Location Based To-Do List Prompting Application for Dementia Patients

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Abstract

In today's life, Smartphone plays a major role where people have to perform variety of tasks in their daily routine. But due to their busy schedule they tend to miss certain tasks. To overcome this we have developed an application that helps people to set reminder not only based on date and time but also based on location. It also focuses on people suffering from dementia. Dementia is nothing but memory loss and this helps them to schedule even their basic works. When these people going to a certain place and miss their path while returning, it prompts their care taker with an alert message.

I. INTRODUCTION

Nowadays people rely on smart phones for most of their desires and that is reason for the development of many advanced application. One such application is a 'Location based to-do list' mainly created for dementia patients and it can also be used for a normal people. This application helps to set reminder on variety of tasks with an alarm.

The tasks can be set in the following ways,

1] Task with GPS [Location based]

2] Task without GPS [Time and date based]

In task with GPS, user can set reminder on certain tasks and the alarm will notify with the particular location that is being tagged. For example, if a user wants to visit a hospital for his/her regular check-up. He/she can set a reminder with the location in which the hospital is and alerts before the user reaches the hospital.

In task without GPS, the user can able to set reminder on their basic tasks like time to eat and take medicines.

Location based to-do list makes use of Global Positioning System[GPS] android devices to identify the user's tagged location.

II. RELATED WORK

The architecture diagram of "Location Based To-Do List" is shown in the fig. As all the smart phones are enabled with GPS facilities, it receives signals from GPS receiver. The present location of the user can be identified using Geo location based on GPS readings. The task that has to be reminded will be stored in a Firebase in order to retrieve from any android device. If any task has to be reminded, the application will make comparison of present location and location of the desired task. When the user is nearer to the appropriate location then the alert will be given to the user about the task.

These locations can be predicted and added into database using Google Maps. User can set reminder by picking out the desired location from Google Maps and it is not mandatory for the user to present physically.

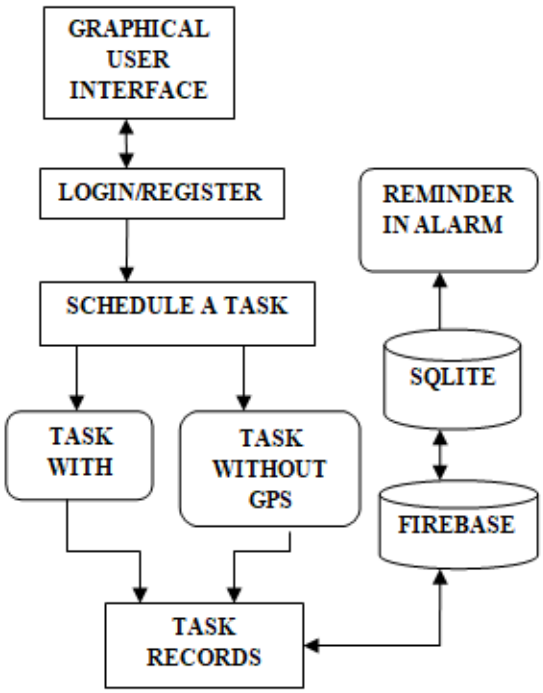

Fig 1.1 Architectural Design

III. LITERATURE SURVEY

[1]Nur Rokhman, Lubab Saifuddin, proposed a "location and time based reminder system on android mobile device" that helps to set reminder based on time and location but the alert was given only when the user reaches that particular location.

[2]Pradnya Battin, S.D.Markande, proposed a system "Location based reminder application using Google API" proposed that is also location based. But only one task reminder can be set on one location.

[3]Xinxin Zhao, Lingjun Li, Guoliang Xue proposed"A secure and efficient location based reminder system" designed a system that stores reminder and alerts in a cipher text format in the cloud. But this system has a downtime problem between cloud server and the device.

[4]Chi-Yi Lin, Ming-Tze Hung, Wei-hsun Huang, proposed "A Location based personal task management application for indoor and outdoor environments" that uses GPS and WLAN infrastructure for setting personal reminders. But it is only used for guiding purpose and it is not user friendly.

[5]Kushal Singhal proposed a "location based reminder: An android application that sets personal tasks as a reminder like bookmarking. But the reminder was quite improper and has less location accuracy.

