

MOBILE ANTI-THEFT SYSTEM

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Abstract - Smart phones became more and more popular over years with more people getting enthusiastic to. Now mobile devices can perform different official activities beside the private ones. People can store password, valuable documents, pictures, videos and lots of other private and confidential contents inside their mobile devices. Moreover, high performing mobile devices are very costly. But mobile devices being stolen or missed are often a worldwide daily affair, which incurs great loss upon people. However the challenging part thanks to these developments is data security when the device is lost or hacked. This android anti-theft application helps in doing this job of securing data in an efficient way. This application is meant to do operations like location tracking, protect the device's data even when the device is lost or hacked, store the retrieved data and lock the phone. The contribution of this proposed application is that it might be very convenient for people of developing country for its cost effectiveness and will be independent from telecom operator.

Keywords- Anti-Theft, security, mobile phones, tracking, data, location, android

1.INTRODUCTION

In today's world the foremost common thing which everyone carries with them is sensible smart phone. There will be lot of private information and a few important credentials in it. There is an opportunity that one may miss their smart phone, and if some person finds it they could misuse. So, there is a requirement to secure the smart phone which is lost so that information leak are prevented and few measures can be taken to recover the important information like photos. It retrieves the geographical location, and the new SIM's number from the lost device, and eventually sends this information to the particular owner of the device. This proposed application acts as a security tool for the smart phones and other devices

One of the biggest challenges in the current Anti-theft management system is that, the precise location of crime place is not found as early it is required. Because of the delay in this procedure the crime is already done and no one people can give the right information.

The latest smart phones provide lots of capabilities like personal computers and additionally it provides different kinds of application which are used to store lots of information in an organized form. Because smart phones are becoming smaller in size day-to-day, there is a plenty of

chance to drop it somewhere and also anyone can steal it without your knowledge. It contains lots of confidential documents, data and private information which will be at risk. So it is important to seek out the thief, all the prevailing applications could not be able to identify the thief, it is only capable of locating the device.

We chose the Android platform because it is one among the fastest growing mobile operating systems on the market and is an open source development. Taking this project allowed us to gain an understanding of how some of the built-in frameworks can be utilized to develop application and help in securing users data. Further, we are provided with Android Studio.[6] Android Studio is an excellent IDE, supported the equally excellent IntelliJ IDE.[7] It is fast and efficient, and you can setup a new Android project for various types of Android apps within seconds. Also, apps deployed to the Google Play store are available for download by users within a couple of hours. Furthermore, this project demonstrates how mobile applications can contribute to secure the information of the user with ease. The purpose behind developing this project is to provide the user to trace their lost or misplace device.

This is an android application to locate and trace mobile phones. application de-plays an enterprise security solution that meets users' immediate and long-term requirements by providing the photographs and videos of the thief and also providing the data about the location of the android based smart phone with the assistance of text messages. With the arrival of time, technology is evolving day-by-day. The application deploys an enterprise security solution that meets users immediate and long term requirements by providing the pictures and Location of the thief, which makes easy for the user to spot the thief and make him/her get caught and arrested. We are enhancing this application by providing information about the Data Recovery or Data Deletion of the android based smartphone.

To improve anti-theft for android based phone by using different services like SMS, Camera, Android based Application is installed in user mobile which is used to trace the SIM Card ID. If the SIM card is changed then GPS is started automatically and exact location of the thief has been captured. If the thief tries to unlock the locked phone manually photo is captured and sent via Email.

Almost every owner of a costly mobile handset fears the nightmare of losing his/her phone, We have encountered many middle class people losing costly mobiles and unable to get back the same even with the assistance of police officers. And in INDIA there is no system in place to assist such people. Seeing their plight and also the upcoming android platform which promises to be present on ever upcoming handset.

