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An Application to Trace the Lost Device by Using Google Messaging

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Abstract

The main objective of this paper is to find an application for the lost mobile. The location of the mobile could be traced when it is lost or misplaced. Remotely change the Lock of the Screen instantly in order to prevent the unauthorized access. The Implementation of the mobile app is also given in this paper.

Keywords

Smart phone; Lost mobile; Pass code; SIM detection

Introduction

Now-a-days everyone are using android mobiles and saving their valuable and confidential data like ATM pin numbers, Bank account numbers, password in their mobile itself. When that mobile is lost there may be revealing of their personal data by the person who stole it. Generally we forget our mobile at various places. Sometimes we lose it and sometimes we misplace it. So in such times, it becomes difficult to track our mobile. Our android application entitled as "MOBILE HUNT" helps the user to track the mobile easily.

Some users save confidential information or data in the mobile like ATM pin numbers, bank account numbers, and some other passwords. Now-a-days android mobiles equipped with document editors (office suite) helps the users to store their important documents. So "MOBILE HUNT" application is very helpful to protect data from unauthorized view and also prevent the users from losing their mobile.

Our main objective is to find your lost mobile using an android application .The named of this android application as "MOBILE HUNT". It is an android application which supports android versions from Icecream Sandwich to Marshmallow version. The location of your mobile could be tracked when it is lost or misplaced. Remotely we can change the Lock of the Screen instantly in order to prevent the unauthorized access.

MOBILE HUNT application has many features to avoid the unauthorized access of user data when it is lost. After installation, the user interface will appear and user can give his/her email id, password and passcode. Passcode is used for further communication with that application .In proposed system; there is the need to implement an application which is confined to only mobile to mobile communication which is handy for the user without involving any web interface. The user can give the

- TRUSTED CONTACTS- that are contact numbers of their family members or friends who are available when there is a need and a BACKUP NUMBER.
- BACKUP NUMBER also required when a new SIM is detected, the notification will sent to this backup number.

This application consists of various modules like new SIM detection, SMS Commands, Locating device through MH Google Device Manager, lock the mobile remotely.

Literature Review

The paper gives introduction to the android and the working of android applications. The paper proposes an approach for android app development, which addresses how to form specific aspects of android app using standard UML notations. The paper can efficiently promote the development of android app and attract more software developers to develop app on android platform. The paper proposed an idea to make the android application design flow more flexible. The paper makes the introduction of the 3D maze game and gives a brief understand of the development of sensors on android platform. The paper gives the details of the android internals. The paper discuss the various challenges and issues in the android app development The paper discuss the full-fledged app development for the job search according the needs of the user and makes intelligent decisions based on fuzzy preference rules and dynamically make location, salary markup and markdown, and allowances choices that are perceived beneficial to the user [1]. The paper describes how the customer buys the products without wasting time by visiting stores and without standing in queues for billing process [2]. The paper discuses a mobile app for placing order and parcel services in the restaurants nearby the current location of the customer [3]. The paper discusses about a mobile app for sales of Regional products [4]. The paper gives the detailed issues in buying mobile phones and secured payment [3]. The Paper focuses on the approach of shopping and planning furniture and interior items using mobile apps [5]. The paper gives an app which is developed to guide the customers who enters the mall [6]. The paper introduces the app for barcode scanning app for billing process [2]. The paper gives the app implantation for simple shopping list [7].

Existing System

In existing system, the traditional methodologies are used to track the mobile like IMEI (International Mobile Station Equipment Identity) is a number, usually unique and it a 15 digit number which is only used by Cybercrime department for the identification of any person who involved in any crimes. But the normal users cannot have the access to IMEI number. Based on cellular network signals you can track their mobile. It is also not helpful to the normal users. The existing system is using GCM push notifications.

