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OPTIMIZATION TECHNIQUES TO SECURE AUTHENTICATION SYSTEM SERVICE TO SHARE CURRENT NODE USING ANDROID APPLICATION DEVELOPMENT

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Abstract:

Global Positioning satellite (GPS) is the part of smart-phone and playing important role for find. Where am I…? Where is the nearest ...?. Where is my...? How does l get there? This above mentioned is useful till the mobile in our hand. When we lost the phone? Our phones have to function what we assigned to do. This Application use basic SMS service and GPS service which is commonly available in every smart phones. Mainly used by family member especially parents who want to keep track of their child's location which can be provide as when it is demanded. And it mainly used to track our smart phone when it is lost/Robbed. In this case systems automatically send the current location via the phone. This application fetches current latitude and longitude of device and store in application database. The user can able to store limited contacts to share the mobile location. The user can edit the contact list to update, add and delete. The application is retrieving the position based on time scheduled. In case the user trying wrong pattern/password to open the mobile, this application will intimate the location via SMS/E-mail. This application will share the location when the mobile is turned-on.

Key Words: GPS, Robbed & GMS

Over View:

Android is an open source and Linux-based Operating System for mobile devices such as Smartphone's and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies. Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android. It is one of the best platforms, every day the users of the device will be increases because of the user-friendly and user interaction of the environment. The first beta version of the Android Software Development Kit (SDK) was released by Google in 2007 where as the first commercial version, Android 1.0, was released in September 2008. Android applications are usually developed in the Java language using the Android Software Development Kit. It uses Linux for its memory management, process management, networking, and other operating system services. Once developed, Android applications can be packaged easily and sold out either through a store such as Google Play. Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated worldwide.

SDK and NDK tools to perform the creation of the application. Where these tools to create a package for application.Dalvik VM is used for class file compilation of class file it is more compact and efficient then .dex file. Android mobiles are more prefer than other mobiles because of the security reasons. Now a day's android mobiles are most important need for everyone's day to day life because it reduces the man work. It is more compact and easy to replace because of small in size. We can perform various operations with the help of android application. By the help of these devices we can perform existing services and also the advanced services also. The existing services of SMS, MMS, and MAIL can be performed with very easy with existing service mechanism. These services are obtained by the low cost and low performance of mobile phones.

Our confidential files, images, contacts, messages are stored on our device. They are more securely on device by allowing authenticated permission only of user. But the mobile will lost we can't find mobile with the full assurance. So we have developed more applications, services to protect from anti-theft. There are many mechanism involve on the tracking of android mobile phones. These mechanisms are depends on the services of the android mobiles, Where the mechanism uses predefined existing services or creating a new services to obtained tracking of mobile phones.

Problem Statement:

The mechanism to tracking the mobile phones contain many drawbacks, when the mobile phone was tracked by IMEI number it shows the approximately only the exact position can't be obtained. By developing of

these existing mechanisms, GPS to obtain the location of the mobile phone where this mechanism needs Data connection and GPS enable. When the theft mobile can't be connected with the GPS we can't track the mobile. This system can't be implemented to update the tracked position. The geo-satellite to obtain the location by global system of using GMS services but connecting with the satellite of without GMS service will not be performed. Even the mobile phones SIM card changes and turn off causes the major issues for these mechanisms. Later the MMS service to taking the snap shot of theft persons image and that sends to email and alternative number to find the lost mobile phone, here the problem is device going to low memory space it can't be achievable and the image contain no information it will can't be tracked. The major problem is if the mobile phone is turn off we can't be traced.

Goal of the Project:

The goal of the project is developing an application to tracking the mobile phones location with the help of simple SMS using unique codes sending by any other mobile phones. Even the mobile phone is turn off also we can monitor the location of the mobile phone, and also this application to Sending SMS to activate the GPS connection to track location and updating the location changes. If the SIM card is flipped then it sends the current service providers number by tracking of mobile phones IMEI number. Every user contains unique specific codes for controlling the android device. These codes are specific to everyone's choice it will be initialized on during installation of the application and it takes the present service provider as the default number so if it's changes it will be alert with the help of IMEI number to obtained the new service provider and send's to the E-mail that given on the installation. These application to overcome the existing issues of tracking mobile phone, Where these application needs only the SMS service to tracking the location of the mobile phone.

System Design:

System design is the process of defining the architecture, components, modules, and data for a system to satisfy specified requirements. One could see it as the application of system theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture and systems engineering. If the broader topic of product development blends the perspective of marketing, design, and manufacturing into a single approach to product development, then design is the act of taking the marketing information and creating the design of the product to be manufactured. System design is therefore the process of defining and developing systems to satisfy specified requirements of the user.

System Architecture:

Shows the overall architecture of the system. The Application installed in mobile, retrieving the Latitude and Longitude from GPS. The Application store the Position by the constraints specified by means of time interval as said in the system Algorithm. The application share the location by using basic SMS/E-mail availed in the mobile to specified contacts stored in the application. Through the SMS/E-mail the receiver which the contact stored in the application can know the position of sender from the mobile or Laptop by means of Google map.