2. LITERATURE SURVEY

SMS is extremely common and widely used way of communication. By this application user can perform various operations in its mobile even if mobile is extremely faraway from him/her, like by sending a single text message we can fetch and store our contact numbers, fetch our device's location, auto answer to the incoming messages, send SMS from our remote mobile, fetching SIM and mobile details used for GSM network. Convenience to the user, security and efficiency are main issues that are considered.[1]

It is designed to do operations like location tracking, protect the device's data even when the device is lost or hacked, store the retrieved data on Google drive and lock the phone.[2] Once this software is installed it will process in the background, stores the present SIM number in variable and continuously keeps checking for sim change, whenever SIM get changed from mobile it will take snapshot without user permission and it will send an MMS.[3] Anti-Theft Alarm keeps a phone safe from nosy people and thieves. If someone steals the phone or disconnects it from the charger? The alarm will sound loudly around and you will get immediately aware! And only you can shut down the alarm using personal PIN-code or unlock pattern.[4] In this system we have to implement the technique to boost anti-theft for android base on mobile phones by using various services like snapshot on rather than SMS and MMS.[5]

Observations on existing work/Gap identified

- In one of the App, Location is sent by using only SMS, which needs Mobile Recharge. We aim to enhance it to Emails once the phone is connected to Internet.

- Most of the Apps are paid to use their service, we aim to provide free services to the Users.

- Different Research papers provide only 1 Service at a Time, we ensure you to provide 4-5 services including Remotely Beep, Snapshot, Detect Change in SIM, and DetectTheft Location, Data Recovery.

- Number of Apps are only Accessed By Government Level, We offer this App for Local Level.

-Application deploys an enterprise security solution that meets users' immediate and long-term requirements by providing the pictures and videos of the thief and also providing the information about the location of the android based smart phone with the assistance of text messages. With the arrival of time, technology is evolving day-by-day.

-It keeps on checking for SIM number, once a thief changes the SIM, it will detect that the SIM is changed/modified by comparing new SIM unique number with stored one and send the signal to start out services.

-As soon as signal is received, services gets started in the background which will start making video from front camera if present otherwise from back camera and also take 2-3 snapshots, which are stored within the SD card.

-Once the installation of this software is complete, it will work in the background, it will store the present SIM number and keep it checking continuously for SIM change, whenever

SIM card gets changed from mobile, it will take few snapshots and record a video within the background, without taking permission of the user and then it will send a multimedia message, and number of snapshots, to an alternate mobile number and an email id provided by the actual user, during installation of the software.

3. PROPOSED SYSTEM

With the proposed system user can get his mobile information like where it is and any changes have done. To check all this, user just need to logged in with his/her own id and password on other phone. Sim card change detection and capturing thief's photo this two modules are acting automatically from the app but another modules which are Phone beep, data recovery and obtain current location of phone needs the manual action to be done from the app to execute the modules. The whole system consists of APP:

- This app contains different modules and vault for user as per need to operate after the theft.
- To access the app user must have this app installed in his/her mobile phone and must be logged in.
- This app contains different modules for user to work after theft has happened.
- After the theft is done, user is suppose to log in on other phone with his/her username and password

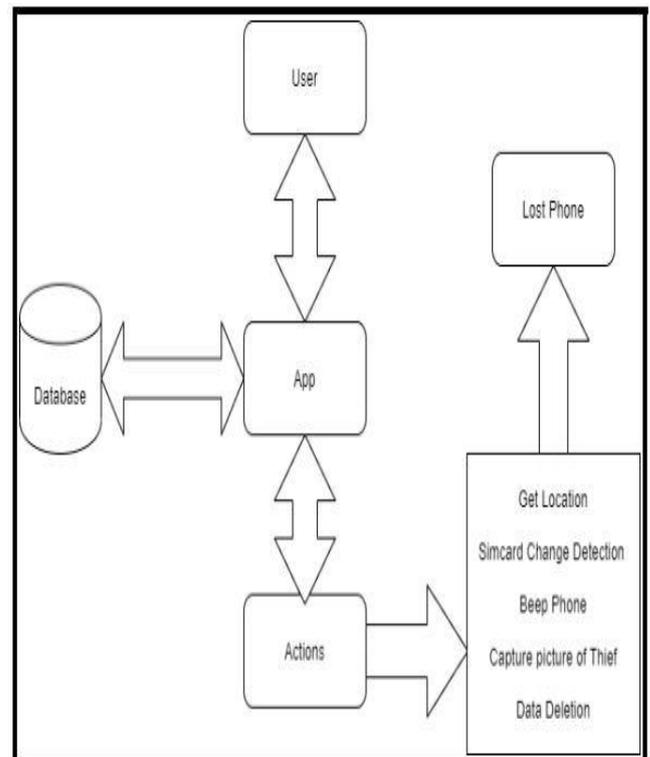


Figure 1. Block Diagram

The above mentioned Figure 1 illustrates the block diagram of the system. The diagram shows User will first

register details on the application that will be saved within the database. When the users phone is lost the user can enter the login details from other friends phone on the application and the login details are to be verified and if the user is permitted, the user can take various actions on the lost phone through the application. Actions like GetLocation Simcard change detection, Beep phone, Capture picture of Thief, Data Deletion. All these actions can be performed from the application by the user

Android App: This will function as a frontend for interacting with the system. It will comprise of a different modules

- Beep Near by Phone, Data Recovery /Deletion, Get Location.