GCM push notifications

Google Cloud Messaging (GCM) means the lost mobile can be traced using a web interface. It is a free service that enables developers to send messages between servers and client apps. In GCM, the communication is confined to only web interface. If the user wants

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to track the mobile he has to use particular web interface. The main disadvantage is the user cannot access website whenever he want.

Problems with Existing system

- IMEI number are used, cellular network signals to track the lost mobile which is a very time consuming process and have no use for normal users.
- Based on GCM (Google Cloud Messaging) push notifications also you can track their mobile but it is not helpful for freelancers and travellers.
- This conventional method of tracing the mobile is no faster.
- There is no matter of security for user data like ATM pin numbers, bank account numbers, credit card details, passwords in the lost mobile.

Proposed System

An android application is developing, which shows a slight change from the desktop environment.

This "MOBILE HUNT" application helps in tracing the mobile easily with the help of SMS commands.

These SMS commands will be useful for the user to trace the device and control the mobile remotely.

"MOBILE Hunt" application has certain features like:

i. New SIM Detection

ii. Locate the device through Google Device Manager

iii. Lock The Mobile remotely.

iv. Geocode Response

v. Root the application

vi. SMS Commands: Through SMS Commands, there is the possibility to LOCK the device remotely, WIPE the confidential data, enable or disable the mobile DATA, GPS, WI-FI with the help of SMS commands.

vii. SMS Command DELSDCARD will clear the external memory.

viii. CALL XXXXXXXXXX will remotely call a specified number.

Features of the proposed system

i. Designing a user interface which consists of email ID, password and passcode.

ii. If it is in silent mode then also one can track their mobile easily by ringing it.

iii. If the mobile is in switched off mode and when a new SIM detection in the mobile could be identified and notified to the user through MH SMS from the changed number through MH a number called Backup number.

iv. Locate and track your phone if it goes missing or it stolen by receiving SMS updates of its location

v. Application starts with giving the trusted contacts.

vi. A passcode can be given for further communication.

vii. The full functionality of the Mobile Hunt can be used with rooting of the application and functions can be used like SMS commands.

viii. If it is ringer attention word then makes phone ring even it is in silent or vibrate mode.

ix. Acknowledges the phone status to the requesting phone through MH SMS.

x. If it is GPS attention word then retrieves current location details and sends back to the requesting phone silently.

xi. If it is WIFI attention word then retrieves current location details and sends back to the requesting phone silently.

xii. It can also ring remotely to particular number by giving SMS Command like

xiii. MH <passcode> CALL

xiv. We can also wipe the data and delete SD card remotely

Advantages of the proposed system

i. Recognize the attention word received through MH SMS.

ii. Handle the phone state to ring automatically.

iii. Send phone state through MH SMS.

iv. Detect the current location of Android device.

v. Retrieve the device, SIM card & location details.

vi. Send retrieved details through MH SMS.

Implementation

The Mobile Hunt is implemented by using the study paper [8].

Passcode

It is a unique four digit secret code of integer type. When the mobile is lost, it is tracked with the help of this passcode. When "Mobile Hunt" is installed, the user will be asked to enter the passcode. The "Mobile Hunt" application also has the privilege to change the passcode whenever necessary.

Trusted contacts

Trusted contacts are one of the activities of the "Mobile Hunt" application. The meaning of trusted contacts is that, they are the contact numbers of the people whom the user trusts the most. When the mobile is lost, our application sends an SMS command to the lost mobile. This SMS will be sent from the one of the numbers of the trusted contacts.

Back up number

Back Up number is the number which is used for communication when a new SIM card is inserted in the lost mobile. This number may be any one of the contact numbers of our parents, relatives or friends. This number may be in trusted contacts or out of trusted contacts.

Geocode response

Geocode response gives the accurate position of the lost mobile. If the mobile is in XXX area, that area will be shown to the person who lost the mobile.

New Subscriber Identity Module (SIM) detection

When the mobile is stolen there is a chance of making the mobile

inoperable. That is the mobile may be switched off and a new SIM may be inserted. In such a situation, new SIM detection module is helpful.

