An android application for Group Members Location & Chatting

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ABSTRACT

This paper presents a family location tracking application that uses GPS to provide accurate location of every user of the group in the Single screen. This system includes a mobile client and a map service. The mobile client is used to find location and send a Popup SMS to group members when his/her friends or family members come around the user's area of direction. The location of the members that are present in a particular group can be easily accessible using this app. This application work when the user in danger, user only need to press the Panic button and all their group members get the emergency alert. In enhance the app more interactive we proposed the Chatting feature in app to communicate user with group members, also we proposed the security Feature for unauthenticated group member so we give them OTP for Joining the group of people.

Keyword - *Global Positioning System (GPS), Popup SMS, One Time Password (OTP) User Interface (UI).*

1. Introduction

In a busy and sophisticated lifestyle where it is difficult for us to stay connected with our loved ones and keep them informed about our whereabouts, there arises a need for an efficient autonomous system that could provide an automatic update about our location to our family/friends and save them from getting into an anxious state of mind. Tracking and maintaining a record of the location of every user of the family is very much beneficial especially in situations of emergency or immediate help where a user can be easily located with the help of the user's previously recorded locations. This system tries to achieve the same and present an efficient application that helps to detect and record the history of the location periodically of every user of the group.
In addition to the mentioned features the application also helps the user of every group to create and manage tasks related to the group.

1.1 Existing System and Problem Definition

The functions to be expected from the system include: Track the location of a friend anytime. Maintaining security while getting & sending location. Dynamic reminder according to required time to reach target location. In the existing system we can trace the location of another through the server, there is no direct way to see the more than one friend's location in single screen. Also every phone has the reminders but all are static, it means that we have to set the time to remind.so we developed the dynamic system and User friendly UI.

2. System Architecture

In a system architecture we will discuss each and everything about an android application for Provisioning of Group Members Location & Chatting. In order to use that app we have to register in the app. It is totally based on client-

server system. To register user, have to enter required data and mobile number then server system will send OTP to the user's registered mobile number after that registration process is completed.

If user creates the group, then he will be the automatically admin for that group and he is the only authorized person to add another member in group. To add new members in a group admin sends the invitation by choosing add member tab then after the other user gets OTP in notification tab if he/she wants to join that group he should enter the OTP on code field then user successfully join's that group.
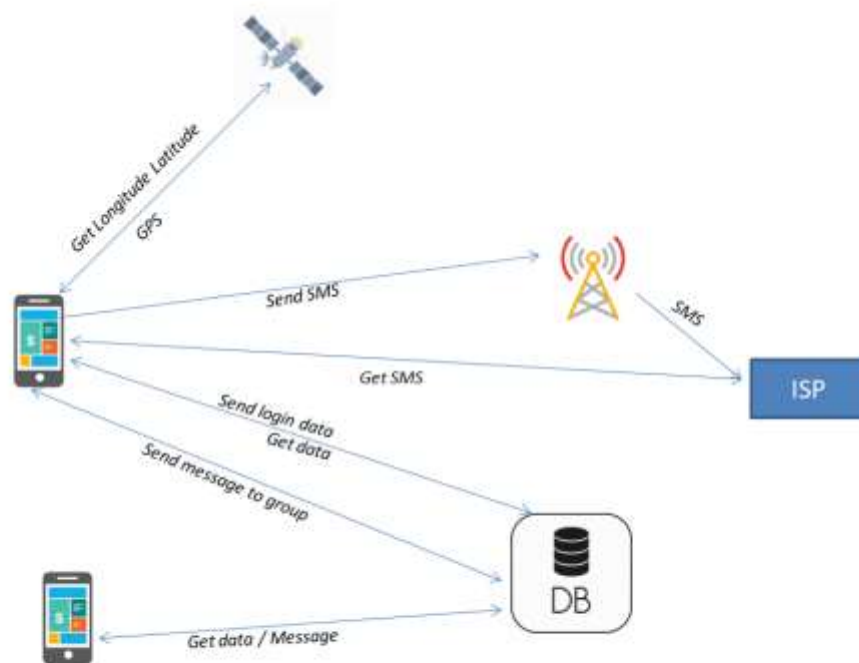
Fig -1: System Architecture

If any of the user is in an emergency situation, then he have to take screenshot then the sms will be send to the emergency number of friend or family member. User can see the GPS location of all group members.

