MANTECH Publications

Journal of Android iOS Development and Testing
Volume 2, Issue 1, January-April 2017

Android User Activity Monitoring and Security

Susmitha. R[1], V. Vanitha[2]

PG Scholar[1], Professor[2]

Department of Computer Science and Engineering

Kumaraguru College of Technology, Coimbatore, India

Corresponding Authors: *susmitha941810@gmail.com[1], vanitha.v.cse@kct.ac.in[2]*

Abstract

Android is a one of the mobile operating system developed by Google, based on the Linux kernel and designed primarily for touch screen mobile devices such as smart phones and tablets. There is 90-95% people use android devices. Android perform various activities related to formal and informal life. Likewise in IT industries, small scale as well as large scale, organizations, educations etc. The proposed plan" Android user activity monitoring and security"is the android application which spy on any targeted user and retrieve its call logs, messages. This application not only retrieves call logs, and messages history, it also provide emergency call and message service for the android users. The Retrieved information such as missed call, incoming call, outgoing call, call duration, incoming SMS, outgoing SMS along with its date and time will be tracked and updated to the application this application will be monitored by the administrator. And Emergency application that people activate on mobile phones before you might get into an emergency situation. Then the people have to only press this application present on the home screen. Soon the device will send an emergency call or message with current location to a friends, family, police, and doctors and send the exact current position. This system will help to people who fall into a situation where instant communication of their situations becomes indispensable to be informed to certain authorized persons.

Keywords: *Android, SMS history, Call log, Emergency call, Emergency message, Location tracking*

INTRODUCTION

Android is one of the most widely used mobile OS in these days. It is a software bunch comprising not only operating system but also middleware and key applications. Android was founded in Palo Alto of California, U.S. by Andy Rubin, Rich miner, Nick sears and Chris White in 2003. The number of smart phones users and mobile applications are growing rapidly. There are several mobile Operating Systems, such as Symbian, iOS, Android, and Windows Mobile. In this Android Platform will developing mobile application for android phones.

This application will monitor the telephony activities over the mobile phone and application will store information for further use. So user can save nearly unlimited call logs, messages.

On occurrence of such activity It will collect information about activity (e.g. caller, call date, time, message content or image) and send it to application and can see anytime, from anywhere from his mobile.

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 also name of that area along with the link of map which will show the location with the help of GPS. 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.

This system focuses on following parameters:

- Get call log and sms history from content provider.
- Emergency sms with location
- Emergency call

- Acknowledgement
- Identify current location

To meet the all this parameters "Android user Activity Monitoring and security" is proposed.

FEATURES FOR SYSTEM REQUIREMENTS

In This section the requirements for "Android user activity monitoring and security" are described. As per described in previous section for parameter use Android programming because it is very easy to install app on android operating system's device on the other hand it provides several permission like internet permission, GPS permission, SMS permission, reading contact permission and several others therefore used Android programming to add functions and flow to our system. "Android user activity monitoring and security".

EXISTING SYSTEM

In existing system There are limitations on storage of call and message logs in mobile phone memory also it cannot see the records of deleted messages and cannot restore them same in case of images. If your data is corrupted then all of your messages may lost so there is need of an application that can keep records of all call logs, messages at storage another than phone. Another one is tracking of location can be done of user by using Bluetooth functions i.e. the location will be tracked within a specified range and alert will be send to the administrator's mobile device through Bluetooth. Mobile activity such as missed call, incoming and outgoing call, incoming and outgoing SMS with content is not easily tracked of number of user at a time in existing system.

