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Emergency App using Voice Recognition

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Abstract - Now a day's people do not seem secure due to increase in the crime rates and specially crimes with women's are increasing day by day. Though, technology can be used at a greater scale to reduce such crimes, and with this inspiration we are creating an application by using Android platform that can provide instant help in a better and faster away. The proposed system is using GPS which will take the location from Google map. The proposed system is using the concept of voice recognition which will work on Google database.

Keywords - GPS, Android, Tracking, Voice Recognition.

1. Introduction

In recent years the mobile has become the valuable part of the human beings. It is necessary for human begins to have a powerful device which will provide all the facilities other than basic facility available in mobile phones. Android provides such functionality which enables the developers to design such applications which will make a simple mobile to smart one. "Android is open source it can be liberally extended to incorporate new cutting edge technologies as they emerge. The platform will continue to evolve as the developer community works together to build innovative mobile applications." The proposed system is going to provide the facilities to the users when user is in great danger and requires immediate help.

In this work, we have developed an application for sending messages which uses Google's speech recognition engine. The main goal of our application is to allow user to input spoken information and send voice message as desired text message. The user is able to manipulate text message fast and easy way without using keyboard, reducing spent time and effort. In this case speech recognition provides alternative to standard use of keyboard for text input, creating another dimension in modern communications.

Another application of proposed system is to track the location of the user and send the location to the 5 persons whose information is saved in the database.

2. Literature Review

As we know that V channel has launched an application known as 'VithU'. This app and our app will work in the same manner. It marks the nearby location using GPS and sends the message to the family members whose numbers are saved in the database. But the only difference between in our app and 'VithU' app is, in order to start that app, we have to double tap on the app icon and then only the messages will be send to the family members.

So, the first disadvantage of using this app that every time to send the messages we have to unlock the mobile and then double tap on the app icon. Sometimes it may happen that a person may unknowingly double tap on the app and the false message will get send to the members that we have stored in the database.

So we have overcome these disadvantages in our app by simply using the voice recognition technique. This will work in the way that without unlocking the mobile and without tapping on the app icon we are able to send the messages. We are going to use voice recognition, through which the application will be activated.

3. Methodology

The process of our software starts when it recognizes the user's voice as an input. Voice is recognized using voice recognition concept. Then this user's voice is converted to text. The GPS system will activate only when, text converted from the voice will be matched with the text

present in the database. As soon as GPS activates, it starts to track the location of that user who is using that application. And when the location gets tracked, the GPS will start finding the nearby landmark e.g. cafe, restaurant, hospital etc. Then this tracked landmark in the form of text and all the information of user stored in his profile will be sent to all the 5 family contacts or to 5 emergency contacts or to 5 email-addresses whose mobile numbers and email addresses are stored in setting by user.

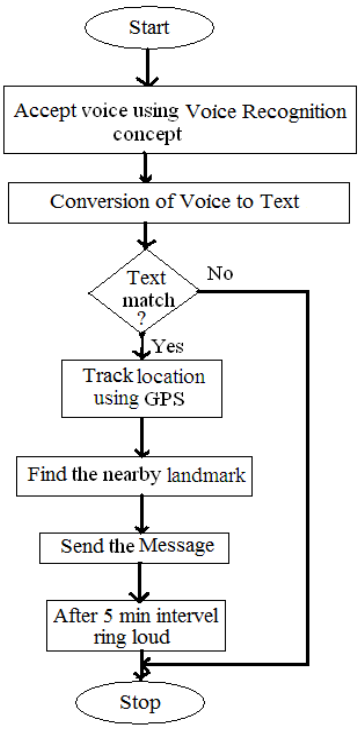


Fig. 1 Flowchart

But if converted text is not matched with the text stored in database, it means that condition is false, and the process will automatically stop.

Here we have also provided the concept of ring loud to ensure the user that his message is properly sent to all the contacts to which he wishes to send. So, when the message is sent to those contacts saved in database, just after the 5 minutes, mobile of the user will ring loud. Thus the user gets ensured that his message is successfully sent to the saved contacts.

4. Modules

4.1 GUI (Graphical User Interface)

Very first phase of our proposed system is GUI i.e., Graphical User Interface. In which we designed the menu screen, it contains 4 main buttons, viz. Profile, Setting, Help and About. Profile button contains personal information of the user, who is using the application. Setting button contains 5 contacts of family member as well as emergency services & email-addresses to which message is going to send. Help button contain the information about the application.