When a new "Subscriber Identity Module" card is inserted into the lost mobile phone, it will be automatically notified to the user through MH an SMS. This SMS will be sent to the backup number.

Short Message Service (SMS) commands

SMS commands module helps to send an SMS command to the lost mobile phone. This module helps to send an SMS command which is intended to perform certain action. There are several SMS commands to ring the alarm on the lost mobile, to enable Global Positioning System remotely, to locate the mobile remotely.

The SMS commands will be sent from the contact number of the trusted contact.

The following is the list of the available SMS commands in "Mobile Hunt"

MH <passcode> RING 10

MH <passcode> DATA ON

MH <passcode> DATA OFF

MH <passcode> GPS ON

MH <passcode> GPS OFF

MH <passcode> WIFI ON

MH <passcode> WIFI OFF

MH <passcode> LOCATE

MH <passcode> DELSDCARD

MH <passcode> WIPE

MH <passcode> CALL 9999999999

Example:

MH	:	Mobile Hunt.
Passcode	:	A Unique four digit secret code (0595)
RING 10	:	Intent of the command.

The following is the description of the available SMS commands available in "Mobile Hunt"

MH <passcode> RING 10:

This command is helpful to ring the alarm on the lost mobile. The alarm service helps to ring the mobile even if it is in silent mode.

MH <passcode> DATA ON:

This command is useful to enable the mobile data connection remotely. This provides access to the network services.

MH <passcode> DATA OFF:

This command prevents the access to the network connections by disabling the mobile data connection.

MH <passcode> GPS ON:

This command enables the Global Positioning System which helps to track the location of the mobile.

MH <passcode> GPS OFF:

This command disables the Global Positioning System. Then it will not be possible to track the location of the mobile.

MH <passcode> WIFI ON:

"WIFI" which means Wireless Fidelity can be set to on with the help of this command. This provides a hotspot to access network connections.

MH <passcode> WIFI OFF:

This command sets the WIFI to off state when this command is sent. There will be no access to hotspot.

MH <passcode> LOCATE:

This command helps to find the position of the lost mobile with latitude and longitude positions. This command can also give geocode response.

MH <passcode> DELSDCARD:

This command helps to delete the content of a memory card. This memory card may contain photographs of confidential data. So, this command is helpful to prevent unauthorized access to the user data.

MH <passcode> WIPE:

This command is used to factory reset the mobile. This command also prevents unauthorized access.

MH <passcode> CALL 9999999999:

This command is useful to make a call to a number remotely. A call to a trusted number will be made automatically.

Locate the mobile using Global Positioning System (GPS): The lost mobile phone can be tracked with the help of global positioning system. The Global Positioning System (GPS) is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth. Thus GPS is helpful to locate the lost mobile with latitude and longitude.

Lock the mobile remotely: Now a day's most of the confidential information is being stored in mobile. Data like ATM pin number, bank account number, credit card details are also being stored in the mobile. So, in order to prevent access to the information by third party persons locking the phone is essential (Table 1 and Figures 1-6).

Figure 1: Installing of mobile hunt.

