ANDROID ANTI-THEFT MOBILE APPLICATION WITH GPS TRACKER AND IMAGE ACQUISITION

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ABSTRACT- The main objective of this project is to develop a mobile based application for higher end and costly android mobile users. And make the mobiles safe from thief, even if they have stolen the mobile, user can identify and get their mobile easily. When the mobile User loses his mobile phone, in many parts of the world there is no mechanism in place which can help the owner of the mobile to recover his mobile phone. Here we propose a system which is autonomous and intimates with the owner via Email and SMS when it detects SIM change. As soon as the thief steals the mobile phone, he tries to change the SIM card. This means he has to switch off the phone and change it and then reboot it. On boot completion the system has to detect SIM card change and intimate the owner about it. When the alternative Email id receives Mail with the thief's image and his location or postal address of the mobile phone where it is present currently. This project is mainly developed with the help of Android. This application was interconnected using GPS functionalities for mobile tracking process.

*Keyword-*Android, SIM, E-Mail, snapshot.

I. INTRODUCTION

Mobile Anti-Theft System is an application based on Android used for tracing back stolen or lost mobile. Once our system is installed onto a mobile phone, an alternate number and E-mail Id is fed into the software. The owner's details get registered in the database. Whenever phone is rebooted. Mobile Anti-Theft System is invoked in stealth mode verifies whether if the SIM card present in mobile phone is of owner. If the SIM is belongs to owner, the software doesn't do any activity but monitoring every action. If SIM is been changed and that SIM is not registered in the database then, Mobile Anti-Theft System sends a message to the alternative mobile number(friends/relatives number which is been saved while installing the application),captures photo using front camera and sends it along with the compressed contact backup to the E-Mail Id in stealth mode. Since our system is based on Google Android operation system our system would send the complete address (postal address) of where the mobile is now to the alternative mobile number as SMS as well as to the registered E-Mail Id . This project "Android Anti-Theft Mobile Application with GPS Tracker and Image Acquisition" using Android OS is development kit and SQLite as back end. This application was interconnected using GPS function for mobile tracking process. The main objective of this project is users and make the mobiles safe from thief, even if they stolen the mobile, user can identify and get their mobile easily. We propose to develop a system which is autonomous and intimates with the owner via Mail and SMS when it detects SIM change As soon as the thief steals the mobile phone he tries to change the SIM card. This means he has to switch off the phone and change it then reboot it. On Boot completion the system has to detect SIM card change immediate the owner about it. When the alternative E-Mail Id receives Mail with thief image and his location or postal address of the mobile phone where it is present correctly.

II. LITERATURE SURVEY

Android is a new and very user friendly operating system for mobile devices which includes key application, middleware and even uses Linux Kernel modified version.(Android2010). It was primarily developed by Android Inc., soon after Google purchased it and currently Open Handset Alliance. It allow developers to write codes in Java language and the devices are controlled using Java libraries developed by Google. Google released most of its android code using Apache License which is a free software and open source license.(Shaun Whitehead 2007 Android devices are mostly mobile phones based. Android technology can be used in other areas as well like PCs, car dashboards but mostly it is being used in phones right now.(Android Developers,2007)In recent years mobile phones are capable of providing internet access because of the trend like text messaging and Apple's Iphone products. These days smart phone which supports internet access is gaining more popularity. So it makes more interesting working with android applications, which is an interesting technology as well as fast moving market segment.(Milanco,2011)

III. EXISTING SYSTEM

The system which is following at present, is a could not find a mobile theft system. The type of Mobile theft made so many corrections in the reporting time and also difficult and frequent occurrence of error. Important drawback of existing system is time factor. It would not be help management to precede the   problem in find out a mobile time. It will take long time to prepare report or else. It is the important drawback of existing system is time factor. The data loss also most important factor in the existing system. The existing system has following drawbacks, Manual exploit, Security is low, A valuable mobile phone is lost, Need of lot of manpower, Frequent occurrence of antitheft, Accumulation are exfoliated.