To make app more interactive, we include chat for group members and multimedia sharing services this is the basic functionality of app. All data will be saved in server side

2.1 Authentication

In order to enhance security of group member. We provide OTP features when user login for first time. User need to enter mobile number from which he/she want to create account and also he/she have to enter the emergency number for sending the helping message. Also we use authentication for adding new member to the group by sending the verification code to the authenticate user of application by entering his/her unique id in send invitation block.
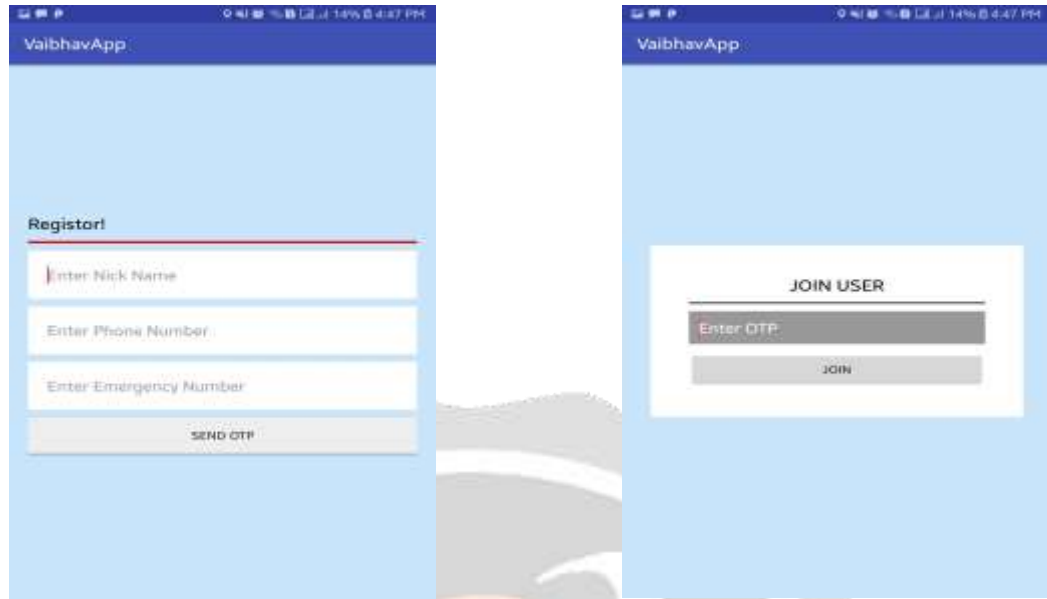
Fig -2: Register and Joining Group

2.2 Location Tracking and GPS system

The module also aims at locating the different users/members of a group and storing their information in a database which can be later retrieved for different uses provided by the application, the application sends reminders to all the group member when someone in danger. Once the SMS received by group member it's easy to locate member who send the emergency message with google map link by SMS.

2.3 Chatting Feature

The aim of this model to provide Group chat feature to communicate with the group member. When user want to chat with friends he/she needs to be in that group. Only admin can add the group member by sending the verification / Invitation code (OTP) to the authenticate user of our app. That code will be visible in user notification section. When user successfully add in the group then user will see all group member's location in single screen.
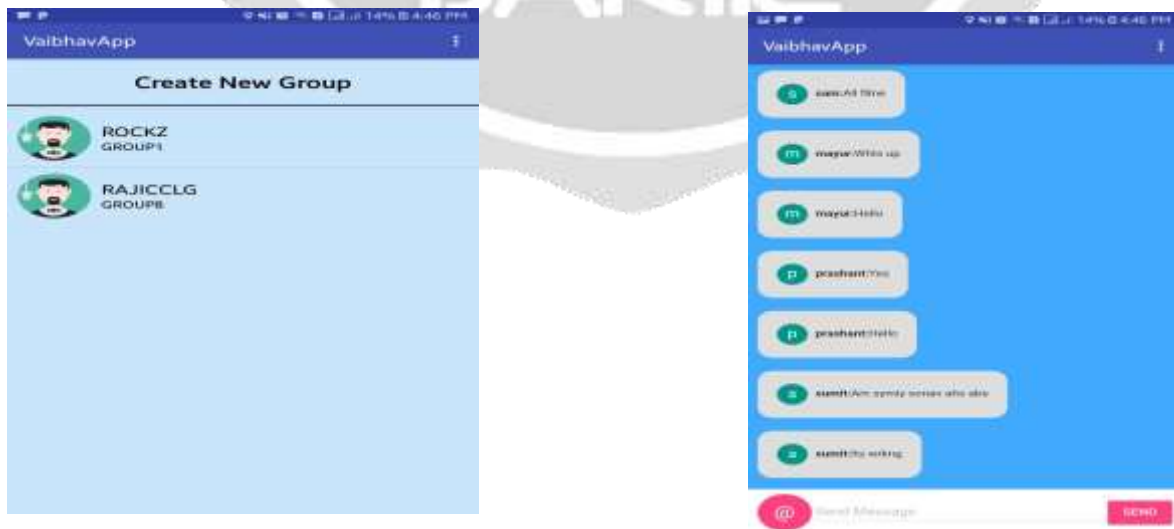

Fig -2: Group Chat and Massage

2.4 Notification Section

This section will be used when admin send the request to the user for joining that group. All the notifications including OTP and invitation messages are shown in this section

3. CONCLUSIONS

In this paper we have used Java programming language to develop the client side, and used PHP programming language to develop server side with MySQL as external database to store information. With the help of GPS enabled smart phone we were able to send the longitude and latitude to the webserver, analyzing the location data from the database and displaying the location. And finally we were able to send the message through webserver and android device and vice-versa.

4. REFERENCES

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