



## Anti-Theft Tracking System for Smart Phones

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**Abstract:** *The creating an application for android mobile to find a lost mobile. The application deals with login of mobile user when mobile owner switch on the mobile the application will automatically started and it takes a snapshot of mobile owner. The mobile moves from one place to another place the value of the latitude and longitude is taken and stored in the memory. Only the latest value is stored in the memory. If SIM card is inserted then the application compares the owner's SIM card number and current SIM number. If SIM card number match, it should be in idle. If there is a mismatch, then the present latitude and longitude value of the mobile is sent as the SMS to the specified phone number and without the knowledge of the person. The application takes snapshot of current mobile user and send picture via Email to mobile owner's Email id. Thus proves to be different from the existing mobile tracker applications.*

**Keywords—***SIM tracking, User registration, Latitude and Longitude, Location tracking, SMS/Email*

### I. INTRODUCTION

The mobile cellular communication has been appreciated since its birth in the early 70's and the advancement in the field of VLSI has helped in designing less power, smaller size but efficient transceiver for the purpose of communication. But however the technology has not yet answered the loss or misplacement of the lost mobile phone which is significantly increasing. The mobile phone is lost there is possibilities for misuse of data stored in it. As there is no mechanism in place which can help the owner to recover his mobile phone. Mobile tracker which is autonomous and intimates with the owner via SMS and Email when it detects SIM change. Geo code technique is used for detection of the theft mobile and it can be done in efficient manner. The IMEI number is a unique number that is embedded in the mobile phone. The main purpose of which is the blocking of calls that is made by unauthorized person once the mobile is reported as stolen but here we use it effectively for the purpose of detection of lost mobile.

The GSM Mau's IMEI (International Mobile Equipment Identity) numbering system is a 15 digit unique code that is used to identify the GSM (Global System Mobile) phone.

When a phone is switched on, this unique IMEI number is transmitted and checked against a data base of black listed or Grey listed phones in the network's EIR.

A subscriber identity module or subscriber identification module (SIM) is an integrated circuit that is intended to securely store the international mobile subscriber identity (IMSI) and the related key used to identify and authenticate subscribers on mobile telephony devices (such as mobile phones and computers).

A SIM card contains its unique serial number (ICCID), international mobile subscriber identity (IMSI), security authentication and ciphering information, temporary information related to the local network, a list of the services the user has access to and two passwords: personal (PIN) for ordinary use and a personal unblocking code (PUK) for PIN unlocking.

GPS is a system used for the purpose of finding the position of particular object. This system receives satellite signals and determines the location of mobile device. The system can be classified under two types of data transmission.

- i. SMS data transmission.
- ii. GPRS (General Packet Radio Service) data transmission.

### SMS data transmission

This system requires user to send request via SMS on a device of which a GPS tracking device is installed. After that, the device will send the co-ordinate of its respective position and identity to the recipient mobile via SMS. This co-ordinate can be represented on a map software by using Google Map.

GPS tracking system which sends the position of the tracking object every single minute from SIM card of lost mobile to the respective mobile. Because this system is a 24/7 service, GPS is widely used in outdoor localization system; it does not perform effectively in indoor location. This is because it lacks the ability to pierce through building wall and requires custom infrastructures for every area in which localization is to be performed.

Android is a platform for mobile device developed by Google. It gives a wide set of software development operating system, tools and APIs necessary to build applications. Android is recently used in developing mobile application. Furthermore, Android service was created for retrieving mobile particular information and running the data monitoring process from the lost mobile as background process, which will not be identified by the thief. The advantages of android are given below.

- It is a UNIX base operating system.
- Android is an open source os.
- It is user friendly.

## II. PROBLEM DEFINITION

There are many existing applications to track the lost mobile. It is not possible to find location of unknown user where they currently present. Identity of the unknown user is not identified to find the theft mobile. Location Tracker application is to track the android mobile using GPS.

### Disadvantages:

- Identity of the mobile thief is not determined.
- User location cannot be tracked without the permission of the mobile user.
- The current location of unknown user is not updated within 5-seconds.

## III. PROPOSED SYSTEM

Android powers hundreds of thousands of mobile devices around the world. The smart phones have become attractive targets for the thief. There are a number of precautions that the users of the android phones can take to reduce the chance of their phone being stolen and to ensure that, in the event that the worst happens, the thief is unable to misuse the private data stored in the memory card. An android application that demonstrates a system which uses a regular mobile phone equipped with a GPS receptor and connected to a global system for mobile (GSM) network that takes advantage of these technologies in behalf of the user safety. The system is filled on with features like SIM card detection, location fetching through GPS and transfer of images to email address and delete important data from mobile phones. All these features work on the SMS basis. So, incoming SMS format plays an important role. The android application running in the Smart phone monitors all the incoming messages. If the SMS is received in a predefined format it reads the SMS and performs the expected task.

