**LOCATION BASED ALARM**

**INTRODUCTION**

This project titled Location Based Alarm using GPS is an attempt to add alarm facility for mobiles based on the location of the device. This facility is currently not available for mobile handsets.

The Global Positioning System (GPS) is a space-based global navigation satellite system (GNSS) that provides location and time information in all weather, anywhere on or near the Earth, where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the US government. The proposed system plans to make use of this facility and implement it in mobile handsets so that location based alarm facility can be made available in mobile handsets.

**ABSRACT**

The location-based services are to provide services to customers based on the knowledge of their locations. Examples of these services include real-time traffic information, digital map services which are delivered to mobile terminals according to user’s location to minimize data transmission, providing dynamic guidance services according to the users’ location and current traffic condition; requesting the nearest business or service (e.g., the nearest restaurant or cinema) and location based advertising (like “Send e-coupons to all cars that are within two miles of my gas station”). Unfortunately the current state-of-the-art location based services are rigid as they cannot make good use of information. Services are provided at inappropriate time without considering user’s intention and changing environment. Also services are rigid as processing completely isolates various forms of user “preferences”. For example, cellular phones can now be used to carry not only voice but also data traffic, such as text messages, pictures, and video clips from anywhere at any time. Cell phones now emulate computers, with enhanced graphical user interfaces, integrated Global Positioning Systems, wireless data connectivity, efficient batteries, powerful central processing units (CPU), and expanded storage capabilities. Advanced communication protocols, databases, and software development environments ensures these end-system devices are connected to wireless cellular networks and can interact with many hosts and servers via the Internet. Similarly, hardware independent programming languages allow the development of applications that can run on any of these devices and exchange information to and from other clients, servers, and specialized databases. This generalized concept facilitates transportability of developed software across different devices and networks, which is a necessity for the rapidly advancing market of wireless communications. In this paper we raise the challenges and propose architecture to enable practical realization of location-based services. Then we further illustrate the key issues in the architecture and discuss corresponding solutions. The main idea of the architecture is to embed various information in service trigger mechanism and service itself. For example, dynamic route guidance service which ensures user to arrive at destination in the shortest time need to adjust previous route according to the traffic condition. Also in reminder services, the service needs to decide whether or not to post the message to user according to user’s location, incident property.

Android (from Google) is a Linux based software stack for mobile devices which includes an Operating System, SDK (software development kit), middleware and applications. Android provides a set of core applications including an email client, SMS program, calendar, maps, browser, contacts, and others. All applications are written using the Java programming language.

**FEATURES REQUIRED**

The proposed system should integrate into the Android Operating System of the target device as an application.

 It should the functionality of scheduling events based on location, which is convenient for the travelling user.

**PROBLEMS OF EXISTING SYSTEM**

1. Time based scheduling is inconvenient for a user who is travelling.
2. Time based alarm may not be accurate for the travelling user.
3. Existing software do not provide a time based alarm facility.

**PROPOSED SYSTEM**

The proposed system should be executable inside an Android mobile handset, and should be able to track the location, and should enable the user to sound alarm based on place, instead of time.

**ADVANTAGES OF PROPOSED SYSTEM**

1. Location based alarm is convenient for the travelling user.
2. Existing Cell phone can be converted to a location based scheduling device.
3. Cost Effective Software

**MODULES**

The system is developed as 5 modules to handle the following parts.

1. **Display module:** In this module the, the Google map is displayed the locations using the GPS and GPRS/3G networks available in android Smart phones. By using this module the user can set their destination and current location based on their needs of travel. And the point to point distance and traffic condition are displayed in this map.
2. **GPS interaction module:** In this module the GPS interaction (i.e. the location update is changed based on their user’s time limit. And check whether the GPS and the internet provider is enabled or disabled. Based on that the alert will shows to the android notification bar in android device.
3. **Place management module:** In this module the location details are stored in SQLite data storage within the android device. i.e. The visited location details are get from the location updates and stored in SQLite data storage for the user future reference.
4. **Ring tone module:**  This is the Settings module, the default five ringtones are stored within the application and also the ring tone chooser based on their user need from their Audio gallery. And also it has the volume control and vibrates mode control settings in this application module.
5. **Alarm module:** This is main module of this project; in this the alarm service and location updates are done using the android Background services. The location updates is done by using the GPS and Internet providers. And the alarm is set using the android device alarm services.

**SOFTWARE SPECIFICATIONS**

* Eclipse IDE for Java Developers - [Eclipse](http://eclipse.org/mobile/) 3.6.2 (Helios) or greater
* Eclipse [JDT](http://www.eclipse.org/jdt) plug-in (included in most Eclipse IDE packages)
* [JDK 6](http://www.oracle.com/technetwork/java/javase/downloads/index.html) (JRE alone is not sufficient)
* [Android Development Tools plug-in](http://developer.android.com/tools/sdk/eclipse-adt.html) (recommended)

**OPERATING SYSTEMS**

* Windows XP (32-bit)
* Vista (32- or 64-bit)
* Windows 7 (32- or 64-bit)

**HARDWARE SPECIFICATIOS**

* Hard disk - 40 GB
* Processor - Pentium IV 2.4 GHz
* Ram - 1 GB