IV. PROPOSED SYSTEM

We proposed the system "Location based to-do list prompting application for Dementia patients" in which the dementia patients can overcome the hardships of their daily routine. Since these Dementia patients are memory loss people they usually tend to be hang on others. With the help of this application, the patient needs not to depend on others even for their basic needs. It helps them to set reminder for various tasks on different locations. In addition, it allows to set more than one task at a particular location. It conveys an alert message before the user enters into the desired location. If the user fails to do a certain task by the first alert, it will notify the previous task repeatedly and it also prompts the user with the upcoming tasks. Additionally, if the user misses their way back to home from their work, this application helps to send the user's current location to their care taker with the help of GPS. It can be achieved by swiping left of their android device's screen. This makes their life easier and feels free to move on with the society.

V. IMPLEMENTATION

These are the necessary steps that needs to be performed,

1. User can set task with and without GPS.

2. Alert will be given before the user reaches the desired location.

3. The current location of the user can be shared to their caretaker when the user lost his path.

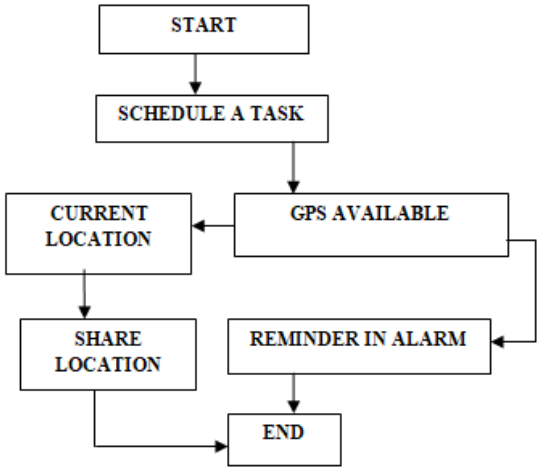

Fig 1.2 Process Flow

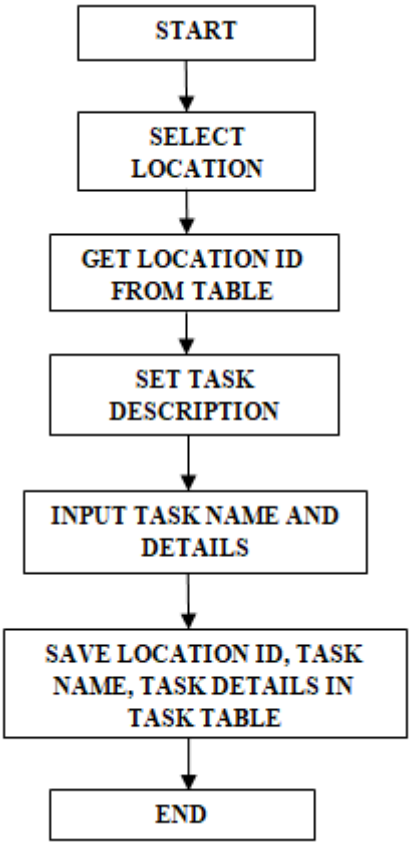

Fig 1.3 Flow Chart For Adding Task

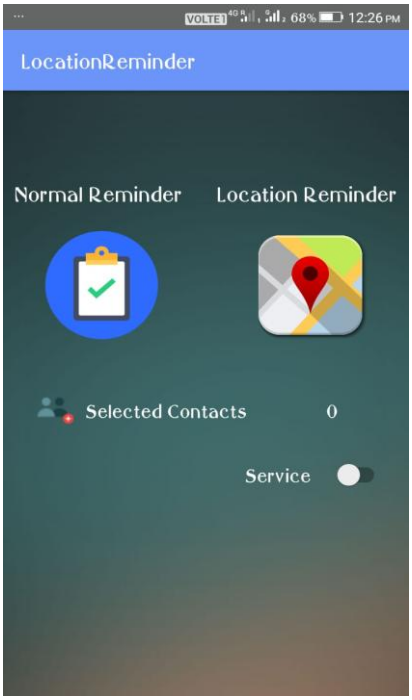

Fig: Home Screen For The Application

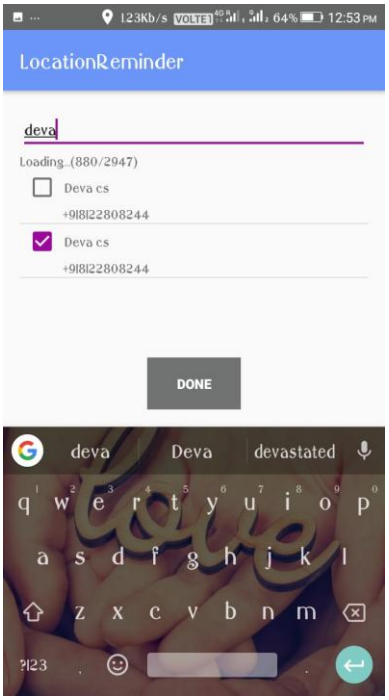

Fig: Selecting A Contact To Send Current Location

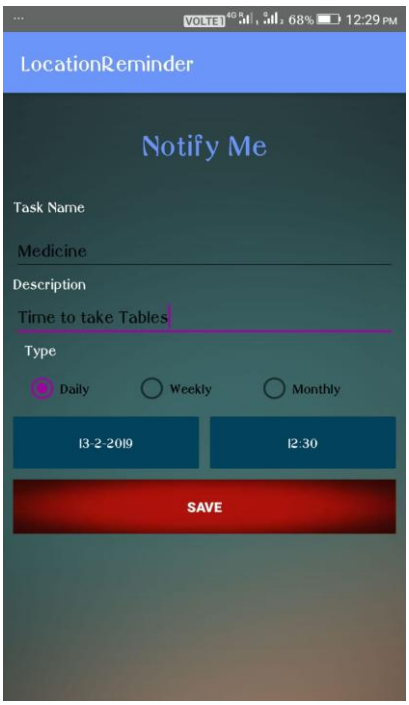

Fig: Setting A Normal Reminder

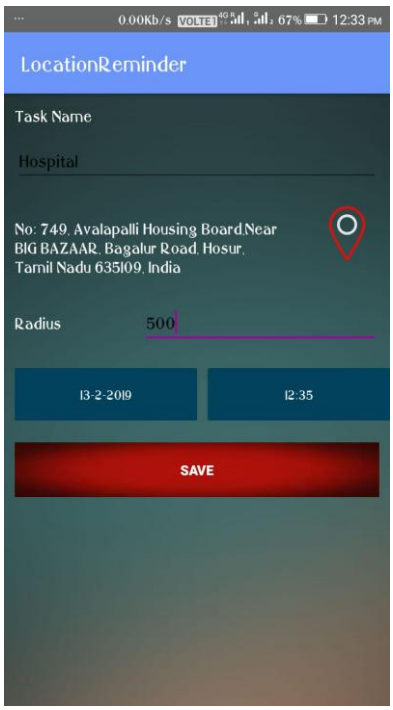

Fig: Setting A Location Reminder

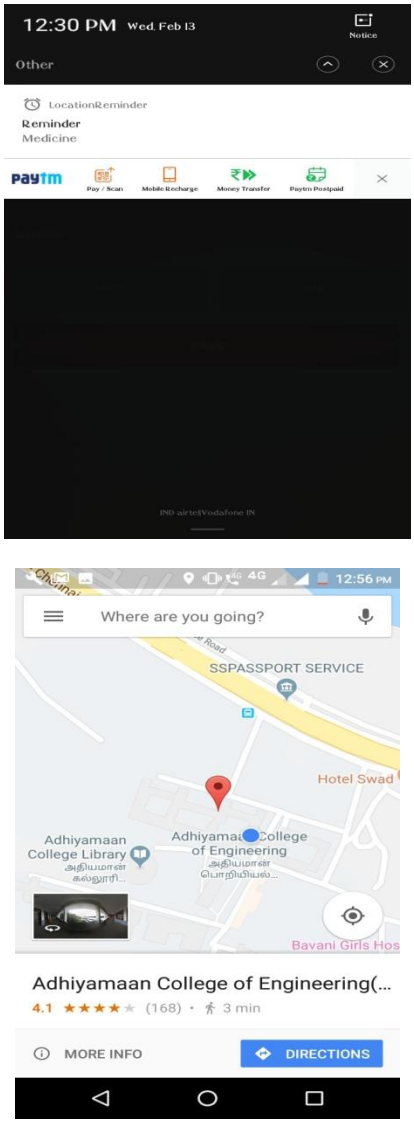

Fig: View Of A Shared Location

V. CONCLUSION

In today's lifestyle as people are often busy with their schedule, they may miss out certain tasks especially Dementia patients. Due to the disorganized memory, there are already so many applications for Dementia patients and those are only for doing activities like exercises and games to increase their memory power or to refresh their minds.

This application allows to set reminder for their basic tasks and also on location with the help of GPS. It helps them to remind all activities without being missed. By using this application they can be confident in doing things without any worries.

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