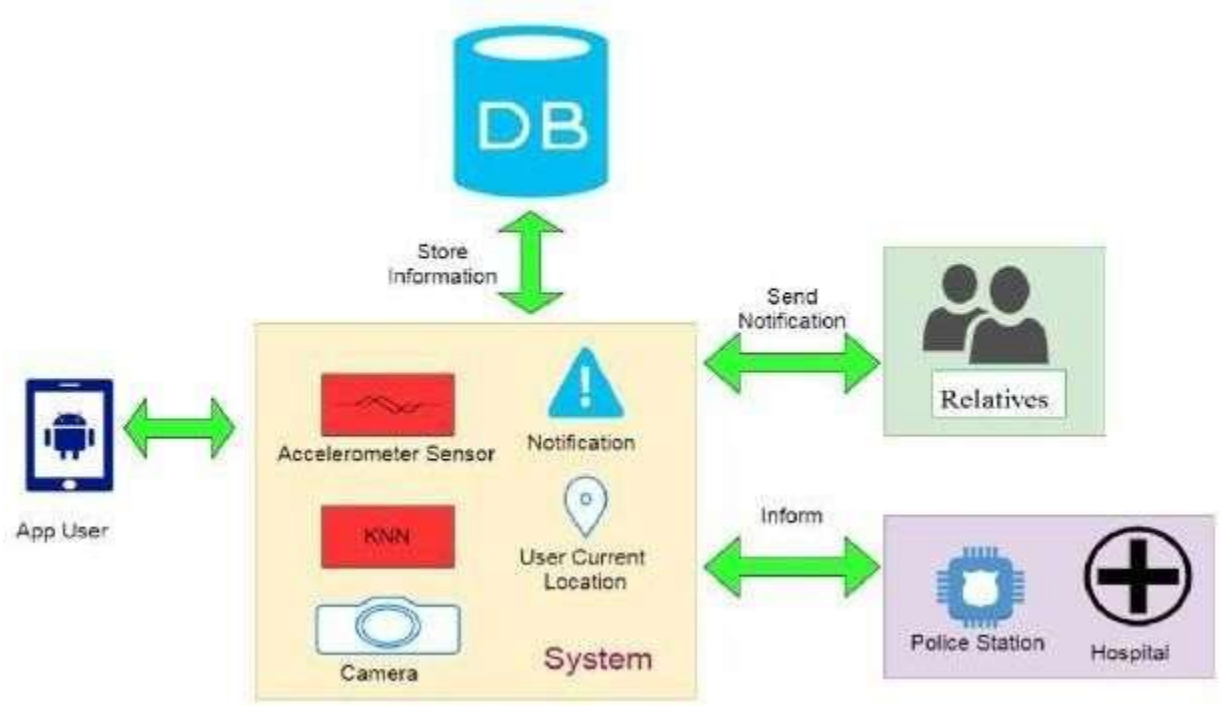

Figure 1 System Architecture

I. MODULE DESCRIPTION

1. User Login /Registration:
In this module user register into the system. All information of user stored into database. User places the mobile in car.

2. Accident detection:
In this module accident is detected with the help of accelerometer sensor. After detecting accident, system will alert to user and take the response if user doesn't response to system then system take as accident.

3. Take photo:
If accident is detected then system takes photo from front camera.

4. Inform Nearest Hospital and police station:
System at the background searching the nearest location of police and hospital. After searching done system request successfully send to that police station. In this model user current location used to find nearest hospital and police station.

5. Inform to relatives:
After detecting accident, system inform to relatives by sending SMS. Relative's mobile number is store at user registration.

Applications:

1. Can be used by drivers Car/Motor Vehicles to secure themselves.
2. Can be used by health department of government to survey the number of accidents if deployed in larger scale.
3. Can be used by police to increase speed of complaint registration.

Conclusions

Results have shown that the application developed is able to correctly achieve its purpose within a short time period. Our results show that the total time required to perform all the tasks, including the delivery of an SMS with

the accident details, and then by providing the nearby police station and hospital details list using GPS and sending them an alert message of the user accident with exact location of user, is taking short time period.Thus this work ensures the reduction of death ratio and it will make disaster change in the country like India and also which will have a greater importance in day to day life.

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