ANTI-THEFT APPLICATION FOR ANDROID BASED DEVICE

BHAVANI SHOBANA.B

(13PCA002)

A Project Report Submitted to

Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043

In Partial Fulfillment of the Requirements for the

award of the degree of

Master of Computer Applications

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Signature of the Supervisor **Signature of the Head of the Department**

Signature of the External Examiner

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I would like to express my sincere thanks to God Almighty, for his constant love and grace that he has showered upon me.

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ABSTRACT

This application presents a technique to improve anti-theft applicationforandroidbasedmobiledevice byusingdifferentserviceslikeMMSinsteadofSMS.Astheuseofsmartphones, tabletsbasedon androidoperatingsystemis increasing,many scenariosrelatedwith anti-thefthavealreadybeenproposedand somanysoftwarebasedon anti-thefthavealsobeendeveloped,but mostofthesesoftwareisnotfreelyavailableandit'sdifficultto identifythethiefbyusingthese software'se.g.GPSTracking.This application putforwardanewscheme,whichenhancesthepresentscenariobased new technologies.

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1. INTRODUCTION

1.1 PROBLEM DEFINITION:

This application puts aforward technique through which the thief, who steals any android based mobile phones installed with this application, gets captured and the user can make them to stop misusing any confidential information.

This application includes technology like mms for sending back to videos and image clips to any other mobile phones.

1.2 OVERVIEW OF THE PROJECT:

The development of technology now mobile devices can perform different official activities beside the personal ones. People can store password, valuable documents, pictures, videos and many other private and confidential contents inside their mobile devices. Moreover, high performing mobile devices are very costly. But mobile devices being stolen which incurs great loss upon people in this system, the idea as well as system architecture of an application has been proposed which helps to strengthen the security of mobile devices. It retrieves the International Mobile Station Equipment Identity (IMIE) number, recent contact list, geological location, and the new SIM's change detection like time and date from the lost device, and finally views this information to the actual owner of the device. These information help to find the exact location and other details of that lost mobile device.

2. SYSTEM CONFIGURATION

The system specification includes the requirements that are needed for a system to work efficiently and smoothly. This consists of both hardware and software specification.

2.1 HARDWARE SPECIFICATION

Processor	:	Dual Core
Hard Disk	:	256 Gb
Ram	:	1 Gb
Monitor	:	15” Color Monitor
Keyboard	:	104 Keys Standard Keyboard
Mouse	:	Standard 3 Button Mouse
Mobile	:	Android Supported Device
Version	:	Android 2.1 Or Above

2.2 SOFTWARE SPECIFICATION

Operating System	:	Windows Xp, Linux (Android Mobile)
Front End	:	Java, Dot net.(Web Service)
Back End	:	Sql Server,

2.3 DEVELOPMENT SPECIFICATION

Development Tools	:	Eclipse Juno, Visual Studio 6.0.
Data Base Tools	:	Sql Server

2.4 ABOUT THE SOFTWARE

Details of the Software

History of Java:

The java language was developed by sun Microsystems in 1992.sun begin a project to run TV&VCR sets, interactive TV and VCR .in 1991, a group of Sun Engineers, led by Patrick Naught on and Sun fellow James Gosling, wanted to design a small

language which could be for interactive consumer devices. In September 1992, the James Gosling office. However, since there was already a language name “Oak” existing, Sun named it Java. It is a trademark of Sun Microsystems.

Sun released the first version of java in early 1996. Java 1.3 a couple of months followed it later. In 1998,Sun Microsystems released the latter version as Java 1.3,which replaces the early toy-like GUI and graphics toolkits with sophisticated and scalable versions that come closer to the promise of “Write once, Run anywhere!” then their predecessors.

Java Introduction:

Java is an object–oriented programming language developed by sun Microsystems, a company best known for its high-end UNIX/LINUX workstations. Modeled after C++, the java language was designed to be small, simple and portable across platforms and operating systems, both at source and the binary level, which means that java programs can run on any machine that has java virtual machine installed. They are two types of java programs. They are java applets and java applications.