### Advantages of Propose System

- With this app, your mobile is immediately enabling the application upon receiving the predefined template message from the pre-registered mobile numbers.
- You can also track the location of your lost mobile on Google Maps. When SIM on your phone is changed, the location is automatically shared with the server.
- It is used to upload the contact details on cloud.
- To change the profile with the help of the message.

## IV. SYSTEM ARCHITECTURE

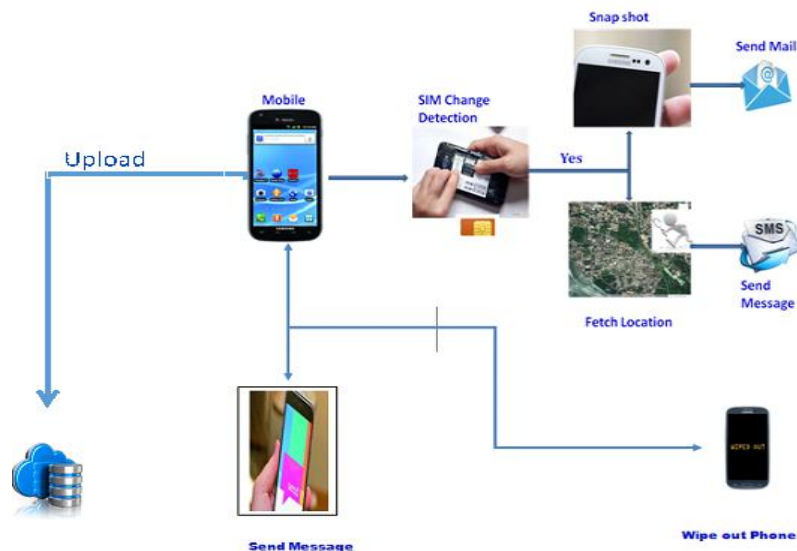


Fig. 3.2.2.1 overall system architecture

## V. MODULES DESCRIPTION

**App Installation Module** to build the android application using eclipse environment with android development kit. To start the emulator for developed the application. This is the emulator for create the new app. This is the main module to developed. To create an innovative android app for anti-theft mobile tracker for smart phones and it install the application to mobile. It is used to fetch the real data from user and store into database using SQL Lite. In this module first user interface where user has to provide SIM, IMSI number and alternate number then click submit button. Next it will store information in the database. User can enter name, alternate number and IMSI number. User can change the alternate number and IMSI number.

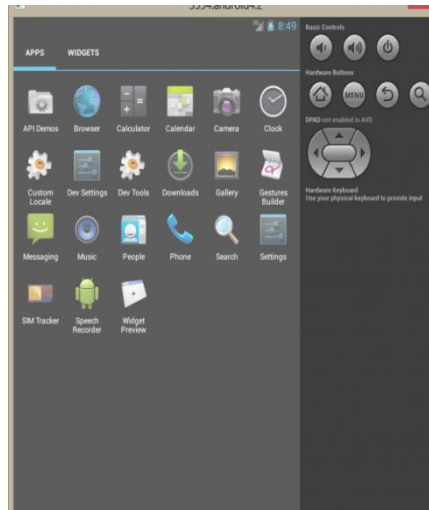


Fig. 6.2.1 start the emulator

To create the application SIM TRACKER for anti thefting mobile for smart phones. This indicates the icon for sim tracker it will appear in main menu .Doing further process open this software icon.



Fig. 6.2.1 install the application

This indicates the application of sim tracker on or off system. The system will on then go to settings for further process. It will use to gather about the user details. This service starts automatically in stealth mode when one SIM is removed and another is inserted. This service will receive information as data from the database and check the SIM IMSI Number with the database data. If SIM Number does not match with the database, then automatically capture the snapshot of current user without user interaction.