IV. COMPONENTS OF ANDROID

 While writing application on desktop, you are "master of your own domain". You can launch main window and number of child window as in dialog boxes. From our viewpoint we are on our own, features which are supported by OS, and mostly unaware of any other programs running at same time. While there is no interaction between other programs we can communicate with MySQL or any other database typically using an API like frameworks top it. Android has comparably same concepts packaged in a different way and structure for crash-resistant.(Murphy,2008)

a) Activities - Activity can be explained as building block of user interface. We can consider activity as Android analogue for window or dialog in desktop application. It can even be possible that activity not having a user interface, while the code packaged in the structure of services or content providers.

b) Content Providers - For any data stored in a device Content Provider offer a level of abstraction which is accessible by various applications. In android development it encourage us to make our own data which can be accessed by other application and even build our own content provider which gives you a complete control over how that data can be accessed.

c) Intent - System message which run inside the device, various applications notification such as hardware charges like SD card inserted, notifications of incoming data like SMS arrived and even application events are called as intents. It doesn't only allow you to respond to such intents but also to respond to such intents but also to initiate other activities or let know when particular event occurs such as suggest WIFI availability when in range.(Murphy,2008)

d) Services - All the above stated Activities, intent receivers and content providers are all short term and can be terminated any time where as services are intended to run continuously independent of other activities such as play music while using other application, in here music controlling is no longer available but the service keep running in the background.

e) Stuff at your Disposal - one short of service where in the mobile is disposal

f) Network - Android based devices are generally with Internet ready. We can take benefit of internet as we wish in any level from raw Java sockets to built-in Web browser which is based on Web kit.

g) Global Positioning System (GPS) - Most of the android devices have access to GPS which can tell where the device is exactly located on the earth using Google Maps. GPS also helps in locating the desired location where we want to travel and even shows the places around us where we commonly go in everyday life which makes it easy to travel otherwise can be to locate the device and its movements in case the device is stolen.(Murphy,2008)

h) Phone Services - Android devices are similar to other phones which are typically used to make calls, send SMS and can be used for multimedia applications to download music in anytime anywhere, games and everything else what we expect from a modern application telephonic technology

V. PROBLEM STATEMENT

The Mobile Anti-Theft system is a mobile based application for higher end and costly android mobile users. And make the mobiles safe from thief, even if they stolen the mobile, user can identify and get their mobile easily. In cases such as the user loses his mobile phone or if someone   steel the mobile phone . We propose to develop a system which a autonomous and intimates with the owner via mail and SMS when id detects SIM change. When the thief steal the mobile phone he will tries to change the SIM card. This mean he has to switch off the phone and change it then reboot it. On boot completion the system has to detect SIM card change immediate the owner about it. When the alternative E-Mail ID receives Mail with thief image and his location or postal address to the mobile phone where it is present correctly.

VI. PROPOSED SYSTEM

The system, which is proposed, now computerizes android application to find out mobile easily. Once the details are fed into the computer there is no need for various persons to deal with separate sections. Only a single person is enough to maintain all the reports. The security can also be given as per the requirement of the users. Its also help us to give timing task then we could give the receipt also in print out format. The Proposed System has following advantages. Fully hidden from the system, Security is assured, Maintenance of file is flexible, Spy cam command, Automatic GPR tracking of the flexible, Block outgoing calls, Hackers cannot get the password.

VII.ADVANCE SYSTEM

It's the new anti-theft android project, by which it will able to identify whether your android devices has been stolen or lost etc. If someone entered the incorrect password while making login to your mobile, the anti-theft system will be activated and based on users move, the system will act properly. In case, if your android device get lost and want to receive the information of your phone, add other mobile on which you want to receive. If your mobile gets lost, the user have to login into web application and trigger the lost mobile button, the application takes a picture of the other person and sends the GPS co-ordinates to the web application using that owner can track the mobile. In case if a SIM was inserted by the fake user in the used SIM slot as soon as mobile gets on mode the app compares the registered user's number with that new SIM's number. And further the fake user's face will be automatically

snap shot by the installed android app. Then the snap will be forwarded to the user's email by the android app. This proposed system will be useful to identify the theft member's face easily. To use the android app users should create personal account in their name.

VIII. SYSTEM MODULE

E-mail & Number registration - In this user has to register their e-mail id and alternative contact number, which helps the user to get relevant details in the registered contact number and e-mail id.

SPY Camera - It is enabled using the front camera of the mobile. This automatically capture the face of the thief and image will be compressed immediately.

Device Location Tracker - This module is enabled y integrating it with GPS. This also works when mobile is restarted with a new SIM.