To develop application programs java provides so many classes in “awt” package and in java 2.0 there is another package called “swing” the extended version of awt package is used to design the application programs as very much like popular application packages like Visual Basic, Developer 2000.

Android developing platform

In order to start developing for Android it is recommended to download the ADT Bundle (Android Developer Tools) . It includes the Android SDK components (Software developing kit, a comprehensive set of development tools, a debugger, libraries, sample codes, etc.) and a version of the eclipse IDE with built-in ADT. This project has been developed completely under Eclipse, since it is the officially supported IDE. Some parts have been done in Linux and others in Windows.

Under Linux it must follow the next steps to have all packages configured and ready: After downloading the SDK And unbar the .tgz into an appropriate location which

will refer to later when setting up the ADT plug-in. The next step is downloading the ADT plug-in and once Eclipse starts must specify the location of our ADT directory. This plug-in extends the capabilities of Eclipse to let us quickly set up Android projects, build an app UI, debug it and export app packages for distribution.

Basics of apps development

Once it downloaded and installed the set of tools included in the *SDK,* it can access them form the Eclipse IDE. The basic steps for developing applications are given below:

Setup

During this phase it will install the development environment and create our Android virtual device (AVD) .

Development

Once develop the source code and include all media files needed for the application (video, photo, music, etc.).

Debugging and testing

In this phase it will build the project into a debuggable.*apk*that can install or run on the emulator. It will also test the application using various SDK Android testing tools.

3. SYSTEM STUDY AND ANALYSIS

3.1 EXISTING SYSTEM:

In the existing system the tracking is done by fixing tags in different location for identifying the exact position of the device. The android terminal is connected to Bluetooth and wireless LAN. Tracking is made to shorter distance while using Bluetooth. The tracking system is not secure when compared to the proposed system. The communication link to the management server is managed by wireless LAN which is relatively slow when compared to the 3G network. The dynamic paring of mobile terminal is mandatory. The network is more complex and it is not reliable. The message is transferred through wireless LAN and it is not secure.

3.2 PROPOSED SYSTEM:

In this application some functions for the new generation user tracking system such as telephony device to track all incoming, outgoing calls and sms. Android mobile terminal is connected to high speed 3G network for effective data transfer between two mobile terminals. Tracking can be made at a very high speed without any distortion in the network. The tracking system is very secure when compared to the existing system with the effective implementation of web service security (WSS). This proposed system makes use of the cloud technology to store and retrieve various telephony information using SOAP protocol. Global Positioning System, that enables to know the location of a device.

3.3 FEASIBILITY STUDY

Every project is feasible if given unlimited resource and infinite time. Feasibility study is undertaken to evaluate its workability, impact on the organization, ability to meet user needs, and effective use of resources. The main objective of feasibility study is to test the technical, operational and economic feasibility of developing the computer system. Thus, during feasibility analysis for this project the following three primary areas of interest were considered.

- Technical Feasibility
- Economic Feasibility
- Operational Feasibility

3.3.1 TECHNICAL FEASIBILITY

Technical feasibility is to know whether reliable hardware and software capable of meeting the needs of a proposed system developed by an organization in the required time.

The IP based Timesheet tracking and HRMS is developed using JAVA and ANDROID. These are the software required to run this Application. The consideration that is normally associated with technical feasibility includes resources availability of the organization, where the project is to be developed and implemented. By taking these factors into consideration before developing, the resources available are adequate. Thus the project is considered technically feasible for development.

3.3.2 ECONOMIC FEASIBILITY

Economic feasibility deals with evaluation of development cost weighted against the ultimate income or benefit derived from the developed system. Financial benefits must equal or exceed the costs.

