

Human Protection with the Disaster Management Using an Android Application

Shubham Yelne^{*1}, Vishal Kapade²

^{*1}Department of Electronics & Telecommunication G.N.I.E.T, Nagpur, Maharashtra India

²Department of Information & Technology R.G.C.E.R, Nagpur, Maharashtra India

ABSTRACT

We are design Help me an android application which is useful for saving so many human being life. Help me app is working on an android operating system. Number of people squanders their precious life in natural calamities such as accidents, kidnapping etc. This application is helping the android users who are in climatic situation like this by sending some information about the location of that person who is in trouble via message to their love once, fire station, police station and ambulance. The user need to make an account once on the server giving some useful personal data after that it will confirm whether the person is robot or not with the next step succeeding to create an account. We are created Geo-fences that will help to alert about the restricted area which is made by the user manually in the app. Database likewise complete data of the user and the co-ordinates of the Geo-fences is store on server. Later we will access those data from server to our mobile by using this application.

Keywords: Client server architecture, Server operation, Geo-fences, Client activity, Notification alertness.

I. INTRODUCTION

Disaster management is the formation of arrangement through which society decreases vulnerability to risk and cope with disasters. It does not preclude or eradication the defiance, instead it concentrates on making plans to reduce the impact of disasters. Omission to produce a plan could lead to damage to assets, human mortality, and lost revenue. We can't predict the future of nature. Natural disaster like earthquake, flood is increased day by day which lead to loss life as well as property. Some of affliction is given by human being, now a day's in some area girls are not safe. We can see so many news and incidences of rape, kidnapping cases where some girls get mentally disturb and many of them also loss there life. So many people lose their life because of unavailability of facility on time. Sometimes in deep oceans and seas, fishermen in search of fishes cross the water boundaries and enter another country. Because of this they get arrested by police of other countries. This application is aimed to overcome the entire above

mentioned problem by including separate modules for each problem and integrate them in one system.

II. METHODS AND MATERIAL

A. Client Server Architecture

We are working as client-server based application where android device is client and PHP server is server side. The complete database is store on the server, user retrieve it in his/her device anytime anywhere tills it is connected to internet.

Data is store in JSON format alternative to XML. There are two methods for posting information on the web in PHP.

- (1) Get
- (2) Post

Get method is default set in PHP language. This method allows whatever data you are giving as an input shows in browser URL. While post method cannot display any input inside the URL.

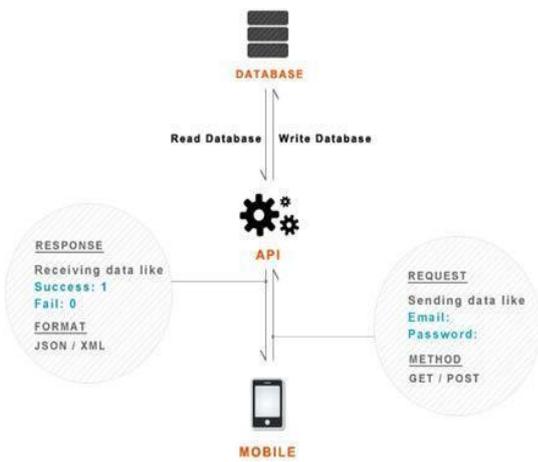


Figure 1: Architecture of the data flow from mobile To PHP server

B. Server Operation

Programming is mainly created for android mobile which will act as client. Our app will run on android mobile. The data of android mobile will be sent to PHP server and we will fetch data from PHP server to android devices in the form of JSON.

