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An Application to Secure Android based Devices and Data

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Abstract: ***The main aim of the project is to improve the security of android based devices using technique like MMS instead of SMS. Nowadays the use of smartphones, tablets and phablet have increased tremendously and there have been many cases of these android based devices being stolen. Many anti-theft applications have been developed which are not user friendly and these applications are not easily available. We put forward the new scheme by using multimedia messages instead of SMS and the use of camera (front and back) in the phone which would be helpful in identifying the thief. The application would be completely dependent on the multimedia scheme and the hardware component such as camera. After the software is installed in the phone it will store the SIM number and will continuously keep a track if SIM number changes, as soon as SIM number changes it immediately takes the snapshot and records the video in the background without letting the thief know about it and then sends a multimedia message on an alternate number and email id provided by the owner during installation. The advantage of this application is that it keeps running in the background without interruption and helps in catching the thief.***
Keywords: MMS, SMS, Android, Snapshots, SIM.

I. INTRODUCTION

Smartphones have become a crucial part in life of every human being due to their easy access and way of communication. Smartphones provide the features of communicating with anyone virtually, sending email, saving contact number, video calling, etc., which reduces the manual work of a person.

The features of this android based devices upgrade day by day making it more user friendly which attracts many people and compile them to buy but the security of these devices is also very important. The small and handy size of these devices have made it easy to get misplace or the chances of being stolen has increased. The smartphones help in creating documents or sharing them with other people through internet is made possible which helps in the office or for the business work. The device being stolen brings personal and the confidential data of the owner at risk.

The main objective of the application is to catch the thief as soon as he inserts his SIM the photo and the video is sent to the owner's alternate number and email id which helps to find the thief. The confidential and the personal data of the owner is secured by the application.

II. OBJECTIVES

The main objective of this project includes

A. To capture the photos of thief and to avoid the thief from misusing any of the confidential information which is stored in that device.

B. An application which deploys a security solution that meets users immediate and long term requirements by providing the images of the thief, which makes easy for the user to identify the thief and make him/her get caught and arrested. This router is used to detect the attacker.

III. LITERATURE SURVEY

A. A Secure Tracking System for GPS-Enabled Mobile Phones [1]

The system is built to be portable among embedded devices capable of running Java and has been intended to be used specifically on mobile phones. The mobile phone market has grown to a point where these kinds of applications are more likely to be used rather than dedicated global positioning systems (GPS). Therefore, we are detailing the basics of a novel positioning system with added security by incorporating AES security during the transmission of the GPS data.

The key is a function of the IMEI which is a unique code specific to every mobile phone in the market therefore adding the system a

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unique feature with respect to other common approaches. The geo-fencing also has been added to improve the usability of the system for clients that are needed to be tracked more closely.

B. Anti-Theft Application for Android Based Devices [2]

As the use of smart phones, tablets based on android operating system is increasing, many scenarios related with anti-theft have already been proposed and much software are not freely available and it's difficult to identify the thief by using these software's e.g. GPS Tracking. We put forward a new scheme, which enhances the present scenario, based on new technologies like Multimedia Messages. The scenario proposed in this work is totally dependent on the hardware of your smartphone like camera (front & back) and support for multimedia messages. Once this software is installed, it will work in the background, stores the current SIM number in a variable and keeps checking continuously for SIM change, whenever SIM gets changed from mobile, it will take snapshots and record a video in the background i.e., without taking user permission and then it will send an MMS, and number of snap shots, to an alternate mobile number and an email id, which was provided during installation.

C. Security Steps for Smartphone Users [3]

To evaluate the adequacy of current mobile security applications a malicious Android application is developed and deployed on an Android smartphone. In addition, this new Android application is also evaluated against mobile security applications. From the results, additional security steps are identified that users of smartphones can follow to prevent or detect possible mobile malware infections. The ultimate goal of this research is to eventually automate the identified steps in the form of an application rather than depending on the user to execute the steps.

