

MOBITRACK: GPS Reminder, Location Tracker and Anti Theft Feature

Neelam Salia^{1*} and Monali Raval²

^{1,2}Department of Computers,
KJ Somaiya College Of Engineering, Mumbai, India

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Abstract— This project basically is an integrated android application based on concept of geo-map and GPS technology in case of anti- theft feature. It can easily be controlled by user. It is very reliable and also helps in locking the phone in case of theft. The thought behind this idea for our project is as follows: We generally tend to forget things in our daily routine and till the time we realize we either are too tired to go and finish it or we tend to postpone things. We came up with this idea of designing an app which will help us to remember things based on the location and prompt us with the message when we are near that location. The next feature is that of location tracker. This application will allow us to add details of our near ones and in case of danger on our single click all of them will get our location and can easily find us. The modules developed are: User Login and Registration, Location Based Reminder, Safety Alert, Anti-Theft.

Keywords- RemindMeBot, GPRS setting, lockout mode

I. INTRODUCTION

In this project we have developed a GPS based reminder which will help us remember things which we sometimes tend to forget in day to day life. We need to set an alarm about the activity we need to perform or the things we need to buy and so on and when we reach at that place we will get a notification for the task we have set. It will work in certain diameter limit. [1] The next feature is that of location tracker. This application will allow us to add details of our near ones and in case of danger on our single click all of them will get our location and can easily find us. In our application it is sending emails to the people whom we have added with a message we are in danger and with our current location [2] The further scope added is that of the anti-theft feature. In this case if our mobile is stolen or is lost and if someone tries changing the same card our mobile will go in lockout mode and the person will not be able to open it. Only the authenticated user will be allowed to open it. His location will get traced and will be sent to us. Other feature is that his photo will get captured in front camera without him knowing when he enters lockout mode and will be sent to us (if possible will be implemented) [3]

The modules developed are:

- User Login and Registration
- Location Based Reminder
- Safety Alert
- Anti-Theft

The user has to first login to access this application and create his/her account. He will then receive the options as

mentioned above in the modules. He can choose one of it and use this application reliably.

II. PROBLEM DEFINITION

The thought behind this idea for our project is as follows: We generally tend to forget things in our daily routine and till the time we realize we either are too tired to go and finish it or we tend to postpone things. We came up with this idea of designing an app which will help us to remember things based on the location and prompt us with the message when we are near that location. The other idea that struck was that of location tracer. We thought of including this feature so that we do not have to worry if our dear ones don't answer our call or if we don't know where they are and are not picking our call. Then just add your dear ones number in this application and the rest of work will be done by this application. We chose mobile platform as it is a device which is with a person for 24*7 and is an irremovable component of our life. Another idea that struck us was what if the device only gets stolen. So we decided to add the feature of anti-theft. With this feature in case our mobile is stolen and if the other user changes SIM card our mobile will go in lockout mode and the person will not be able to open it. Only the authenticated user will be allowed to open it.

III. LITERATURE REVIEW

A. Reminder Applications

Reminder applications are essential applications in mobile devices. Since most smart devices are equipped with accurate localization capabilities, location based reminders emerge in recent smart devices. A user could add a location based

reminder which reminds the user to do something once she enters or leaves a location. Convenient as these applications are, a user can be easily tracked once she installs these applications. We propose a secure and efficient location based reminder system. In our system, the reminder location and reminder message are stored in the form of cipher text on the cloud server. The cloud server is able to perform a private location match without knowing anything about the user's location information. We propose a novel method to represent the user's reminder area in order to save the storage space and computation time of both users and the cloud server. We demonstrate the efficiency of our system in our simulations.

There are many such reminder apps such as RemindMeBot. RemindMeBot was made as a way to remind the user about a comment or thread for later use. For example, someone on AskReddit posts a list of cool movies to watch. Although you don't have time to watch it now, you make a comment to remember to view a movie from the list later. However, you forget about the comment you made because you always find the cool things before sleeping and you have a short attention span to view your previously made comments. Another is that user X predicates Y will happen or will deliver content Z in 3 days. Use RemindMeBot to see if he was right or if OP delivered. Think of RemindMe as an improved and automatic "saved" for later.

