Task Trigger: Reminder Application based on Location

Prachit Patil[1], Kaustubh Sawant[2], Suraj Desai[3], Aditya Shinde[4], Mr. Manish Bhelande[5]

[1,2,3,4] *B.E. student, Department of Information Technology, Shah and Anchor Kutchhi Engineering College, Chembur, Mumbai*
[5]*Assistant Professor, Department of Information Technology, Shah and Anchor Kutchhi Engineering College, Chembur, Mumbai*

------- --***---

Abstract - *Reminders in smart phones are all based on electronic date and time i.e. they remind the user about the task which he had earlier saved for a specific date and time when the time arrives on that particular day [1][3][4]. Sometimes tasks need to be reminded about only when the person is at a specific location. This would be difficult to implement using the time-based reminders present in smart phones as we cannot accurately predict the exact time when a user will be at that specific location. Students and employees may also need to perform certain tasks when they reach a specific location like switching the device to silent mode when they reach college or office.*

The main objective is to develop a GPS based application to handle the following requirements: To alert the users through an alarm. The person should not only get reminded (notification) but also the application should perform some tasks on behalf of the person when he/she arrives or is near to that location. To solve all of the above problems we are developing an android application TASK TRIGGER which would help the user to remind tasks which he needs to do at the specific location.

***Key words:* Trigger, Location-based reminder, Android application.**

1. INTRODUCTION

In this 21st century modern world, mankind has made great technological advancement. One such example of Technology is Smartphone's; using which multiple tasks can be done. Nowadays to remember what task to do at what location is very tedious job for everyone because there are so many task that everyone has to perform in their day to day life. Sometimes we need to remind some places. But popular reminders are based on electronic calendar in mobile phones. These reminders are based on time i.e. this will give notification only on at that particular time. Instead it is beneficial if the notification or alarm triggers when we are actually present near or at that specific location. Android smart phones are everywhere nowadays and it provides Google Map, Google Location services to the smart phones through which we can easily get the location detail but Google does not provides the facility to add the task reminder on specific location[1][3]. By using their services of Map, GPS and Location we developed the system called as "TASK TRIGGER" System Using Android Mobile" This system plays very important role in user's daily life to set task reminder at several

locations through which user can make idea and alert of tasks he has to perform on specific location.

TRIGGER" System Using Android Mobile" This system plays very important role in user's daily life to set task reminder at several locations through which user can make idea and alert of tasks he has to perform on specific location.

We also proposed security feature such as location-based messaging is implemented which is useful for deaf people and children. For the parents to know whether their child has reached school or not TASK TRIGGER system will automatically send messages to the predefined contact numbers. And if child do not reach to the school within a specific time then the system will send e are some following drawbacks of existing system:

1) Less reliability

2) Only one task reminder on one location

3) Not user friendly and customizable

4) Less ease of access to the application and location

To overcome these drawbacks we proposed the system called "TASK TRIGGER" System Using Android Mobile" which is discussed in the proposed approach.

2. LITERATURE SURVEY

Today's smart phone has reminder systems which works on time based. This traditional reminder system mechanisms works on time where user get notify based on time and date. Sometime user need to perform different task at different location. In this scenario traditional mechanism doesn't work efficiently. As compared with post-it notes or PDAs, mobile phones are a convenient and truly ubiquitous platform as the delivery of reminders. To successfully work above scenario user can use note which have written specific task but it also has the drawback that how any times user will make notes and remember them at specific location.[1]To perform task in this scenario user need system which is highly work on location based. [2]Todays smart phone have many location tracking services like GPS, GPRS which can be helpful to detect the user location. Using these location detection services it is easier to track down the location. Existing system is work on GPS based tracking which provide location of user. Existing approach there was provision to add

Reminder on a specific location but in that user is able to add the task reminder on the basis of time and date the problem with system was when user crossed the specified location but he was unable to get the task reminder about the location. There was no proper synchronization between task reminder and specified location [5].Hence, it would be a wise option to use all these features to implement the reminder system that could remove the drawback of the existing time-based reminder. This drawback will overcome in proposed application. By using GPS, GPRS services with Google API detection of user location and reliability of application is achievable.

3. PROPOSED SYSTEM

The proposed system is a location-based android application which allows user to remember tasks he has to perform at different locations. Existing reminders in smart phones are time based and do not help in remembering tasks that can only be performed when a person is at a specific location. The proposed system overcomes this disadvantage by using a location-based system.