The existing system fails in accuracy, efficiency, and consumes more time and it was really a tedious task to process properly. Through IP based Timesheet Tracking and HRMS, the organization can reduce the man power requirements. The main requirement to run this system is the XAMP server, which is an Open Source since it leads to the reduction in cost. So this Application is economically feasible.

3.3.3 OPERATIONAL FEASIBILITY

Proposed system is beneficial only if they can be turned into information system that will meet the organizations operating requirements. Operational feasibility is a consideration about the working of the system after installation in the company. Simply stated, this system of feasibility asks if the system will work when it is developed and installed.

Issues that appear to be relatively minor in the beginning have ways of growing in to major problems after implementation. Therefore all operational aspects must be considered carefully.

This Application is developed using java and android, which is more user friendly. So the system is feasible.

GPS tracking has come to be accepted on a global scale. Due to the usage 3G network the data is retrieved and stored in the server at a very high speed. With the help of the encryption algorithm the messages are sent to the mobile terminal very securely.

4. SYSTEM DESIGN

4.1 INPUT DESIGN

Input Design is a process of converting a user oriented description of inputs to a computer based program-oriented specification. The main objective is to create an input layout that is easy to follow and avoid entering data incorrectly. The goal of input design is to make input data entry as easy and error free.

Input design for proposed project is used to feed the inputs required to generate the details about the registration by users.

In this Application, location and call logs to be searched for identifying the thief.

4.2 OUTPUT DESIGN

The output design defines the output required and the format in which it is to be produced. Care must be taken to present the right information so that right decisions are made.

The Screen output essentially displays the generated output on the screen. The results the exact location, current battery level and call history are usually displayed on the screen.

Output design in this project is useful to view the details about the location and call logs which are helpful to take decision for identifying the thief.

5. SYSTEM DEVELOPMENT

5.1 LIST OF MODULES:

- Register Module
- Track Module
- GPS locate module
- Sim Change Detection
- Battery info

5.1.1 Register Module

In this module, application gets information about the user device. The information is call log, user location, etc. All information is stored in centralized server.

5.1.2 Track Module

In this module, admin can view the user information from the remote device. The information is call history, user location, etc. Admin can watch the user information from the smart phone.

5.1.3GPS locate module

Every few seconds once user location is update to server. This location information contains two location values. The values are Latitude, Longitude. This module get location value from the server and fetch location on the map. So it can easily track user location from the map.

5.1.4 .Sim Change Detection

Applications sends the information to server when SIM change like details sim new serial no old serial number, change date and time related information send to the server using background app running process the information doesn’t know user it’s all background process.

5.1.5. Battery Info

In this module, it shows the current remaining battery level for user mobile battery information. Once mobile go to the On stage an background running app send battery level information to the server battery level details continuously. Which is more helpful for track the mobile devices...

6. SYSTEM TESTING AND IMPLEMENTATION

6.1 SYSTEM TESTING:

- Unit Testing
- Integration Testing
- System Testing
- Activity Testing
- Service Testing
- Content Provider Testing
- Accessibility Testing
- UI Testing

Unit Testing

Unit testing is the testing of an individual unit or group of related units. It falls under the class of white box testing. It is often done by the programmer to test that the unit he/she has implemented is producing expected output against given input.

Integration Testing

Integration testing is testing in which a group of components are combined to produce output. Also, the interaction between software and hardware is tested in integration testing if software and hardware components have any relation. It may fall under both white box testing and black box testing.

Functional Testing

Functional testing is the testing to ensure that the specified functionality required in the system requirements works. It falls under the class of black box testing.

System Testing

System testing is the testing to ensure that by putting the software in different environments (e.g., Operating Systems) it still works. System testing is done with full system implementation and environment. It falls under the class of black box testing.

Activity Testing:

Activity testing is particularly dependent on the Android instrumentation framework. Unlike other components, activities have a complex lifecycle based on callback methods; these can't be invoked directly except by instrumentation. Also, the only way to send events to the user interface from a program is through instrumentation.

