

Mobile Tracing Software for Android Phone

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ABSTRACT: The goal of this document is to give description of how to use the “Mobile Security System (MSS)” (release 1.0). It gives complete information about functional and nonfunctional requirements of system Mobile security system is security software to capture missing mobile phones or tablet pcs. The main purposes behind this project are to reduce some of the vulnerabilities in existing security systems, providing user friendly authentication mechanisms (for organizations’ resources such as domains, networks and so on) and location identification. This will be useful for business organizations and for individuals as well to keep track their mobile. For example the strategies, stability, configurations and etc. are can be considered as some of the confidential information. And it can also provide some management capabilities as well. The project is carried out within two phases.

Phase 1: Client Application which will be installed on any Mobile Devices.

Phase 2: Admin Application which will be installed on Any Server or Mobile.

(2) Introduction

I hereby declare that the seminar titled “Mobile Tracing Software for Android phone” has been presented by me and is not reproduce as it is from any other source. The objective of this project is to develop an Android application which provides location tracking functionality for Android device using SMS. This project supports the Android OS only and makes communication with the phone through SMS messages only. The

Architecture Security and the accuracy of tracking unit itself are the scope of this project.

(3) Abbreviation

| Name | Full form |
|-------|------------------------------------|
| ADT | Android development tool |
| JDK | Java development kit |
| SDK | Software development kit |
| JRE | Java run time Environment |
| JVM | Java virtual machine |
| MSS | Mobile Security System |
| SIM | Subscriber Identity Module |
| MPBSS | Mobile Phone Based Security System |

(4) Existing System

1. Ringer

A silent phone can be extremely tricky to find. If you're in the habit of losing a silent cell phone, you may wish to invest in a phone sensor, also known as a phone detector. These are tools that, when placed near a cell phone, will actually pick up the call signal and make sounds to indicate that the phone is somewhere within proximity. If the phone is lost, all you need to do is have someone call you as you walk around with the sensor until the device begins to indicate that a call signal is nearby. When you hear the signal, you then have a basic idea of where to start looking for your cell phone.

2. Phone Tracking Using IMEI Number: Every phone comes with a unique International Mobile Equipment Identify Number which can come in useful to track it in case of loss or theft. This number can be accessed by dialing *#06# and it is advisable to make a note of it as soon as you purchase your handset. In case the phone gets stolen, file an FIR with the police and give them its identity number. Pass on a copy of the FIR and IMEI number to your service provider who will then be able to track your handset. With its IMEI number, a device can be traced even if it is being used with another SIM. Once the handset is located, request your service provider to block it from being used till you are able to get your hands on it again.

3. Proposed System

Using simple SMS commands so you can ring your Android Device even if it is in silent mode and thus locate your device locally.



(5) Software Requirement

Specification

Introduction:

The Software Requirement Specification document itself states in precise and explicit language those functions and capabilities a software system (i.e., a software application, an e-Commerce Web site, etc.) must provide, as well as states any required constraints by which the system must abide.

The SRS contains Functional and Non-functional requirements

(6) Functional Requirements

- Be able to recognize the attention word received through SMS.
- Be able to handle the phone state to ring automatically.
- Be able to detect the current location of Android device.
- Be able to retrieve the device, sim card & location details.
- Be able to send retrieved details through SMS

(7) Non-functional Requirements

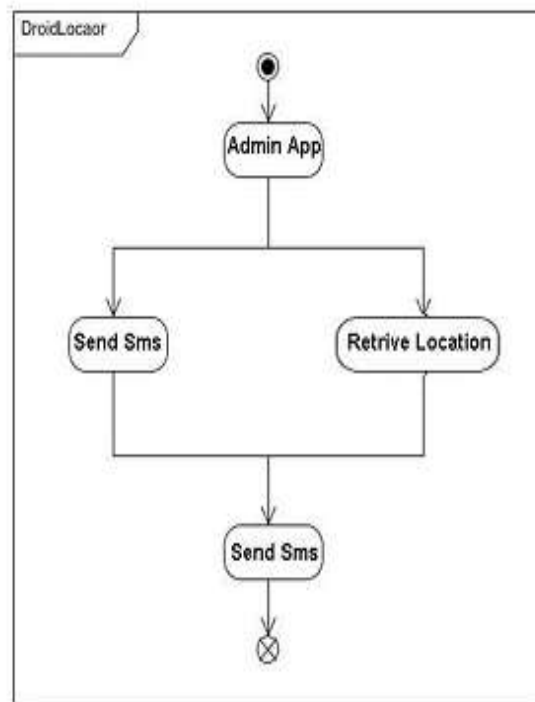
- Functionality
- Performance
- Environment
- Usability

