

Location Based Task Reminder System

Mrs. Aarti Gaikwad, Mr. Ashrey Khara, Mr. Kashyap Mistry, Mrs. Dhanashree Shekatkar, Mr. Veeral Lotiya

Department of Information Technology, D Y Patil College of Engineering, Akurdi

Email: kmistry4797@gmail.com, ashreykhara@gmail.com

Abstract- Most of the reminder applications out there nowadays in mobile phones are time and date primarily based. In which the user should save the time and date of once he desires to be reminded regarding within the reminder. If the reminder is ON, the device continuously tries to match the device time and date with the saved time and date, and the user is going to be alerted if it's a match. However, in several cases the user won't remember regarding the time and date, however he is going to be aware of the place wherever he wants the reminder. So, our aim is to design an application which provides alert regarding the reminder once he enters the geographical region laid out in the reminder. We are using android technology like GPS and Date time picker. We have conjointly tried to produce further options like tone and vibration to catch user attention in order that he doesn't miss the alert.

1. INTRODUCTION

There is a great need of reminder and alert system in today's mobile phones. However, these reminder system supports time and

date. Generally, there's need for reminders based on location. This application can act as a private secretary using which we are able to do our work properly within the correct place at correct time. Therefore, our projected application "Location Based Task Reminder System" solves all such things by giving vibrations or tones on mobile whenever user reaches location. The Global Positioning System (GPS) could be a space-based satellite navigation system that gives location and time data altogether, any place on or close to the earth.

2. LITERATURE SURVEY

Android is a new generation of smart phones' platform launched by Google. Android provides the support for mobile map and location service. Android is free and open, providing an easy-to-use development kit containing flexible map display and control functions. Google Maps API provides several utilities for adding individual content to the Google map and various web applications can be explored based on Google Maps API. The application for GPS expands the use of GPS devices. It has a simple design and intuitive operation and environment.

In today's era of smartphones everybody is connected to the smartphones, there are so many applications on Android smartphones to complete users' necessary task. In daily life as we have so many tasks to perform

and usually when we are near to that location there is a common tendency of an individual to forget things.

3. FUTURE SCOPE

In today's era of smartphones everybody is connected to the smartphones, there are so many applications on Android smartphones to complete users' necessary task in daily life. As we consider the task of user that he or she must perform on location as soon as user will reach at that specific location, normally user forgets these kinds of stuff in daily busy life to remember the location and what task he or she must do. It is very complicated for the user who must travel through several locations in daily life.

4. PROBLEM DEFINITION

In this system user will be able to get his current location even if he browses any of the location and add task reminder on that specific location through the android application. Once user will reach the desired location through android application it'll check the task reminder's specific location and its latitude and longitude if the task reminder's location is matched with current location of the user, the alarm of task reminder will be generated by the android application. These activities are going to be done by using Google map and GPS services. Proposed system is designed for two types of reminder. User can add reminder regarding location and regarding date and time as well as user can add wish list. User add wish list with the help of categories define by admin. As per user's current location, system suggests those location which are nearby to the user as per user wish list. User can view his/her

history of reminder into system. User get notification as per user reminder.

4.1 SYSTEM SPECIFICATION

Hardware Requirements

- System Processor and above. : Intel I3
- Hard Disk : 20 GB.
- Monitor Color. : 15 VGA
- RAM : 4 GB.
- Mobile : Android

Software Requirements:

- Operating system : Windows XP Professional/7/LINUX.
- Front End : JAVA, RMI, Swing(JFC)
- Programming Language : JAVA/J2EE
- Database : MYSQL
- IDE : Eclipse