IV. REQUIREMENT ANALYSIS

The current scenario in anti-theft applications is that it becomes difficult to find the exact location of thief and hence it becomes necessity to go to the police for further investigation.

Smartphones or the android devices provide have come up with great specifications which help them to be quite handy and can be used as personal computers too. It contains data and documents which are confidential and also contains personal information which may get misused.

The existing systems are not able to provide sufficient data of the thief which becomes difficult to locate them. These applications are not available for free and might costs money and are not freely available even they are not properly managed. The application system helps us to locate and find the thief using basic techniques of GPS and GPRS through which it will fetch the longitude and latitude of the device but it becomes difficult to locate the place of the thief using this method. It might locate or accuse any innocent person for the android device being stolen.

Our system would need two devices one device would be android having at least basic version of android 2.2 on which the application will be installed and when this device is stolen by the thief and as the application detects new SIM number the snapshot and location of the thief will be sent through MMS on the other devices that is registered providing an alternate number and email id.

V. SYSTEM ANALYSIS

The system analysis consists of components SMS, MMS, user registration, email and GPS location tracker. As the application is installed is installed in the android based device the user needs to register with an email id and an alternate number. If the application detects change in SIM number, the front or the back camera is started and snapshots are taken and sent through MMS to an alternate nu7mber provided by the user and also to email id registered by the user. The location is traced by the GPS tracker and the location of the thief is also being sent on the email id and number given by the user while installation of the application. This data helps to find the thief with ease and securing the data of the android device.

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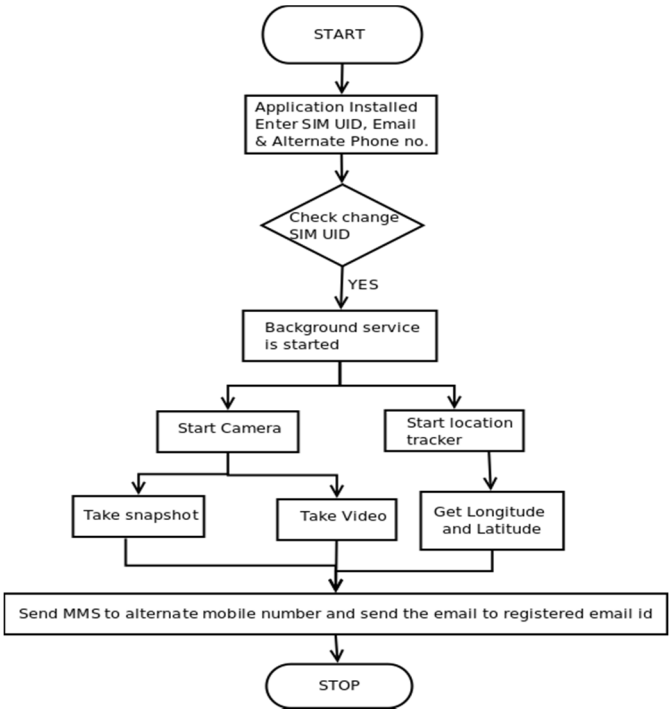

Fig. 5.1 System flow chart

VI. ADVANTAGES

A. It is freely available and free of cost.
B. This software can be easily accessible.
C. This application can be easily installed on any android based devices to secure the device from getting stolen.
D. Thief can be caught by getting his images and location on the registered email id and an alternate phone number.
E. The application works in the background without the thief being aware about it.

VII. CONCLUSION

Security is one of the biggest issue for android based devices. Traditional security mechanisms cannot deal with several features along could not provide with proper protection of the device.

The application provides a security solution where the user of android based devices would be provided by images and video and by providing data of the thief so that the thief could be easily caught. The proposed system gives the best possible security and thus is unique from other system. This application works only for the android based deices we would further improve it so that it would work on operating systems like Windows, iOS, Symbian etc.

Further the system would be enhanced to perform when the device is switched off.