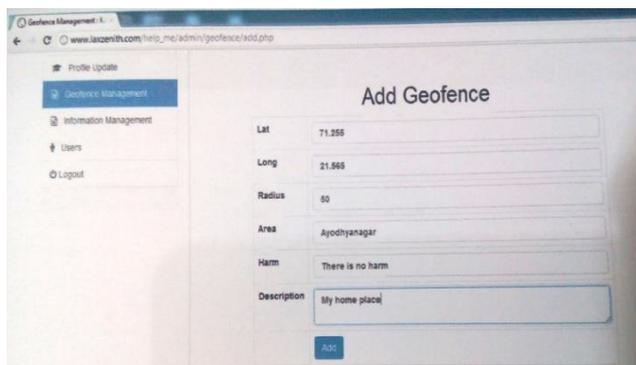


Figure 2: Insertion of Geo-fence

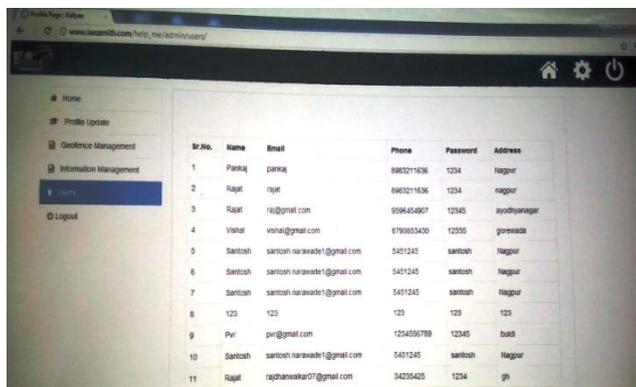


Figure 3: Registered User on server

JSON (Java Script Object Notation) is an open standard format that uses human readable text to transmit data objects consisting of attribute value pairs.

It is used primarily to transmit data between a server and web application, as an alternative to XML (Extensible Markup Language)

C. GEO-Fence

Geo-fence is created by storing latitude, longitude and radius of harmful areas. For storing the value in geo-fences, we are using PHP server. PHP server will also store information about the users who are using this application. Geo-fencing enables remote monitoring of geographic areas surrounded by a virtual fence and automatic detections when tracked mobile objects enter or exit these areas. A huge set of LBS (location based services) use geo-fence observation as a key feature. Location plays a basic role in context-aware applications.

Geo-fences are user defined areas. Here locations are cities, towns, other identifiable landmarks. Usually, the user is able to define the boundary of geo-fence area e.g. in simplest case it is just a radius defines some circular area. On practice, in the vehicle tracking system, a vehicle is determined to be at a particular Location if it is within the geo-fence.

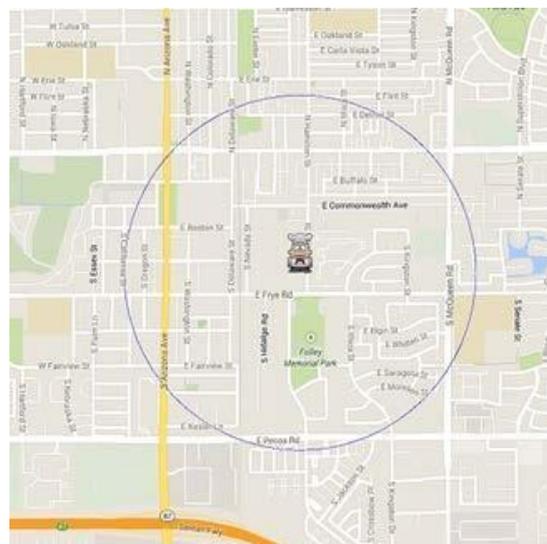


Figure 4: Geo -fence encapsulated circular area

Any geo-fence implementation requires obviously some form of location monitoring. Technically, this monitoring could be performed either right on the mobile device or via some centralized scheme (e.g. Telecom operator observes the location for own

subscribers). The main sources for user's raw coordinates on mobile phones as Global Positioning

System (GPS) and Wireless Positioning System (WPS) using cell tower and Wi-Fi access points.

III. RESULTS AND DISCUSSION

D. Client Activity

We are sending notification on client device by using GCM. Google Cloud Messaging for Android (GCM) is a service that lets developers send data from servers to their applications on Android devices. This could be a lightweight message telling the Android application that there is new data to be fetched from the server (for instance, a movie uploaded by a friend), or it could be a message containing up to 4kb of payload data (so apps like instant messaging can consume the message directly).