e. Other Constraints

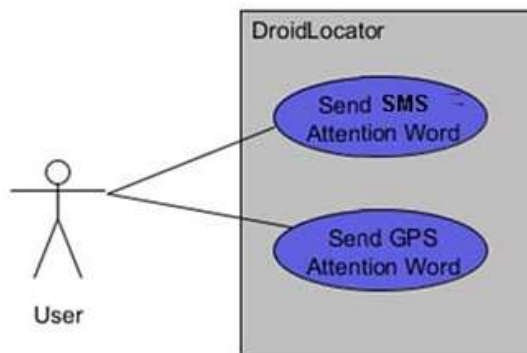
(8) Software & Hardware Requirements

- a. Hardware Requirements
- b. Processor Pentium IV or above.
RAM 2 GB RAM or more.
- c. Hard Disk Space Minimum of 40 GB.
- d. GPS enabled Android 4.0 devices.
- e. Software Requirements
- f. Microsoft Windows (XP or later)
- g. The Android SDK starter package
- h. Java Development Kit (JDK) 5 or 6
- i. Eclipse (Indigo)

(9) State Diagram



(10) Use case Diagram



10.1 Use case related to Installation

| Use case 1. Installation | |
|---------------------------------|--|
| Primary Actor: | Admin App / Client App |
| Pre-condition: | Android Device Internet Connection |
| <u>Main scenario</u> | 1. User imitates installation project. |
| | 2. System asks the Admin home directory in which all the working file will be created. |
| | 3. Admin specifies the home directory and username/password. |
| | 4. Client App ask for admin code for authentication |

10.2 Use case related to system authorization

| Use case 2. Login | |
|---------------------------|--|
| Primary Actor: | Super Admin, Admin, User |
| Pre-condition: | User need to be pre-registered with a Admin |
| <u>Main scenario</u> | 1. Start the application. User prompted for login and password. |
| | 2. User gives the login and password. |
| | 3. System does authentication. |
| | 4. Main screen is displayed. |
| <u>Alternate scenario</u> | 1. Prompt the user that the wrong entered password and username. |
| | 2. Allow user to reenter the password and user name. Give 3 chances. |

10.3 Use case related to change password

| Use case 3. Change password | |
|------------------------------------|----------------|
| Primary Actor: | User |
| Pre-condition: | user logged in |

| | |
|---------------------------|--|
| <u>Main scenario</u> | 1. User initiates the password change command. |
| | 2. User performed for old password, new password and confirm new password. |
| | 3. User gives for old password, new password and confirm new password. |
| | 4. System does authentication. |
| | 5. New password is registered with the system. |
| <u>Alternate scenario</u> | 1. Prompt the user that the entered password and username. |
| | 2. Allow user to reenter the password and user name. Give 3 chances. |

10.4 Use case related to Admin

| | |
|-----------------------------------|---|
| Use case 4. Manage Devices | |
| Primary Actor: | Admin |
| Pre-condition: | Online Connection or SIM or GPS Connection |
| <u>Main scenario</u> | 1. Admin initiates the manage user device option. |
| | 2. Admin can to add, edit or delete any client mobile device. |

10.5 Use case related to Admin

| | |
|--|--|
| Use case 5. Search for a lost client device | |
| Primary Actor: | Admin |
| Pre-condition: | Internet Connection or GPS or SIM |
| <u>Main scenario</u> | 1. Admin initiates the Search function. |
| | 2. System asks the Admin to select its registered device. |
| | 3. System displays the Report of the found device with location and other information's. |

10.6 Use case related to Super Admin

| Use case 6. Super Admin | |
|--------------------------------|--|
| Primary Actor: | Super Admin |
| Pre-condition: | Internet Connection |
| <u>Main scenario</u> | 1. Super Admin login and initiates the list of users function. |
| | 2. It can search for any client device in range. |
| | 3. It can manage each device. |
| | |

(11)Implementation

- a. Implementation is the stage in the project where the theoretical design is turned into a working system. The implementation phase constructs, installs and operated the new system. The most crucial stage in achieving a new successful system is that it works effectively and efficiently.
- b. Implementation is the process of assuring that the information system is operational and then allowing user to take over its operation for use and evaluation

(12)IMPLEMENTATION OF MODULES

1.Broadcast receiver that alerts application when each new SMS arrived.

- a. Step 1: START
- b. Step 2: SMS received.
- c. Step 3: Checks attention word.
- d. Step 4: If attention word matches with “Add Client added by admin ”then starts Tracing activity and abort broadcasting.
- e. Step 5: If attention word matches with “getlocation” then starts ringing activity and abort broadcasting.
- f. Step 6: If attention word not matched then allow broadcasting.
- g. Step 7: End

2. Enable device ringing and acknowledges the user.

- a. Step 1: START
- b. Step 2: Checks device it in silent or vibrate mode.
- c. Step 3: If it is in silent or vibrate mode than set device to ringing mode.
- d. Step 4: Enable device ringing.
- e. Step 5: Acknowledges user that device ringing by sending device status information to user.
- f. Step 6: End

3.Get location And Acknowledges user.

Step 1: START

Step 2: Checks that internet is available.

Step 3: If internet is available then get location details from Network Provider.

Step 4: If internet is not available then Checks is GPS turned on.