4.2 SYSTEM ARCHITECTURE

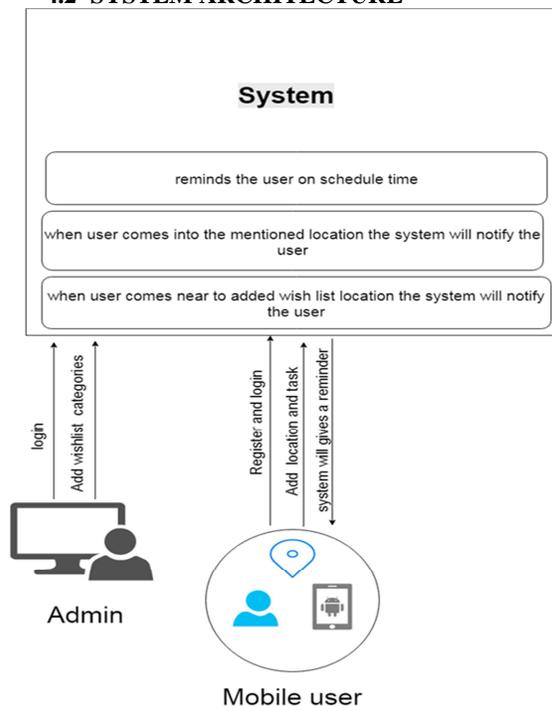


Figure: System Architecture of Proposed System

5. PROPOSED SYSTEM

In this system user will be able to get his current location even if he browses any of the location and add task reminder on that specific location through the

android application. Once user will reach the desired location through android application it'll check the task reminder's specific location and its latitude and longitude if the taskreminder's location is matched with current location of the user, the alarm of task reminder will be generated bythe android application. These activities are going to be done by using Google map and GPS services.

6. THEORAM

Haversine Algorithm

The haversine formula determines the great-circle distance between two points on a sphere given their longitudes and latitudes. Important in navigation, it is a special case of a more general formula in spherical trigonometry, the law of haversines, that relates the sides and angles of spherical triangles.

1. Get the user current location
2. Get all saved location of user.
3. Calculate the distance from current location with the user's saved location
4. If current location under the saved location. Then Add the location into primary cluster.
5. If the user crosses the clustered location Then Remove the location from main cluster and add it to secondary cluster.
6. End.

The haversine formula is used to calculate to get the distance between user's current location and the saved location.

The haversine formula is as follows:

$$\text{hav}\left(\frac{d}{r}\right) = \text{hav}(\varphi_2 - \varphi_1) + \cos(\varphi_1) \cos(\varphi_2) \text{hav}(\lambda_2 - \lambda_1)$$

Where hav is haversine function ...

$$\text{hav}(\theta) = \sin^2\left(\frac{\theta}{2}\right) = \frac{1 - \cos(\theta)}{2}$$

d is the distance between the two points.

r is the radius of the sphere(Earth).

φ_1, φ_2 : Latitude of user's current location and saved location.

λ_1, λ_2 : Longitude user's current location and saved location.

6.1. Modules

1. Administrator
2. User

1. Administrator

The administrator will provide user the interface with pre-added wish list categories like medical ,food ,grocery etc.

2. User

The user will register on the application and add the reminder on the application, the reminder can be added in two types :

- 1)based on date and time
- 2)based on location

The user can also add the tasks related to pre-defined category in the system, so when the user will get to the nearby location of any place related to the category, he/she will get the notification of those tasks.

ACKNOWLEDGEMENT

We have taken efforts in this project; however, it would not have been possible without the kind support and help of many individuals and organizations. We would like to extend our sincere thanks to all of them. We are highly indebted to Mrs. Aarti Gaikwad for her guidance and constant supervision as well as for providing necessary information regarding the project & also for her support in completing the project. We would like to express our gratitude towards our parents & our Head of I.T. Department Dr. Preeti Patil for their kind co-operation and encouragement which helped us in completion of this project. Furthermore, I would also like to acknowledge with much appreciation the crucial role of the staff of DYPCOE Akurdi, who gave the permission to use all required equipment and the necessary materials to complete my project. We are also deeply grateful to the Principal of DYPCOE, Dr. Vijay Wadhai and my parents for their financial and logistical support and for providing necessary guidance concerning project's implementation.

REFERENCES

- [1] Tsai PH, Chen TY, Yu CY, Shih CS and Liu JWS, "Smart Medication Dispenser: Design, Architecture and Implementation", to appear in IEEE System Journal
- [2] Wertheimer AI and Santella TM, "Medication Compliance Research," Journal of Applied Research in Clinical and Experimental Therapeutics, 2003.
- [3] Murray MD, "Automated Medication Dispensing Devices," Chapter 11 in Making Healthcare Safer: a Critical Analysis of Patient Safety, OI-E58, Agent for Healthcare Research and Quality, 2001