Location based Task Scheduler for Android Phones

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Abstract— Todays in the world of an information technology, android covered a huge market. It's become an important factor for all human being. We all are mobile communicators. If any user using their smartphone, they are almost assured to be using it for communication of some sort. There are most important three things that make a smartphone a great mobile communicator which are text input, great notifications, and compatibility with whatever communications services your friends, family, and colleagues use. Android is a mobile operating system currently developed by Google. Due to the open nature of Android, a number of third-party application marketplaces also exist for Android. Android is designed primarily for touchscreen mobile devices such as smartphones and tablet computers. A smartphone is a mobile phone with an advanced mobile operating system which combines features of a personal computer operating system with other features useful for mobile .Android is an open source platform. In our project we developed one android application Location based task reminder system using android system in smartphone. In this application through GPS and Google Map we are fetching the current location of users in mobile phone. Global Positioning System mainly used to tracking the device specially designed for personal information. And People used this system to show or displayed their current location at very less time. By using Google Maps, each task can be drawn out on the map with all the locations to be visited and assigning the tasks as required. Now user select their task which they want to perform and then allow them to set reminder for that task on that particular location .In such a way user can add multiple task and set reminder for that task at multiple location. This make very effective for the user to complete their task at exact time with an efficient manner. In our application we provide functionality where user will also be able to view contacts, sums and location at a time.

Key words: Android, Mobile Application, Global positioning system (GPS), REST Protocol, JSON Object

I. INTRODUCTION

In todays life everyone is busy with their own duties and work. There are many tasks that everyone has to perform in their daily life. Because of heavy load of work or their responsibilities they forgot to completed their tasks within time .So there is a need to work on such issues. By focusing on such issues we developed one android application to solve such issues .Android provide open source platform for developing any application. In todays world there is tremendous used of android.Many persons used android smartphones for completing their work so its become an important factor for each person for their personal use.

So In this system we developed one android application which help every user to complete their task within time at exact location. For developing such system we used GPS and Google map. Global Positioning System

mainly used to tracking the device specially designed for personal information. The Global Positioning System (GPS) is a space-based navigation system that provides location and time information. GPS works in any weather conditions, anywhere in the world, 24 hours a day. GPS satellites circle the earth twice a day in a very precise orbit and transmit signal information to earth. GPS receivers take this information and use triangulation to calculate the user's exact location. Essentially, the GPS receiver compares the time a signal was transmitted by a satellite with the time it was received. The time difference tells the GPS receiver how far away the satellite is. Now, with distance measurements from a few more satellites, the receiver can determine the user's position and display it on the unit's electronic map .Google Maps is a desktop web mapping service developed by google. The Google Maps app for Android phones and tablets makes navigating your world faster and easier. Various GPS based tracking systems have been successfully deployed and utilized in various applications such as vehicle location identification, military applications and by emergency crews to locate people in need of assistance. In exisiting system If an android user wants to know the location of Android device then user has to send SMS to designated device. So that he can locate device either by making it ring or gets actual location of device using Bluetooth access point or network provider. The proposed solution suggests that Bluetooth terminals can exchange information with each other and then a Bluetooth act as an access point to provides the interface to a mobile network Some time we want to perform tasks at two different geographical locations and we are not able finish them within specific time. For providing solution to solve this problem we developed an application with keeping in mind all such difficulties to provide a user friendly environment, so that each user can schedule their task using location based reminder system. Even this task can be assigned to some other person in order to complete with in time.

II. LITERATURE REVIEW

A. Global Positioning System:

Global Positioning System (GPS) is a Global Navigation Satellite System (GNSS) developed by the United States Department of Defence. The Global Positioning System (GPS) is a space-based navigation system that provides location and time information. The GPS satellites transmit signals to a GPS receiver. These receivers passively receive satellite signals; they do not transmit and require an unobstructed view of the sky, so they can only be used effectively outdoors. Early receivers did not perform well within forested areas or near tall buildings but later receiver designs such as MTK etc have overcome this and improved performance and sensitivity markedly. GPS operations depend on a very accurate time reference, which is provided

by atomic clocks on board the satellites. Each GPS satellite transmits data that indicates its location and the current time. All GPS satellites synchronize operations so that these repeating signals are transmitted at the same instant. The signals, moving at the speed of light, arrive at a GPS receiver at slightly different times because some satellites are further away than others. The distance to the GPS satellites can be determined by estimating the amount of time it takes for their signals to reach the receiver. When the receiver estimates the distance to at least four GPS satellites, it can calculate its position in three dimensions. A GPS receiver "knows" the location of the satellites because that information is included in the transmitted *Ephemeris* data. By estimating how far away a satellite is, the receiver also "knows" it is located somewhere on the surface of an imaginary sphere centred at the satellite. It then determines the sizes of several spheres, one for each satellite and therefore knows the receiver is located where these spheres intersect.The accuracy of a position determined with GPS depends on the type of receiver. Most consumer GPS units have an accuracy of about +/-10m. Other types of receivers use a method called Differential GPS (DGPS) to obtain much higher accuracy. DGPS requires an additional receiver fixed at a known location nearby. Observations made by the stationary receiver are used to correct positions recorded by the roving units, producing an accuracy greater than 1 meter.
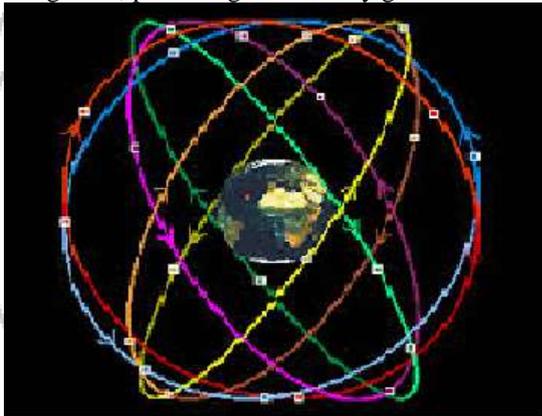

Fig. 1: GPS satellite constellation

GPS consists of three segments the satellite constellation, ground control network, and user equipment.

