

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

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Vol. 8, Issue 3, March 2019

Real Time Rash Driving Detection Using Andriod Application Go Safe Go

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ABSTRACT: With the rapid development of society, there are some side-effects as well as the increasing number of car accidents. On average one out of each three car accidents results in some type of injury. Traffic accidents are one of the leading causes of fatalities in most of the countries. As number of auto increases mean while the accident also increases. The government has taken number of actions and so many awareness program conjointly contacted even though the accident increases as population increases. Propose system can be detect accident automatically using accelerometer sensors and notify the entire nearest app user

KEYWORDS: GPS, Mobile Interaction, Accelerometer Sensor, Smartphone, OBD.

I. INTRODUCTION

In this project, we present Go Safe application, a lightweight, flexible and power-efficient smartphone based vehicle to infrastructure communication system for improving road safety and enhancing the driving experience. This system notifies motor vehicle drivers about events that may be encountered while driving; this application will alert users if there is any accident happen on road. So that other vehicle will choose another path/route. Using accelerometer sensor, velocity and speed of that particular vehicle will be calculated.

II. LITERATURE SURVEY

[1] Attila Bonyar, Oliver Krammer et al; the paper is given overview on the existing call solutions for car accident detection. Sensors are utilized for crash sensing, for notification. Call is an emergency call that can be generated either manually by passenger or automatically via activation of in-vehicle sensors when a serious accident detects. When system activated the in-vehicle call system established a 112 voice connection directly to the nearest safety answering point. Even if passenger is not able to speak, a minimum set of data (MSD) is sent to safety point which include location of crash site, the triggering mode, the vehicle identification number, timestamp, and current location. This way of information that is valuable for emergency res pponder to reaching them as soon as possible.

[2]Girts Strains, Artis Mednis, Georgijs Kanonirs et al; The paper showed one of the most popular smartphone platforms at the moment, and the popularity is even rising. Additionally, it is one of the most open and edible platforms providing software developers easy access to phone hardware and rich software. API. They envision Android based smartphones as a powerful and widely used participatory sensing platform in near future. The paper they had examines Android smartphones in the context of road surface quality monitoring. They evaluated a set of pothole detection algorithms on Android phones with a sensing application while driving a car in urban environment. The results provide rest insight into hardware differences between various smartphone models and suggestions for further investigation and optimization of the algorithm, sensor choices and signal processing.

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[3] Jorge Zaldivar, Carlos T. Calafate et al; The paper combine smartphones with existing vehicles through an appropriate interface they are able to move closer to the smart vehicle paradigm, offering the user new functionality and services when driving. In this paper they propose an Android based application that monitors the vehicle through an On Board Diagnostics (OBD-II) interface, being able to detect accidents. They proposed application estimates the force experienced by the passengers in case of a frontal collision, which is used together with airbag triggers to detect accidents. The International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 05 Issue: 05 | May-2018 www.irjet.net p-ISSN: 2395-0072 © 2018, IRJET | Impact Factor value: 6.171 | ISO 9001:2008 Certified Journal | Page 4119 application reacts to positive detection by sending details about the accident through either e-mail or SMS to pre-end destinations, immediately followed by an automatic phone call to the emergency services. Experimental results using a real vehicle show that the application is able to react to accident events in less than 3 seconds, a very low time, validating the feasibility of smart-phone based solutions for improving safety on the road.

[4] Joaquim Ferreira, Arnaldo Oliveira et al; The paper gives the information of wireless vehicular networks for cooperative Intelligent Transport Systems (ITS) have raised widespread interest in the last few years, due to their potential applications and services. Cooperative applications with data sensing, acquisition, processing and communication provide an unprecedented potential to improve vehicle and road safety, passengers comfort and efficiency of track management and road monitoring. Safety, efficiency and comfort ITS applications exhibit tight latency and throughput requirements, for example safety critical services require guaranteed maximum latency lower than 100ms while most infotainment applications require Qi's support and data rates higher than 1 Mbit/s. The mobile units of a vehicular network are the equivalent to nodes in a traditional wireless network, and can act as the source, destination or router of information. Communication between mobile nodes can be point-to-point, point-to-multipoint or broadcast, depending on the requirements of each application. Besides the ad-hoc implementation of a network consisting of neighbouring vehicles joining up and establishing Vehicle-to-Vehicle (V2V) communication, there is also the possibility of a more traditional wireless network setup, with base stations along the roads in Vehicle-to-Infrastructure (V2I) communication that work as access points and manage the flow of information, as well as portals to external WANs.

[5] JCheng Bo, Xuesi Jian et al; The paper dense a critical task of dynamically detecting the simultaneous behaviour of driving and texting using smartphone as the sensor. They propose, design and implement textile which achieve the goal of detecting texting operations during driving utilizing irregularities and rich micro movements of user. Without relying on any infrastructures and additional devices, and no need to bring any modification to vehicles, Taxite is able to successfully detect dangerous operations with good sensitivity, specificity and accuracy by leveraging the inertial sensors integrated in regular smartphones.

III. RELATED WORK

In a heap of work has been done regarding different facial expressions of car driver Associate in Nursing fatigue levels including an efficient feature extraction approach with the help of Pyramid histogram and Contour let Transform (CT) for fatigue expression. Occupant body position and pose inside a vehicle with the help of Long-Wavelength Infrared (LWIR) imagery and Stereo Depth knowledge has been implemented. Several researches has been made for real existent traffic environment. However existing technology impose sensing devices must be attached to the driver's body. Since last decades researchers have determined the driver posture by analysing only individual body parts that square measure pose estimation [18]. A novel work has been implemented so far to recognize the driver posture by tracking only few parts of the driver's body that is eye movements, facial expressions upper arms and head movements . Apart from existing research, posture has been predicted by using dependent and independent variables with the help of fuzzy theory [2] based on comfort of drivers. In [12] two types of unsupervised neural networks along with Fuzzy Adaptive Resonance Theory (ART) and self-organizing maps drivers head movement has been analysed for safety verification, where author also discussed about face orientation categorization. Moreover for the novice driver, an

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efficient method by using Finite State Machine (FSM) and a Rule Based System (RBS) has been implemented [11]. In [10] author designed a technique to identify the different affective states in a non-acted body posture especially in video game environment.