Step 5: If GPS is available then get location details.

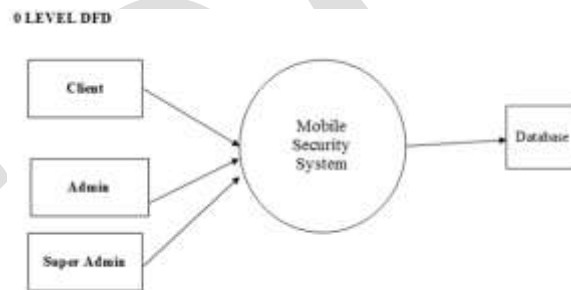
Step 6: Send location information to user.

Step 7: End

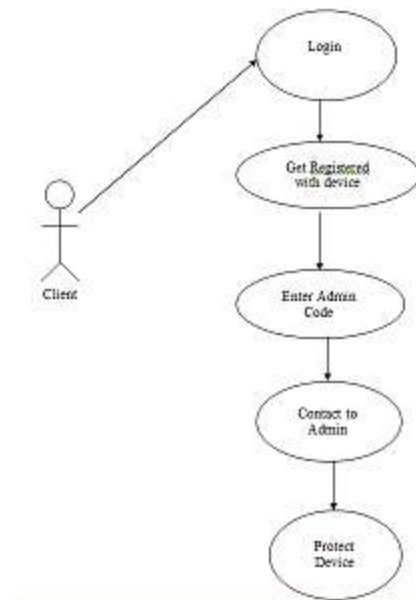
(13) DATA FLOW DIAGRAM

The data flow diagram is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output. The DFD may be used to represent a system or software at any level of abstraction. In fact DFD may be partitioned into levels that represent increasing information flow and functional detail.

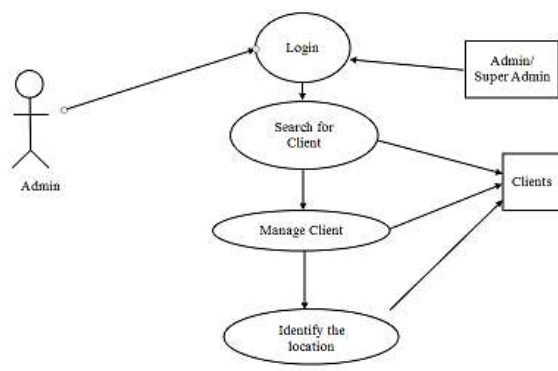
Level0



Level1



Level2



Entity Relation Ship Modeling

P.P. Chen introduced the E- R model. Entity - Relationship modeling is a details logical representation of the entities, associations and data elements for an organization or business area.

Entities

An Entity is a person, place, thing or event of interest to the organization and about which data are captured, stored or processed.

Attributes

Various types of data items that describe an entity are known as attributes.

Relationship

An association of several entities in an Entity-Relation model is called relationship.

Entity Relationship Diagram

The overall logical structure of a database can be expressed graphically by an entity relationship diagram

ER DIAGRAM

It is an abstract and conceptual representation of the data. Entity Relationship modeling is a Database Modeling Method, used to produce a types of conceptual schema. Entities:

(14)Testing

1. Unit Testing

- a. Try to detect if all Application functions work correct individually.

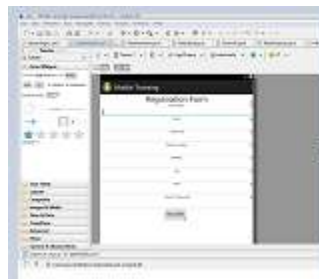
2. Integration Testing

- b. Try to detect if all these functions are accessible in our application and they are properly integrated.

3.Integration Testing

- a. Application starts on SMS receive.
- b. Contents of SMS read and matched with the attention word.
- c. Acknowledges the phone status to the requesting phone through SMS.
- d. If it is GPS attention word then retrieves current location details and sends back to the requesting phone without the knowledge of device user.
- e. Application Stops.

(15)Snapshots



(16) DEPLOYMENT

Software deployment is all of the activities that make a software system available for use.

Android application can be deployed multiple ways:

- a. If you are using eclipse, first you have to create Android virtual device manager and then right click on your project and run as android application.
- b. You can export your package to your android device And then browse to it to install.

(17)Future Enhancement

- a. SMS/Call Filtering.
- b. Allowing user to specify his own attention words(Database Connectivity).
- c. Lock device, wipe memory to keep your private data safe.
- d. Control your Android remotely via a web-based interface through DroidLocator

(18)Conclusion

Lost android mobile phone tracker is a unique & efficient application, which is used to track the lost/ misplaced android phone.

All the features work on SMS basis. Therefore, incoming SMS format plays a vital role. Our android application running in the cell monitors all the incoming messages. If the SMS is meant for the application, it reads the same and performs the expected task.

We have created features, which will enhance the existing cell tracking system. Application stands different from the existing system as its not only the GPS value it makes use of but it works on GSM/ text messaging services which makes application a simple & unique one.

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