IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

ENHANCED FUNCTIONALITY EMERGENCY CALL APPLICATION FOR ANDROID

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ABSTRACT

Android is an operating system for mobiles which is based on the Linux kernel and currently developed by Google. Android is full featured and lightweight. Most of the Android applications are written in Java-like language that can be ported to new platform easily thereby adopting huge number of useful mobile applications. This paper elaborates the enhanced functionality of the emergency call for android. This is an application that you activate before you might get into an emergency situation i.e. before walking alone through a tunnel. Then you have to press a button or a finger on the screen. As soon as you lift the finger from that button/screen, the device will send an emergency call or message to a friends, family, police, and doctors and send the exact current position. As soon as they know the position of user they can reply to the rest of people.

KEYWORDS: Android,GPS,Location Position,SMS,Call

INTRODUCTION

Now a days security of women at the night and at times even in a day when travelling alone anywhere is a concern. Various terrible crimes have been occurring in the different parts of the country. New Delhi, the capital of India is a big eyewitness of such a crime. Along that when any person travel longer distance from the home in unknown areas, their security is an important concern also. It has been observed that the instance communication of message of one's locations precisely is a problem. This paper describes Emergency Call system developed in Android platform. The individuality of this application separately from other application available is that the user needs not waste time navigating inside the phone menu i.e. to unlock the screen, to initiate the service. Instead of this they can directly press or touch the button and thus sending the location of that user in terms of latitude and longitude. The location will be send to the pre-registered phone numbers in the application. There are many such applications available in the market which sends a custom message to the number registered but not the location of that person also these applications are not able to send message again and again after some interval of time. But in this newly proposed and verified application the

longitude and latitude information which gives the universal idea of the place of the current position of the mobile user is attached with the custom message that had been originally set in the application. And then this information is conveyed to the phone numbers which is registered already. So thus this newly featured application supports to fin the exact location of the person in need also it will be so beneficial in tracing the location of occurrence easily at latter time.

When your Android mobile is locked with the default pattern, it is easier to open and use an emergency call. Emergency calls services are accessible to any of your contact number. The phone will allow you to make as many emergency calls as needed. The Android phones will only dial emergency calls which ever we assign and the location in the form of message. In the Android OS, we can create shortcuts to emergency numbers as well as take it a step further with the Maps app. Using Google maps we can send the present location where we are and send it in the form of a message. The main scope of this app is to call and as well as message (SMS) the present location where we are, to certain selected contacts by activating the app on to the home screen. Another aim is to repeat the same process i.e. calling and

message sending after 10 minutes to the other contact. This is the best featured app because, for every 10 minutes the call will be connecting to the alternate numbers selected. In the same way message in the form of SMS i.e. the location will be sent to every number. This will help when the previous call is disconnected or does not respond after 10 minutes it will be connecting to the other contact selected and followed by location in the form of SMS.

EXISTING METHODOLOGY

Rashmi A. Nimbalkar[1] proposed a Domain Specific Search Of Nearest Hospital And Healthcare Management System, which is used to trace nearest available hospital and contacts to ambulance, accesses a Electronic Health Record of emergency patient that can critically assist in pre-hospital treatments. This system will also find availability of the nearest available specialized hospital all through EMS server which provides continuous information about the incoming patient to the hospital. This paper proposes Android Based Tracking for EMS (Emergency Medical System) on cloud. But this system fails to trace exact location of the hospital, also fails to contact the ambulance, because if in any condition system does not able to contact ambulance in first attempt then it will not contacts repeatedly.

Dhrubajyoti Gogoi[2] developed a SOS application which works on android platform. The application helps those sections of the people who unexpectedly fall into a situation where immediate communication of their situation becomes necessary to be informed to certain persons which will helps them in this condition. This system has also some disadvantages because this is unable to retrieve the actual location of the user. Also this system fails to send repeated message in alternate times. Also this system is unable to make the calls.

Yuanyuan Du[3] provide the idea about an emergency alarm and healthcare management system. This system is mainly organized in an android-based phone that is convenient to use and carry. A healthcare emergency alarm system is installed on an independent device, wired or wirelessly linked to a gateway, and then connected to the hospital or emergency center. But the drawback of such systems is getting out of the coverage of the gateway so the system won't work properly. However the life reminder function is useful and helpful for the senior people and chronic patients to give a friendly reminder for medicine and so on. But most of the healthcare management system is separated from the emergency alarm system, which

means the users have to keep two systems at the same time. So this system is not convenient at all.

