BEEP ME

MINOR PROJECT-2

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Abstract

In today's era of Smartphone's everybody is connected to the Smartphone's, there are so many applications on Android Smartphone's to complete user's necessary task in daily life as we consider the task of user that he or she has to perform some task on particular location as soon as user will reach at that specific location, normally user forgets these kind of stuff in daily busy life to remember the location and what task he or she has to do. It is very complicated for the user who has to travel through several locations in daily life. In order to solve this problem we developed the system called "Beep Me" in this system we are fetching the user's current location through android mobile phones using Google Map, GPS and allow them to set reminder about that task on that specified location. In this way user can add multiple task reminders at multiple locations this will make effective for the users.

TABLE OF CONTENTS

Gantt chart

Task Name	January	February	March	April	May
Project Learning	2 week				
Learning & Improvement	2 week	1 week			
Learning Tools		3 week			
Design			2 week		
Algorithm			2 week	1 week	
Coding & Database Design				3 week	1 week
Testing					1 week

LIST OF FIGURES

LIST OF TABLES

1.0 Introduction

1.1 Purpose of the project

The purpose of this document is to present a detailed description of the android application Beep Me. It will explain the purpose and features of the android application, the interfaces of the application, different function of the application. This document is intended to explain both user and evaluator of the android application.

1.2 Scope of the project

This android application will provide easy and reliable functionality for travelers, daily workers etc. This will help user to improve their daily important activities such as meeting, conference, wedding, party, exam and many more. For marketing and business oriented users it is very beneficial system. This android application will help the traveler to set multiple reminders on different location and you can set reminder for finding particular spot (eg. ATM, park, restaurants, cafe etc).

1.3 Overview of the document

The next chapter Background study will describe the research work of our project. It will describe the importance of android application “Beep Me”. It will provide an overview why are we making android application.

Chapter 3 describes the detail design (UML diagram) of the android application.

Chapter 4 describes requirement tools used to make android application and it also tells functionality and non functionality of the android application. It also tells what user requires.

Chapter 5 describes the implementation of the android application “Beep Me”.

Chapter 6 describes the testing table of android application.

Chapter 7 concludes the android app work and it also tell limitations and future scope of android application.

2.0 Background Study

In contemporary society, many people are overwhelmed by the number of tasks that need to be accomplished, these tasks are of different types, ranging from every day based meetings at work, and non-daily based such as buying groceries, paying bills, traveling etc. To help ourselves to remember these tasks, basic practices are to take notes on the paper based day planners or use post-its or use personal task management software on computers and/or Smartphone's. As Smartphone's are used as an alternative to personal computers, taking notes on Smartphone's is a more convenient choice.

Similar to programs on a personal computer, applications (app) can be downloaded and installed on a Smartphone. Similar to a personal computer there exists a wide selection of proprietary and open source mobile operating system platforms. Out of these Smartphone operating systems, the most prominent ones are Apple iOS, Google Android.

This project focuses on developing a mobile application, Beep Me for Google's Android operating system. The majority of Smartphone manufacturers such as Samsung, Motorola and HTC have adopted Android as the operating system for their products. Consistently more than 100 million new Android devices are activated daily around the world. This project is developed for Android based smart phones on Android Studio, an IDE for developing applications on the Android platform. This project utilizes Location Based Services for creating location based reminders.

Android is a mobile operating system based on Linux. Android is primarily used for Smartphone's, tablet computers, watches, smart glasses, home appliances, cars, cameras, game consoles and mirrors. Android is available in 46 languages and powers millions of mobile devices in more than 190 countries around the world. Android provides a world class platform for developing apps and games for Android users everywhere, as well as an open market place for distributing them instantly. The vast majority of Android applications are created in java, which is a standout amongst the most generally used programming languages around the world.

Beep Me is compatible on different versions of Android, as starting from the minimum SDK version of Android 5.0 to recent update Android 7.0 . The development environment used for Beep Me is Android Studio IDE.

Android is an open source platform licensed under business-friendly license called Apache, which provides “free software licenses” to software products. This enable users to use, modify, redistribute Android. The entire stack, from low-level Linux modules to native libraries, and from the application framework to complete applications, is totally open. Also some open source third party libraries such as Sqlite, WebKit, and OpenGL have been added to android.

Android Studio is an IDE for developing on the Android platform. It is free and open source software. The Intelligent code editor in the Android Studio helps the user to be more productive while developing apps. Android Studio makes it easy to develop apps for any Android device. Android Studio’s new view and module support makes it easier to manage app projects and resources.

Location Based Service (LBS) LBS is mobile service that has the capability to provide real time information based on the user’s location. Geographical Information System (GIS) has been the heart of LBS in order to provide all the functionalities in LBS. First, we may send location information to remote parties. This set of services are commonly used today, e.g., in location tracking applications. Second, use location information to make communication decisions, e.g., a user agent may automatically disable instant messaging when driving. Third, location changes can trigger communication actions, e.g., when a person’s user agent gets a location notification indicating the person enters a room, the user agent may automatically turn on the light of the room. Sending location information to remote parties for location tracking Locations are usually represented in geospatial coordinates or civil addresses for tracking. By enabling to upload real time location and to create the content “on the spot”, we can expect more variety of location-based services.

The GPS uses a star grouping of satellites and ground stations to compute position and time almost anywhere on earth. A GPS receiver calculates its position by using a satellite ranging technique. To find the current location of the user the Smartphone's must have an inbuilt GPS receiver. One of the key technological advances for the development of location-based applications is the use and availability of positioning systems.

Reminders are generally based on time. Frequently, however, time is not sufficient to configure the context in which the user needs to be reminded. A location reminder system allows users to set reminders taking into account their location. Using location to activate reminders is a valuable piece of content that can enhance the way people use reminders.

A smart phone can be easily carried by the user unlike a personal computer, a smart phone can be used anywhere for accessing the location based applications such as Google maps for looking up driving directions. The importance and usefulness of location sensing has already been well recognized and accepted with the fame of GPS based navigation systems. Most of the today's smart phones have built-in location sensing capabilities. Since most people rely on smart phones when on-the-go and far from home or office, apps that influence location based services can add real value to the user. In this project both GPS and Network Service location are used to fetch the current location of the user, the reason for using both is, it may not be possible to obtain the location using GPS provider indoors, and location using network location providers when the network connectivity is poor.

