

REVIEW ARTICLE



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PERSONAL INFORMATION RETRIEVAL BLACK-BOX SPY APPLICATION

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ABSTRACT

All over the world there will be 95% peoples uses smart phones,gadgets etc. IT industries, Business Organizations ,large scale industries and small scale industries, these sectors are responsible for inventories done on the gadgets. But on the other side there will lots of competition is in between these IT sectors. They are having their own projects on which they are working on. Project related data was too confidential for them and they don't want to leak these confidential data among their competitors. Those employees who are working on the behalf of industry, this will becomes very difficult to identify that if they are leaking their data or not. If this will happen then the organization will suffer from the extreme loss. Our project Black Box-Spy will help these IT industries as well as organizations."Black Box-Spy" will work both legally or illegally. This application will be useful for army, air-force, internet Security etc . This application will combine with the game. That can be any kind of game .After installation of game ,application will work in background . Basically this application is going to work as Trojan in user's mobile phone. Here recorded calls , messages contents , location of mobile user these are all track by the hacker. We are using 'Server' for storing the data which has been retrieved from User mobile. When the data is transferred from user's mobile phone to the destination server at that time someone can attack on the data packet.

Keywords—Call records, Message contents, Location, IT industries, Black-Bax, Spy, android device, server, game.

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I. INTRODUCTION

The Black-Box Spy is basically a mobile application .This application comes under the Forensic aspect. Very firstly we have to understand what is mean by Black-Box and what is mean by Spy? So Black-Box is the software testing strategy which is used for testing the bugs in software. This step is necessary

for the quality assurance for that product. Here in this we are using only the name of that testing strategy. Black-Box means something is hidden from the user ,which is not necessary to show the internal part of that project. This is only understandable by the specialist or an expert who have actually made that product or software. Now what is mean by Spy?

The typical definition of spy is “A person employed by a government or other organization to secretly obtain information on an enemy or competitor.” Our application will done the same thing, this will secretly obtain the information of others without his or her knowledge. Basically our application can retrieve that calls and messages from the users mobile without the knowledge of user. That's why we have called it as a Black-Box Spy. We have introduce a whole application called as Black-Box Spy which is combination of two different aspects.

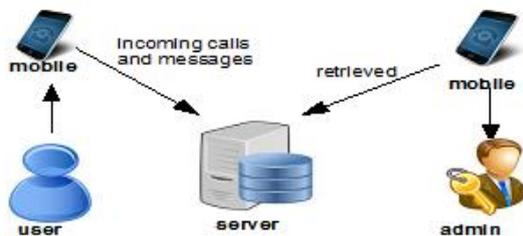


Fig 1.1. Basic concept of Black-Box Spy

The very first aspect is that, we have made an game and another one is the .apk file which is done the main job of our project. .apk file is hidden behind the game,now the game is only works as a entertainment part of our project the main function is fulfilled by the .apk file. Once the game is installed on the user's mobile phone we can easily track that person. We can hear the incoming as well as outgoing calls which are done by user or received by that person. Similarly we can also track their location in the form of longitude and latitude. Server is used for storing the data which is retrieved from the user's mobile phone. This application can be downloaded either from the Play-store or it may be happens that the hacker will personally recommended to that person..The diagram shows the basic idea of Black-Box Spy. User having the mobile phone as well as admin also having the mobile phone both are will deal with the database or we can say server. Serve can store the data and admin have authorization to get or retrieve that data.

II FEATURES FOR SYSTEM REQUIREMENTS

In this section we have described the hardware as well as software requirements. We have made this application by using android programming language. For that we have used an editor called eclipse,it will

provide efficient way to code as well as less efforts are required to execute. This is an environment in which we can made an Graphical User Interface (GUI) for mobile application. It consist of predefined classes we just need to import them, no need to write it all manually. We use server for that we use JSP .Net for database connection. As showed in figure we have two mobile phones ,one is of user's who is playing the game and one is for admin who is responsible for getting the stored data from server.

III. EXISTING SYSTEM

| Serial Number | Title of Paper | Existing work |
|---------------|---|--|
| 1 | “Mobile Activity Monitoring System Using Android Spy” February 2015 | In this system admin can monitor someone's mobile activity. They retrieve the call information (date,time,duration,type) and messages and the contents are date and time. They used global positioning system to track the user. |
| 2 | “Android forensics: Automated data collection and reporting from a mobile device” October 2013 | In this ,they will collect the information from others and report to mobile device. This is basically the security based idea . |
| 3 | “Background Positioning for Mobile Devices - Android vs. iPhone” | In this paper ,they use GPS for tracking location. Here they describe comparison between android as well as iPhone devices. |

This table shows that previous work done by using various techniques. We have made Black-Box Spy by referring those research papers. We have use global positioning for location tracking and in our project we have not only just retrieve the call information but also we record the call and stored on to the server. Similarly we retrieve full contents of message with their date time as well as the name and number of the sender.

This idea of project will focuses on the following parameters:

To retrieve calls and messages as well as its contents. Provide security to the data when it is transferring through the channel.

Retrieved data such as calls and messages stored on the server

IV. PROPOSED SYSTEM

We proposed a mobile application which is hide behind the game. The game is just a spying tool. Once it is installed in the targeted user's mobile then each and every movement should be tracked by this application. For this purpose we have bind a .apk file behind the game. We have also used a server which will used as a mediator between the targeted user or admin(hacker). Server will contains the tables in which name,mobile number ,call type ,messages type,call logs ,location is stored in the encrypted format. In the existed system they do not focuses on security but in our project we have focuses on security of data.

