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Medical assistance system of accidents

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ABSTRACT

Paper is design for an accident detection system. The accident detection system inform the police control room about the accident by clicking photo of accident. The application suggest nearby hospitals and police stations list in application. FIR is generate by police station and send copy to the respected hospital system. Respected hospital scan user QRCode and provide treatment according to information. Also send emergency SMS to users preregister mobile number.

Long response time required for emergency responders to arrive is a primary reason behind increased fatalities in serious accidents. One way to reduce this response time is to reduce the amount of time it takes to report an accident. Smartphones are ubiquitous and with network connectivity are perfect devices to immediately inform relevant authorities about the occurrence of an 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.

Keywords: Global Positioning System (GPS): The current location (longitude and latitude) is provided.

K Nearest neighbors (KNN): KNN is classification technic. It recommend the nearest hospital and police station.

QRCode: A QRCode is a machine-readable optical label that contains information. User information is stored in QRCode.

I.INTRODUCTION

A QR code is a type of barcode that can hold 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 large amounts of information they contain can be decoded by scanners. They were invented in 1994 in Japan and initially used for tracking shipping. As the code can be easily decoded by the camera of smartphone, 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 highest civilization above creatures in the earth. Automobile has a great importance in our daily life. We utilize 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 us and even can kill us through accidents.

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 smartphone 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 to minimize the death rate which are happening by vehicle accidents in a more portable and cost effective manner than conventional in-vehicle solutions.

II.LITERATURE SURVEY

We envision Android-based smartphones as a powerful and widely used participatory sensing platform in near future.[1] 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.[2] 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.[3] In this paper, 8, 16 and 32 bit maximum length LFSR which can give the maximum states of PN sequence has been implemented.[4] This paper shows how smartphones in a wireless mobile sensor network can capture the streams of data provided by their accelerometers, compasses, and GPS sensors to providea portable“black box” that detects traffic accidents and records data related to accident events, such as the G-forces (accelerations) experienced by the driver.[5] The accident detection system design informs the police control room or any other emergency calling system about the accident.[6]

System Design :

Propose system collect user information at beginning and generate QR code for individually. After accident, user take a photo and send to nearest police station recommended by system along with location information also inform to the nearest hospital. After police station permission, system automatically generate 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.

QRCode 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 send one copy to hospital. Hospital scan injured person qrcode and provide treatment according to information

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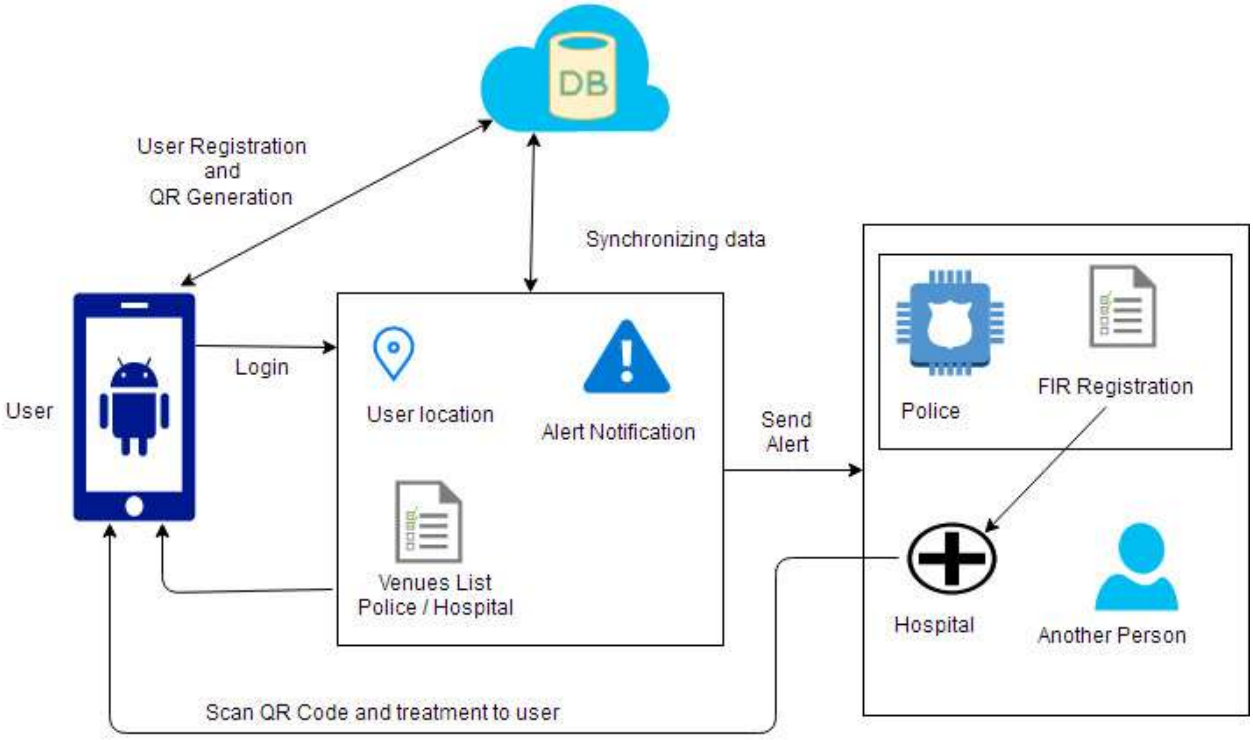

Working Description:

Modules :

1. User
2. Police Station
3. Hospital
4. QRCode

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.