The system will provide ease to remember and manage tasks as it turns out to be a hectic task. As all the smart phones today are equipped with location-based services like GPS the application can be used easily and on a wide scale. Implementation of this application will make available an efficient way to the user for remembering all the tasks he/she needs to perform based on his/her location.

The proposed system Task Trigger can be divided into two modules, reminders and triggers based of location of device.

The reminder will allow the user to remember the tasks he/she has to perform based on the specified location and once user's current location matches the stored location the user will be alerted by a notification popping up on the device or the device ringing. The trigger module will automatically perform some of the essential daily tasks on behalf of the user according to the user's location and the location specified for the trigger, thus allowing the user to not worry about remembering or performing those tasks.

The location-based reminder can further be explained as the user can save multiple locations on the map using markers and text which reminds the user of the task to be performed. The user can also specify the radius within which the user will get a notification. When a user saves a location and reaches within the set radius of the specified location he/she would get a notification or an alert displaying the saved details of the task to be done. The proposed system would use Google Maps API for maps and GPS to retrieve user's current location. Thus, the user only needs to save locations and details of the tasks and not worry about remembering them.
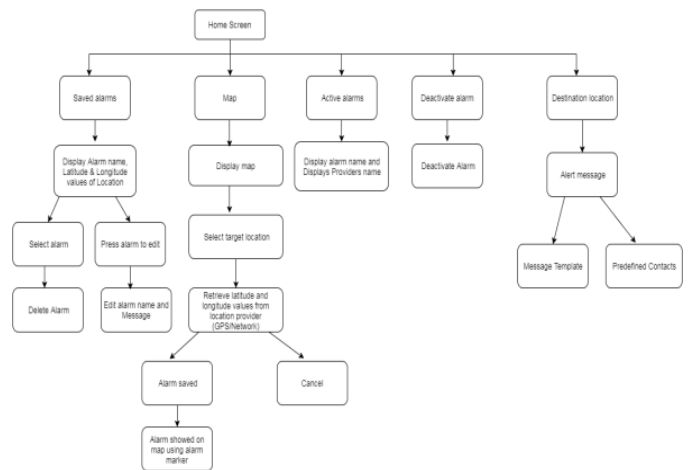
4. Features of Proposed System

Fig. 4.1: Architecture of Task Trigger

The application provides a number of triggers which can be enabled/disabled by the user as needed. The triggers are:

- Automatically switch the device to silent/vibrate mode when a user reaches a specific location (college or office).

- Turn on Wi-Fi when user reaches his home address.

- Send a text message to predefined contacts once you reach college/office/home.

- Turn the phone to ringer mode when they reach their home.

- Set a specific time required to reach home/college/office and if the device does not reach the location within that time an SMS will be sent to relatives specifying current location of the user.

For the triggers to be performed additional information is required to be specified. The required information can be home address of the user, college/office address, parents' phone number and time required to reach the specified destination. If a trigger is enabled and user's current location is within the set radius of the specified address then task specified in the trigger would automatically be triggered. This triggering part can be very useful as some of these basic but important tasks can be forgotten by users and also some of the triggers mentioned above can help relatives to keep track of safety of the user.

The application requires the user to grant specific permissions in their device to the application so that the tasks can automatically be performed and the application can change some of the settings of user's device when it needs to perform tasks like switching device profile to silent mode. The proposed system helps the users to

remember tasks needed to be performed based on their location and also performs some tasks on user's behalf.
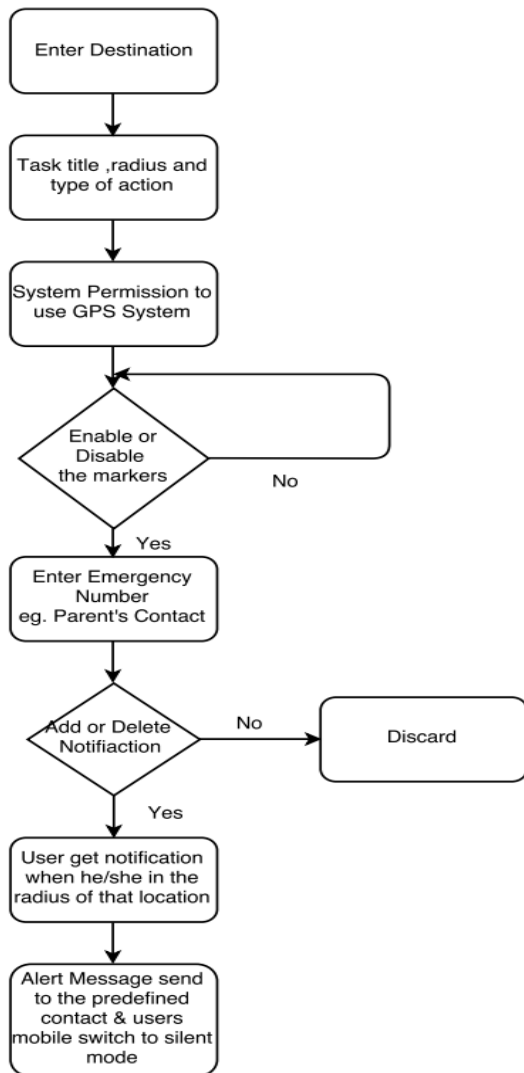
5. FLOW OF SYSTEM

