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Safety Alert Application for Mobile Phone

Kopila pariyar and R. Prateesh

Dept. of computer science and engineering Saveetha school of engineering, Saveetha University Thandalam, Chennai

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ABSTRACT

Safety alert application for smart phone is an interactive mobile application system to provide emergency help for the users. The system is developed particularly for the users who are in trouble. The functionality of this application to assist the users incase of health emergency and other physical emergency. The system will be activated after getting the details from the users. The user is authenticated in terms of doctors, relatives, police and application user. In an emergency situation the system will evaluate the threshold value of the alarm. The message notification will be done automatically based on the threshold level if the alarm goes beyond the threshold value then the emergency message will be delivered to relatives and doctors. This social safety application is developed to help the people who are in emergency situations.

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INTRODUCTION

With rapid development in all the areas like economy, education and overall living standards, the healthcare levels are also gradually improving. Now a day's people are very dependent in mobile phones for every work. So we developed a mobile application through which the user can deal with Emergency situation he/she is facing. User can register with this application and they can provide the numbers whom they want to send the message in an emergency situation. Our main aim behind the development of this application is to provide the emergency help to the user when required. The application is basically developed for health conscious peoples. Our application is also used in searching the nearest location of the hospital.

Group of users:

(a) Sender: The sender should register them with this application and they should provide the contact numbers whom they want to send the message in the emergency situation.

(b) Receiver: The receiver can receive the message and track the location of the sender with the help of GPS tracker.

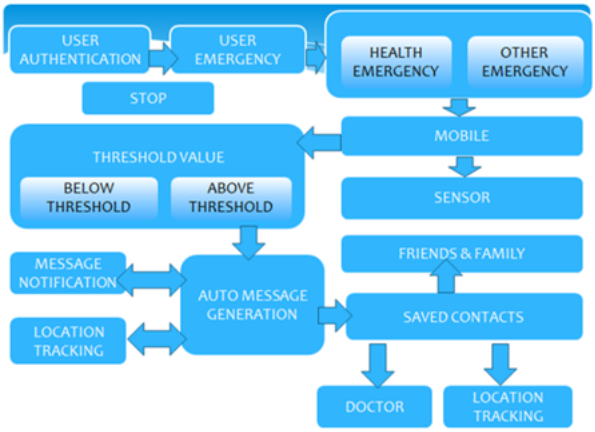

Fig. 1: System Architecture.

First the user will be authenticated and according to the threshold value of time the vibration

Corresponding Author: Kopila Pariyar, Dept. of computer science and engineering Saveetha school of engineering, Saveetha University Thandalam, Chennai
E-mail: kopilapariyar@gmail.com

sensor starts working and alarm will be activated at the recipient's location, if the value is below the threshold then the vibration sensor will not vibrate. After the mobile is vibrated there will be time limit set, if the user does not press the exit button within that time limit then the message will be sent automatically to the saved contacts of the user. After receiving the message from the sender the receivers can track the location of the sender by using the GPS tracker. The location of the nearest hospital also can be searched by using this application.

The safety alert application is a monitoring system and communication platform between family members and users. Mobiles can periodically get the position and travelling information through GPS, and motion state through sensor. According to the data received the system makes the safety assessment and sends the message to the receiver.

Non-functional requirements:

a)Requirements for performance:

As safety alert application is used to provide the aid at the emergency situation of the user so it should be appropriate and quick in decision in it. It has to provide the correct and fast processing while using the application.

b) Requirements for safety:

The authenticated user only have the right to access the details, authenticated user only can make changes to the details, update the information. No one should have the access to the details of the user other than the user itself.

c)Availability:

The application is available in the google stores, the user only need to download and install the application. The user should register him/her with the application for using it.

d)Supportability:

The application is able to support the android version 2.3.3 onwards.