PoliceStation : After user pressing the button provided in the application then the GPS will be automatically made on and based on the current 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

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.

QRCode :QRcode contain all the information of user. It get generated at the time of user registration. Hospital scan the qrcode to get the user information. After scanning QRCode 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.

Hybrid Algorithmfor finding nearest neighbours using distance :

- The training examples are vectors in a multidimensional feature space, each with a class label.
- The training phase of the algorithm consists only of storing the feature vectors and class labels of the training samples.
- In the classification phase, k is a user-defined constant,
- It is an unlabeled vector (a query or test point) is classified by assigning the label which is most frequent among the k training samples nearest to that query point.

Here is step by step on how to compute algorithm:

1. Determine parameter K = number of nearest neighbors
2. Calculate the distance between the query-instance and all the training samples

- R is the radius of earth in meters.

Lat_O= latitude of origin point, $Long_O$ = longitude of origin point

Lat_T= latitude of target point, $Long_T$= longitude of target point

- Difference in latitude = Lat_O-Lat_T

Difference in longitude = $Long_O$-$Long_T$

- Φ =Difference in latitude in radians

Λ =Difference in longitude in radians

O= Lat_O in radians.

T= Lat_T in radians.

- A= sin(Φ/2) * sin(Φ/2) + cos(O) *cos(T)*sin(Λ/2)*sin(Λ/2)
- B= min(1,sqrt(A))

Distance = 2*R*B

3. Sort the distance and determine nearest neighbors based on the K-th minimum distance
4. Gather the category r of the nearest neighbors
5. Use simple majority of the category of nearest neighbors as the prediction value of the query instance

Pseudocode :

Classify (X, Y, x) // X: training data, Y: class labels of X, x: unknown sample
for i=1 to m do
Compute distance d(Xi, x)
end for
Compute set I containing indices for the k smallest distances d(Xi, x).
return majority label for {Yi where i E I}

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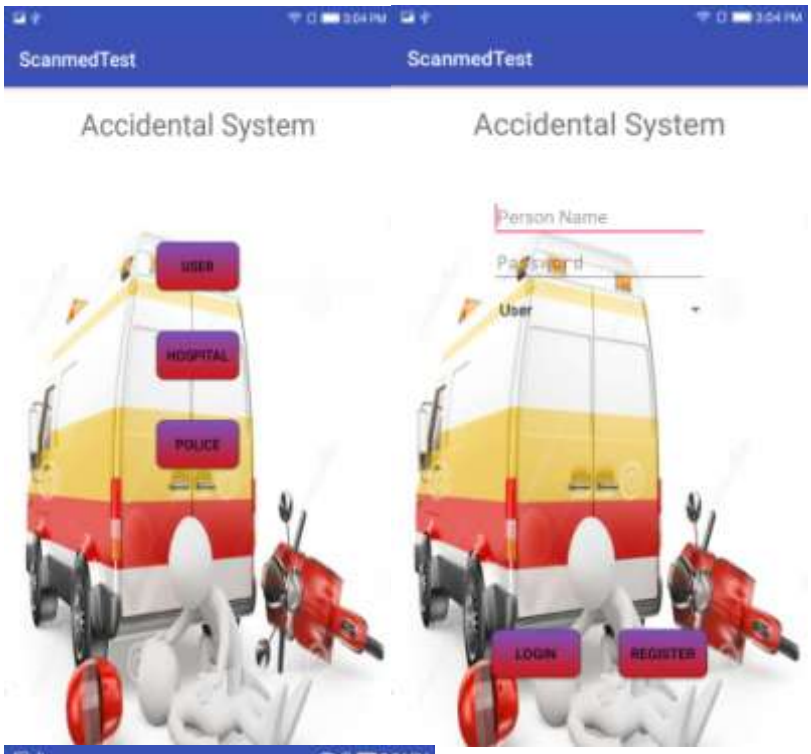
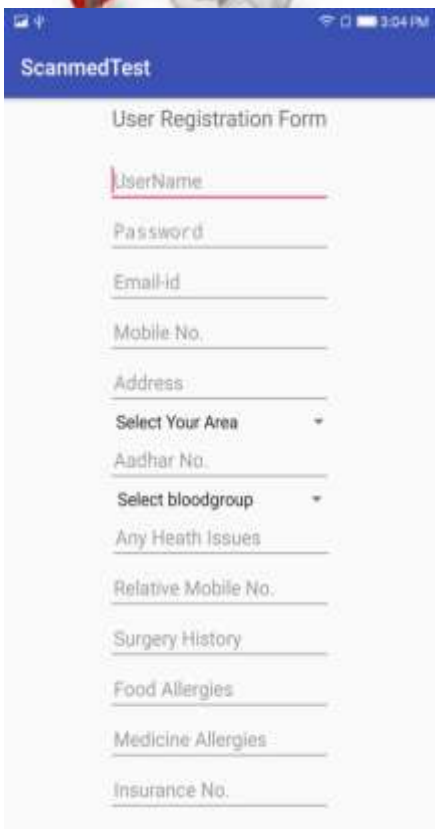
III.RESULTS OF WORKING MODULE[1]






ScanmedTest
Hospital Registration
Name
Password
Password
Latitude
Longitude
HOSPITAL
SUBMIT
ScanmedTest
Police Registration
POLICE
SUBMIT


ScanmedTest
Welcome
To
ScanMed
loading please wait...

IV.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.

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