Disadvantage of existing system

- Android device running very slow because of limited storage.
- Does not provide user friendly features. Less details of calls and messages.
- Only content regarding call and messages has stored
- Limited to short distance

PROPOSED SYSTEM

Android user activity monitoring and security"is the android application which spy on any targeted user and retrieve its call logs, messages. This application not only retrieves call logs, and messages history; it also provides emergency call and message service with current location to the android

users and finally acknowledgement send to user. The Retrieved information such as missed call, incoming call, outgoing call, call duration, incoming SMS, outgoing SMS along with its date and time will be tracked and updated to the application this application will be monitored by the administrator. And Emergency application that people activate on mobile phones before you might get into an emergency situation. Then the people have to only press this application present on the home screen. Soon the device will send an emergency call or message with current location to a friends, family, police, and doctors and send the exact current position. This system will help to people who fall into a situation where instant communication of their situations becomes indispensable to be informed to certain authorized persons.

OBJECTIVE

The objective behind the implementation of Android user activity monitoring and security". Is to Retrieve call log, SMS history user location from content provider and to monitoring these above activity finally send to the android user and also log will be maintained if user in any emergency situation automatically call to programed number with location.

IMPLEMENTATION

This system is developed by using Android operating system. This can also check it on emulator in debugging mode in which Android SDK provides virtual mobile device emulator which will runs on computer. Implemented an Android Spy which will run in background service in users mobile to run the application in background and to track all the information about Call, SMS, Location and other activity.

This need to provide following permission in Android Manifest.xml which will include in Eclipse tool at the time of creating Android Spy. To track and send information about user's activity in mobile to the centralized server we need to provide following permission

"android. permission. READ_CALL_LOG" "android. permission. READ_SMS" "android. permission. SEND_SMS" "android. permission. RECEIVE_SMS" "android. permission. CALL_PHONE" "android.permission.ACCESS_COARSE_ LOCATION" "android. permission.

ACCESS_FINE_ LOCATION"" android. permission. ACCESS_FINE_LOCATION

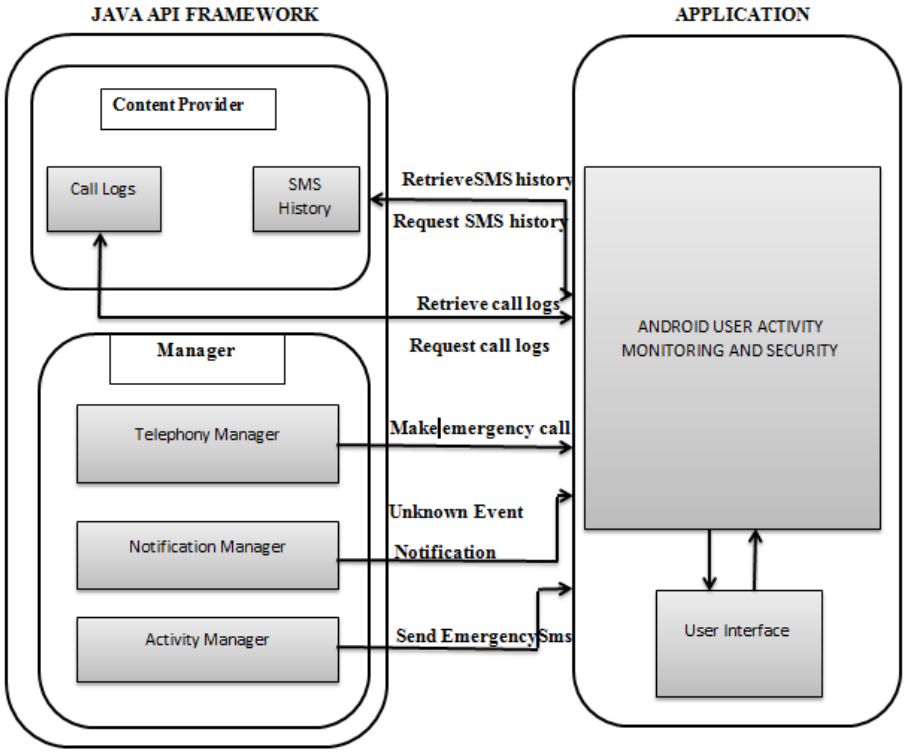

Fig.1 Proposed Architecture

After that we have to register the Google's API key for fetching the location of user through GPS on administrator's mobile. If the user crosses the specified geographical area then only latitude and longitude will be sent to Emergency contact mobile number in the form of SMS. It consisting of maps of organization and location of user"s mobile. Date, time, location will be displayed in map

