

Health Cautious System In Emergency Situation

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Abstract- In this paper contains the android based emergency alarm system. We know android phones are used most of the peoples. In the emergency alarm when user in problem and activate the alarm, then family and friends get emergency alarm message, they can immediately rescue the user. It also contains the life reminder system which reminds to user to take medicines on time and so on

Keywords- emergency alarm, life reminder, Android, Location

I. INTRODUCTION

In today's world of growing social pressure most of people are facing the health related problems especially old or aged people who have sub-health. It is important to build health security system for people and deployed on the mobile phones. Normally the emergency alarm system which is deployed on separate device and they are connected to the Hospital service by wired, wirelessly. But there is disadvantage of this system: once going out of the coverage, the system won't work anymore.

There are some advantages of the cell phones, first is that the cell phones are convenient to carry. Second is that open operating system on cell phones, such as iOS or android. Third is with using cell phone user can call their family and friends. Fourth with the help of GPS their location can be track

The emergency alarm system activate manually or automatically. The alarm action will send emergency message and calls to the user's family or doctors. The message that send it includes location information of user

Normally, a healthcare emergency alert system is deployed on an independent device, wired or wirelessly linked to a gateway, and then connected to the hospital or emergency center. But the disadvantage of such systems is obvious: once getting out of the coverage of the gateway, the system won't work anymore. Healthcare management system has three main functions. The one is life reminder system. The second one is On Line medical, and the last one is the self-disease diagnosis. Apparently it is not convenient at all. According to these disadvantages, deploying the systems on cell phone is

undoubtedly a better choice. As a carrier of emergency alert and health care management system, there are some advantages for cell phone. First, the cell phone is convenient to carry. People always carry a cell phone with them, so they can send an alert or get the prescription from the doctor at everywhere and every time. Second, open operating systems on cell phones, such as iOS, Android and Symbian have many applications and easy to extend by developing application. Third, by the cell phone, user can make a phone call to their friends and family.

Workflow Diagram –

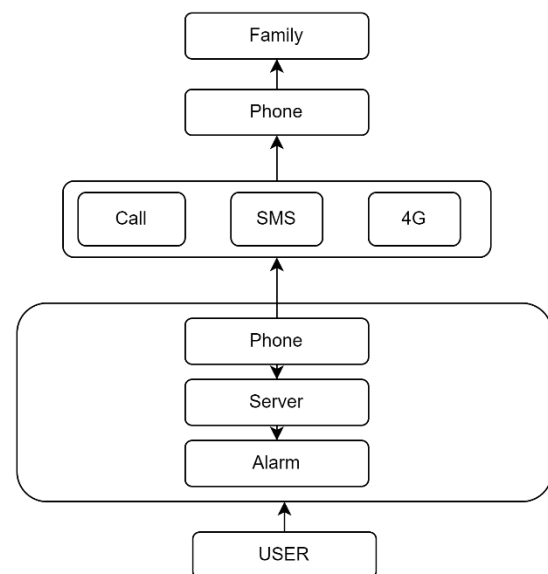


Fig. 1 Workflow Diagram

Now mobile phones support Internet access, so when the user is not feeling well, he can log in the system, their status will be sent to the server. The server receives the user's information and reminds the on-line doctor that the on-line user needs treatment. The work flow is shown as Figure 1.

II. SYSTEM ARCHITECTURE

In the fig. 2 shows emergency healthcare management system

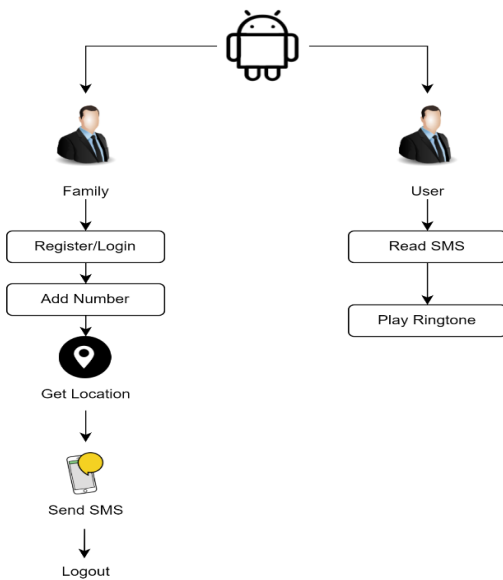


Fig. 2 System Architecture

In the fig. 2 shows A *system architecture* is the conceptual model that defines the structure, behavior, and more views of a system. The emergency alarm system is build for user to make emergency alarm at emergency occasion. It contains three functional components .It works together and take decision to start alarm, then alarm executor is used in when it decides to send alarm

III. IMPLIMENTTION

In this section , the detailed designed and implementation of the system are presented.

