

# LOCATION BASED TASK REMINDER

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**Abstract:** Scheduling and managing the tasks has become an essential thing in today's life in order to complete the tasks in an efficient way. Traditional paper based reminders are available but they cannot be efficiently organized. Electronic reminders are available in mobile phones which are triggered by date and time. But in many situations tasks are needed to be performed based on the location and not on time. So we develop 'Location Based Task Reminder' that gives alert about the reminder when the user enters into the specified geographical region. This application allows the user to create reminders based on the location and alerts the user when they are in the right place to do them. This application works on smart phones and tablets that use android platform and tracks user's current location with the help of GPS.

## OBJECTIVE

The main objective of this project is to remind people of the tasks that has to be performed on the knowledge of their locations.

## INTRODUCTION

### ABOUT THE PROJECT:

In everyday life, everyone has some task that has to be completed and in order to complete the task successfully, people needs to remember the task and act accordingly. But because of the hectic schedule and all the hustle and bustle happening in one's life, there is a high possibility that person may not remember the task. As a human, we tend to forget things that are not important or of a lesser priority. The project Location Based Task Reminder can help the user of the application to keep track of the task.

In general, the tasks can be broadly classified into two categories: (1) time-based tasks, (2) location-based tasks. If a task is time-based, we mean that the task should be carried out at a specific time. For example, taking medicine at 8 a.m. every day is a time-based task. To remind ourselves of this kind of tasks, we can set an alarm in the personal task manager or simply we can set alarm with a reminder at the specific time. On the other hand, if a task is location-based, we mean that the task should be performed at a specific location, such as to buy a bottle of milk at the convenient store nearest to your home while returning from the workplace. Or in the case when we don't know what time we will be crossing the science department but needs to remember to drop off that assignment whenever you do. Or want to reminder to pick up medicines when crossing the pharmacy today. In such case, setting an alarm triggered by time may not be appropriate if you are not sure when you will be passing by the convenient store. This motivates us to design a location-based personal task reminder. That is, in the above scenario, we would like the alarm to beep and show a reminder when you are getting close to the convenient store.

We implemented this application using Java Programming language on the Android operating system as Android provides more flexibility and ease of installing any application developed on it. We included some access permission to Google Maps for fetching the location of the user.

### MOTIVATION:

In today's busy schedule people usually tend to miss out on important tasks, even though they are nearby the place. This leads to much kind of issues which makes people's life miserable. There must be some means which make the work simple and easy. Marketing people who have to travel wide range of areas to accomplish their tasks find it difficult remember all the areas. People suffering from amnesia, which is the inability of a person to remember things for a long period of time. So this application will help the user in reminding about the work which is associated with different places.

## PROBLEM DEFINITION

### EXISTING SYSTEM

The existing approach has the provision to set a reminder to a specific location but in that user is not able to add the task reminder on the regular basis of time and date. The problem with the system was that the user crosses the specified location but they was unable to get the task reminder about the location and if they are at another location then task reminder alert is displayed in this way there was no proper synchronization between task reminder and specified location.

And also there was a provision available to add only one task reminder at one particular location which is quite difficult to the user if they have many other tasks to complete at the same place.

There are some drawbacks of existing system:

1. Searching for a location is difficult.
2. Location cannot be set accurately.
3. Only one task reminder can be set on one location.
4. Date and time range is limited.
5. Task cancellation and rescheduling the task is difficult.

To overcome these drawbacks we proposed the system called "Location Based Task Reminder" which is discussed in the proposed approach.

### PROPOSED SYSTEM

In the proposed system we implemented the services which will overcome the drawbacks of the existing system. In this system, the user can able to get his current location and can browse any of location and add task reminder on that particular location through the map interface. When the user reaches the location, the application will check the task reminder's specified location for its latitude and longitude. If the task reminder's location is matched with the current location of the user the alarm of task reminder will be generated and an alert will be given to the user via notification about the task the user has set before. All these activities will be performed by using Google map and GPS services.

This project requires the user to set the location at which he/she has to complete the task and the tasks which the user wants to remind him/her are also specified. Whenever the user passes by that location, the application reminds the user of the task through notification, therefore enabling the user to complete the task as promptly as possible. In our proposed system, it doesn't provide a continuous reminder to the user instead it just simply display the task reminder until the user declines that notification. The user can also set the reminder to alert them on a specific time and date.

This project also allows the user to set multiple task reminders at the same location. And when the user reaches the specified location all the tasks that have to be performed are notified to the user so that no jobs are missed or left incomplete.

The main feature of the proposed system is that the user can search the location by entering the location name when the user is do not know where the location is exactly situated.

### ADVANTAGES OF PROPOSED SYSTEM:

1. User friendly and flexible to use.
2. Compact in design
3. Alert with music or with digital voice.
4. Vibrate when mobile is in silent mode.
5. Allows the user to set multiple tasks in the same location.

### SYSTEM REQUIREMENTS

#### HARDWARE REQUIREMENTS:

1. Processor : Intel i3
2. Speed : 1.1 GHz
3. RAM : 2 GB (Minimum)  
4 GB (Recommended)
4. Disk space : 2 GB (Minimum)  
4 GB (Recommended)
5. Mobile : Android- KitKat

**SOFTWARE REQUIREMENTS:**

1. Operating System : Windows, Android(Handset).
2. Coding Language : Java 1.7
3. Tool Kit : Android 4.4 kitkat
4. IDE :Android studio tool Kit
5. The Android SDK and add-ons such as the Google Maps SDK.
6. The Java Development Kit (JDK).