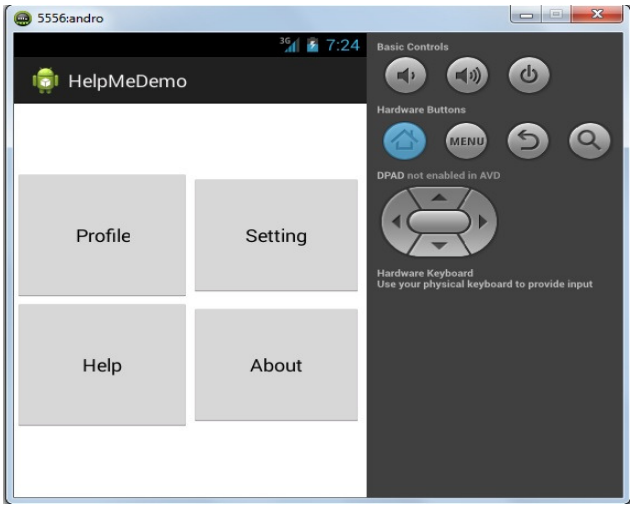
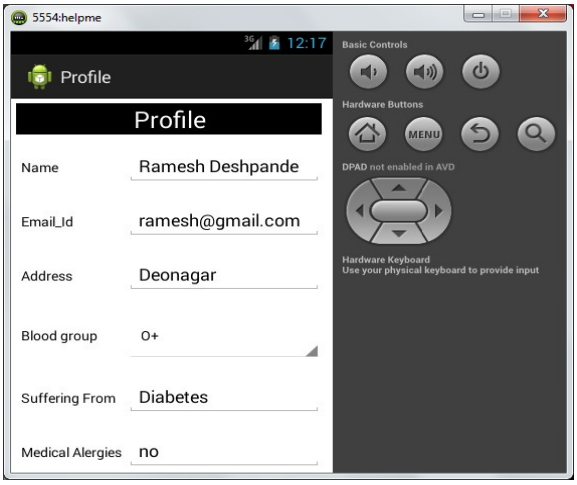