Location Map Capturing - This is extended along with the device location tracing module, this is because while capturing the latitude and longitudinal position of the mobile, the application will get hand shacked with the mobile information display of the mobile tower.

Contact Backup - This is the final module, in this saved contacts in the mobile will be converted into an excel format and will get transferred to the registered e-mail id immediately after the mobile gets restarted with new SIM card.

IX. DESCRIPTION

The latest smart phones provide lots of capabilities like personal computers and in addition it provides different kinds of application which are used to store lots of information in an organized form. Because smart phones are getting smaller in size day-to-day, there is a lot of chance to drop it somewhere and also anyone can steal it without your knowledge. It contains lots of confidential documents, data and personal information which will be in danger. So it is important to find the thief, all the existing applications could not be able to identify the thief, it is only capable of locating the device. In this application we introduce a new scenario of anti-theft by developing an application which is able to identify the thief. Suppose that someone has taken your phone, maybe a thief, now this application works as follows:

• Once this application gets installed in your android mobile device, it will store your email id, alternate mobile number, and SIM unique identity number in the phone memory and keep running in the background by using services.

• Then it will keep checking for SIM number, once a user/thief changes the SIM, it will detect that SIM is changed by comparing new SIM unique number with stored one and send the signal to start services.

• Now as soon as signal is received, services gets started inthe background which will start making video recording from front camera if present otherwise from back camera (atleast one camera is necessary) and also take 2-3 snapshots, which are stored in the SD card.

• Now once these services get finished it will send signal to another service, where a service will send an SMS and an email with attached snaps or video clips to an alternate mobile number and to an email address respectively, once it receives proper setting for multimedia messages and internet connectivity.

X. FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential. There are three key consideration involved in the feasibility analysis are,

A) Economic Feasibility- This study is carried out to check the economic impact that system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

B) Technical Feasibility- This study is carried out of check the technical feasibility, that is, the technical requirements of system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system. This is demonstrated if the needed hardware and software are available in the market place or can be developed by time of implementation.

C) Operational Feasibility-This ability desire and willingness of the stakeholders to use support and operate the proposed computer information system. The stakeholders include management, employees and suppliers the project.

XI. APPLICATION FRAMEWORK

Now like most of the major software and operation platform on the earth Android also comes with software development kit which as termed commonly as Android SDK. It provides you the API libraries and tools for building and developing new applications on Android Operating Environment using the java programming language. This procedure of developing the applications on Android platform in java programming language using the tools and API libraries provided by Android SDK is called Android Application Framework.
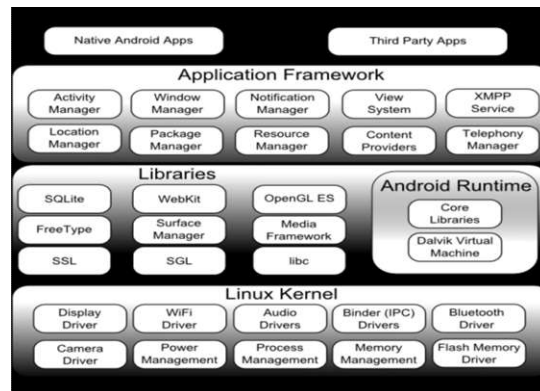
Android Application Framework supports the features that made us use and enjoy the wide range of application for variety of uses. Here are some of the important features.

- ➢ Webkit engine based integrated browser.
- ➢ Optimized graphics powered by the advanced graphics library.
- ➢ SOL for storage of structured data.
- ➢ For various types of video, audio and image formats media support.
- ➢ Device emulator, tool for debugging etc.

In the above mentioned list we did not mention some of the hardware dependant features as these tend to largely vary as per the device though nevertheless android application framework support them. Some of the device dependant features supported by android include GSM telephony, network connection profile such as Bluetooth, Edge, 3G, WiFi ,utility features such as camera, compass, GPS, etc.

XII. HOW IT WORKS

The main advantage of this application is anyone can use it without having much knowledge about the d evice and without doing lots of settings, the user just needs to install the software by providing some information like email-id, login information etc., then it will work automatically in the background.