This application shows how to test activities using instrumentation and other test facilities

Service Testing:

Android provides a testing framework for Service objects that can run them in isolation and provides mock objects. The test case class for Service objects is ServiceTestCase.

Content Provider Testing:

Content providers, which store and retrieve data and make it accessible across applications, are a key part of the Android API. This testing describes how to test public content providers, although the information is also applicable to keep private for own application.

Accessibility Testing:

Testing is an important part of making application accessible to users with varying abilities. Design and development guidelines for accessibility toward that goal, but testing for accessibility can uncover problems with user interaction that are not obvious during design and development.

This accessibility testing checklist guides through the important aspects of accessibility testing, including overall goals required testing steps, recommended testing and special considerations. This application also tested how to enable accessibility features on Android devices for testing purposes.

UI Testing:

UI testing is to run tests manually and verify that the app is processing as expected. However, this approach can be time-consuming, tedious, and error-prone. A more efficient and reliable approach is to automate the UI testing with a software testing framework. Automated testing involves creating programs to perform testing tasks to cover specific usage scenarios, and then using the testing framework to run the test cases automatically and in a repeatable manner.

6.2 IMPLEMENTATION

Implementation is one of the most important tasks in the project. It is the phase in which one has to be cautious because all the efforts undertaken during the project will be very interactive. Implementation is the most crucial stage in achieving successful system and giving the users confidence that the new system is workable and effective.

In this Application, each program is tested individually at the time of development using the sample data and has verified that these programs link together in the way specified in the program specification. The computer system and its environment are tested to the satisfaction of the user.

Since the mobile app for user is developed using java and android, it could be implemented in android mobiles. The proposed system is very easy to implement. In general implementation is the mean process of converting a new or revised system design into an operational one.

7. CONCLUSION

The application deploys an enterprise security solution that meets user's immediate and long term requirements by providing the call logs and location of the thief, which makes easy for the user to identify the thief. System enhancing this applicationby providingtheinformationaboutthelocationof theandroidbasedsmart phonewiththehelpof textmessages. Withtheadventoftime,technologyis evolvingevery day. Thisapplicationwillfurtherbedeveloped andimproved.

8. SCOPE FOR FUTURE ENHANCEMENT

Currently this application is available for android based mobile phones. Future work involves development of the application for ios, window mobile os.

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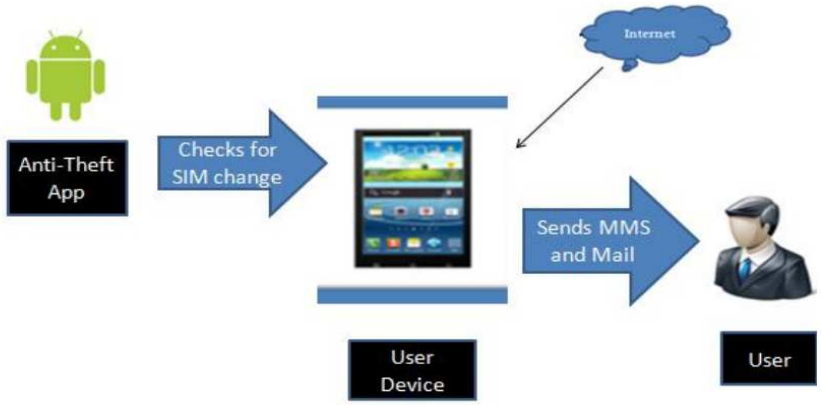
10. APPENDIX:

10.1 WORK FLOW DIAGRAM



10.2 SCREENSHOTS

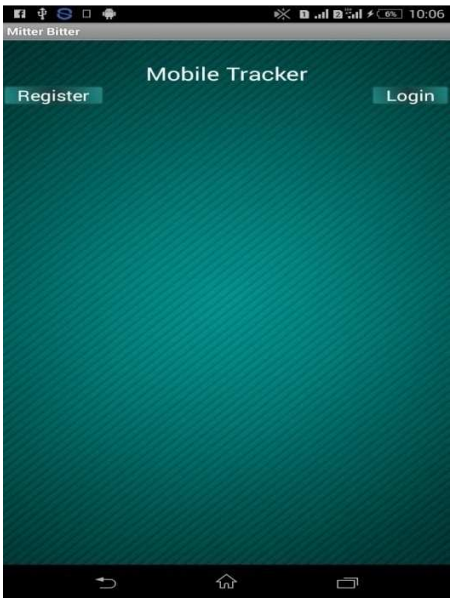


Figure: 1.MAIN SCREEN

Figure 2.Registartion screen

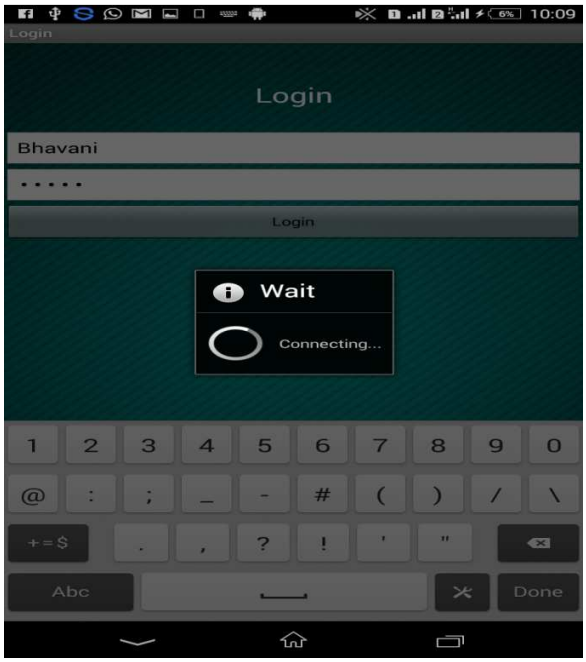


Figure 3.Login Screen

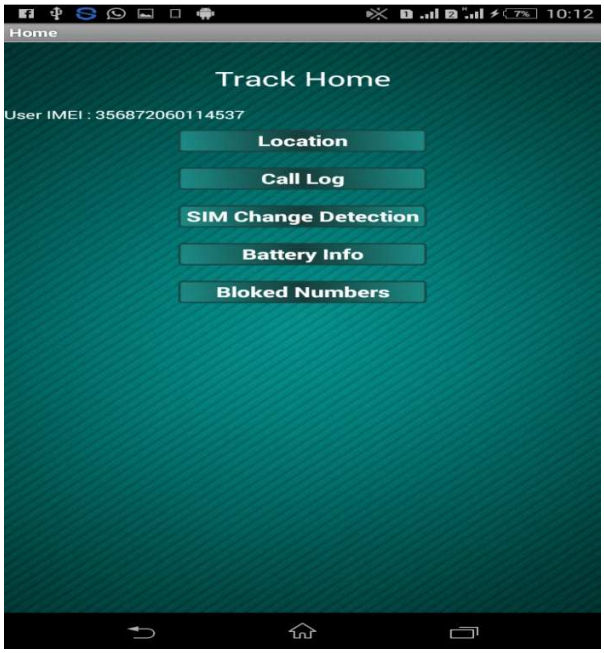