Fig. 2 Menus

a. Profile



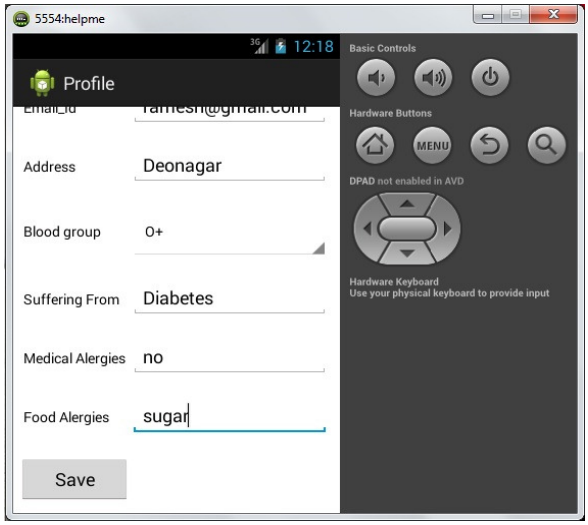


Fig. 3 Profile

b. Settings

i. Family Contacts

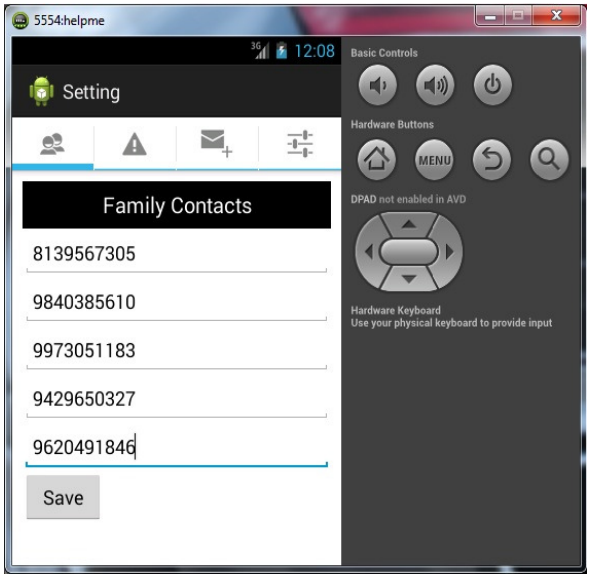


Fig. 4. Family Contacts

ii. Emergency Contacts

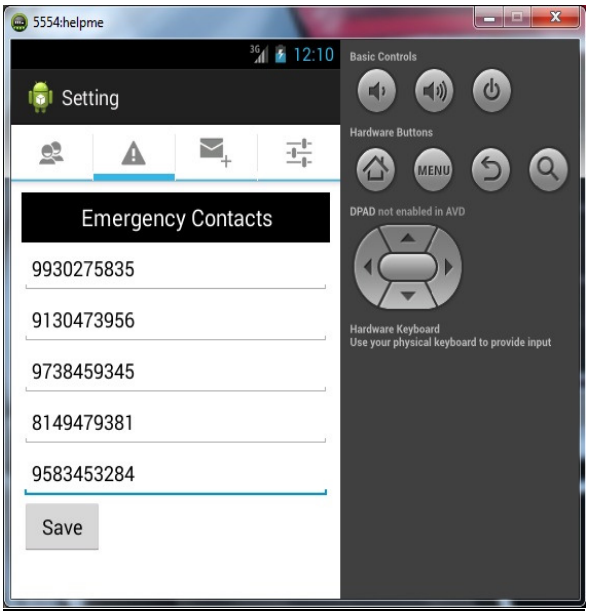


Fig. 5. Emergency Contacts

iii. E-mail Address

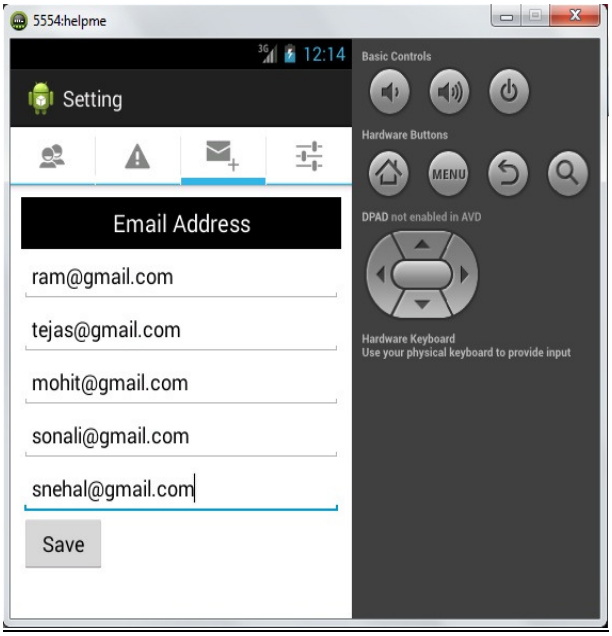


Fig. 6. E-mail Address

iv. General Settings

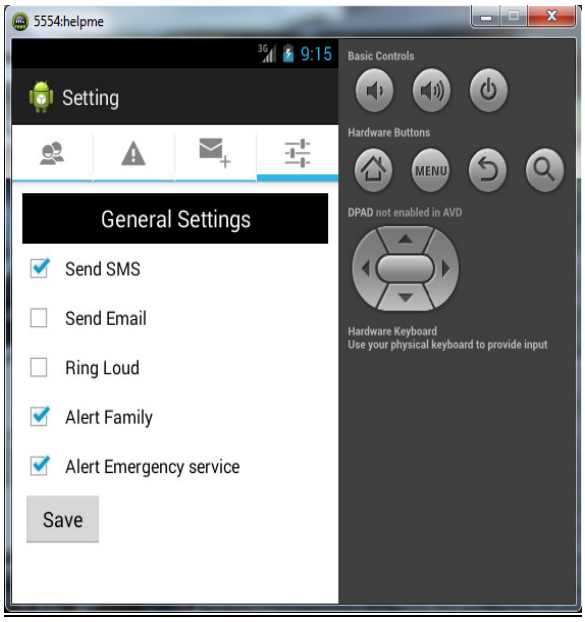


Fig. 7. General Settings

c. Password for Settings

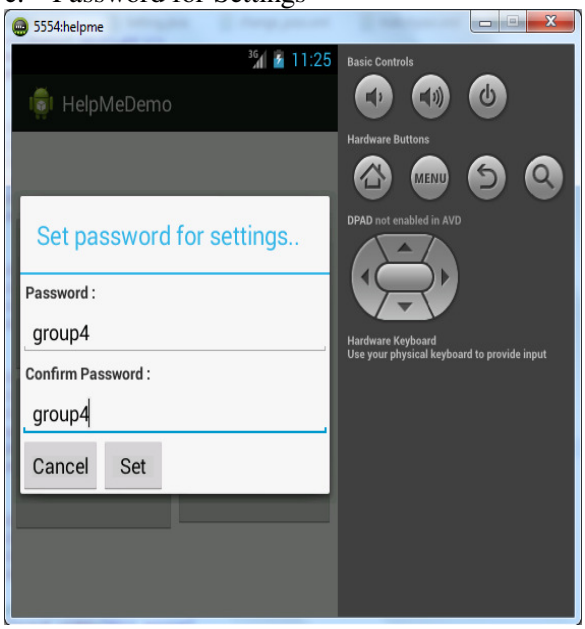


Fig. 8. Password for Settings

4.2 Database Creation

We have created an android based application that can help a person in an emergency situation. Database plays an important role in proposed system. Suppose that we want to store a word 'help me' in the database, and if any person requires help, he has to give a voice as input i.e. when he says that word, our application will gets activated and it will start to convert the input voice to text and this text is then matched with the text that is stored in the database. So, as soon as it matches it will continue further processing otherwise it will not do any processing.

