

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. The goal is to create a sensor that can be included into smartphones to detect emergencies and prevent further damage. The proposed method uses smartphone detection of vehicle dynamics to assess 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. Therefore, the period required for an accident to occur before the first advertising facility is made available to the user must be shortened. 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. Differences in centripetal acceleration caused by vehicle dynamics may be detected by this technology thanks to the accelerometers and gyroscopes included into modern smartphones. These variations, in conjunction with the angular frequency, may help establish whether or not the collision really took place.

Keywords— Auto Crash Detection, Alerts, Notifications, and Photo-Taking Equipment.

INTRODUCTION

In recent years, researchers and policymakers have paid a lot of attention to the issue of road safety. While there has been progress in many areas, there is still one that seems to be receiving either insufficient attention or, at the very least, inadequate coverage in the media and discussion among experts. In the case of road safety, it can be argued that solutions that build on the acceptance of the personal automobile as a major and immutable technology will reinforce that position and generate a primary paradox: solutions intended to lessen a significant drawback of motorized transportation contribute to the perpetuation of the conditions that cause road traffic accidents.

These days, car accidents are a leading cause of mortality worldwide. It's crucial to rescue victims of accidents. However, this is impossible without a system that can react quickly. There

must be a way for an accident to be detected and reported to the local police station and medical facility. Also Share the news with the closest app user so you may skip the traffic. Break the news to loved ones about the accident

There must be a way for an accident to be detected and reported to the local police station and medical facility. Notify the closest app user as well in order to save time. The accident should be reported to the family. The proposed method may aid several traffic safety applications by using smartphone detection of vehicle dynamics to assess driver phone usage. Differences in centripetal acceleration caused by vehicle dynamics are detected by our system using the built-in sensors in cellphones, such as accelerometers and gyroscopes. These variations, when added to the angular velocity, help establish causality.

Users of the proposed system would leave their phones on the dashboard. An accelerometer-based sensor may detect a collision. When accident happened it check accident is occurred or not. By notifying the app's user, it can detect and eliminate false alerts. If the user doesn't answer, the system will capture a picture using the front-facing camera and submit it to the police. The closest police station, hospital, and user's family members may all be notified by the system.

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

Applied GIS

(GPRS or SMS). This will help 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.

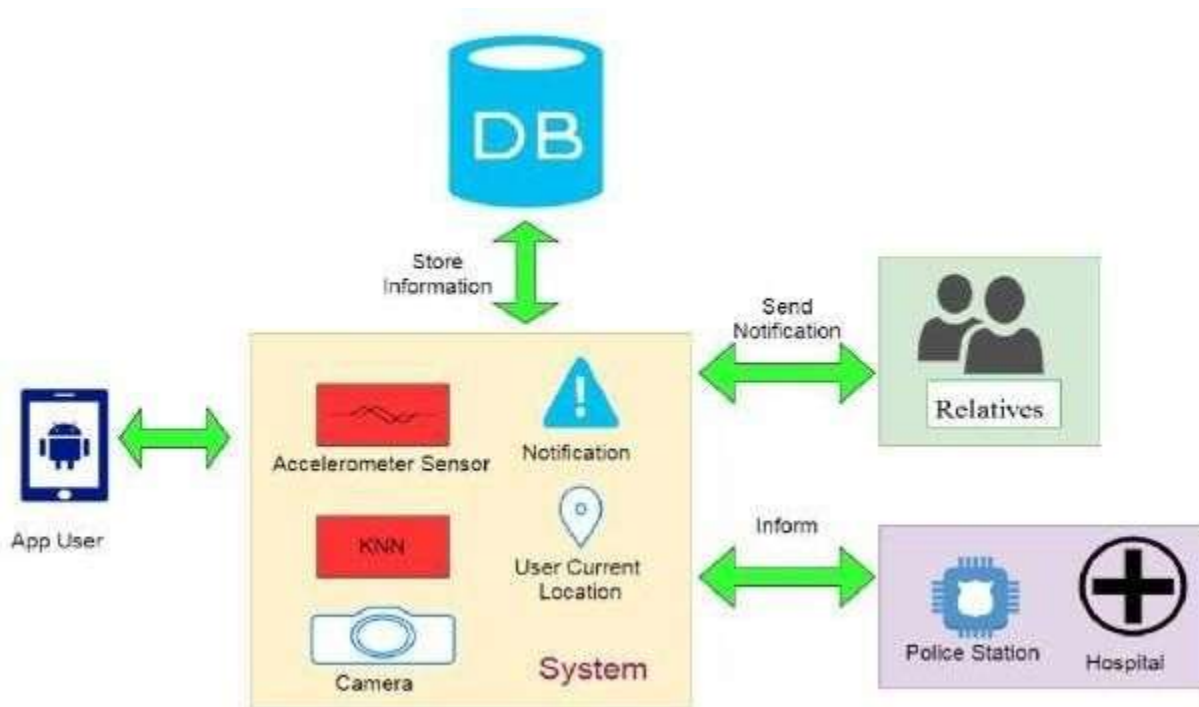


Figure 1 System Architecture

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 respond 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 stored 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

The built software was able to accurately accomplish its aim in

a very short amount of time, as seen by the results. Based on our findings, the entire process from sending an SMS with accident details to alerting the police and nearest hospital of the user's accident and providing them with their precise location via GPS takes only a short amount of time. As a result, our approach guarantees a lower death toll, will alter the catastrophe landscape in countries like India, and will have far-reaching practical implications.

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