-GET CURRENT LOCATION: After activating this module button user will get the present location of his/her phone but after switching off the phone user won't get the live location, it will display the location till the phone was on.

-SIMCARD CHANGE GET MESSAGE: This function is automatic if theft changes sim or remove it user will get notify that.

-BEEP PHONE: Beep phone is the function, by activating this function by user phone will beep like 'this phone is lost' in higher volume and will vibrate.

Features of proposed System: The application will speed up in finding the phone and thief process. Multiple modules working together to urge best result with higher probability getting phone The system is straightforward to use, safe with convenient operations. Access to authorized user only. This app provides all modules free so it is very helpful for each and every person to use it for own mobile protection and also data protection.

4. IMPLEMENTION DETAILS

- This app contains different features and vault for user as per need to operate after the theft.

- To operate app user must have this app installed in his/her mobile phone and must be logged in.

- After phone is lost, user is supposed to log in on his friends phone with his/ her username and password. Working of Features in App:

- GEO-LOCATION: After hitting button user will get the current location of his/her phone but after switching off the phone user will not get the live location it will display the location till the phone was on

- SIM CARD CHANGE GET MESSAGE: This function is automatic if theft changes sim or remove it user will get notify about that.

- RING PHONE: Ring phone is the function by activating this function by user phone will ring like 'this phone is lost' in

higher volume and will get vibrate. This function will work even if phone is silent.

- PHOTO VAULT: User can store his/her Important photos or files in this feature and can erase the data or access data even if phone is lost.

- CAPTURE PHOTO: If thief tries to unlock your phone with wrong password phone will secretly capture thief's photo and mail it to the user, on registered Email ID.

- NOTIFICATION: After hitting the Button lost phone will get Notified "THIS IS LOST PHONE" on the Screen.

Firebase: Deliver notification messages immediately, or at a future time within the user's civil time zone. Send custom data, and set priorities, sounds.[8] SQL server: SQL server used to store and fetched the user's data which is required for the application features.[9]

Home page: Home page is illustrated in below figure 2. After logging in user will be redirected to home page. There will be different features in application; User can use this feature, after hitting on the button.[10]

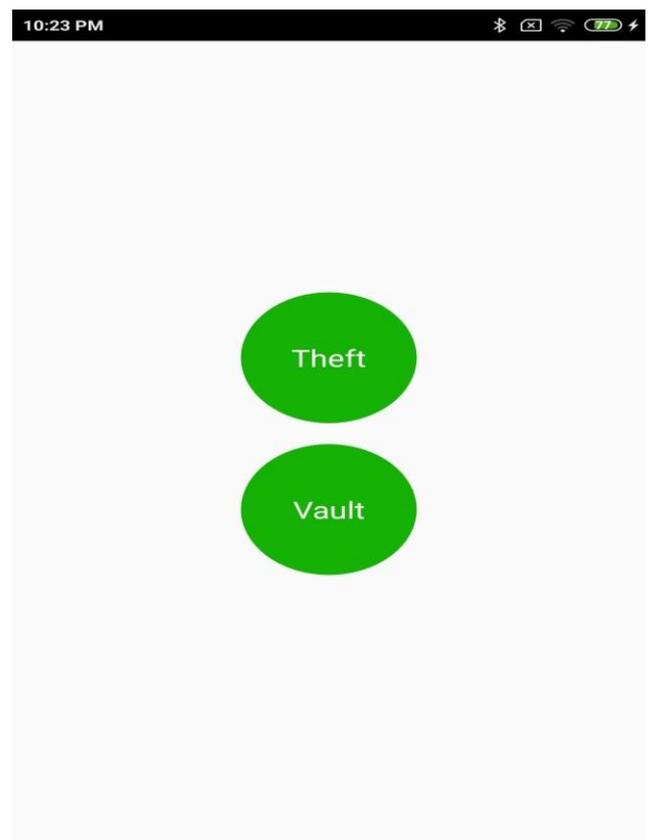


Figure 2. Home Page

Notification: The Figure 3 mentioned below illustrates the Notification Feature. After hitting Theft button lost phone will get notified as shown below. (Highlighted part).The thief will receive a notification saying "This is a lost Phone" and has to be returned to the owner. This Notification is popped up on the stolen phone. The thief

does not get any further notification or update about tracking.[11]