VIII. FUTURE SCOPE

1) Data Confidentiality.
2) This application is for android system, we can develop it for iOS, Symbian, Windows Mobile OS etc.

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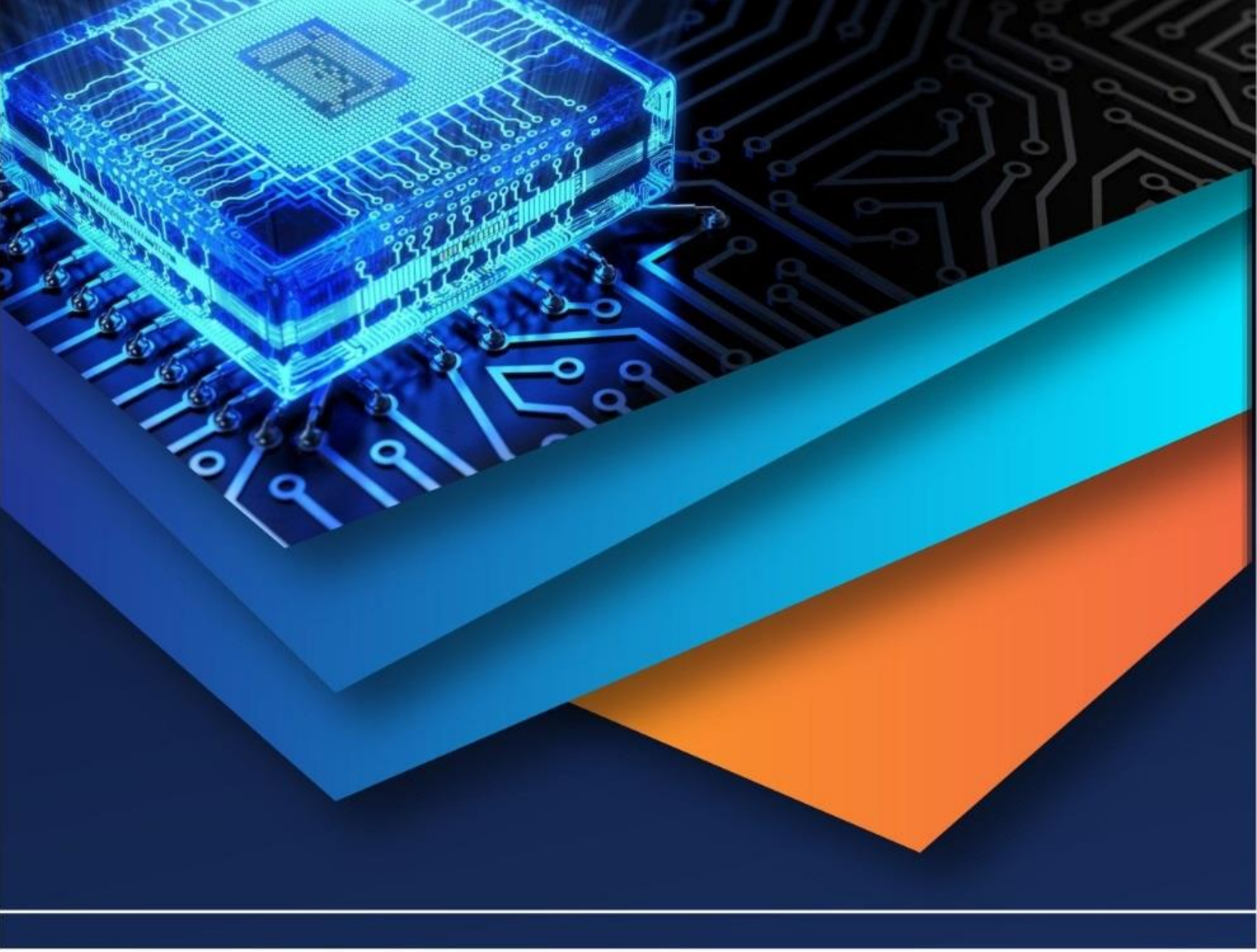

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