- Space segments the satellite constellations that provide the ranging signals and navigation data messages to the user equipment.
- Control segment ground control network which tracks and maintains the satellite constellation by monitoring satellite health and signal integrity and maintaining satellite orbital configuration.
- User segment user equipment.

B. Google Map:

Google Maps is the most well-known map service on the net offering basic street maps, train maps, satellite images and hybrid view which is a combination of the street maps and satellite images The technology could generically be described as a map server. The map server generates a map for the requested location from a large set of pre-generated map tile images covering the entire planet. The map server may overlay data from other databases on top of this. The combination of a map viewer client and geographical

database is traditionally called a Geographical Information System (GIS). Anyone can write web applications that embed Google maps using the Google Maps API. There is also a fine open source map server (called Map Server) should you wish to deploy your own map server.

Fig. 2: Google Map

III. EXISTING SYSTEM

There are 17,000 location based apps on the market, and 160 million app compatible devices are owned worldwide – iPhones, iPad, Androids, Blackberries and tablet devices such as the iPad and Motorola X zoom. There are apps that can make our travelling a little easier, a bit more fun and more memorable. They let you do anything you can do online or with a guidebook, but more quickly and easily and while you're on the move – with maps and GPS to tell you where you are and capture wonderful memories. There are 'reminders' and 'sticky notes' app which are utilized to manage and remind task at desired point of time but this system has demerit, assume if you are not at the location where you supposed to be because of sudden plan changes. This system is modified in our proposed system by popping up the reminder based on your location.
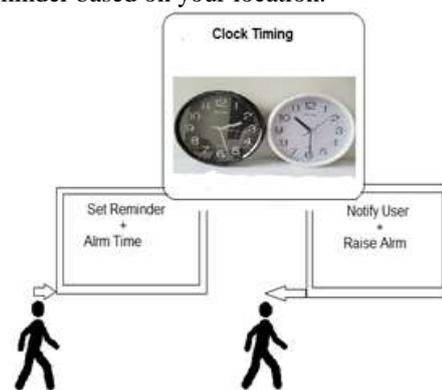

Fig. 3: Existing System

IV. PROPOSED SYSTEM

Reminders or alerts in existing system allows user to do some task at a particular time. Sometimes it is desirable that we get reminders based on the location. The proposed application allows user to set reminders based on location. We will implement android application using GPS system the application "Location Based Reminder" solves all these problems. As addition functionality this system facilitates to assign the desired task to one/few of your friends so that if

they reach the particular location before you then they can complete that task for you.
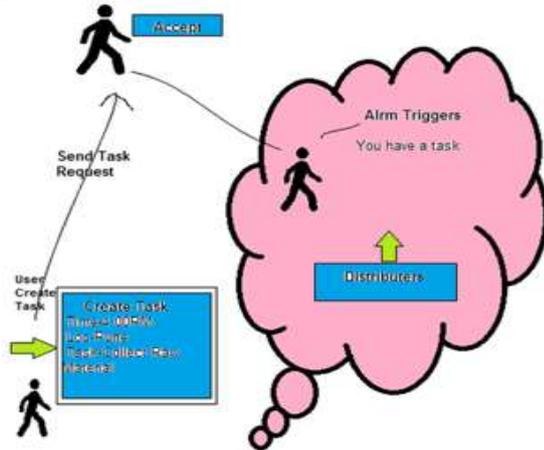

Fig. 4: Proposed System

A. Methodology

Map matching is a technique in GIS that associates a sorted list of user or vehicle positions to the road network on a digital map. The main purposes are to track vehicles, analyze traffic flow and finding the start point of the driving directions. Map matching algorithms can be divided in on-line and off-line algorithms. On-line algorithms associate the position during the recording process to the road network. Off-line algorithms are used after the data are recorded and are then matched to the road network. Position match algorithm is very simple, effective but in some condition like intensive road, complex shape of road and intersection of road the rate of accurate matching is low. Accurate track matching rate curve matching algo is high.

B. Objectives:

- Login to the system and give the details of your contacts and sms with the system.
- Trigger a task and assign it based on the location as well as time.. Prompt your friend to accept the task if they can do it for you.
- If you/your friend are nearby the task location then trigger the alarm to remind about the task.. Once the task is completed input task completion details to the system.

V. CONCLUSION

Location Based Task Scheduling' provides better scheduling and enable you handle larger job loads within a particular time. Task scheduling both in case of personal as well as business purpose improves communication medium, performance monitoring and increases productivity. So in the coming year, it is going to play a major role in our day to day living.

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