Figure 4.Track Home Screen

Figure 5.Call Logs Screen

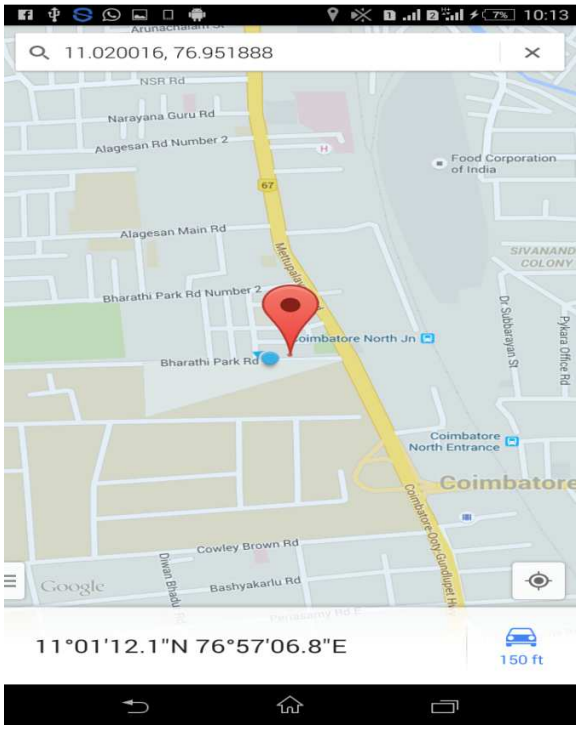


Figure 7:Location Screen

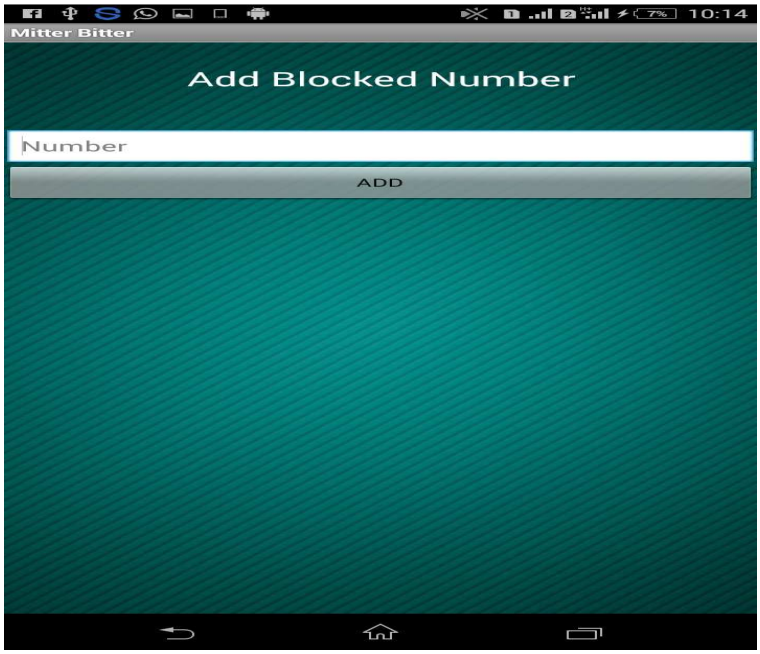


Figure 8.Add Blocked Number Screen

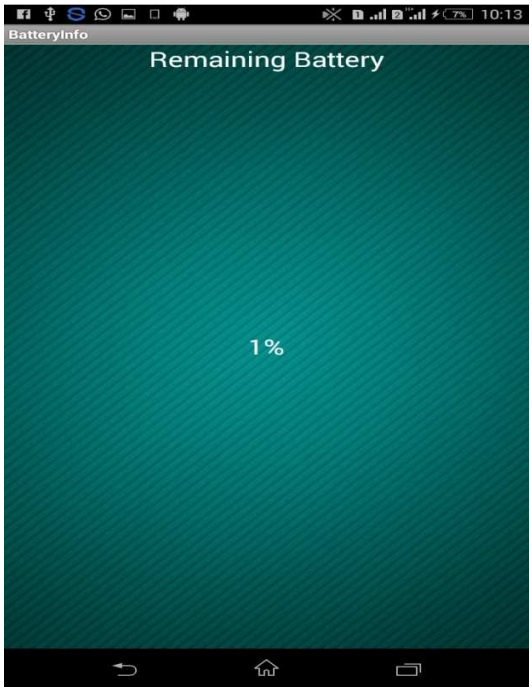


Figure 9.Battery Info Screen