R. Dhivya[4] emerged Emergency alert system (EAS) which send an alert message to wide range of people in the organizations including colleges and universities. EAS developed certain mathematical techniques through which the bulk messages are split to avoid network congestion. These techniques are useful in finding the minimum time for the delivery of all messages. The EAS provides better security which does not proceed way to intruders to take over the authority of the system. With the first five digits of the recipients phone number the system is capable of generating the ten digit number series. But this system does not guarantee the delivery of messages because the message will be sent in bulk. Bulk messages cannot be sent during emergencies due to network traffic. Also this system will unable to find the exact location of the user.

Manav Singhal[5] proposed the implementation of Location based services through Google Web Services and Walk Score Transit APIs on Android Phones to give multiple services to the user based on their location. Location based Services offer facility to the mobile users to retrieve the information about their current location and process that data to get more useful information near to their location, with the help of A-GPS in phones and through Web Services using GPRS. Location based Services can be implemented on Android based smart phones to provide these value-added services. But this system will not work in low coverage areas. This system will find nearer location not exact location of person using this android phone.

PROPOSED METHODOLOGY

Research Methodology

The proposed model is designed to be user friendly and time saving. In this newly proposed system the button will be available on the home screen of that android mobile. So that it will be very easy to operate and trigger the system. User can use the application on the home screen, so that there will be no chances on running the app unknowingly. We name this system as the "Help" button. As the user press the button or touch the screen the application will trigger in the background and immediately the location of the user in terms of longitude and latitude will be attach to the custom message is send to the alternate number which is pre-registered in the application. The user can add number according to his/her requirement also can save the custom message. Thus the location of the user in problems will know to all persons whom message has been send. To work this

model accurately and properly the GPS service has to be available in the handset. If the handset has GPS service unavailable, the system will show error. But user has not to worry about that because still it will send the custom message to the register number which will helps the people whom message will send to know the trouble of the user. Also when the user sends the message to the registered number, if next person don't get message or unable to respond, the application will send message repeatedly after 10 minutes. Thus it gives guaranty of the delivery of the message which is very essential in such a situation when user can't do anything. Also the person going for help reaching at that place where user is located can reply to the rest of the people to which user sends the message. Along with these fantastic features the application will also make call to the registered number. If the send message doesn't get response the call will help to the user in critical situations. If the handset user is not triggering this application, default home screen of the handset will be displayed continuously.

System Architecture
In the system architecture, this application has five of the modules:
- User Module
In the proposed system the user can create notes displaying on mobile screen. These notes include the custom message which will be attached to the longitude and latitude to show the location of the handset user also the mobile number to which user wants send message in the emergency situation. These notes can be displayed immediately after creation or in the certain moments of time. Set mobile number & submit.

- Location Module
Having GPS service available in the user mobile location of the user in terms of the longitude and latitude can be trace. This application will helpful in finding exact location of handset user. Google map will be very useful in tracing the location. Then this location is attached with the custom message and message is send to the alternate numbers. Also this application is able to make call to know the location of user.

- Message Module
As the user falls in the emergency situation, simply they have to touch the button which is available on the home screen, immediately the application will be activated and then message will be send to the

registered numbers which will give the location of user.

- Call Module
In any case if the user don't get help by sending the message, this application is able to make call to the registered numbers. As the user press the button the system will make the call to know the location of the person falling in the critical situations.

- Reply Module
After getting emergency alert message from the person who are in trouble, the person reaching there can reply to rest of the people who are worring about that person. So that it will give surety that anyone has gone to that person.

Figure:

System Architecture
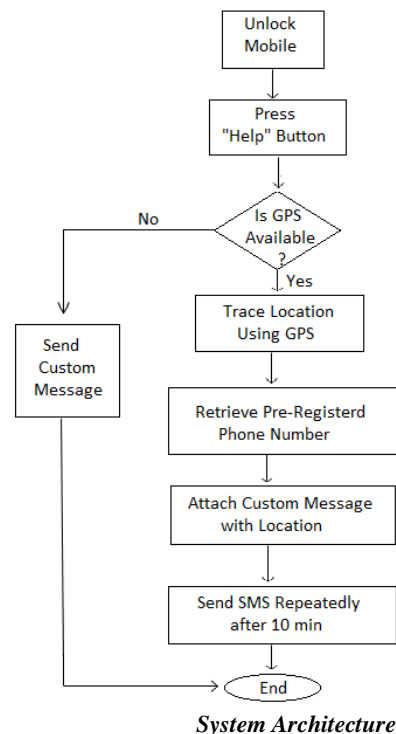
CONCLUSION
This Emergency Call Application for Android with Enhanced Functionality is immense useful for the people who falls into the critical situation when they comes out of home or goes in unknown areas. Now a days lots of unwanted crimes has being occurring, so this application will helps in such situations. This application is very user friendly and takes less time to trigger. This application is freely available and runs on Android handsets. Thus it increases the

importance of mobile phones and provides best security to the peoples.

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