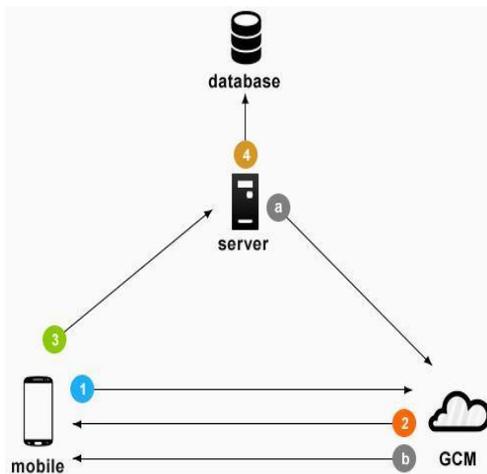


Figure 5: Android- Google Cloud Messaging

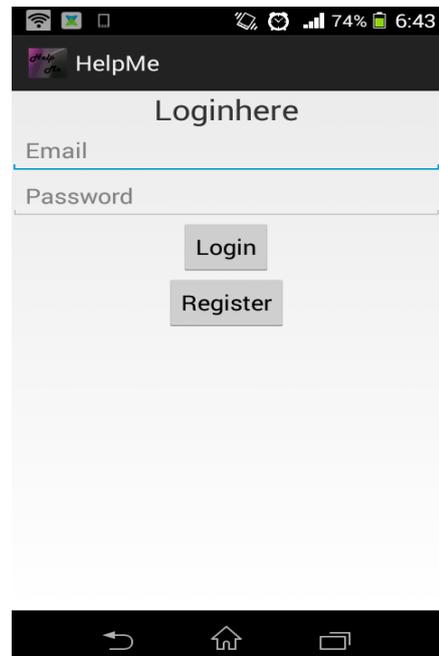


Figure 6: Login Panel

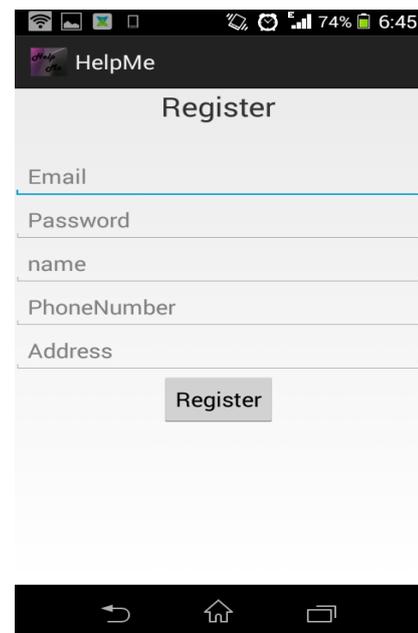


Figure 7: New User Registration

After registration process the user enters the home page of the application as shown in the fig. 8



Figure 8: Application Overview

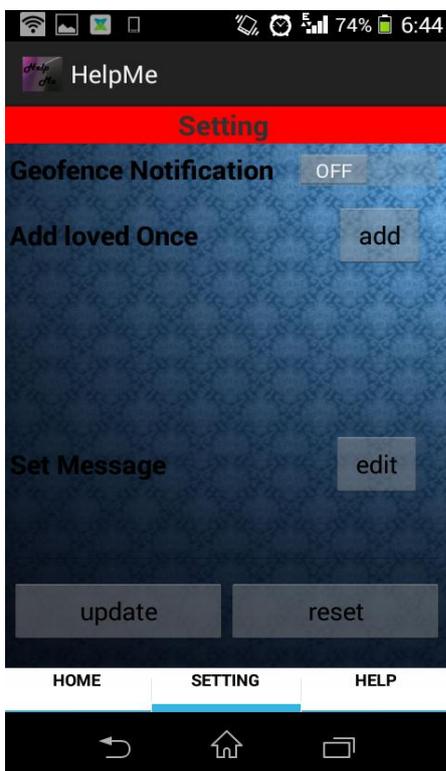


Figure 9: Application Setting

As shown in fig.5 The GCM service handles all aspects of queuing of messages and delivery to the target

Android application running on the target device.5 GCM allows 3rd-party application servers to send messages to their Android applications. GCM deployment depends on two things

- (1) Application ID
- (2) Registration ID

Application ID assigned to the Android application that is registering to receive messages. The Android application is identified by the package name from the manifest. This ensures that the messages are targeted to the correct Android application. Registration ID is unique ID issued by the GCM servers to the Android application that allows it to receive messages. Once the Android application has the registration ID, it sends it to the 3rd-party application server, which uses it to identify each device that has been registered to receive messages for a given android application.