In general to set a location based reminder the user needs to know the name of the location, where he/she wants to be reminded. This does not work all the time, because if the user is at an unknown location and he/she wants to be reminded, it will be difficult for the user to set a reminder in this situation. Moreover, location based reminders are mainly generated when the user is approaching a location, in other context they are mostly generated when he/ she is driving on the road. If a location reminder app alerts the user with a normal text based notification, this may distract the concentration of the user driving and can cause an accident.

3.0 Detailed Design

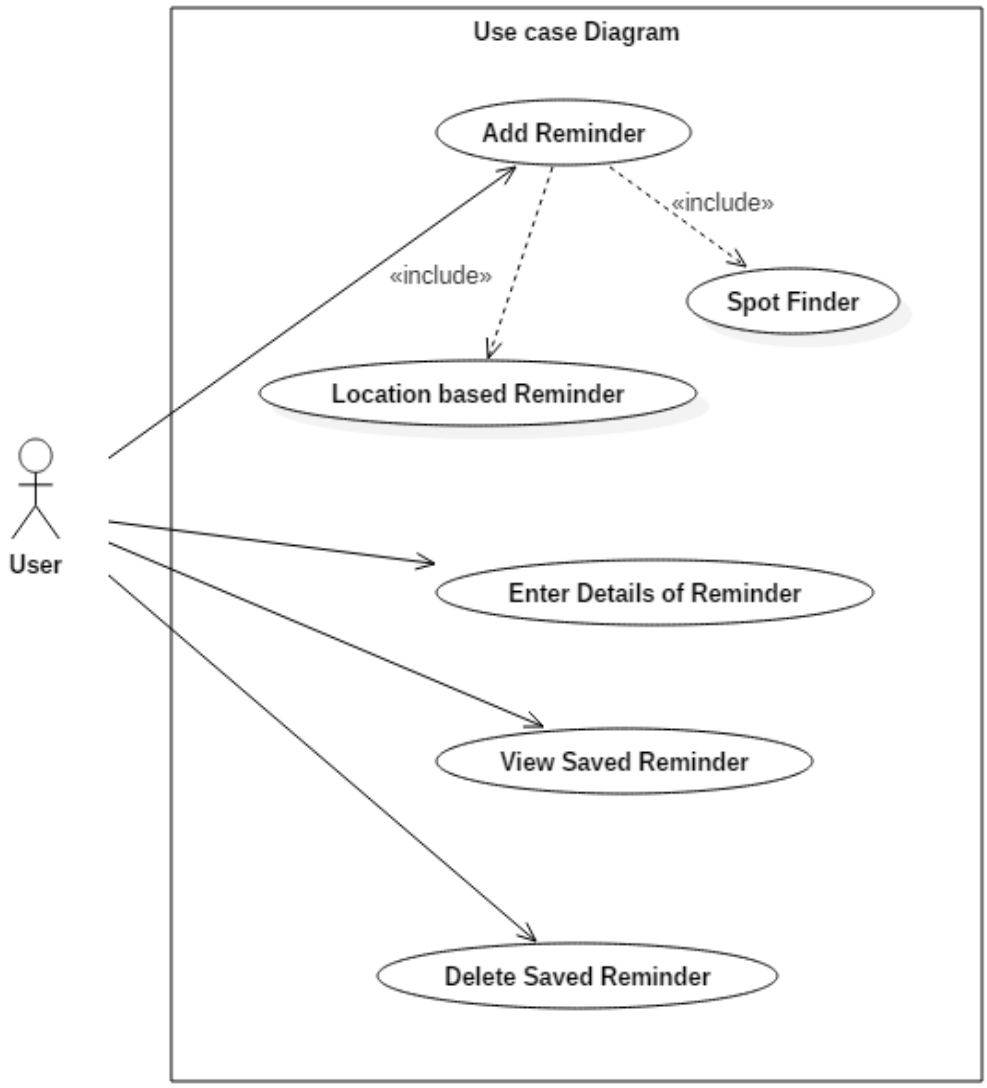

