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Android Based Tracking Application– DOPE HUNT

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Abstract— The model is developed in order to pull out the worries of the parents for their children. Now a days, the crime and its impact is at its highest pitch and parents concern for their children's safety is undoubtedly true. In this scenario, the children are also not giving a single hand to their parents to ensure their security, so parent's worries are genuine. Concerning this fact, this application has been designed. This paper proposes a model that provide options to track the location of second party through their smart phones via Short Message Service and mail. It also provides facilities to receive information of incoming calls and messages. The application maintains log file which contains user message and call details and is mailed to the concerned party. The proposed model is validated by implementation in Android platform.

Keywords— Location Tracker, Incoming calls Information, Message content information, Mail facility

I. INTRODUCTION

This application is a hidden application which is not visible to the smart phone user. This application is launched by a security code which is dialed via phone. The concerned party (especially parents) when want to get the location of their loved ones (second party), will send a simple message from their multimedia phone which has a hidden code out of the scope of user understanding. The smart phone will automatically detect the code and will send user's location without even turning on the GPS.

It is most appealing to parents who want to exercise better parental guidance and control on their children mobile usage. This helps the parents to track the location of the second party whom they want to track. This application is also capable of tracking the information of the incoming calls and will send those details to the concerned party only. So, when concerned party want to get the details like their loved ones are in which company, whom they are talking to, would be displayed on their phones via a message without even displaying those sent messages in the sent box. This application has a smart feature of tracking the message details like who are sending the message, when they are sending the message, what the message content is, etc could be sent to the concerned party via a simple message. Thus application is going to help parents to protect their loved ones from any kind of fraud or bad company.

This application is going to help the girls mostly (whether the girl is working or is studying) from night incidents. The parents would send a message with hidden code and the phone will send the location, if the girl is not able to pick the cell phone, or not able to give its location to their parents because of any scenario.

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This application is going to help the cops as well to find the location of criminals if they are aware of their contact number. Till now the developed application will give the location based on GPS, and if the call is answered for atleast 60 seconds, But this application will remove all these hindrances. This application can also be remarkable if the cell phone gets lost then the real user would be able to know the location by sending the message with the hidden code.

This application is maintaining a log file which is send every day to the concerned party and then this file is updated for maintaining the next day records. The mail is sent without user intervention and user will not able to even guess it.

II. RELATED WORK

Existing paper proposes a model to secure smart phones from theft as well as provides options to access a smart phone through other smart phone via Short Message Service. They provide option to track and secure the mobile by locking it. It also provides facilities to receive the incoming call and SMS information to the remotely connected device and enables the remote user to control the mobile through SMS [1].

Zohaib has put forth the major challenges faced in designing a ubiquitous application[3]. Android operating system is suggested as a best tool for designing applications.

It can locate the mobile and track it, using the proposed approach. Listen incoming calls and read incoming SMS and give automatic reply. Access and change GPS, WIFI and profile settings through SMS. The application uses Google map API to show location on map [1][2].

An Android application called "mySpy" was built to allow concerned party to view videos and photos stored on a device, see the phone owner's list of applications and software updates, open their calendar, notes and tasks, and even get hold of the phone's unique IMEI number which means owner might not have any access to it's own device.

Antone Gonsalves, on his research on "Kindsight : application to turn Android device to Agent 007 tool" stated that installing and running Kindsight's component on a device, the user would have to find a way to bypass Android's built in security features. By default, applications do not have the permission needed to perform operations impacting other apps or the device in general. Such permissions would have to be granted by the user.

In contrast to existing models our model provides options to access a smart phone through multimedia phone. It doesn't allow locking the client smart phone and ignores controlling the client smart phone by concerned party, considering it as unauthorized access.

It also facilitates location updates whenever a coded SMS is received. Our application uses location service-network provider for location details, rather than Google map API.

It also maintains a log file containing the incoming call and message details which are mailed to the concerned party

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every day and then it updates itself. This log file is out of scope of user of second party.

III. PROPOSED MODEL

"Dope Hunt" allows users to track location of their friends or kids or their loved ones in real time using a cell phone. This application does not require any additional registration, but require Wi-Fi or internet connection for location tracking. It delivers messages reliably. You can easily identify the position of second party. It is not required that both parties should have smart phone. Just the user who is of concern must have smart phone and this application installed. This application is invisible and the user may not be aware of the presence of this application. It also maintains user record in a log file which is sent everyday to the concerned party via mail.This application is developed using Android.Android is defined as a stack of softwares provided by google which facilitate to develop,to deploy and to execute a mobile application which is being developed in android.Android is complete package,is independent,contain all software from development to execution.It consist of Android operating system ,Application Development Framework,Runtime Environment and some dummy Applications.

A. Setup

- Download and install "Dope Hunt" app on your phone (Only the concern party must have to install).
- Only available on Android devices.
- The launcher must dial a number (special code) and done.

B. Functions

- "Search" - Locate position of the second party.
- "Message Tracking" – Contact messages. (who is sending text message and what is the content along with time)
- "Message" - Send message.
- "Incoming Call Tracking" – The incoming call details.
- "Mailing" – The log file is sent.

