Anti- Theft Mobile Tracking System

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Abstract:- Mobile tracking is a key challenge that has been investigated from both practical and theoretical aspects. This mobile phone security system allows us to determine the position of mobile devices. The scenario proposed in this paper is using hardware. The scheme provides a viable solution of restrict theft activities. If theft has occurred, it will work in such a way that, when SIM interchanged or mobile is restarted, a password will be sent to the alternate number. The password which the alternate number gets should enter in the developed application. Through the application the device can be locked, find the location of the lost device and beep sound can be turned ON in the lost mobile device.

I. INTRODUCTION

Smartphone devices have become increasingly compact and portable due to advancement in nanotechnology and computational circuitry,as a result, these expensive items have become a main snatching target for thieves. Currently android is the most popular mobile operating system in the world. It is being used in most of the domains such as business, education, entertainment, medical, etc,. Users use a ndroid phones to store useful, important, personnel and general data in the phone memory. Once user loses the phone, it would be impossible for the person to track and get back his phone. The user may also lose all the important data stored in his phone.

The mobile phones are commonly stolen in public places such as airports, roads, parks and many other places. According to latest survey, onethird of the robberies are reported for cellular phone theft. If we talk about the survey around the world by various critics and writers of social media and society, the number of snatching and theft of mobile phone is increasing because of increased poverty, less earning and unemployment in the country to compensate their financial issues. In short, we cannot put   an end this stealing and snatching of mobile phones, however we can propose some methods or techniques to decrease the stealing and snatching and finally that will lead to stop them.

To improve the security of mobile phone system, we should have good understanding of hardware and software's of various mobile devices.
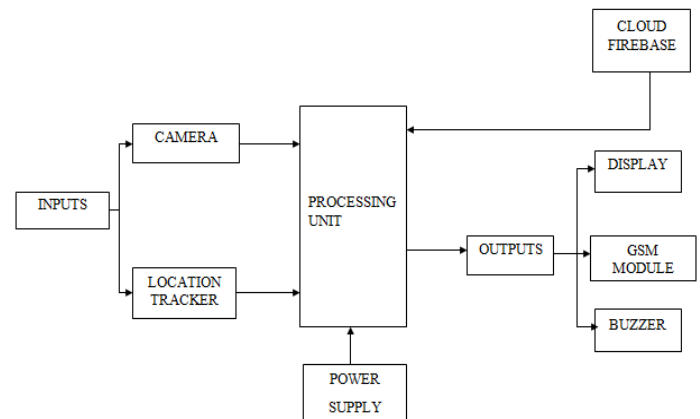
II. BLOCK DIAGRAM

Fig 1:- Block Diagram Working

Initially an application was created using MIT app inventor, which is connected to the cloud firebase. This cloud firebase is connected to the raspberry pi. The cloud firebase requires a Gmail account to synced with to store and backup data. The raspberry pi is connected with components such as buzzer, GPS, GSM, camera, power supply. If any command regarding any of the component is to be sent to the raspberry pi that should be initiated from the MIT app. We are creating this product in such a way that even though its lost or stolen it can by found out easily. Let us assume you have misplaced your mobile inside your house and you are not able to find it, and the mobile is on silent. We can send a command 'BUZZER' from the MIT app and the mobile will start buzzing at its full volume regardless of its on silent or on ring mode and this can be turned off only when the correct passcode is entered. Every time the SIM card is removed and reinserted the alternate number will receive a message from the phone saying weather the same SIM is reinserted or the SIM card is changed along with SIM number. This is a very helpful feature when it is stolen. An other feature that it has is it can capture the image of the thief using the front facing camera when he tries to shut down the phone or remove the SIM card from the mobile. This image is sent to the Gmail that is attached to the cloud firebase. The connection of the mobile to internet through mobile data or wifi can be tracked. If 'LOCATION' command is sent from the MIT app to raspberry pi, the location of the mobile is sent to us in terms of latitudes and longitudes which is converted to live location with the help of imaps. If owner of the lost phone does not want the thief to look into the phone's data he can lockdown the phone and backup the complete data that is in the mobile (photos, contacts, pfd's, call logs,etc.) and completely erase the data from the mobile.