But this app is only a reminder app based on time but what if we want to make a reminder when I reach to a certain location. There exist a lot of location/proximity-based systems that can automate the simple tasks such as locking/unlocking your mobile devices, computers and launching various applications by using Bluetooth enabled computer and mobile phone. There are even many home automation areas that allow users to control just about every piece of electronics, including security and surveillance system.

However, most of these systems are not location based. Nor Alarm has developed in a mobile application that enables users to control an alarm system through an Android devices based on the Location. This application allows the user to manually place an alarm and then the alarm will trigger when the location is arrived, it includes automatic activation of the alarm and deactivation based on the location of the user. Although location - based reminder applications have been widely prototyped, there are few results regarding their impact on people: how are they used, do they change people's behavior and what features influence usefulness the most. Cell phones provide a compelling platform for the delivery of location -based reminders within a user's everyday natural context.

We present requirements for location -based reminders resulting from a qualitative study performed at small area in

the city, and elaborate how these results are influencing ongoing design of a more comprehensive location -based reminder system.

We propose an architecture of location based services which uses GPS. Within the architecture, we discuss the challenges for context management, service trigger mechanism and preference -based services.

Location based alarm using GPS is an attempt to add an alarm facility for mobiles, based on the location of the device and to find the nearest places from the current location of the mobile device. The location based alarm will give you alert when you reach your desired destination. Location based alarm is a GPS based alarm, If you set an alarm, it will make a sound and notification once it's detected you are within the user defined range from the destination. The user needs to save the current location using longitude and latitude and the alarm will ring when the user is near to the location. This location based alarm is useful for the traveling sales persons and persons who are traveling in a train. The traveling sales person needs to do different kind of works in different places. It is difficult to remember all the places for him. So by using this application he can set an alarm to the places, where he needs to go. The GPRS settings must be enabled on a mobile device to use this application .we are using a SHA1 signature to generate a key google map api key and google play service API for displaying the map in mobile device.

B. Safety Applications

There are no many apps related to safety but developers are making good efforts to develop such apps so that a person can be safe and in condition where they don't feel safe can just alert their family members on a single click which is another feature which is implemented in this mobile application.[5]

C. Anti-Theft

Mobile theft is most common in India and person doesn't even aware of the theft and after the theft it is very difficult to get back the mobile phone. But this feature of the app is very unique and an advantage of the application to be popular. This feature of app works with the sim card subscriber number when the mobile phone is switched off and the sim card is removed and replaced with the new sim the phone gets locked and without which the thief cannot use the phone and it is a waste for him/her.

IV. PROJECT MANAGEMET PLAN

The feasibility study plays a major role in the analysis of the system. The very decision of the system analysis whether one should design a particular system or not and till what extend or limits the very project should be stretched can be inferred from the system feasibility study. Hence the feasibility study

forms the basis of the system. The feasibility study can be categorized into:

A. Technical Feasibility:

It determines the technology needed for the proposed system is available and how this technology can be integrated into the organization. Technical evolution must also assess whether the existing system can be upgraded to use the new technology and whether the organization has the expertise to use it.

B. Economical Feasibility:

The economic feasibility of the system looks upon the financial aspects of the system. It determines whether is economically feasible or not. In other words, it determines whether the investment that goes into the implementation of the project is recoverable or not. The cost benefit analysis is the commonly used method in evaluating the effectiveness of the system. As the hardware is already available and no investment is to be made in that direction, the only cost involved is that of implementing the system and software.

C. Operational Feasibility:

It considers whether users will be adapted to the system easily after training, can the system provide them a user friendly environment etc. Acceptance of the system by the user avoiding user resistance is considered as the main factor.

V. METHODOLOGY

There are different types of models used by a software team to do their work systematic i.e. step by step. The original process models have certainly given a guideline or roadmap for the whole software development process or software engineering.

These process models are properly structured so that at least structure of the process can be understood. The different models are:

- Water fall
- Incremental
- RAD
- Prototype
- Spiral

We have chosen the Water fall model for the development of our project.

Waterfall model

Initially there was a time when software development started, the problems is mainly useful where the process models are fixed or may be in some were well understood and the linear approach to develop the software was used. Now days there are situations when the software comes with new versions and fulfills the current requirement and tries to manage the change management.