In our application when user will store his personal information in the profile and contacts, it is directly stored in database file. A portion of the database contains the information of 5 persons related to family or emergency services and in this way, the message will be sent to those people (which are nothing but the voice recognition step).Figure 9 shows that how profile information is stored in database.

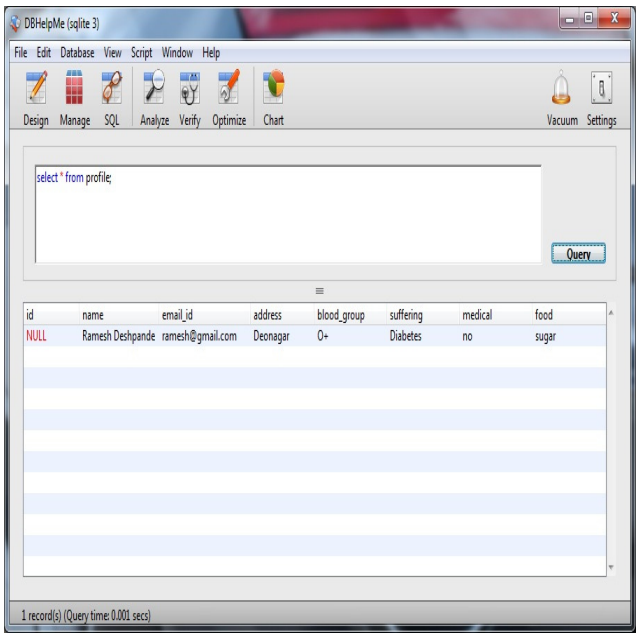


Fig. 9. Database of Profile

4.3 GPS (Global Positioning System)

In our application GPS will help us to provide the latitude and longitude values, and address of nearby landmark.

The application will begin its working using GPS (Global Positioning System). Through this GPS, the location of the user is calculated and it is given back to user in terms of longitudes and latitudes. But as it is not understandable by a common man it will track the nearby landmark position and add this in the form of text in the message. And finally the message will be sent to the 5 persons whose information is stored in the database. So in this way, the user can get an instant or immediate help in a better way.

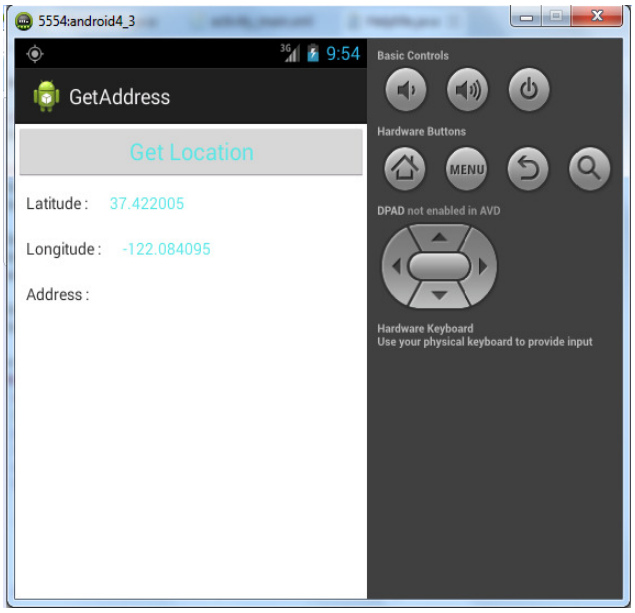


Fig. 10. Latitude and Longitude

We are currently working on how address of current location is calculated.

5. Conclusion

Thus we have successfully completed the first three modules of our project. The next module is Voice Recognition. Voice Recognition module is used to input the user's voice to the app to activate it and then app will follow the procedures step by step to send the message to saved contacts. When our project gets completed, then in future we will add two more concepts. First one will update the status regarding help on social networking site (on Facebook). So that all the friends of the user on Facebook might be able to know that his/her friend needs help and also know that where that user is right now. Second one will send the image of nearby landmark along with the name of that location to those 5 persons saved in database. If the name of location received by the person whose number is stored in database, is unknown to that person, but after by seeing the image of that location, he/she might know where that location is. So in that situation this concept is very useful.

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