Automation System in Accidental Case Using QR Code

Keshav Korde[1], Anand Nagde[2], Dewanshu Nikhare[3], Mrs. Rohini Pise[4]

[1, 2, 3, 4] *Information Technology, Pimpri Chinchwad College of Engineering, Pune - 411044 Savitribai Phule Pune University (Maharashtra)*

Abstract: Long response time required for emergency services to arrive is a primary reason behind increased fatalities in serious accidents case. One way to reduce this response time is to reduce the amount of time it takes to report an accident. Smart phones are ubiquitous and with network connectivity are perfect devices to quickly inform authorities about the accident. We are designing an Android application which will be beneficial for peoples to help other peoples who are suffering from incident like accident. It will help us to save the accidental person. Project is design for an accident detection system. The accident detection system informs the police control room about the accident by clicking photo of accident. The application suggests nearby hospitals and police stations list in application. FIR is generating by police station and sends copy to the respected hospital system. Respected hospital scan user QR Code and provide treatment according to information. Also send emergency SMS to users preregister mobile number.

Keywords: Global Positioning System (GPS), QR Code (QR Code is a machine-readable optical label that contains information).

I. INTRODUCTION

A QR code is type of barcode that can contain more information than the familiar kind scanned at checkouts around the country. The "QR" stands for "quick response," a reference to the speed at which the more amounts of information they contain can

be decrypted by scanners. They were invented in Japan and initially used for tracking shipping. As the code can be easily decrypted by the camera of smart phone, this technology is increasingly accessible to the average person. Instead of tracking car parts and packages, the codes can be used to store information of user. A QR code acts as a link embedded in the real world, integrating it with the virtual computer world.

The development of a transportation system has been the generative power for human beings to have the higher civilization above creatures in the earth. Automobile has a great importance in our daily life. We use it to go to our work place, keep in touch with our friends and family, and deliver our goods. But it can also bring disaster to our people and even can kill us through accident. An accident is a deviation from expected behavior of event that adversely affects the property, living body or persons and the environment. Travelling is primary concern for everyone. Recent advances in Android are one of the most popular smart phone platforms at the moment, and the popularity is even rising. Additionally, it is one of the most open and flexible platforms providing software developers easy access to phone hardware and rich software API. Smartphone technologies are making it possible minimize the death rate which are happening by vehicle accidents in a more effective manner.

II. PAPER SURVEY

A. Using Smart phones to Detect Car Accidents and Provide Situational Awareness to Emergency Responder.

This paper shows how smart phones in a wireless mobile sensor network can capture the streams of data provided by their accelerometers, compasses, and GPS sensors to provide a portable "black box" that detects traffic accidents and records data related to accident events, such as the G-forces (accelerations) experienced by the driver.

B. Providing Accident Detection in Vehicular Networks Through OBD-II Devices and Android-based Smart phones.

By combining smart phones with existing vehicles through an appropriate interface we are able to move closer to the smart vehicle paradigm, offering the user new functionalities and services when driving. In this paper we propose an Android based application that monitors the vehicle through an On Board Diagnostics (OBD-II) interface, being able to detect accidents. Our proposed application estimates the G force experienced by the passengers in case of a frontal collision, which is used together with airbag triggers to detect accidents. The application reacts to positive detection by sending details about the accident through either e-mail or SMS to pre-defined destinations, immediately followed by an automatic phone call to the emergency services.

C. Using Smart phones to Detect Car Accidents and Provide Situational Awareness to Emergency Responders.

This paper shows how smart phones in a wireless mobile sensor network can capture the streams of data provided by their accelerometers, compasses, and GPS sensors to provide a portable "black box" that detects traffic accidents and records data related to accident events, such as the G-forces (accelerations) experienced by the driver. We also present architecture for detecting car accidents based on

Wreck Watch, which is a mobile client/server application we developed to automatically detect car accidents.

III. EXISTING SYSTEM

Existing system is totally manual and user needs to call police station and hospital individually. Then police station register FIR. Unless and until police station finish its process hospital can't proceed further. After finishing FIR process, hospital admits the injured person. There isn't any automation system for accident.

A. Disadvantages of existing system

1) Existing system is lengthy and time consuming.

2) Lengthy paper work process.

3) Need collaborative working of police station and hospital.

IV. PROPOSED SYSTEM

Propose system collect user information at beginning and generate QR code for individually. After accident, user takes a photo and sends to nearest police station recommended by system along with location information also inform to the nearest hospital. After police station permission, system automatically generates FIR along with accident image and send to the hospital. Hospital send feedback to user and after reaching to accident location nurse scan the user QR code to get user information instantly. And provide treatment to the user.

A. Advantages Of Proposed System:

1) Instant recommendation of nearest police station and hospital. 2) Required time is reduced

2) Reduction of paper work

V. ARCHITECTURE OVERVIEW

A. Architecture of System

QR Code generated at the time of registration. All information stored at database. User capture photo and search nearest police station and hospital. After requesting nearest police station FIR is generated by police station. Police station sends one copy to hospital. Hospital scan injured person and provide treatment according to information.

B. Modules

1) *User:* The person who met with the accident can access this application by simply pressing the button. Further he/she are provided with the details of nearby police station and hospital.