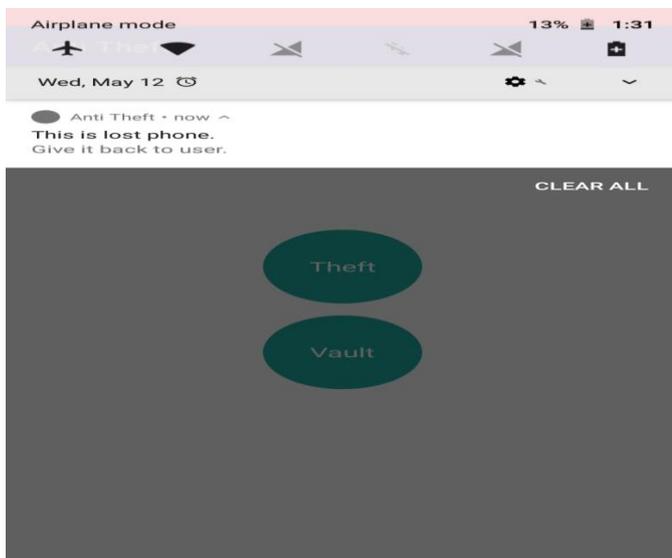


Figure 3. Notification

Vault: Figure 4 indicates the vault. User can upload important documents or picture/videos into the vault to make it secure. Vault feature is used by the user to add in important/confidential photos which the user does not want the thief to access. The photos stored in the vault can be erased even after the phone is stolen.



Figure 4. Vault

E-mail with geo-location: After clicking theft on the app, the phone on which the user has logged in gets an email about the location of the phone which has been stolen as shown in the Figure 5 below. It gets the geo location of the phone if the phone is switched on.[12]

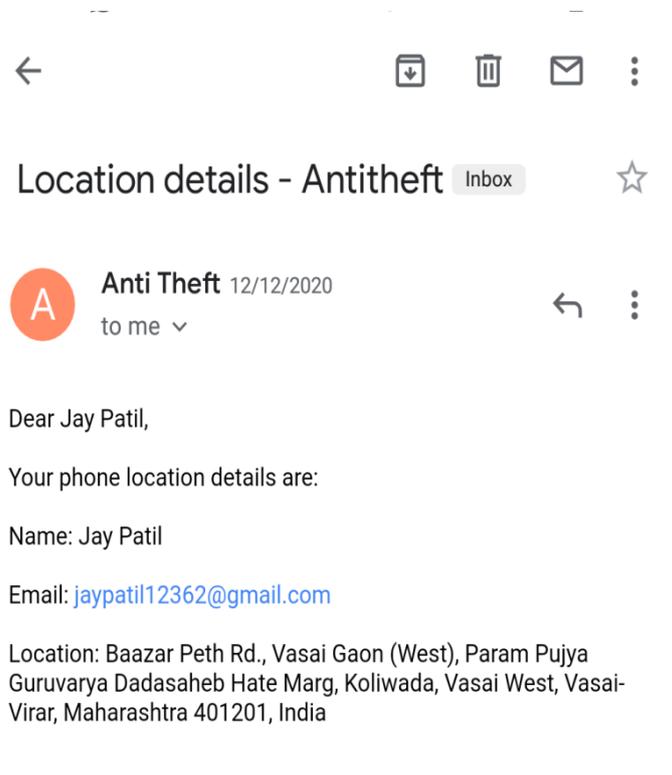


Figure 5. E-Mail

5. CONCLUSIONS

This is An Android Application to Locate and Track Lost Mobile phones.

The application deploys a security solution that meets users immediate and long term requirements by providing the images of the thief and Location of Mobile Phones, which makes easy for the user to identify and catch the thief and make him/her get caught and arrested.

We are enhancing this application by providing the information about the Data Recovery of the android based smartphone.

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