A. Software Login and Register interface

Emergency Alarm This part of system gives the user a convenient way to send an alarm to their family and doctors. It is an android application, and consists of three modules. First, the Action Monitor is designed to detect the user action on the phone. However, due to the original design metric of the Android system, no application can receive the key-tapping messages when the screen turned off, which will cause the alarm not triggered by key-tapping while the screen off. So we have to modify the Window Manager Service in order to catch the key-tapping message and let the system know (In Android, it calls broadcasting). Once detecting the appropriate pattern of operations, an alarm is supposed to be triggered

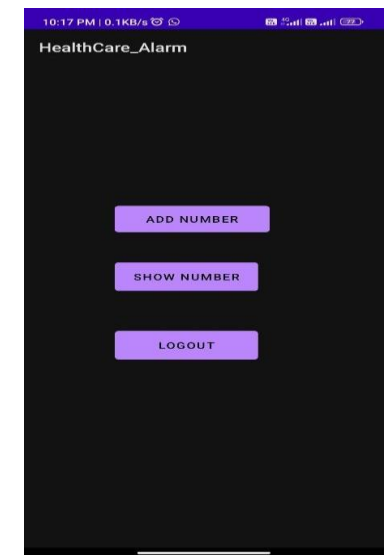
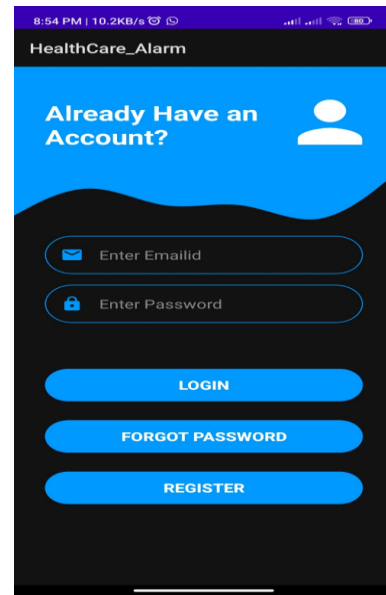


Fig 4 : Add Number Show Number Interface

As shown in Figure IV, the Emergency Alarm works as an Android Service which is an application component and runs in the background to perform a longer-running operation. This service is designed for monitoring the user’s action, in order to judge whether the user is aim to trigger an alarm. User can manually choose whether to run it or not

The second one is a Add Number Interface module..In this module user can add the number of family and Friends which user wants to send the emergency message Once receiving the broadcast of the first module, it respects that the user has triggered the alarm. Then it will activate some necessary service such as location service, to get the location of the user at this moment and so on.

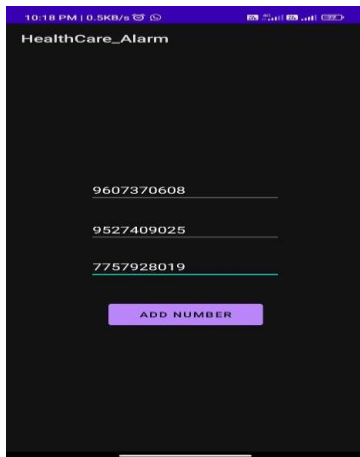


Fig5 :Add Number Interface



Fig6:Number Interface

Figure 6: The system setting interface The third part is the Alarm Executor. It will perform the actual work of alarming when the user starts it, for example, making a phone call to family and doctors, sending a message to the server in the hospital, and so on. Who will receive the alarm messages and calls is manually predefined by users

B. Server part I: Emergency Alarm

This system is designed for the hospital to receive the alarm message sent by user. Once received the alarm message, this system will play alarm sound and display the information of the user. The content of alarm message is defined to a string, in formation of JSON [3], shown as follows:

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{“Message”:”Alarm”, “User”:”username”, “Location Source”:
”GPS”, “Longitude”:” longitudeValue”,
“Latitude”:”latitudeValue”, “Timestamp”:”timestamp” }
```

Because the content is a string, it can be sent by Internet or SMS.

Another function of server is to turn off the alarm proceeding at the client side. Once user triggered the alarm, the proceeding will not automatically stop until someone turns it off. This person could be the user himself or the server side. The purpose of this design is to avoid this occasion: the patient has already sent the alarm message, but no one received. So the alarm won't automatically turn off unless some one do it

IV. USER STUDY

In this user study, we deploy two servers that are placed in our laboratory and twenty cell phones to test the reliability of the system. We made the test of the emergency alarm system in subways, the running cars (speed less than 80kmph), suburbs and rural places for stability verification. Total 199 successful tests out of 200 tests are achieved during the experiments. The only failure is finally figured out for network issues. This shows that using a mobile phone as the client of alarm system is very reliable. At the same time, compared to conventional equipment's, mobile phones have the advantage of moving anytime and anywhere. The detailed test data are shown in Table I.

TABLE :Test Data

location	Test Times	Succeed Time	Failed Times
School	45	45	0
Subway	33	33	0
Car	25	25	0
Suburb	50	50	0
tunnel	30	28	2

V. CONCLUSION

We thus present an android-based emergency alarm which is practically deployed on android-based phones. The system can give emergency help at anywhere and anytime, on time Response by Family, and can provide the function of seeing a family or friends to the user

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