RESULT AND DISCUSSION

After doing overall implementation of this project come to following result after doing testing on two Android mobile phones found some results which satisfies our mention objective, requirements and parameters. This installed our Android Spy in one Android mobile which runs Android 2.3 minimum and performs call operation, SMS operation and crosses the premises of

predefined location in it as soon as these activity done on mobile phone an alert was sent to the second mobile phone and. It found several results which are shown and discussed following fig 2 describes user current location with use of Google map this location identifition is very useful for this project.

This application provide Emergency call service when user in emergency situation just one button click automatically call forwarded to emergency contact number fig 3 shows calling features.

Fig4 & fig5 shows Retrieve sms history and calllog details. These details are getfrom content provider in android device, this call log and sms history will be maintained and monitored by user.

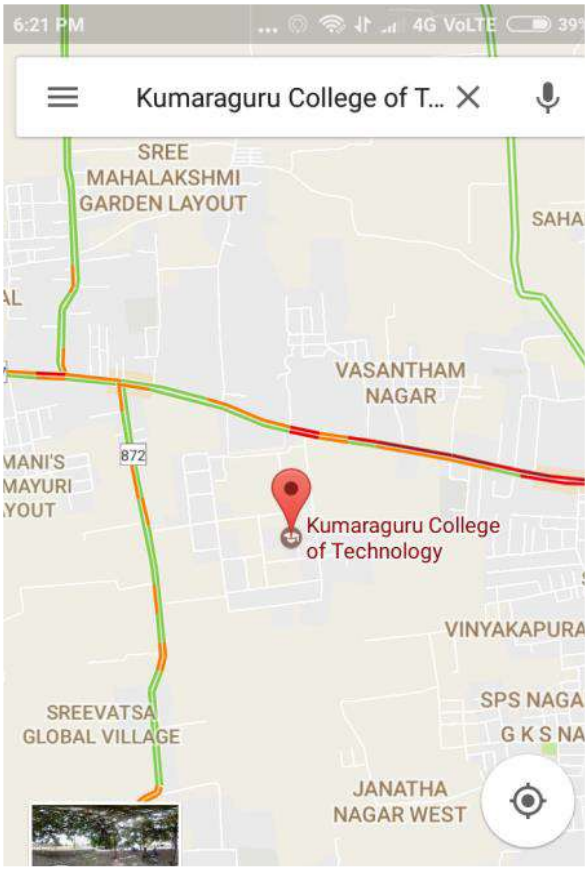

Fig 2 Location Tracking of User Using Google Map

Fig.3.Emergency calling

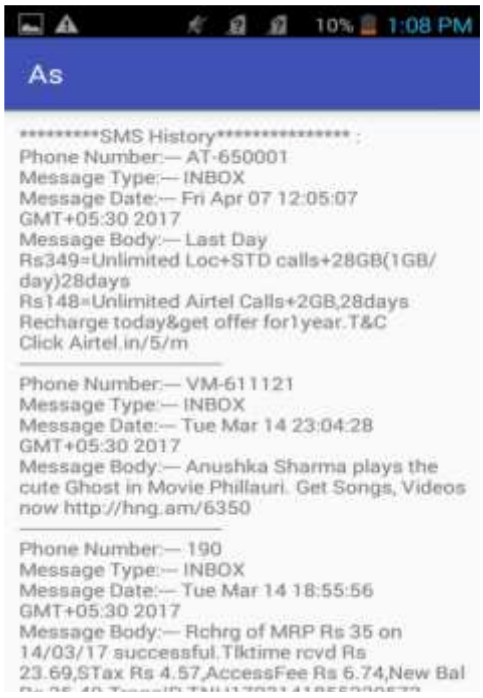

Fig.4 Get SMS history

The Fig.5 shows the output of android user Call log with name, number, department, call duration, date and time.