IV. APPLICATIONS

Detect frauds at crowded areas such as

- This system will used to avoid accidents.
- It will also use to detect another route if any route is busy.
- Can be used by drivers Car/Motor Vehicles to secure themselves.
- Can be used by health department of government to survey the number of accidents if deployed in larger scale.
- Can be used by police to increase speed of complaint registration.
- With some modification we can also use this system for traffic estimation

V. EXISTING SYSTEM

Traditional way of Camera module involves a typical situation of user sitting anywhere and tracks the object and detects the object. After detection we will recognized object is normal or criminal.

VI. PROPOSE SYSYSTEM

Posture efficiently and classify them accordingly. In this paper we mainly focus on to identify six classes of driving activities (grasping the steering wheel, operating the shift gear, eating, talking on a mobile phone, controlling the dash board and drowsiness). This classification of the driver's posture reflects the different driving conditions like thinking, weakness and fatigue levels. General idea of this paper for implementing proposed smart technique on ITS so safety of drivers and passengers guaranteed.

Advantages of Proposed System

- We perform a detailed security analysis and performance evaluation of the proposed data
- Required less time
- Increase Efficiency
- improve the accuracy.

• Software Resources

There has to be required packages, software's etc to interact with system.

Operating system	:	Windows 7 and above.
Coding Language	:	Java 1.8
Tool Kit	:	Android 2.3 and above
IDE	:	Android Studio

• Hardware Resources

There should be required devices to interact with software.

System	:	Intel I3 Processor.
Hard Disk	:	40 GB.

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Monitor : 15 VGA Colour.
Ram : 4 GB.
Mobile : Android

- **Scope**

The proposed system to Predict waiting time of each treatment task based on user time of attempt. This system will overcome the traditional manual work of faculty to overcome a waiting time of treatment task in few amount of time.

VII. SYSTEM ARCHITECTURE

Many build-in systems are used to detect and report car accidents. Built-in sensors in the car can be used to detect changes in acceleration, or even to detect weather an airbag was ejected, which is clear indication that a car accident has occurred. This dedicated system due to their design and implementation minimizes false positives, i.e. false accident detections. Unfortunately these systems are expensive and available only on luxury cars. In System the mobile phone is communicating through GPS to find out the coordinates of the current location of the user able to retrieve the correct location. The user needs to register on the application when started driving. If GPS not working properly then system will not Able to detect the accident location.

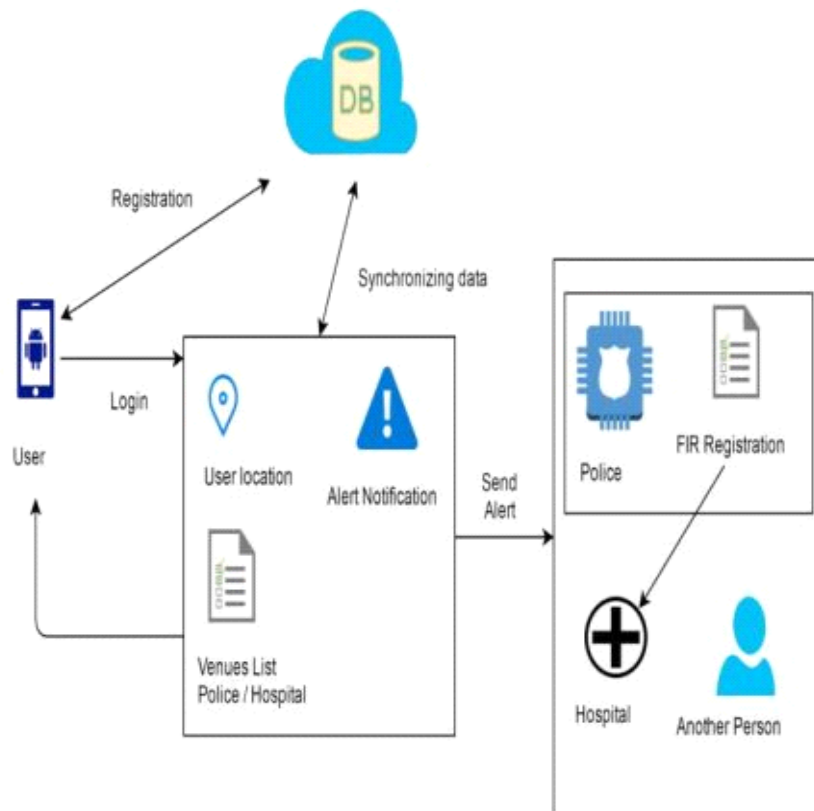


Fig. system architecture

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VIII. CONCLUSION

It has been realized that the smartphone based car accident detection system is not an easy task to handle. It is really surrounded with many obstacles that prevent the researchers from achieving 100% accurate detection system. The main purpose of the system is to find the nearest emergency points from the accident location this was achieved by using some feature that the GPS receiver and Google maps are providing. Traffic notification is provided by the system to the nearest app users to get the information about the accident place with the help of that they can choose different route to avoid the traffic.

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