Fig 3.1Use case Diagram

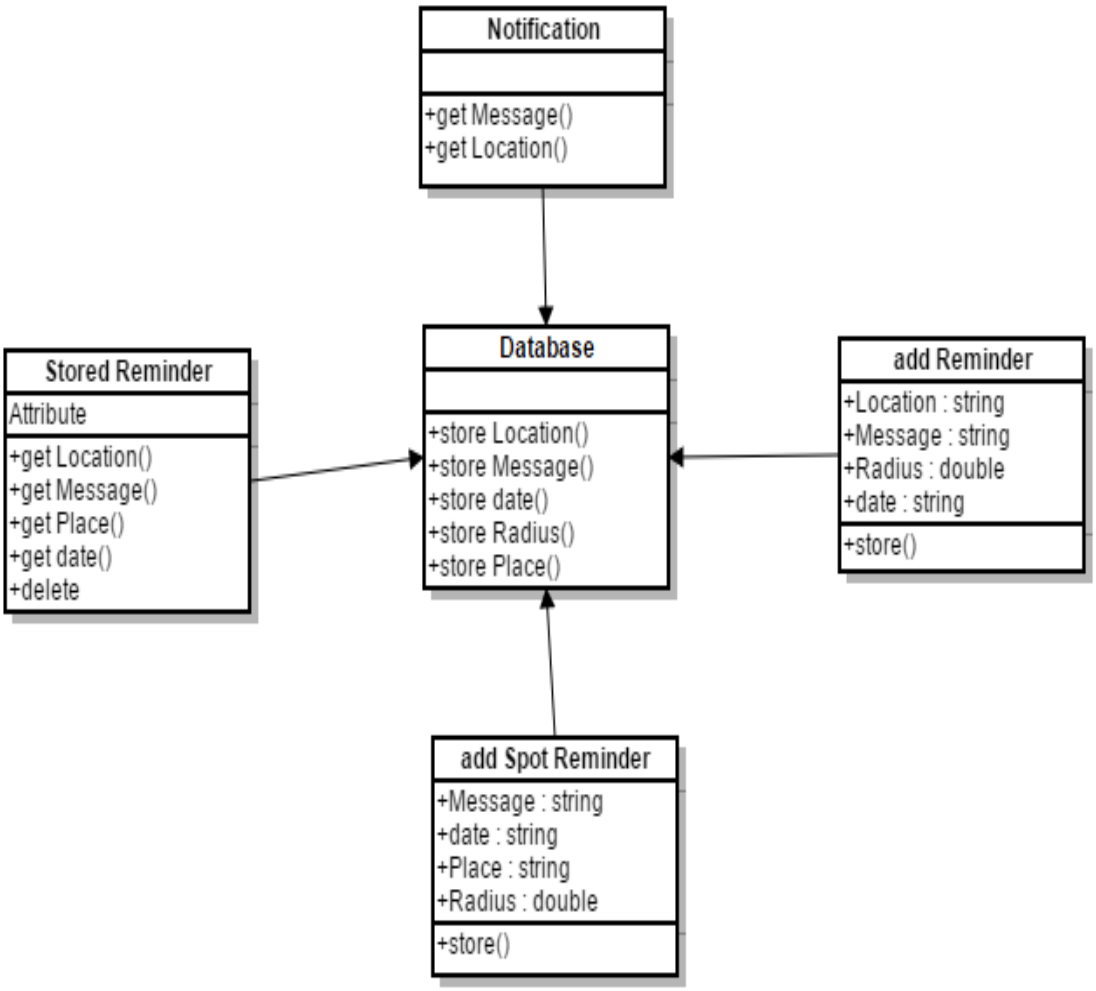

Fig 3.2 Class Diagram

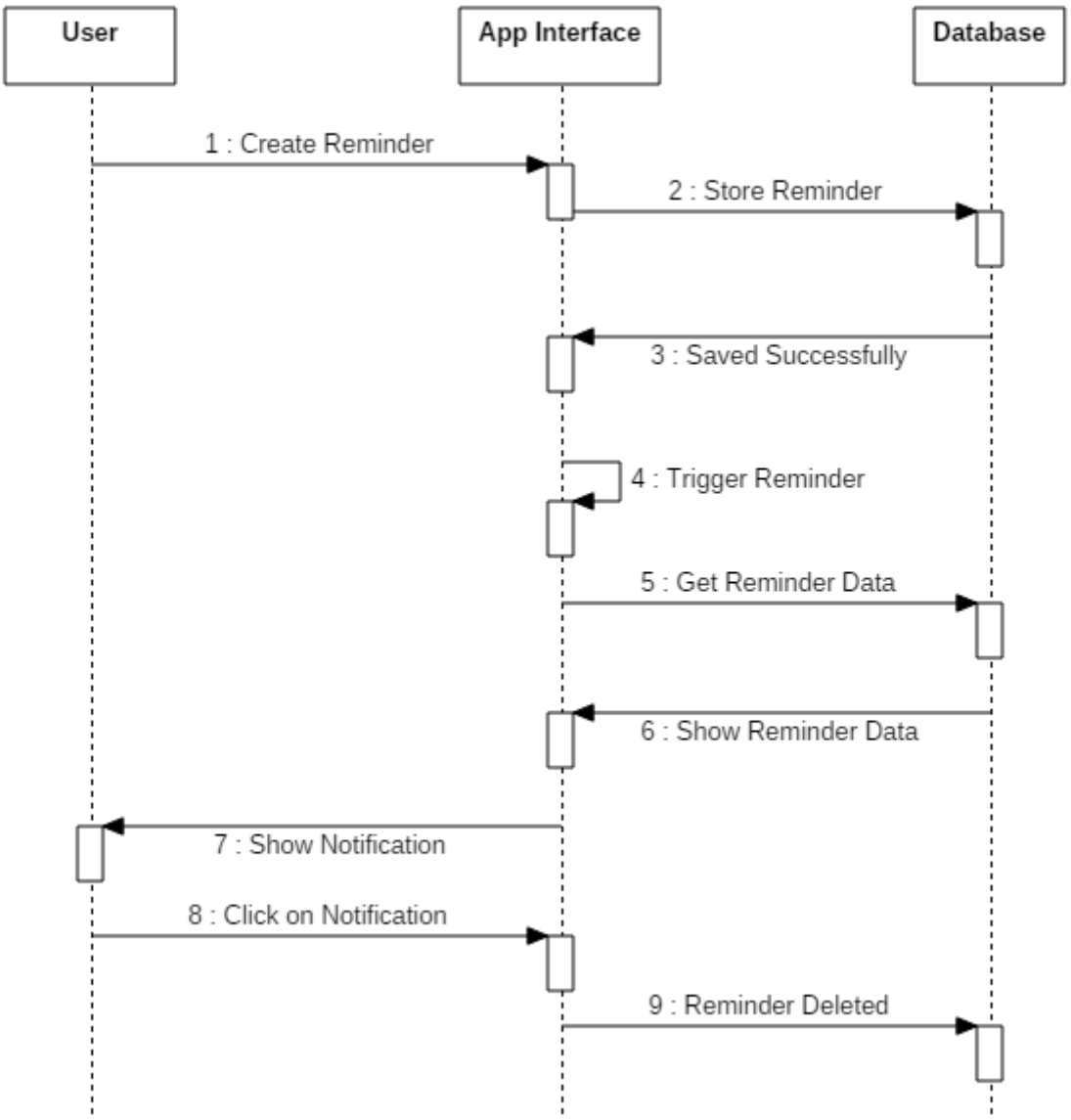

Fig 3.3 Sequence Diagram

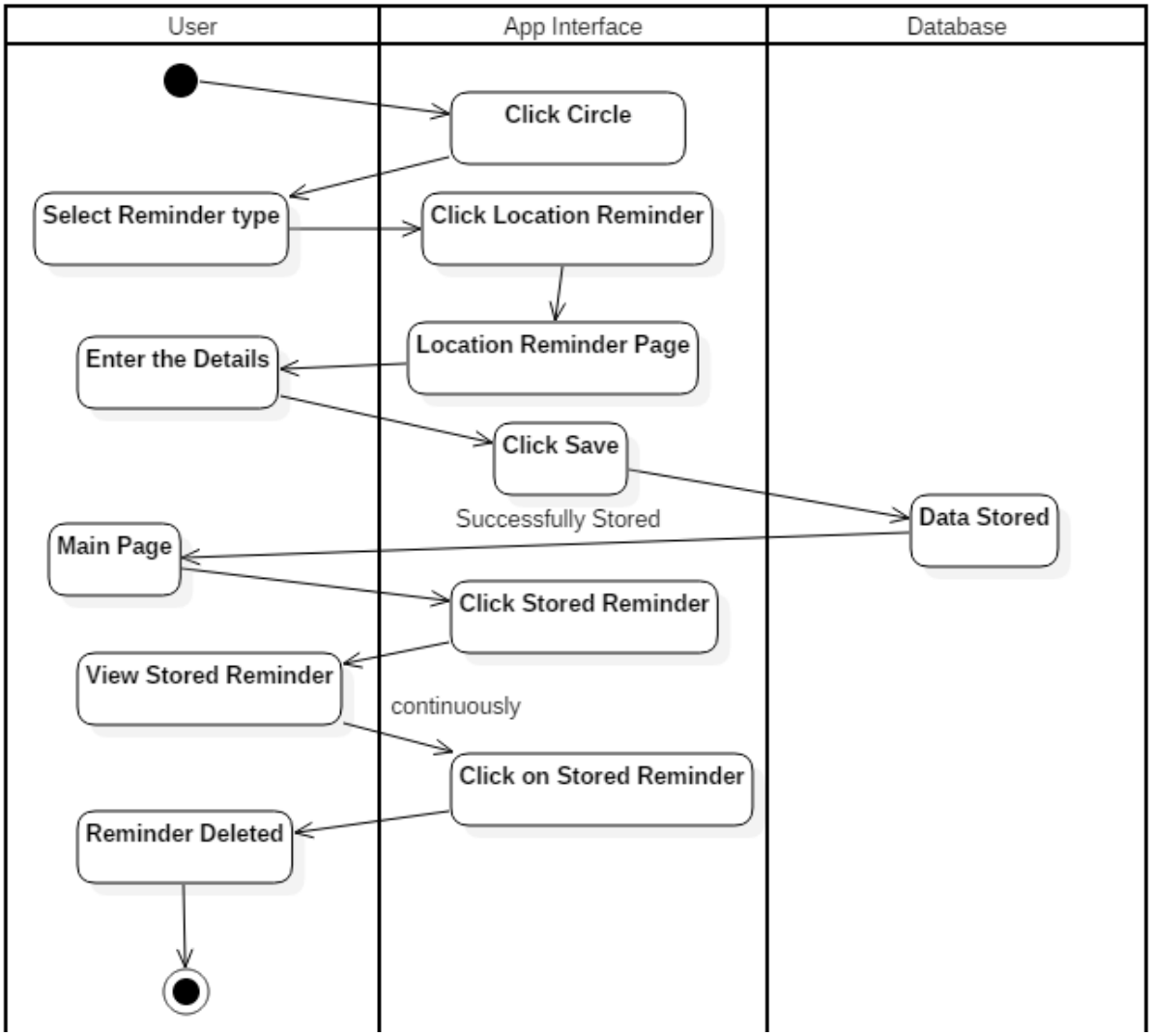

Fig 3.4 Activity Diagram 1

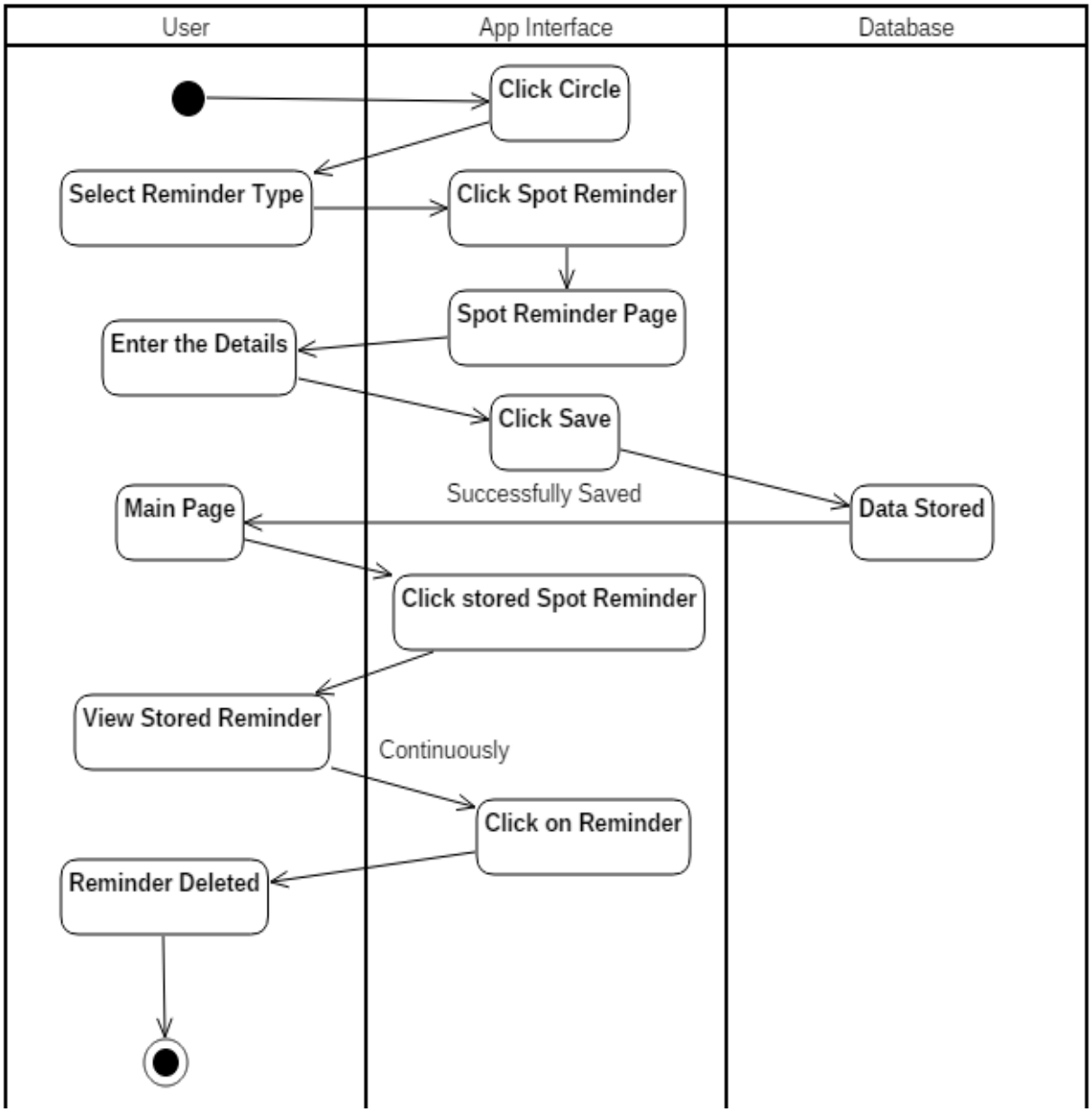

Fig 3.5 Activity Diagram 2

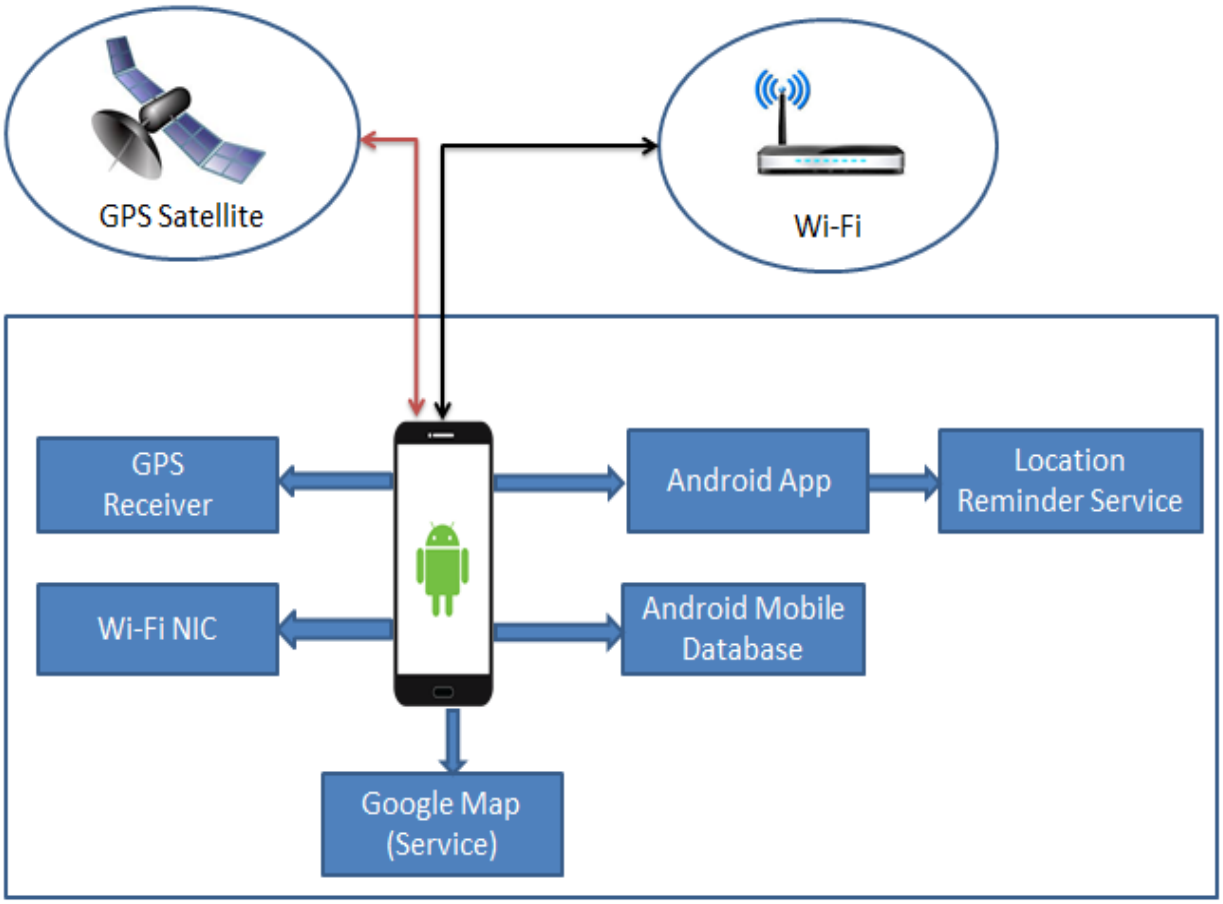

Fig 3.6 Architecture Diagram

4.0 Requirement Analysis

4.1 Tools

4.1.1 Software Requirement:

1. Android studio (version 2.0+)
2. Java (jdk 8)
3. Android operating System (min. android 5.0)

4.1.2 Hardware Requirement:

1. Microsoft window 7 or later
2. Min. 5 GB storage space
3. Min. 2 GB RAM
4. Min. 1 GHz processor

4.2 Functional Requirement

The above Use case diagram (Fig 3.1), sequence diagrams (Fig 3.3) & activity diagram (Fig 3.4-Fig 3.5) shows the functionality of Beep Me android application. The user can add reminder based on location, date. The user can set the range (distance) for the reminder to be notified. The user can find a particular spot using spot finder. The user can see stored reminder and delete the stored reminder.

4.3 Non-Functional Requirement

The Beep Me android application has some non- functionality like design etc. The app will be working with internet connection and GPS. The design of the app will be improvised as project progress and the security of the application. Android applications are more reliable and efficient for using on daily basis. The Beep Me android application is user friendly and interface of the app is very easy to use.

4.4 User Requirement

In these section we will be describe the user requirement what a user want from Beep Me android application. The user want that he/she can add reminder easily or can a find a spot in some locality. The user also wants the android application to response fast and design should be good and user friendly. User wants to add reminder through their voice and set the range for the reminder. If user wants he/she can delete or edit the reminder. The user wants the android application works on slow internet connections or work on offline basis.

5.0 Implementation

It is the first page of Beep Me android application.