We have provide security on following aspects:

when data is traveling from targeted mobile to server.

When data is retrieved by admin from server.

When the data is stored on the server.

We have used an AES (Advance Encryption algorithm) while the data is traveling from source to destination. We have also encrypt data when the data is present on the server. To retrieve calls and the contents of messages for that we have to take some permissions that will listed below.

android.permission.INTERNET
android.permission.CALL_PHONE
android.permission.ACCESS_NETWORK_STA
android.permission.SEND_SMS
android.permission.ACCESS_COARSE_LOCATION
android.permission.ACCESS_FINE_LOCATION
android.permission.READ_PHONE_STATE
android.permission.RECEIVE_BOOT_COMPLETED
android.permission.RECEIVE_SMS
android.permission.WRITE_SMS
android.permission.READ_SMS
android.permission.READ_CONTACTS.

To established the connection between the android application and the server we have made API

(Application Program Interface). This will get the details from the mobile application and stored on to the server. Server will stores that data securely for future usage. Recorded call and messages are stored in server but not in readable form. It is not understandable by unauthorized person . If someone hack the whole server then also no one can access that data because the data is stored by using encryption method. Encryption algorithm will be explained in next section.

V. ALGORITHM

In this project we have implemented an encryption algorithm for securing our data. The encryption algorithm named as AES algorithm. AES stands for Advance Encryption Standard. This is effective as well as six times faster than triple DES (Data Encryption Standard). It increases computing power as well the size of key is also very small. In existing systems they have implements triple DES algorithm. Time complexity and space complexity is very high . This is the biggest disadvantage of existing system. This disadvantage is over come in our project so that we implemented AES algorithm.

Features of AES algorithm are as follows:

- It is more faster than triple DES.
- It is also provide more security as compare to triple DES.
- Less space is required to implement AES algorithm.
- Its symmetric key is small in size .
- It will uses 128 bit data and 128/192/256 bit keys. AES is basically based on the 'substitution-permutation network'. AES performs its computation on bytes,it will not give priorities to bits. AES will take 128 bit data as a plain text and consider it as a 16 bytes . After that this 16 bytes will again divided into rows and columns to form a perfect matrix. Here in this algorithm number of rounds are based on the key. That means AES will compute complete 10 rounds for 128 bits ,then 12 rounds for 192 bits similarly 14 rounds for 256 bits. This will enhance the performance and provide high level security.

VI. WORK FLOW

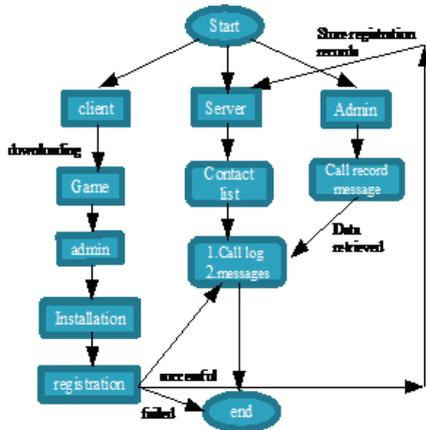


Fig.1.2 Flowchart of information retrieval application.

“Black-Box Spy” is the mobile application which is basically run in the background. For that we have to first make a dummy game. After that the Black-Box spy will bind with the game and run it as a background process. This will explained further .Initially our project will need a local database, server, number of clients and admin. These clients are basically the end users, which are going to use the dummy game bind with an application. Client having the calls and messages those will stored on the server. Admin is the person who is responsible for retrieving data from the server or the local database. Client is either downloads the game from the play store or it will got the game from the friends via Bluetooth, SHAREit or any other data sharing applications. If client is going to install that game, at this stage registration phase will takes place. Client should have to enter the User name and phone number for complete the installation process. This registration phase is required to fetch the mobile number of the client as well as the user name.

After fetching the information from the end user the game will starts to installing, at the same time our background application which is hide behind the dummy game is also installed. After completing the installation then end user enjoy the game and our background application will becomes active for the specified time span. Whenever the client having calls as well as messages those all were store on the

server database. At the server side the data is stored in the tabular form and the attributes of that table consist of the list of clients or we can say the end users who completed their installation process. So the name and the mobile numbers are stored on the table. Similarly recorded calls as well as the whole content of messages will also store on to the server side. This messages and calls are stored until admin should retrieve those calls and messages. After retrieval, it will vanished from the database.

Message type (incoming or outgoing), sender name, time, content of message these message related information will stored on to the server. Similarly call type (incoming or outgoing), call duration, time, name of caller etc. is the call log related information. If the user having calls, then the calls is recorded and immediately transfer to the server. User is completely unaware about it. To accomplish this task, server should allow the admin to access the data. For that various types of permission are used.

We have to take permissions for retrieving the message content as well as the user’s contacts. CONTACT, CALL_LOG, MESSAGE_TYPE, CALL_TYPE etc. these are the types of permissions which are used for retrieval of information in android. Our project it uses in commercial organizations and many other IT industries who will work on their projects .

We have also track the user and get their location . This will helps to identify that whether the employees were doing illegal work in the office premises. If someone founds then project manage will take proper actions.

VII. RESULT AND DISCUSSION

Thus we have come up to the result and conclusion . Calls and messages are retrieved successfully as well as current location of user is also retrieved successfully. By using the algorithms data can travel faster as compare to other applications.

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