The water fall model is also called the 'classic life cycle', suggests a systematic sequential approach to software

development. This process begins with customer specification of requirements and progress through different activities like planning, modeling, construction, and deployment and ends in completed software. The waterfall model is a sequential model and even called a linear model which is not suitable for changing nature work. In this model work is done in a linear manner.

VI. PROJECT IMPLEMENTATION

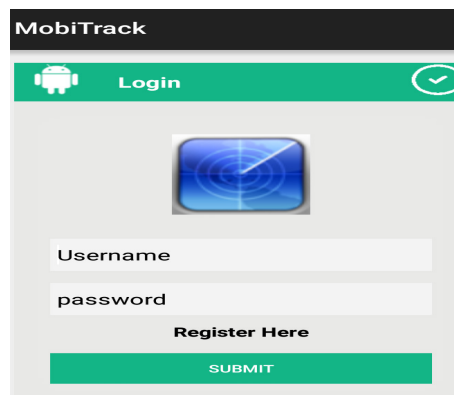
To set an alarm the user needs to enter the location. The alarm will beep when the user is near to the location. The mobile device is hardware equipment which enables the usage of the location based alarm system. The GPS is a space-based satellite navigation system that provides longitude and latitude of location in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. It will also enable the user to view the nearby places and place the alarm at any of the desire location which be tracked by the GPS. The main aim of this system is to provide an alarm facility in the mobile devices based purely upon the Location.

For Safety feature user needs to enter his/her family details so that whenever a user is in danger he/she can just click on a safety button and the mail will be sent to the family members. Anti-theft feature of the application deals with the mobile theft and the process is when the current sim card is removed from the mobile and new sim card is inserted the mobile phone gets locked and cannot be used for any other thing.

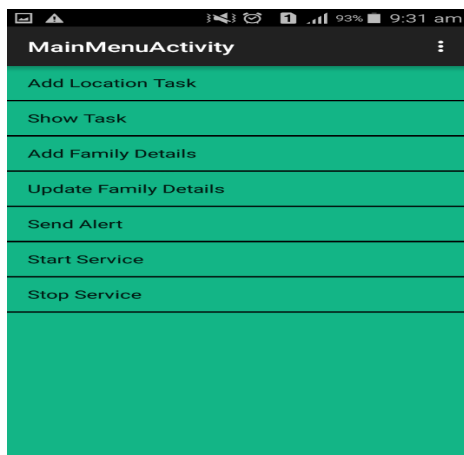
APPLICATION'S FEATURE

- An affordable technology keeps huge advantages
- Mobile user gets alert at a particular location when he travels around the city
- User can directly alert the family member about the danger situations.[4]

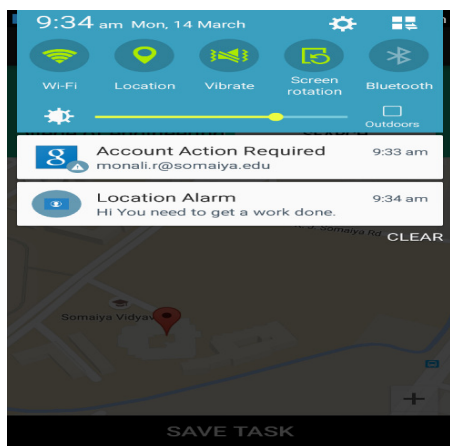
VII. SCREENSHOT



Fig(1)



Fig(2)



Fig(3)

VIII. CONCLUSION

This application brings out the best way to use a smartphone for maximum convenience of the users. There are few applications which claim they can trace stolen mobile but have many limitations. There are even applications claiming to act like a reminder but not with a location but using the traditional way of time-based reminders. With this application, we are able to develop an Android application which will add value to the day-to-day activities of life by helping people to remember things they tend to forget. Also, to make the person feel secure, this application helps the user to alert family members about the situation with a single click. And since this feature is all useless if the smartphone is stolen, so also keeping in mind about the theft feature for anti-theft is included in the application. The application developed all these features mentioned above, and the screenshots of the same are given in the paper.

IX. REFERENCES

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