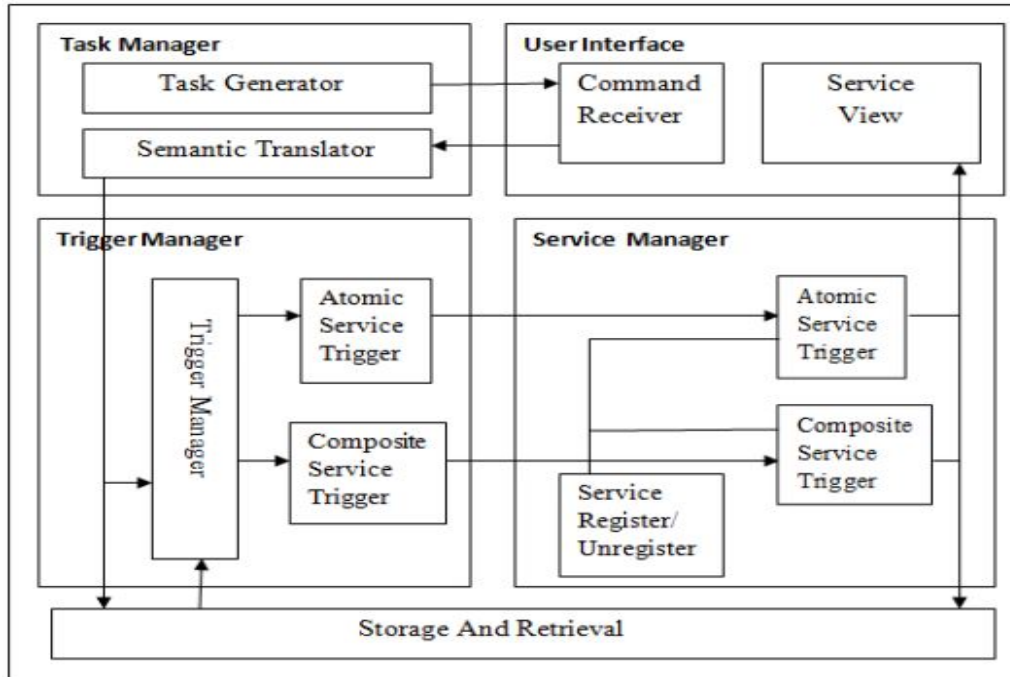
**SYSTEM DESIGN**

Fig 1: System Architecture

Figure 1 shows the system architecture. It can be divided into five parts which are task management component, user interface component, trigger management component, service management component, and storage and retrieval management component. The work flow of this architecture is shown as follows:

- 1) User interface component receives available task list from task generator in the task manager component when the system is initialized.
- 2) As user issues a task, the command receiver will dispatch it to the semantic translator to get task relevant information.
- 3) The semantic translator translates the task and then store related information to the database and calls trigger manager.
- 4) The trigger manager collects all kinds of context information to decide whether or not to start the service related to the task. (It might be atomic or composite).
- 5) When service starts; it will get all related content information to provide personalized services.
- 6) When changes occur in the database, it evaluates module, detect and decide whether there is a need to do reasoning. The evaluation result of content reasoning will be stored to database as a kind of advanced content information.

As can be seen in the picture the system contains composite services which are composed by a set of atomic services. It can dynamically change by service register and unregistered at runtime. For example navigate service contains voice reminder service, digital map service, dynamic route guidance service, speed alarm service. The voice reminder service and speed alarm service can be added or cancelled according to user's demand.

**MODULES DESCRIPTION**

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

**1. ADD LOCATION:**

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. ALERT MODULE:**

This is main module of this project; in this the alert 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 alert is set using the android device alarm services.

## **IMPLEMENTATION**

The proposed approach was implemented in Google Android platform. The android platform was chosen to exploit the user friendly features of android and this work used the Google search engine as the backend search engine. In Android, every application runs in its own process, which gives better performance in security, protected memory and other benefits. Therefore, Android is responsible to run and shut down correctly these processes when it is needed. It is important that application developers understand how different application components (in particular Activity, Service, and Broadcast Receiver) impact the lifetime of the application's process. Not using these components correctly can result in the system killing the application's process while it is doing important work. To determine which processes should be killed when low on memory, Android places each process into an "importance hierarchy" based on the components running in them and the state of those components.

## **CONCLUSION**

In the era of Android mobile, we travel to so many locations in our daily life and it is necessary to know at what location we have to do what task should. Generally we forgot which location we are existing and the important work we have to do on that specified location. "Location Based Task Reminder" helps us to remind all these kind of activity we have to do on that specific location. It allows the user to set location and set reminder on specific location by which he/she can easily add location of anywhere and add the task to be performed on that location. So that the user need not have to remind all the locations and the jobs associated in that location. It is a very useful application through which the user can improve their daily work efficiently and effectively without any worries.

In this paper we have put forth the idea of a modern reminder application which makes it more useful to potential users. The application which is android based uses technologies such as GPS and internet connectivity to make reminders more context aware by adding the dimension of location to traditional time based reminders. We also enlisted the considerations to be taken care of while developing a location based application and described the proposed features.

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