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MOBILE PHONE ANTI THEFT SYSTEM

(PROJECT DOCUMENTATION)

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# Chapter 5 (Design Techniques)

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**5.1 Introduction**

**5.2 Preliminary Design**

The Mobile Anti theft project contains 3 modules.

* **5.2.1 Database Module**

This module is used to fetch the real data from user and store into database using SQLLite. In this module first user interface where user provides SIM IMSI number and alternate number then click submit button. Next it will store information in the database. The users can fetch the information from database to bind user interface control.

• User can enter username, password alternate number and IMSI number.

• User can change the alternate number and IMSI number.

* **5.2.2 Communication Module**

This application needs to be installed on mobile. The software helps us to obtain the current location of the phone using GPS facility and retrieve postal address with GOOGLE Maps using GPRS facility.

* **5.2.3 Core Module**

We are using an Android OS service which will be acting as a communicator between device app and SQLLITE Server database in Phone.

This service will receive information as data and store in the database. This service starts automatically in stealth mode and check the SIM IMSI Number with the database.

If SIM IMSI Number does not match with the database, it sends a SMS to alternate number stating that SIM has changed else reboot normally. It always checks the SMS whether SMS contains query string that start with MATS or not?

If SMS contains query string then it will respond with the result in stealth mode (means thief does not know about the message).

**3.3 Design Considerations**

* **3.3.1 Input**

• IMSI (International Mobile Subscriber Identity) number of the SIM.

• Alternate number of the Owner.

• Name of the Owner.

• Pre-defined text that will send to alternate number when SIM will change.

• SMS that contain query string.

* **3.3.2 Output**

• Text message stating that SIM has changed.

• GPS Location of phone.

• Postal Address of the phone.

**5.4 Use Case Diagrams**

Use case diagram here shows the roles of all the people involved in this project. Here in our project we consider 3 cases they are owner, relative and thief.

RELATIVE

OWNER

THIEF

From the above use case diagram we know that the owner can register the details in the database when software is installed and at any point can retrieve the details and if necessary can change it accordingly and relative receives SMS, GPS co-ordinates and postal address whenever the change of SIM is done and thief doesn’t play a role in this but he is related with changing SIM and rebooting as soon it’s done, relative of the owner will get the details accordingly.

**5.5 Data Flow Diagram**

* **5.5.1 Foreground**

The foreground includes the user interface of the application. Whenever the user opens the application it ask for login and if it’s a new user then ask for user account creation. After the user has created his or her account, user may never open the application again, if require user can update his or her record this module is only accessible by the user. The application will all run at boot up without the knowledge of the user.

Above is the Dataflow Flow Diagram for the Foreground activity in the application:

Owner Database

Create Account

Owner Database

Owner Database

Owner Database

* **5.5.2 Background**

The actual process running on the background is not known to the user. He only enters the required information when registering and saved to the application. Whenever the phone bootup the application will all check the mobile IMSI and if it’s same as the stored data then it doesn’t start any events. In a case if the IMSI stored is not same as current IMSI on the phone, the application will act and perform some events which will occur without the knowledge or without any hint, then sends SMS to the alternative phone number stored by the owner.

Bootinggvgggg

Owner Database

Owner Database

Owner IMSI = current IMSI

Theft Database

Theft Database

Theft Database

Owner Database

**5.6 Entity Relationship Diagrams**

Entity Relationship is used to show the relation among entities in a program, it also shows the strength of their relation, be it strong or wick relation. Below diagram show the entity relationship for the proposed application, Note that entity could exist from internal or external object.

1

Has

**MOBILE DEVICE**

**THIEF**

**SIM**

Come across

Has

n

1

n

Has

n

Has

**RELATIVE**

**OWNER**

Has

1

1

1

n

n

Has

1

1

n

n1

11