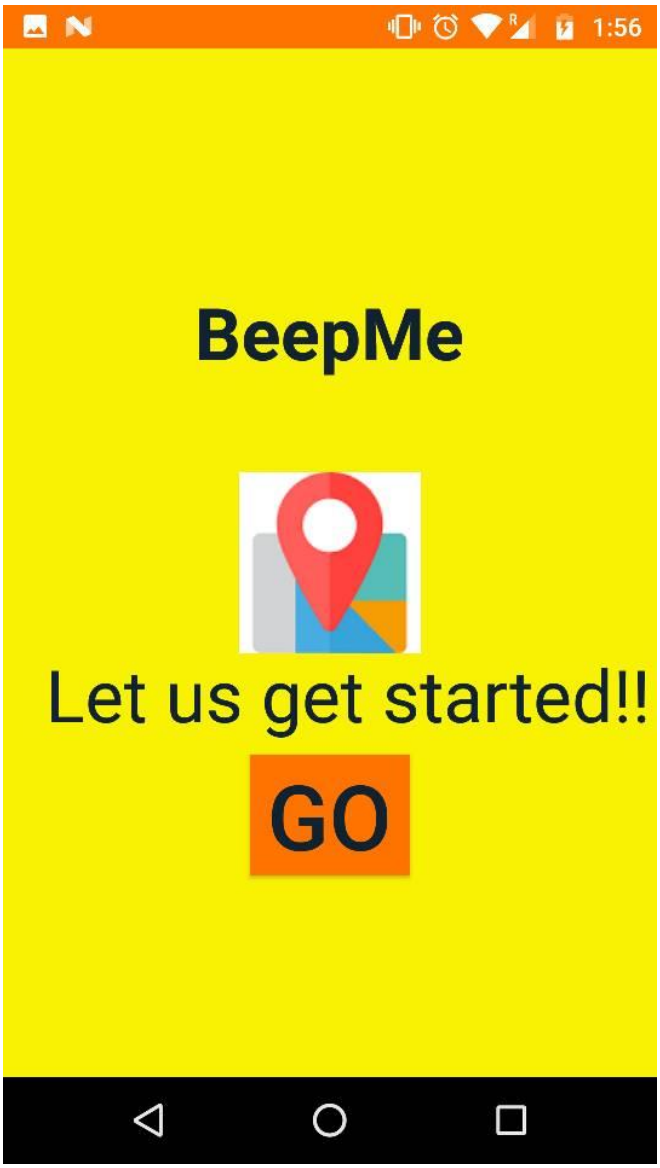

Fig 5.1 First Page

It is second page of Beep Me android application. It is the home page of the application.

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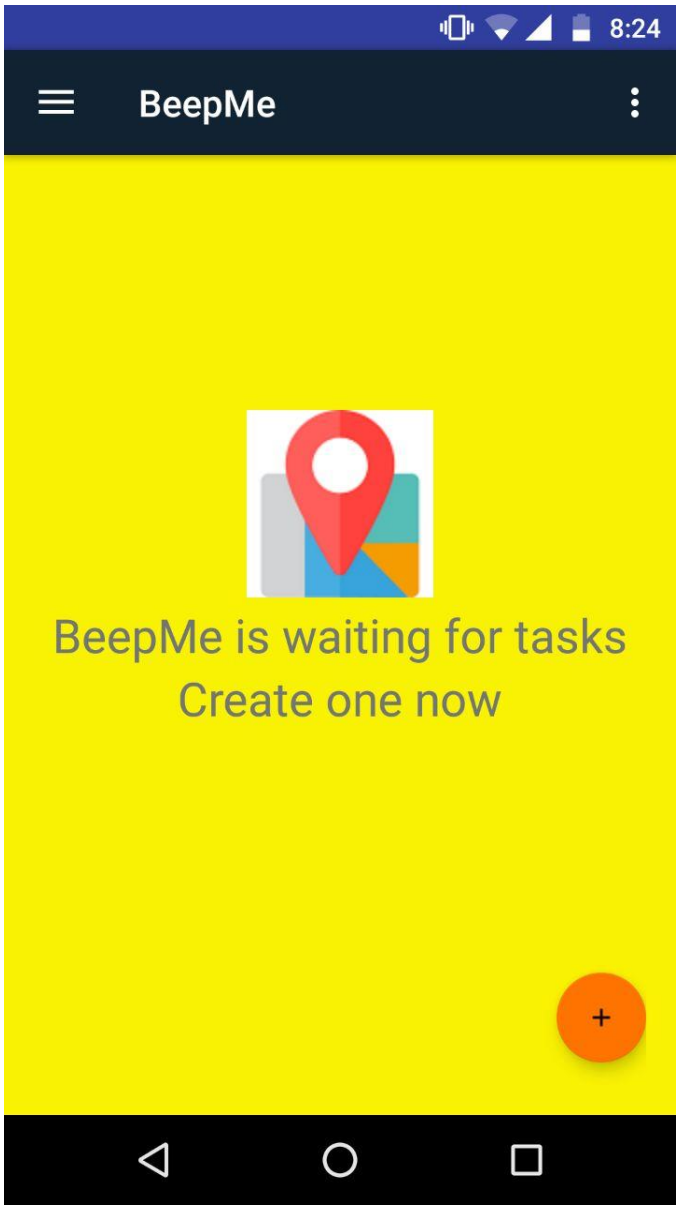

Fig 5.2 Home Page

It is third page of Beep Me android application. It gives user the option for select from this option.