Fig 5.1: Work Flow

The working of our application can be divided in the following steps:

• Step 1:

The application will show a map and a search box that can be used to search any location.

• Step 2:

After the location has been searched the map will display a marker which the user can drag to an exact position on the map to. The next screen will allow the user to enter necessary information like task title, radius and the type of action needed to be performed.

• Step 3:

User will need to grant required permissions for the application to execute the task of reminding successfully.

• Step 4:

After the marker has been placed and task information has been filled, it gets stored in the database. It is also visible in a section in the application that enables user to edit/delete the stored markers which allows the user to add multiple markers and manage them.

• Step 5:

The user is also provided with many triggers which the user can enable or disable as needed. The trigger once enabled would prompt for necessary details like college/office address, home address, contact number of relatives.

• Step 6:

The marker information and/or trigger details will be stored in database.

• Step 7:

Once the user is within the set radius of the location stored or specified, the user will get a notification reminding him about the task to be performed or else the trigger would get executed automatically.

• Step 8:

After the user reaches the specified location, if the alert message functionality is turned on, the predefined contacts will receive the message that the user has reached the desired location.

In this way, the application "Task Trigger" will allow user never to miss any task needed to be performed, and automatically performs some tasks (Triggers) on behalf of the user according to the location.

6. CONCLUSION

In this study, we developed a location-based android application called Task Trigger. The application will include a location-based reminder and a location- based triggering application. Using Google Maps API location tracking is performed. This application works on location-based approach which is more efficient as compared to traditional time-based system to perform reminder task. It would help users to remember the things which need to be done in the future and automatically to do certain specified tasks on behalf of the users. The application will also provide emergency message to the predefine contact numbers which provides safety feature. So, whenever the user gets near to the desired location the application will remind the user about the tasks to be done or perform

certain mobile-related essential tasks automatically. The application will have options to add the reminder on maps using markers and manage it.

REFERENCES

[1] Chi-Yi Lin, Ming-Tze Hung, and Wei-Hsun Huang, "A Location-based Personal Task Management Application for Indoor and Outdoor Envi-ronments",15th International Confereance on Network-Based Information System.

[2] PradnyaBattin, and Dr.S.D.Markande,"Location Based Reminder An-droid Application using ogle Maps API", International Conference on Automatic Control and Dynamic Optimization Techniques (ICACDOT), 2016.

[3] Yogesh B.Thosar, Vaishali P.More, "Location Based Task Reminder Sys-tem Using Android Mobile", International Journal of Scientific Research Engineering and Technology (IJSRET), March 2015.

[4] AdnaanGhadiyali, Ankur Tiku, Sumeet Bandevar, RuturajTengale, "Real Time Location Tracking Application based on Location Alarm", International Journal Of Engineering And Computer Science, April 2015.

[5] Xinxin Zhao, Lingjun Li, GuoliangXue, "RemindU: A Secure and Efficient Location Based Reminder System", IEEE ICC Communication and Information Systems Security Symposium, 2014.

[6] Luo Zhaohui, Hao Jie, Zhang Fang, "Research on Location Based Service Implementation", Computing Technology and Information Management (ICCM), 2012 8th International Conference, April 2012.

[7] Srihari Reddy Pamulapati, and Longzhuang Li, "iDoRemind: A Location-Based Reminder Application for Android.", IEEE 5th International Con-ference on Future Internet of Things and Cloud, 2017.

[8] Nur Rokhman, and LubabSaifuddin, "Location and Time Based Re-minder System on Android Mobile Device ", 2nd International Confer-ence on Science in Information Technology (ICSITech), 2016.

[9] Do more with Location-IFTTT-https://ifttt.com/location.

[10] Change your android phones's settings based on where you are http://fieldguide.gizmodo.change-your-android-phones-settings-based-on-where-you-1597903597.