C. Important Features

- Application is hidden. The user will not able to see it.
- The application require internet or wi-fi connection for tracking location.
- The application does not require turning on GPS since it is using network provider for tracking the location.
- The application will send the messages without displaying those messages in sent box. Though these messages will cost to the user.
- The application would be installed by dialing a number from the android device and can be uninstalled too by dialing another number.
- The application will send the location to the concerned party only when that person send message to the device with hidden code out of user scope.
- The application will keep on tracking the incoming calls, its details, date of calling, time of calling, the number who has called the second party. It will send these details to the concerned party every time phone rings.
- The application keep an eye on incoming messages, its details, date of messaging, time of messaging, contact number who has messaged, and even the content of messages. It will send these details to the concerned party whenever the phone receives message.
- The application will send the mail everyday containing log file which contains all details like incoming call and message details always at particular time to the concerned party without user intervention.
- This mail facility will not cost to the user and is updated to record new details once it is sent.

IV. IMPLEMENTATION

The proposed model for location alert and information provider of incoming calls and messages is implemented in Android 2.2 platform operating system. The concerned party has to send the code only through short message service or through mail to get aware of the location of user and his/her call and message information. The smart phone is an excellent platform, if we want to launch an insider attack against a owner's wish. The device should have all the capabilities that it needs. It should have Internet access over the air to get started.

Below are some snapshots of the model which are showing how to track the location and how to get the information regarding incoming calls and messages.

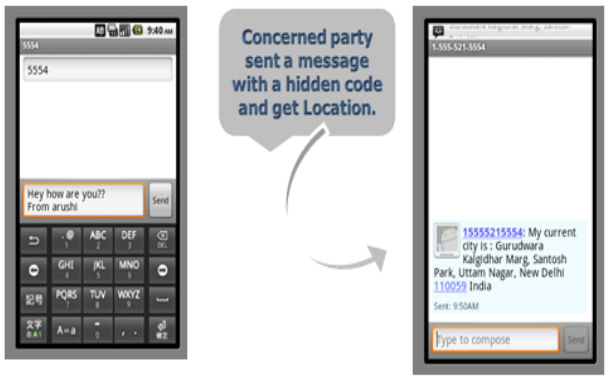

Fig 1. Example of Tracking the Location through SMS

The figure shown above depicts that when 5558 emulator has text 5554 (as in left side emulator), the application has detected the code and automatically sent the second party location to the concerned party which is 5556 in this case (as in right side emulator).

Fig 2. Example of Keeping an eye on messages

The figure shown above depicts that when 5558 emulator has called 5554 (as in left side emulator), the application has

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automatically sent the call details to the concerned party which is 5556 in this case (as in right side emulator).

Fig 3. Example of Keeping eye on Incoming calls

The figure shown in the previous page depicts that when 5556 emulator has text a special coded message out of the scope of 5554 (as in left side emulator), the application has automatically sent the message details to the concerned party which is 5556 in this case (as in right side emulator).

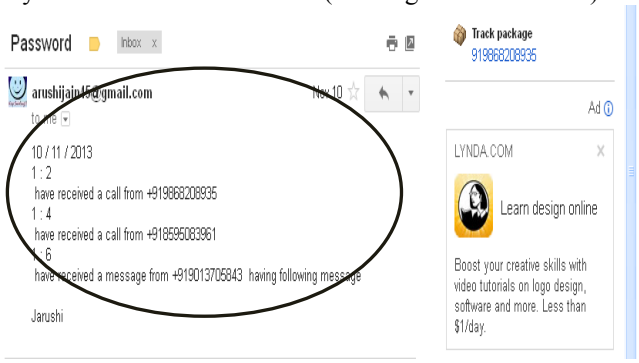

Fig 4. Mailing Feature Of Dope Hunt

The figure shown above depicts that an email id is getting a report in the form of log file showing the details like incoming calls and message details.

V. CONCLUSION

The proposed model has been implemented in android operating system. It was tested in Samsung galaxy smart phone. This provides the encouraging result. The conclusions drawn from the proposed model are listed below:

- There is no need of android smart phones at both the client and server side. The application is installed at server side only which acts as major advantage for this model.
- This model provides an easy way to track the location of the second party by sending hidden code via SMS. Also, no usage of GPS in this model makes it different and fast from other applications.
- This model provides facility of installing and uninstalling of application in android device through pass codes only. The installation pass code is "#000" and un- installation pass code is "#111".
- The application maintains a log file which is sent to the concerned party (like cops) everyday showing the users that day records.
- The application will ask user concerned party to fill in details like concerned party contact details, email id, ehat all services the party want to have like short message service tracking, call tracking etc. and how the party should be informed either through mail or through messages.
- The application is hidden to the end user. This means user will not be able to see the application and it keeps on working at the background.

These features make this model different and more appropriate than other applications.

Fig 5. Example of Installing Dope Hunt

The figure above depicts that the application is invisible to the user i.e. it is not shown at the window. In this way, the second party would not be aware of the presence of the application.

Fig 6. Example of Launching Dope Hunt

The figure shows that the application would be launched only when a code "#000" is dialed and similarly it would be uninstalled by dialing "#111". When launched it will display the message depicting that the application has been launched, similarly in case of un-installation.

Fig 7. Example of View at 5554

The application would not allow the user to see the sent messages i.e. the sent box would not show the messages sent to the concerned party. In this way, the android device user

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would never come to know that it's device is sending the messages to someone who is concerned for his/her security.

VI. FUTURE SCOPE

The future directions for this research work is listed below:

- The application may not cost to the user.
- Receiver doesn't get any delivery notification about payment reduction or message delivery.
- Will be able to retrieve each action information of the android device.
- The application would be more user friendly allowing concerned party to enter password and other required details.
- The application will be capable of generating automatic notification if owner's android device goes out of defined location area.

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