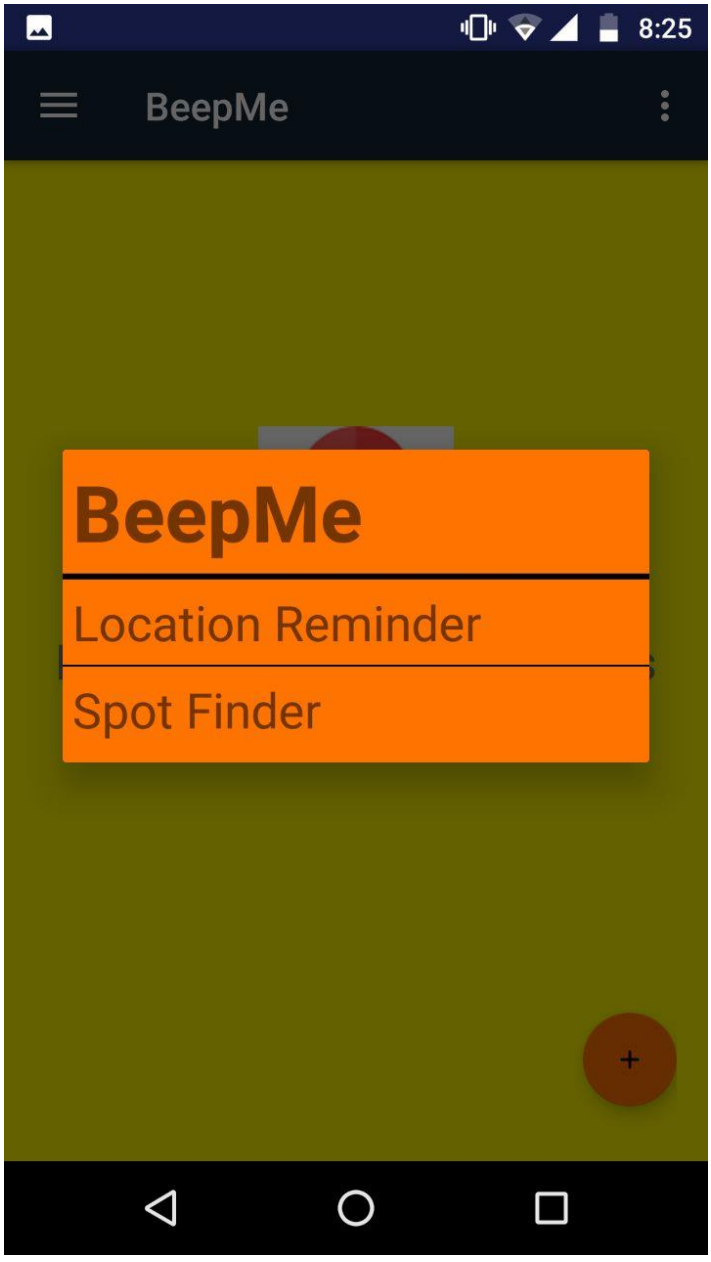

Fig 5.3 Option Page

The fourth page of the android app is the reminder page where the user can fill the data to set reminder. The data then stores in database.

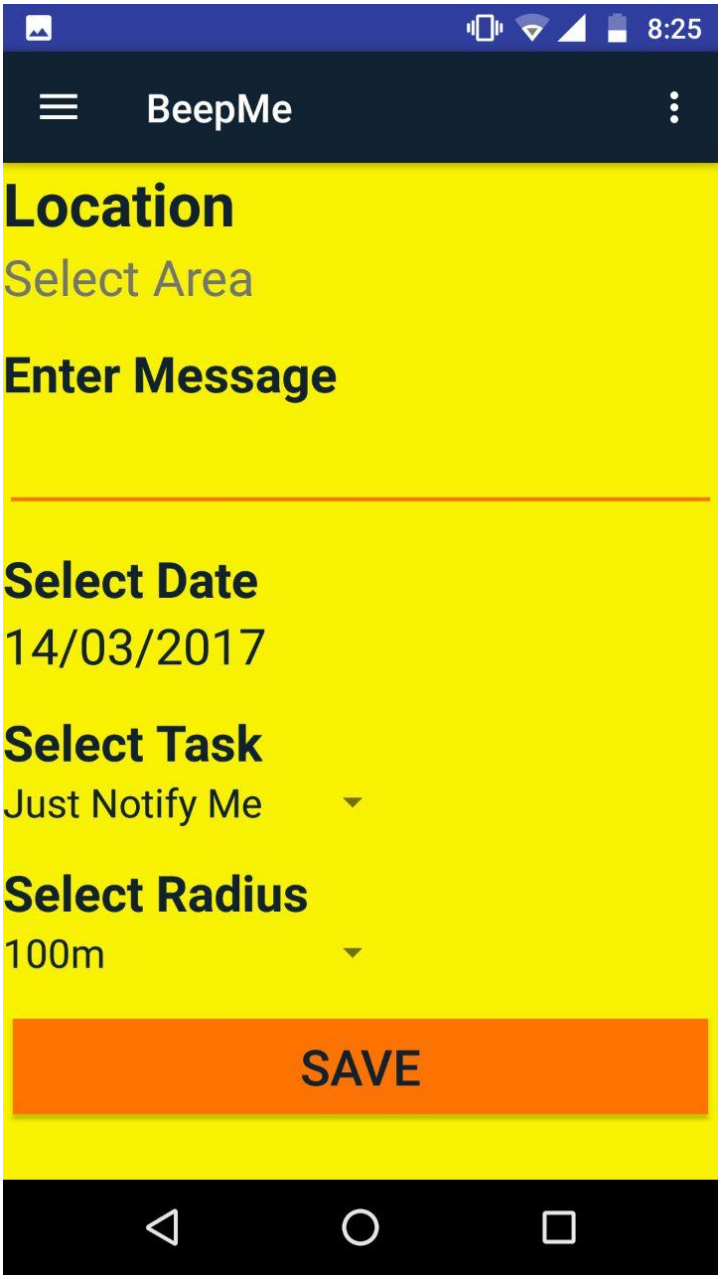

Fig 5.4 Location Reminder Page

The fifth page is maps page in android application. The user can set location for the reminder where it had to notify the user.

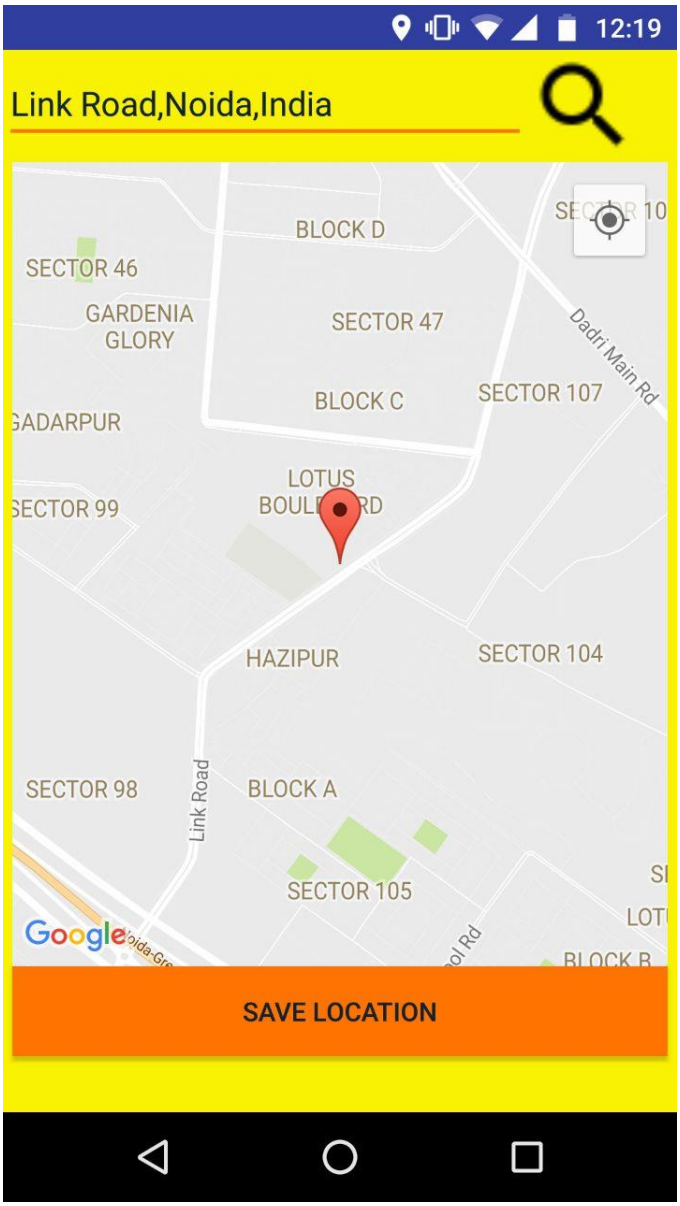

Fig 5.5 Maps Page

The sixth page is the stored reminder page in android app. This page where all reminders are stored and it can be deleted by continuously clicking on them.