SIN	SCENARIOS	EXPECTED RESULT	ACTUAL RESULT	STATUS
1	Install MobileHunt.apk file on Android phone	Installation Successful	Installation Successful	Success
2	Check whether UI Is Displaying On screen	Display UI	Display UI	Success
3	Register the user	Update the user	Registered and updated	Success
4	Add minimum three Trusted Contacts	Update trusted contacts to shared preferences	Trusted Contacts updated	Success
5	Device admin active	Activated successfully	Device admin activated successfully	Success
6	Backup number	Backup number updated	Updated to shared preferences	Success
7	Default lock password	Updated	Default lock set	Success
8	Send SMS from trusted contacts To RING the mobile	SMS Sent and RING activated	RINGING	Success
9	Send SMS ON/OFF DATA the mobile	SMS Sent and DATA ON/OFF activated	MOBILE DATA ON/OFF	Success
10	Send SMS from trusted contacts to GPS ON/OFF the mobile	SMS Sent and GPS ON/OFF activated	GPS ON/OFF	Success
11	Send SMS from trusted contacts WIFI ON/OFF the mobile	SMS sent and GPS ON/OFF activated	WIFI ON/OFF	Success
12	Send SMS from trusted contacts, Locate ON/OFF the mobile.	SMS sent and LOCATE ON/OFF activated	LOCATE ON/OFF	Success
13	Send SMS from trusted contacts, WIPE.	SMS sent and WIPE the data.	WIPE	Success
14	Send SMS from trusted contacts, DELSDCARD.	SMS sent and the data in the SD card is deleted.	DELSDCARD	Success
15	Send SMS from trusted contacts, CALL 9999999999.	SMS sent and the specified number is called.	CALL 9999999999	Success

Table 1: Scenarios, result with status.

Figure 2: Mobile hunt login page.

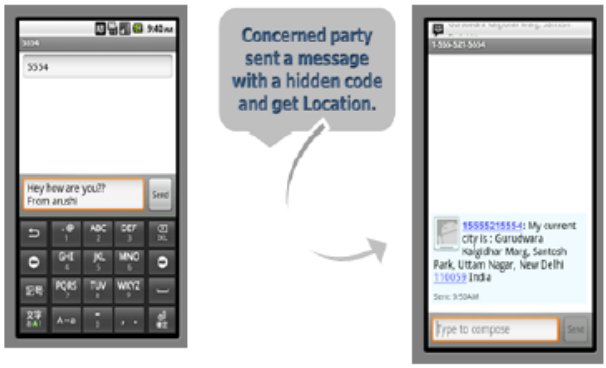

Figure 3: Tracing location through SMS.

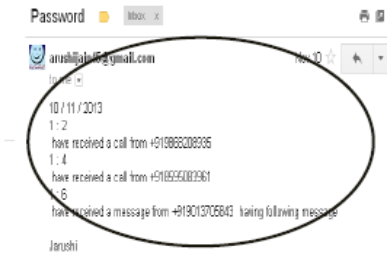

Figure 4: Mailing feature.

Figure 5: Message View.

Conclusion

Mobile Apps became an essential part in day to day life .Our objective behind this chapter is, to discuss all basic facts to start an android application using android studio and to overcome the technical problems which come as a big constraint to the beginner's.

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Figure 6: Tracing the Location.

In this chapter a study is conducted on Smartphone's and their applications. Mobile Hut App is implemented on Android Studio. This app traces the lost mobile easily.

References

1. Bogle S, Sankaranarayanan S (2012) Job search system in android environment application of intelligent agents.
2. Samal SS, Jena SP (2014) Research on the Development of a New Shop Application Using Android,International Journal of Advanced Computer Research 4: 2249-727.
3. Smith P, Sankaranarayanan S (2012) Smart Agent based Mobile Shopping andSecured Payment, IJETTCS 1: 1-15.
4. Yim J (2014) Design of a Mobile Shopping App for Regional Products,Advanced Science and Technology Letters 66: 53-56.
5. Seifert J, Schneider D, Rukzio E (2013) MoCoShoP: Supporting Mobile and Collaborative Shopping and Planning of Interiors, P. Kotzé et al. (Eds.): INTERACT 2013, Part II, LNCS 8118: 756-763.
6. Prasad VJ, MuradSaadi NF, Elfaki AIO, Saadi B (2013) Shopping Mall Directory:A Detailed-Guide Application for Android-Based Mobile Devices, ARPN Journal of Systems and Software 3.
7. Malhotra B, Krishnan RG (2012) Analysis of Shopping List Apps for Android & iPhone", Theory and Research in HCI-Symposium
8. Usharani B (2016) A Study on Mobile Hunt App using Android Studio"By IJIRC.

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