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III. PROPOSED METHOD

➢ *SIM change monitor*
- If the mobile is lost and it is switched OFF and switched ON. If the SIM is changed, the registered mobile number receives the text "SIM IS CHANGED".
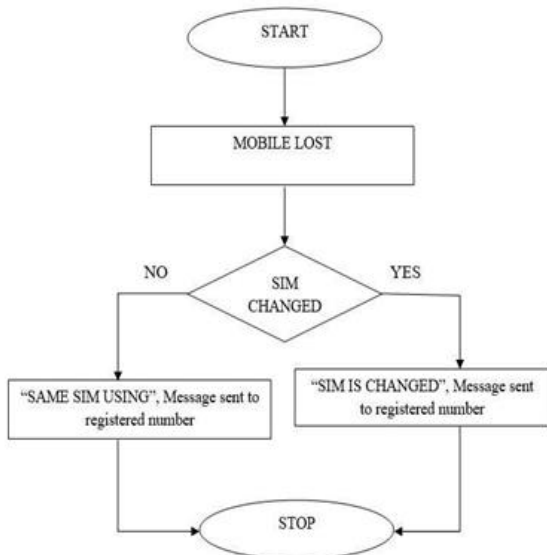

Fig 2:- Flow diagram of SIM Change Monitor

- If the SIM is not changed, the registered mobile number receives the text "SAME SIM USING".When the SIM CHANGE operation is done, the registered mobile number receives the number of the lost phone.

➢ *Location Tracking*
- When the SIM CHANGE operation is done, the registered mobile number receives the number of the lost phone.
- The "track" SMS is sent from the registered mobile number to the lost phone for tracking the location of the Smartphone.
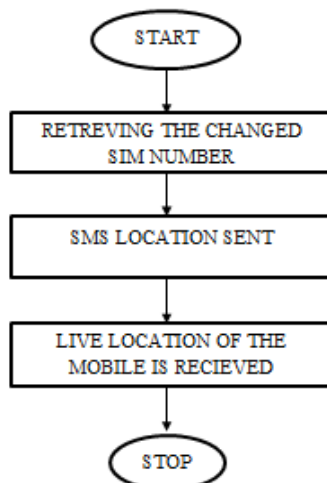- The Longitude and Latitude of the lost mobile phone is received by the registered number.

Fig 3:- Flow diagram of location tracking

IV. RESULTS

When SIM is interchanged or mobile is restarted. Password which is updated in the lost device, it is sent to the alternate number. In the developed app, correct password must be entered to login to the page. After the login, in Fig.4unlock button is turned ON. Then the lost device is unlocked. Red colour indicates turned ON and green colour indicates turned OFF. According to Fig.4 the lost mobile device is unlocked and beep is ON.   The location of the lost device is found along with latitude and longitude. The lost device can be tracked by multiple users .If the lost phone is in a crowded area, when the Beep button is turned ON in the developed app, the lost phone will start buzzing.
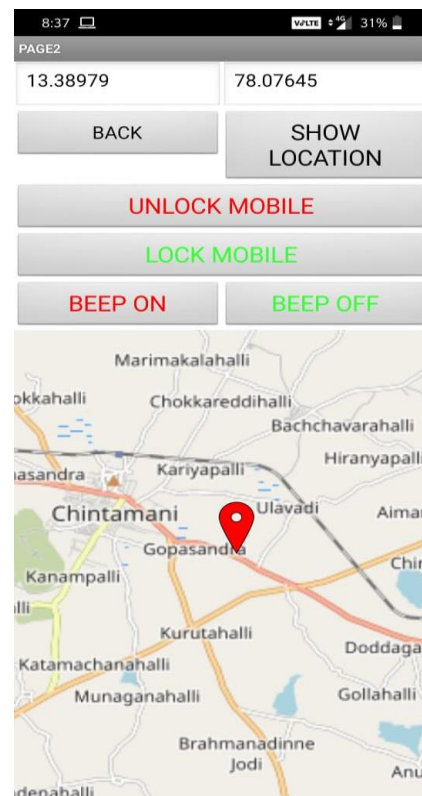

Fig 4:- Process of finding lost mobile using application.

V. CONCLUSION

An application to monitor handset theft is proposed. This provides a viable solution to restrict theft activities. It is reliable and cost effective. The application promotes the user to access his stolen phone remotely, without the knowledge of thief. The proposed application with buzzer helps in providing immediate identification of thief during mobile being theft and this helps in recovery of data security to the user by helping him to regain his files from the lost phone. Another feature of this application provides with automatic enabling of GPS and receiving current location of theft mobile. This application can be installed with ease in android handsets.

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