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Mobile Anti-Theft

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***Abstract*—** This electronic document contains information as to how to locate and get back a lost mobile phone. An android application is developed to provide multiple ways to track and protect the missing device. All security features are activated by text messaging a keyword to the missing device. The features include the activation of the general mode by sending specific predefined keyword through SMS to the targeted phone. Also, on sending a different keyword, it will activate the MIC of the targeted phone and one would be able to listen to the voice surrounding it. In addition to this, the ADMIN's phone will be notified with the information of the new SIM-card, as soon as it replaces the old one. One can take the back-up of all the contacts and E-mail it to the registered Email-ID and then delete the contacts before it is misused. Furthermore, the phone is locked and also the GPS location of the phone is fetched using a unique keyword. All these features are included in the Mobile Anti-Theft application that will help to reduce mobile thefts on a larger scale.

I. INTRODUCTION

A Smartphone itself represents a significant investment, and one that has increasingly become a target for thieves. Reports claim that 1.6 million Indians had their phone stolen in 2012 [6]. More than the phone itself, the information inside needs safeguarding as well. Not necessarily for scams, but just peace of mind. People have to lose their confidential data like contacts, messages. To protect the phone from thefts, working on development of an android application helps to track the lost mobile phone. All the features have corresponding keywords that help to activate that particular feature including fetching of the device location, device lock, device wipe, mailing data, and SIM card change notification and sound an alarm.

II. IMPLEMENTATION METHODOLOGY

There are basically seven major features that are provided by the android application which are:

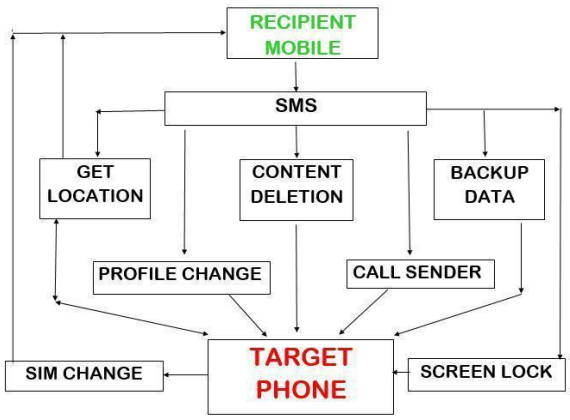
1. Profile Change
2. GPS Location
3. Contacts Backup
4. Contacts Deletion
5. MIC Activation
6. SIM Change Notification

First feature is the change of the profile. Here, the profile mode is changed from Silent mode to General mode proceeding by ringing an alarm tone [7]. In addition to this, it maximizes the ringing volume of the alarm to help the user locate it. Second is the GPS Location Feature which will get GPS location of the phone when it's being stolen. On receiving a message containing the special keyword, the GPS location of the mobile will be reverted to that message by fetching the current location of the phone with the precision of approximately 500 meters. The third feature is the Contacts backup. As the name suggests, it triggers the application to create a backup of all the contacts in the phone and send it to the user's registered Email ID. Fourth is the contacts deletion feature. The contacts from the targeted phone will be deleted on getting the corresponding keyword before the thief misuses the contacts. Fifth is MIC Activation. By sending a message to targeted phone, with special code for MIC activation, the software will silently call the number from which it has received the message for MIC activation so that user can listen all the surrounding audio near cell phone. Next is the Screen Lock Feature which will simply lock the screen if it is unlocked [7]. The sixth feature is the SIM Change notification. As soon as the SIM card is replaced, it will fetch the information about the new SIM and message it to the two alternative numbers that are pre-entered by the user during registration.

A. Comparative Study with the Existing System

Parameters	Mobile Anti-Theft	Mobile tracker	Lost Droid Finder
Profile change	Yes	No	Yes
SIM Change notification	Yes	Yes	No
MIC Activation	Yes	No	No
Mailing Backup	Yes	No	No
Raising Alarm	Yes	No	No
GPS Location	Yes	Yes	Yes
Screen Lock	Yes	No	No
Simple to Use	Yes	Yes	No

B. Algorithmic Representation



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C. Explanation and Working of Proposed Algorithm

First the Recipient Mobile Sends a SMS which contains the keyword and password to the target phone. The target phone first verifies the password and then based on the keyword present in the message it performs the corresponding action:

Profile change- The targeted phone checks the Sound Setting of targeted cell phone. If Silent Mode = Mute/Vibrate, then turn it OFF. If volumes for music, ringtone & notification and alarm is not equal to high, set it to High. If the Sound Setting of targeted phone is adjusted, then ring an Alarm.

Get location- The targeted phone fetches the current GPS Location of the phone and replies back to the number (alternate number) from which it received the message with these Longitudes and Latitudes degrees.

Backup data- The targeted phone makes a backup file of contacts and stores it in the File System. It then attaches the file and Emails it to user's registered email-id.

Content deletion - The targeted phone deletes all the contacts from the phone.

Call sender - The targeted phone calls the number present in the message and thus activates the MIC

SIM change - The targeted phone will gather information about the new SIM-card and will send it to the alternate number.

Screen lock - The targeted phone simply locks the phone.

D. Algorithm

1. Start
2. Select Choice from the Menu
3. If Choice = Keywords then it will display Keywords which is to be sent to the targeted phone for activating the desired operation on phone when it is being stolen. The Keywords for following operations will be displayed:
   i. Profile Mode Change
   ii. GPS Location
   iii. Contacts Backup and Mailing
   iv. Contacts Deletion
   v. MIC Activation
4. If Choice = Settings then it will allow user to change their entered data such as
   i. Password
   ii. Email-ID
   iii. Alternate Numbers
5. If Choice = Deactivate then it will ask for password from user and on verifying the password, it will deactivate the software.
6. On pressing Back Button it will go to the Home Screen of phone with the application running in background.

E. Summarization

Mobile phone security has become increasingly important in mobile computing. The security is of a particular concern as it additionally includes the security of the user's personal information stored on the Android phones. Smartphone's collect an increasing amount of sensitive information to which access must be controlled to protect the privacy of the user and the intellectual property of the company [4]. Mobile Anti-theft will be useful for finding stolen or lost cell phone irrespective of their profile set. The Application registers two recipient's numbers to get notifications when SIM card is changed. The Application consists of pre-defined Keywords from user to utilize the services of it and also a password to deactivate the alarm. This Application works on sending a message (SMS) from the registered alternate number to targeted cell phone [5]. Based on Keyword received, respective action will be taken by cell phone, thus finding the location of the misplaced mobile phone.

III. Conclusion

Mobile Anti-Theft is an Android Application that helps to track and locate a misplaced mobile phone. The mechanism of using messages for sending the keyword across a network to the targeted phone proves to be a very simple and cost efficient procedure. The users just need to type the special keyword of feature he/she wants to use along with the password of application and send it to the targeted phone [7] The target phone will function accordingly on receiving the message, by which user can recognize where the cell phone is

IV. Future Scope

Future work of our project is to make our project for different operating systems like Windows, Mac, and Blackberry. So we can extend the number of users of the software. So he/she can access our software on various platforms. With further enhancements, a software can be developed that can click an image or record a video and send that recorded file to the user entered email-ID. This will help to view the video or image and thus locate the lost cell phone.

Acknowledgement

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