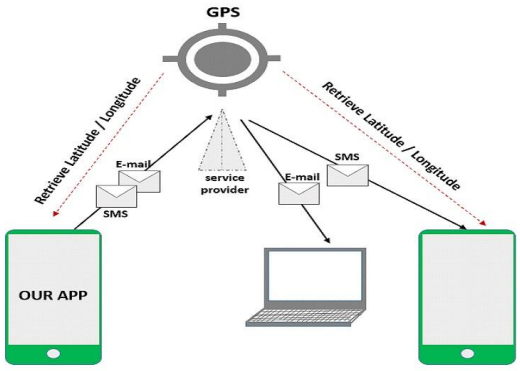


Figure 1: System Architecture

List of Modules:

- GPS Location
- Interval Time Schedule
- Creating Contact Database
- Sending Message

Modules Description:

GPS Location: Fetch the Location of the Mobile device through the in-build GPS receiver and get the value as Latitude and Longitude. And Store the Location value as variable and pass the value to the message. And it needs to provide following permission.

android.permission.access_coarse_location

android.permission.access_fine-location

Interval Time Schedule: Set the interval Time by the means of minutes and hours to send the SMS to the specified numbers stored in the SQL-Database.

Creating Contact Database: Store the contact list to the application database and set the sending option as ON/OFF. And the user can able to ADD/DELETE and UPDATE the contact details. The number of contacts is restricted to four members in order to reduce the network traffic. And it needs to provide following permission.

android.permission.read_contacts

Sending Message: The System is periodically send the Location to Stored Contact numbers in the background and it draft the Position from GPS, to send the SMS to the specified numbers stored in the SQL-Database by the interval Time. . And it needs to provide following permission.

android.permission.send_sms.

A Secure Authentication System Service and Its Data Flow Diagram:

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated.

Level 0

Figure 2: Data Flow between User and Application

Level 1

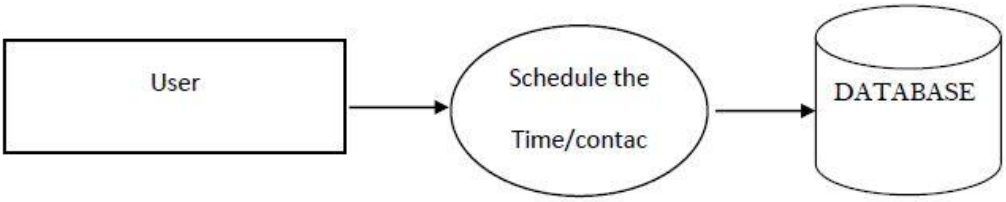


Figure 3: Data Flow between User and Database

Level 2

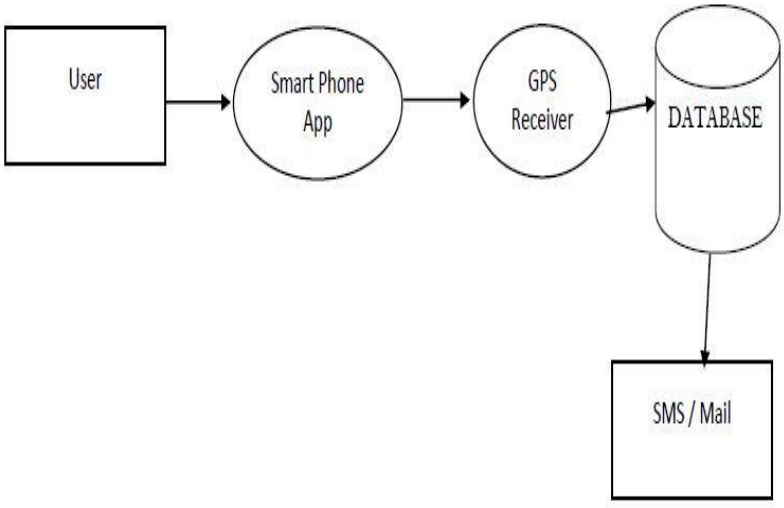
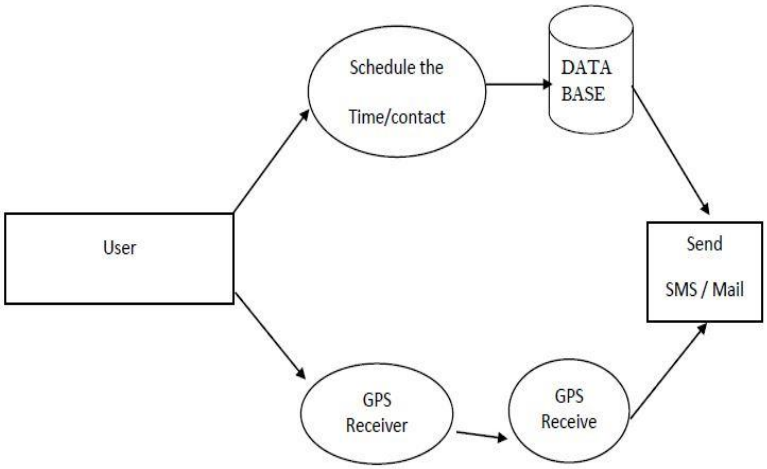