In other words, a registration ID is tied to a particular Android application running on a particular device.

E. Notification Alertness

Help me application giving the following features:

- Providing facility to send his/her GPS location to loved ones, police station, ambulance, and fire stations.
- Informing users by giving notification when they entered in restricted areas or before he/she crosses country boundaries.
- We are likely to provide facility for user to activate our app on voice recognition, this will help user when he/she is not able to activate this app manually.

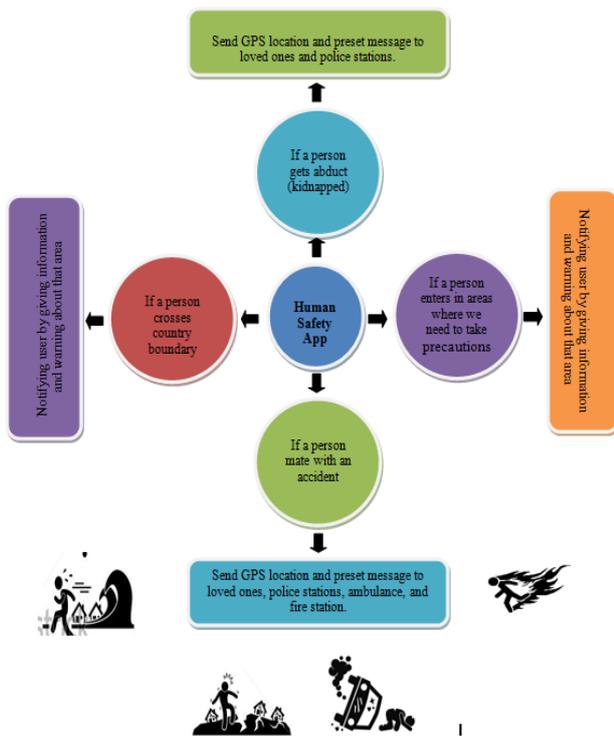


Figure 10: Response of Help me app

Help me app useful in following areas such as

- 1) People visit new places
- 2) Fishermen to show the right way
- 3) Flood tragedy.
- 4) Fire tragedy
- 5) Earthquake tragedy
- 6) Girls safety
- 7) Accidents

The application is working on any device which has android operating system. It will provide correct information about the new place also help people who are stuck into Flood, Fire, and Earthquake tragedy as well as in case of accident on highway where no facilities are available by sending Global Positioning System (GPS) location of that person to their loved once, ambulance and police.

II. CONCLUSION

Most of the people in today's era are use the android phone. There are no apps for human safety to provide facilities to them as fast as possible when they are in any critical situation such as fire accident, road accident, kidnapped etc. For this purpose our app will provide them facility to inform their love once, police station, fire station and ambulance to provide help as fast as possible. One most important thing about this

application is an android phone which is using the help me app must connect to the internet.

III. REFERENCES

- [1] Beginning PHP 5.3 by Matt Doyale.
- [2] Android 4 Application Development by Wei-Meng Lee
- [3] Professional Android 4 Application Development wrox by Reto Meier
- [4] S. Wang, J. Min and B. K. Yi, "Location Based Services for Mobiles : Technologies and Standards" IEEE ICC-2008
- [5] D. Quercia, N. Lathia, F. Calabrese, G. Di Lorenzo And J. Crowcroft, "Recommending Social Events From Mobile Phone Location Data", International Conference on Data Mining, -2010
- [6] D. Namiot and M. Sneps-Snepe, "Geofence and Network Proximity", Networking and Internet Architecture, Cornell Univ. Library-2013
- [7] Reclus and K. Drouard, "Geofencing for fleet & Freight management Intelligent Transport Systems Telecommunications (ITST)"9th International Conference -2009
- [8] GSM Association, Permanent Reference Document SE.23: Location Based Services. Agrawal R. and Srikant R. - 1994