Fig.5 Get Call history

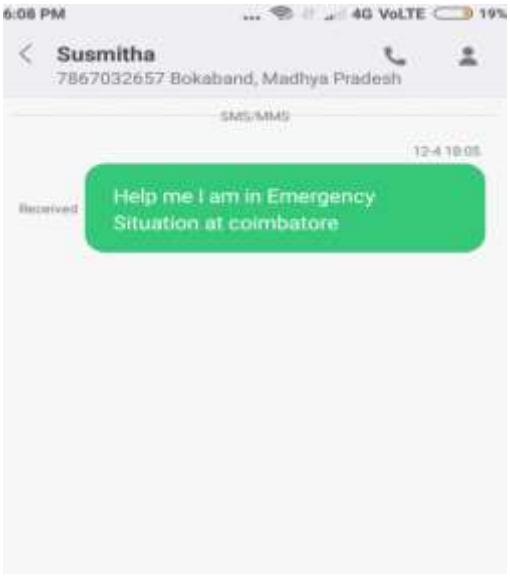

Fig.6 SMS Showing Location Address

The application retrieves the current location of the android device. It sends the retrieved location details through SMS to the Emergency contact list in android device. The details are shown in Figure 6.

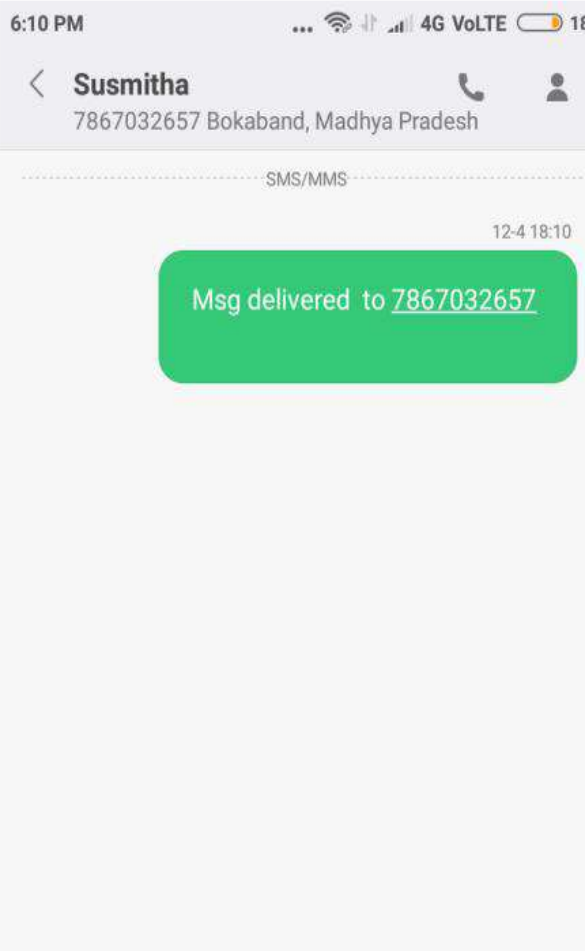

Fig 7.Shows Acknowledgement message

fig 7 shows acknowledgment message from senderFor every successfully sms sending it provide acknowledgement to android user.

CONCLUSION

Android user activity monitoring and security mobile application for Android phone which will monitor all telephonic activities over the mobile phone and Application will store information for further use. So user can save nearly unlimited call logs, messages.

This application running in the mobile continuously monitors all the incoming messages and call logs it also provide emergency call and message service with location for the android users. Location tracked with the help of GPS the system i.e. mobile device will automatically track the location of user from Google Map.

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.

FUTURE WORK

1. Lock device remotely, wipe memory to keep mobile private data safe.
2. Control Android mobile remotely via a web-based interface through Application itself, which includes a client application also along with the server application
3. Connect the application to an external database to store the logs and data with secured

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