Figure 4: Data Flow between User and GPS Receiver

Level 3



Algorithm Explanation:

- Send request for synchronizes the number for checking location of receiver/provider using SMS. For the permission to get other device location.
- At Receiver/provider side generate notification for synchronization, after Approval of the request, send SMS of approval to requestor side. At requestor side after getting approval SMS can request for check location of provider's device using SMS to provider number
- At receiver/provider side, check in database of incoming request mobile number with synchronized number. If incoming request coming from synchronized Number then using GPS service or GPRS provider network service, fetch current Latitude and longitude of device and send it using SMS service to same mobile number from which number request coming from using SMS service.
- At the requestor's side after getting longitude and latitude location SMS, Generate notification and on click on notification opens Google map to locate the Area. And store last receive location values for later on locate location on Google Map.
- Other Utility like edit or delete provider and request or detail like name and Synchronized SIM number stored in device is provided by system.
- Other Facility of maintain logs for all pending synchronization requests handled by system.

Conclusion:

In this paper, the proposal is the advanced anti-theft technique for tracking the stolen android devices. The application developed in the present study is only a precursor and to demonstrate the use of SMS and GPS for different domains. The user mobile phone will exchange their current location and display on mail, which the location accuracy depends on location service provider chosen by the user. The installation of this application is a simple process and takes only a few minutes. This is an enhanced way to identify the lost devices and attempts to provide security of confidential information. It does not involve any difficult tasks to identify the stolen devices and effectively tracks the location of the devices. Our Future Work is, at the receiver side, Able to see Location on Google map along with application when the receiver getting the Message. First, to make efficient client and server communication for both sender and receiver in secured and convenient manner. Second, to combine more other devices to the application like bike and car to monitor and track from the smart phone by the means of single application. To develop the application with efficient user interface and user can use the application in easy and simple.

References:

1. IRACST - International Journal of Computer Science and Information Technology & Security (IJCSITS), Vol. 4, No. 3,June 2014 67"Position Detection and Tracking System" Mahesh Kadibagil PG Scholar, Dept. of ISE, BMSCE, Bangalore, India Dr. H S Guru Prasad Professor and Head, Dept. of CSE, BMSCE, Bangalore, India
2. "Design and Implementation of Location Awareness and Sharing System using GPS and 3G/GPRS" Mohammed Abdul Qadeer, Ankur Chandra and Shashank Jain Department of Computer Engineering Zakir Hussain College of Engineering and Technology Aligarh Muslim University, Aligarh 202002, India {maqadeer, ankurchandraa, shashankace1.jain}@gmail.com
3. "SMS Based Emerging Techniques for Monitoring and Controlling Android Mobiles" Deepak Kumar and Mohammed Abdul Qadeer

4. "Device Tracking Using GSM/Satellite Network Coverage" Radhika N. Chhapkhane, Sachin T. Shinde, Anu Bhat, Vishal D. Bhole, Manoj A. Patil. Dept. of IT, Rajarambapu Institute of Technology, Islampur, Single, Maharashtra, India.
5. "Multimedia Messaging Service (Mms) Based Anti- Theft Application" R. Archana, E.G. Bhuvaneshwari, T. Hemavathi Department of Computer Science Adhiparasakthi Engineering College, Melmaruvathur
6. "RTANS: A Real-time Tracking and Navigation System for Smartphone" 1 Sutee Chusri, 2 Ladda Preechaveerakul, 3 Dararat Saelee, 4 SirirutVanichayobon 1 Department of Computer Science, Faculty of Science, Prince of Songkla University, Songkhla, Thailand, *2 Department of Computer Science, Faculty of Science, Prince of Songkla University, Songkhla, Thailand,
7. "Mobile Theft Detection with Automatic Location Tracking By Android Application" R.Vignesh Kumar, S.Venkatesh and G.Nagarajan Department Of Information Technology, S.K.P. Engineering College, India vishnudinesh2014@gmail.com Received 25 February 2015 / Accepted 21 March 2015
8. "SMS-Based Tracking, Navigation and Broadcasting System" G. Vijayalakshmi Department of Computer Science & Engineering, GKCE-JNTUA, India
9. "Catch the thief: Auto Mobile Thief Detection with Automatic Location Tracking Application Using Android" First ISO20000, SEI CMMI Level3 compliance &ISO 9001:2008 Certified Software Development.
10. "AALTM: Android Application to Locate and Track Mobile Phones "Sonia C.V, Dr. A. R. Aswatha, M.Tech (Student),Telecommunication Engineering Department DSCE, VTU, Bangalore, India, Professor & Head of the Department (Telecommunication Engineering) DSCE, VTU, Bangalore, India.