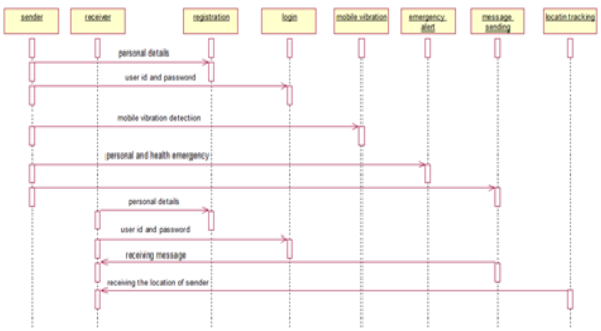

Fig. 2: Sequential model for the working of application.

2. Overall Design:

Modules:

1) User authentication
2) User emergency
3) Health care issues management
4) Other emergency issues management
5) Cancel and ferret customization module
6) Threshold value

Modules Explanation:

1) User authentication:

In this user authentication module the users can register their details based on their position. For example the user can login as normal user or policeman. After their user registration they can login into their account in our application using of their smart phones.

2) User emergency:

In this user emergency module we are finding the users are in emergency situation based on shack the phone it will find out hand gesture based on the threshold value on hand gesture. So by the user login session value we can find everyone presents on the online.

3) Health care issues management:

In this health care issues management module will be handle the health care issues of user for their emergency timing. In our application after find outing the emergency timing the user is having some options to choose like health issues button and other emergency button. If they selected the health issues button a message will generated automatically send to the ferret contact and also share their location by using of GPS and internet. And also if the user cannot select any it will that as health emergency situation for them and generate and send the notification to their saved contact.

4) Other emergency issues management:

In this other emergency issues management module we are handling the other emergency notification of the user if the user select their other emergency button while it is asking for the options. Then it will generate one automatic message to the police and also to the user saved contacts.

5) Cancel and ferret customization module:

In this module if the user selects the cancel button then it will find out that the user is not in the health or any other emergency notification situations. And also in this module the user can add or change their saved contacts.

6) Threshold value:

In this module, we are setting some threshold value for sending the emergency message. If it is below threshold value then the message will not send to the saved contacts and if it crosses the threshold value then the message will send to the contacts.

Proposed system:

In our proposed system, we have the smartphone hardware's inbuilt like vibration sensor to find the hand movement recognition for finding out the emergency situation of the user. By setting the threshold value for hand movement at the emergency time of user. Suddenly a page will display on the user screen with the button of health issues, emergency issues and cancel buttons for the next 30 seconds. If the user is not selecting any option it will automatically send the health issue notification to their saved contact. But if the user selects the cancel button then there is no need to send emergency notification to anyone.

Result:

Results are formed such as safety alert application is able to send the message and it can track the location using GPS tracker as shown below.

Fig. 1: User login page for authentication.

Fig. 2: Vibration is detected according to the threshold value.

Fig. 3: Emergency alert.

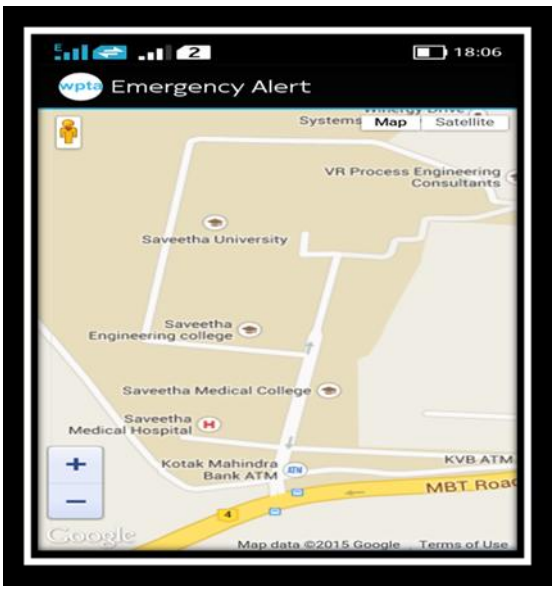

Fig. 4: Location tracking.

Conclusion:

In this paper, we are aiming at providing the aid to the safety problems which often occurs in day to day life. Safety alert application is playing an important role in adoption of healthcare systems in mobiles.

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