2) *Police Station:* After user pressing the button provided in the application then the GPS will be automatically made on and based on thecurrent location we will fetch the details of nearby police station and further user can choose the police station and register the complaint. Police station generate FIR and send copy to the hospital.
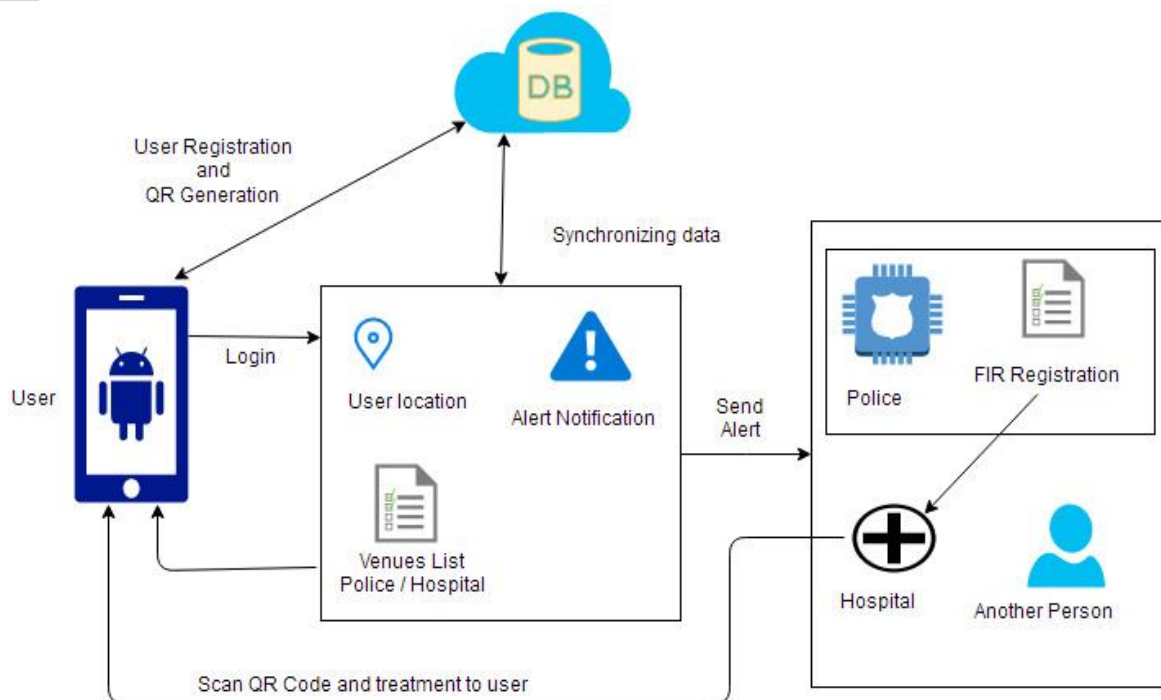
Fig.V.1 System Architecture

C. *Hospital:* After user pressing the button provided in the application then the GPS(Global Positioning System) will be automatically made on and based on the current location we will fetch the details of nearby hospital and the user can choose the hospital and send the alert message within the budget he/she can afford.

D. *QR Code:* QR code contain all the information of user. It get generated at the time of user registration. Hospital scan the QR code to get the user information. After scanning QR Code the alert message which contains the current location of the user is sent to the emergency contact which the user is registered during registration process.

VI. APPLICATION

A. Can be used by drivers Car/Motor Vehicles to secure themselves.
B. Can be used by health department of government to survey the number of accidents if deployed in larger scale.
C. Can be use by police to increase speed of complaint registration.
D. With some modification we can also use this system for traffic estimation

VII.CONCLUSIONS AND SCOPE

A. *Conclusion*
Results have shown that the application developed is able to correctly fulfill 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, followed by providing the nearby police station and hospital details and sending them an alert message of the user accident with exact location of user, is taking short time period.

B. *Scope*
Road accidents take place frequently which causes huge loss of life and property because of the poor emergency facilities. Our project will provide an optimum solution to this draw back. Propose system is used for emergency services i.e road accident. User store personal and medical information in QR Code also register complaint by taking photo. Police station used proposes system for generation of FIR also send copy of FIR along with photo to hospital. Hospital fetch information of user by scanning QRCode and provide treatment according to information.

REFERENCES

[1] "Number of smartphone users worldwide from 2014 to 2019 (in millions)." [Online]. Available: http://www.statista.com/statistics/274774/forecast-of-mobile-phone-users-worldwide/

[2] S. Heldenbrand, B. C. Martin, P. O. Gubbins, K. Hadden, C. Renna, R. Shilling, and L. Dayer, "Assessment of medication adherence app features, functionality, and health literacy level and the creation of a searchable web-based adherence app resource for health care professionals and patients," Journal of the American Pharmacists Association, vol. 56, no. 3, p. 293302, 2016.

[3] S. Chan, "Free, easy app for tracking medication regimens," 2015. [Online]. Available: http://www.imedicalapps.com/2015/03/review-medisafe-app-reminders/

[4] "Medisafe pill reminder by medisafeinc." [Online]. Available: https://itunes.apple.com/us/app/medisafe-pill-reminder-medication/id573916946?mt=8

[5] "Medcoach medication reminder by greatcallinc." [Online]. Available: https://itunes.apple.com/us/app/medcoach- medication-reminder/id443065594?mt=8

[6] "Mymeds the complete medication manager." [Online]. Available: http://my-meds.com/

[7] A. Choi, A. W. Lovett, J. Kang, K. Lee, and L. Choi, "Mobile applications to improve medication adherence: Existing apps, quality of life and future directions," Advances in Pharmacology and Pharmacy app, vol. 3, no. 3, p. 6474, 2015.

INTERNATIONAL JOURNAL
FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 ⓦ (24*7 Support on Whatsapp)