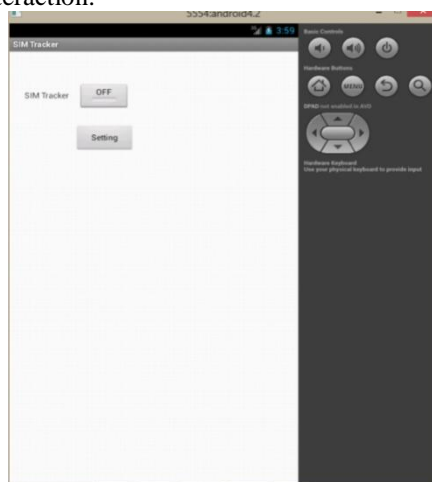


Fig 6.2.3 sim tracker setting

This module is used for the registration process. This contains several information of the user such as mobile no, email, old password, new password, sim2 IMSE. This is may be used for track the theft mobile system.

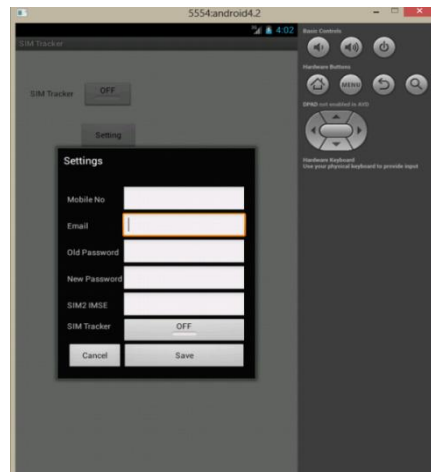


Fig. 6.2.4 user registration

**SIM Change Detection** to give the authorized information about the user. It will verify by the network system. It will be stored in the virtual database. If any clarification it will handle by the system. This service starts automatically in stealth mode when one SIM is removed and another is inserted. This service will receive information as data from the database and check the SIM IMSI Number with the database data. If SIM Number does not match with the database, then automatically capture the snapshot of current user without user interaction.

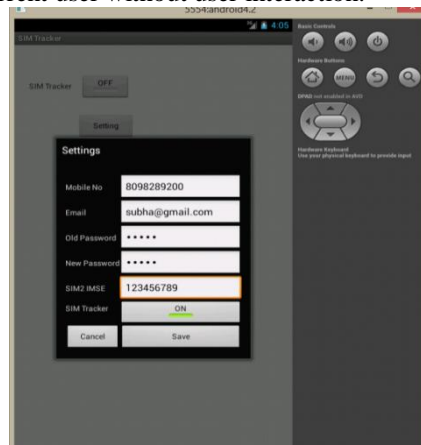


Fig. 6.2.5 user details

**Alter Module** this module send the message to the registered number .The message contains the location of the theft mobile phones, time and place of the particular system. Send the message to the reference number when new sin card inserted to that theft mobile. After inserting new sim card this application will take the selfie to the particular person. This will help to the anti thefting mobile system. Then the current location of unknown user is send as the SMS to a registered mobile number. Captured snapshot will automatically send to Email. This processes no need of user interventions.

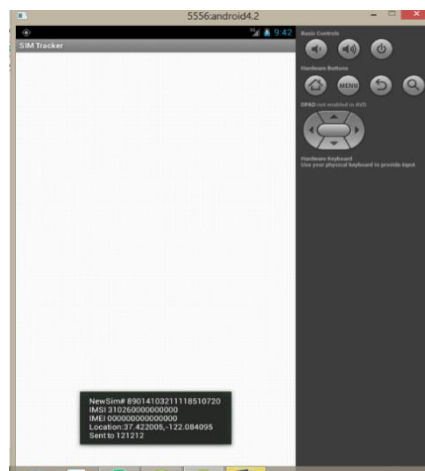


Fig. 6.2.6 sms sending

**Wipe System** this module is a important for anti thefting. If the particular person won't to change the sim card it will help to track the location. We Send the message DETECT to the theft mobile number it will track the location and it will send the information to the registered reference number.