A.   Install the Application

As we can see in this image, the use r has to run the program Application.apk and have to fill the information in the textboxes. Once it will be submitted, it starts running in the background. This makes our application v ery easy for users who do not have much technical knowledge.
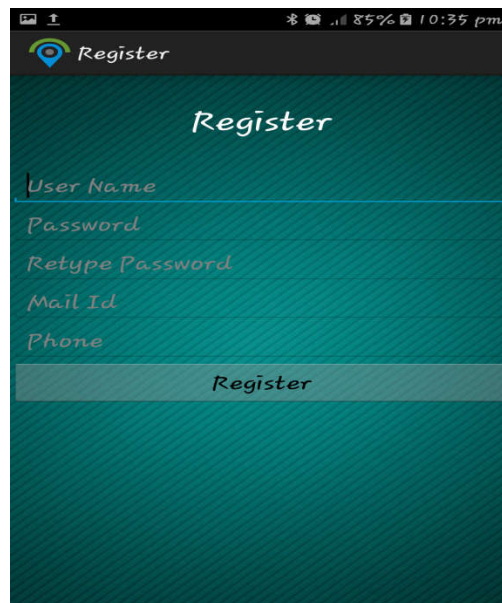
B. Activate the Camera

In this section, we discuss how to control the camera in android without showing the preview of picture and click automatically. To do this android SDK provides a framework API which gives an in built application of camera whe re you can request a picture or video from an already existing camera application. To use camera device, as we mentioned a bove, you have to declare camera permission in manifest file. First of all, we should c heck for camera whether it is available or not, and also number of cameras' available (front and rear). This can be done by calling this method PackageManager.hasSystemFe ature() and Camera.getNumberOfCameras () respectively. The android framework pro

vides Camera API and Camera Intent to capturing images an d videos. Camera intent is used directly i.e. without creating c amera object. Camera intent is a fast way to use camera application, it provides an intent action type to request a picture and a video clip from a camera*MediaStore.Action_Image_capture MediaStore.Action_Video_capture*
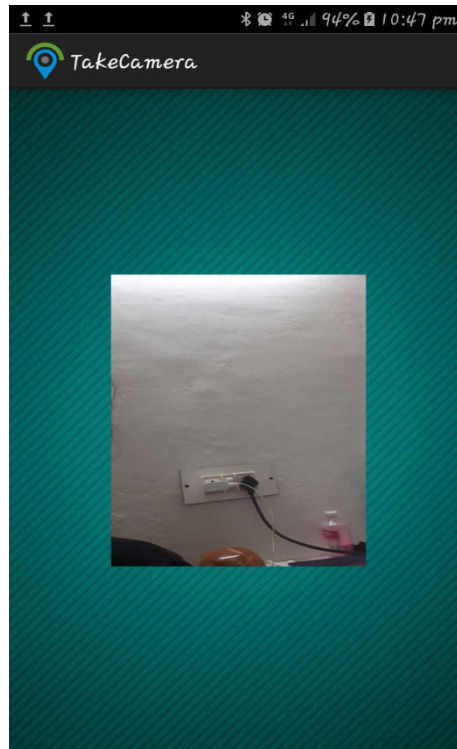
C. How to Send an SMS & E maiL

As we had mentioned, to use SIM services in an application one has to take permission by declaring in manifest file. MMS is an http-post request, we have to request some extra network feature to send an MMS. MMS uses private API's which is not ava ilable in android SDK. One way to send an MMS is to use Android GIT repositories [6][7][8][10][11] which gives internal packages to send MMS with any image or any audio or video files.

XIII. CONCLUSION

This paper presents a novel anti-theft application for android based devices. The application deploys an enterprise security solution that meets users immediate and long term requirements by providing the images and videos of the thief, which makes easy for the user to identify the thief and make him/her get caught and arrested. We are enhancing this application by providing the information about the location of the android based smartphone with the help of text messages. With the advent of time, technology is evolving every day. Our application will further be developed and improved. Currently this application is available for android based mobile phones. Future work involves development of the application for iOS, Symbian, Windows Mobile OS etc**.**It is concluded that the application works well and satisfy the needs of the user. The application is tested very well with security issues and errors are properly debugged. The application can used in more than one reboot of mobile with different SIM cards. Simultaneous login from more than one place is tested. The application works according to the

restrictions provided in their respective service providers. Further enhancement can be made to the application so that the it can function in a very attractive and useful manner than the present one. The seed of the transactions become very high compared with normal.

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