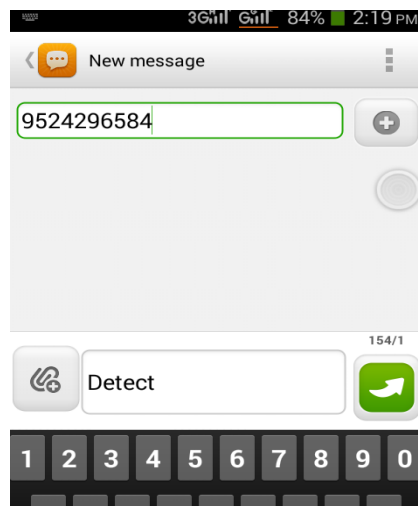
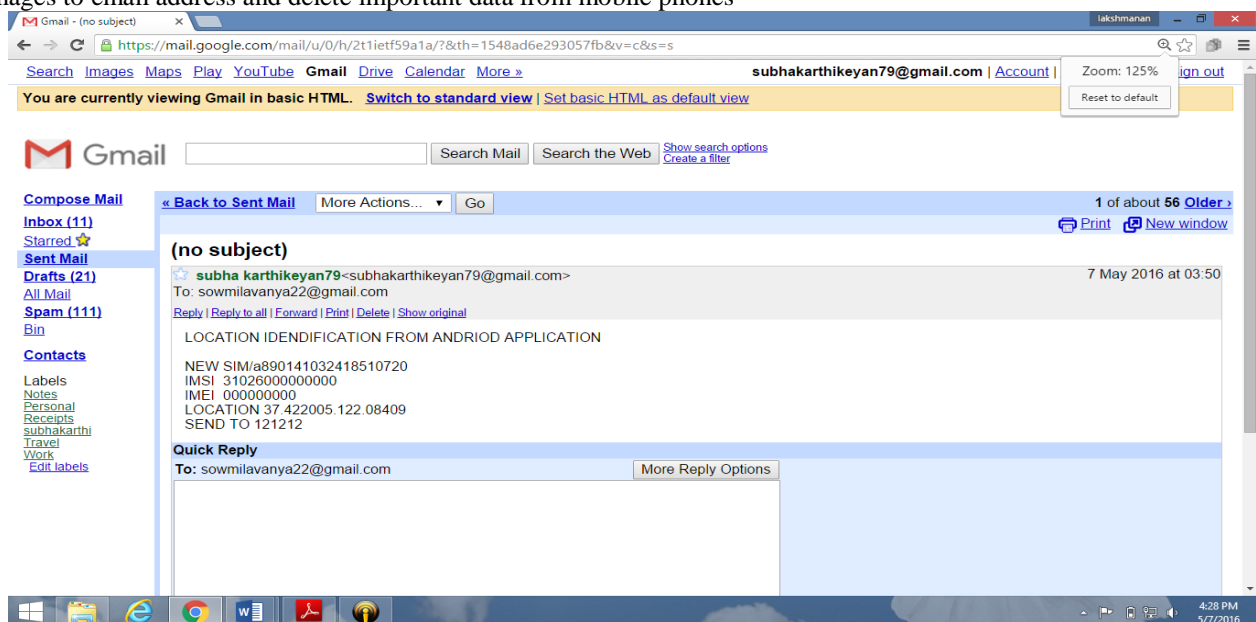


Fig. 6.2.7 Template Message Sending

**Mail sending** the application takes snapshot of current mobile user and send picture via Email to mobile owner's Email id. The system is filled on with features like SIM card detection, location fetching through GPS and transfer of images to email address and delete important data from mobile phones



## VI. CONCLUSION & FUTURE WORK

In the existing system, maximum work had been done manually and it is error prone system, takes time for any changes in the system. In this paper the android application for tracking the mobile phones is created and installed in a mobile phones system. This can be found using Google maps. Now a day Android technology is rapidly gaining the market, this paper provides a clear view on the development of mobile detective

## REFERENCES

- [1] K.S. Kuppasamy<sup>1</sup>, Senthilraja.R<sup>2</sup>, G. Aghila<sup>3</sup>, **MOBILE LOCATION ESTIMATION AND TRACKING FOR GSM SYSTEMS Vol. 4, Issue 5, June 2015**
- [2] J.ManiBharathi, S.Hemalatha, V.Aishwarya, C.Meenapriya, L.Hepzibha Shekinah Grace, "Advancement in Mobile Communication using Android", International Journal of Computer Applications (0975 – 8887), Volume 1 – No. 7, 2010.
- [3] Chao-Lin Chen; Kai-Ten Feng; "Hybrid Location Estimation and Tracking System for Mobile Devices" IEEE 61st Conference on Vehicular Technology Volume 4, 2005
- [4] Kalinin, E. (2012). User needs for location-aware mobile services. Personal and ubiquitous computing, 7(1), 70-79
- [5] Lin, Ding-Bing B. "Mobile location estimation and tracking for GSM systems" IEEE 15th International Conference on Personal, Indoor and Mobile Radio Communications, vol.4, pp.2835-2839
- [6] Madlmayr, G.; Dillinger, O.; Langer, J.; Schaffer, C.; Kantner, C. "The benefit of using SIM application toolkit in the context of near field communication applications", International Conference on Management of Mobile business, 2007, p.5.