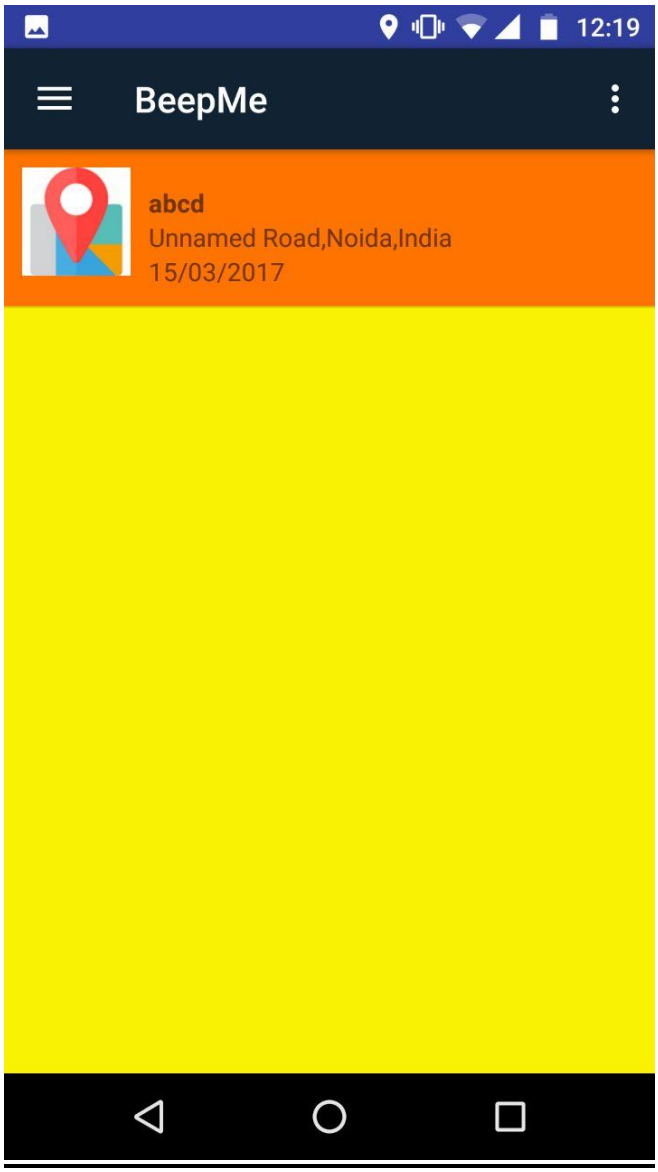

Fig 5.6 Stored Reminder page

The seventh page of the android app is the Spot reminder page where the user can fill the data to set spot reminder. The data then stores in database.

Fig 5.7 Spot Reminder page

The eight page is the stored spot reminder page in android app. This page where all spot reminders are stored and it can be deleted by continuously clicking on them.

Fig 5.8 Stored Spot Reminder page

The ninth page is spot maps page in android application. This page show spot of which spot reminder is set.

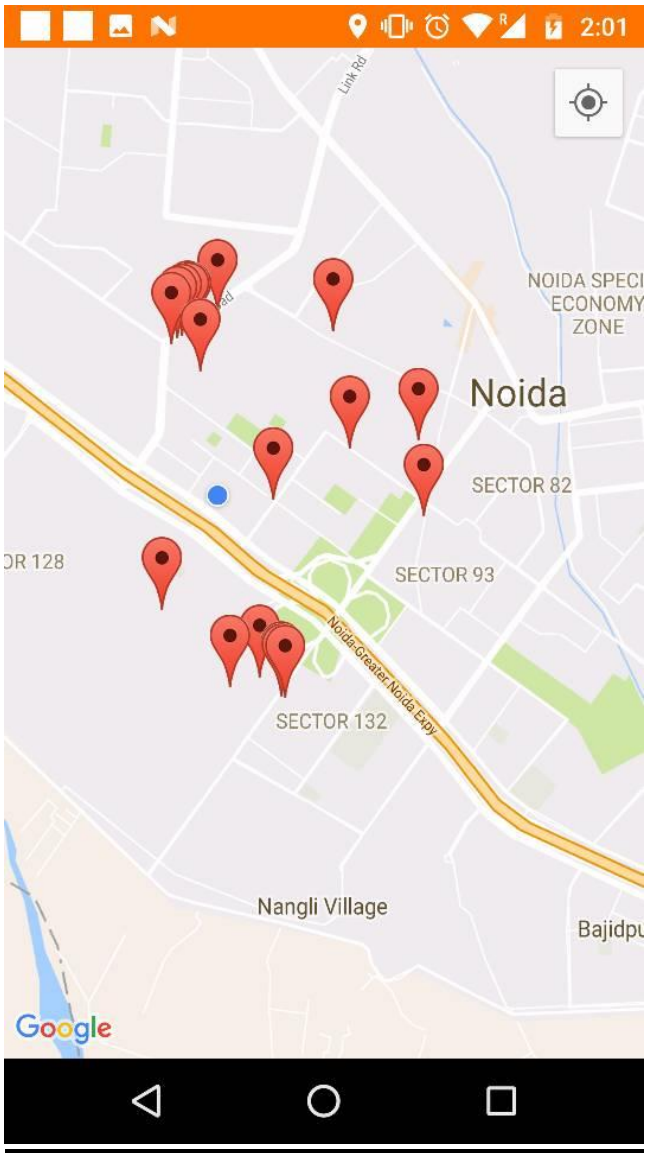

Fig 5.9 Spot Maps Page

6.0 Testing Report

S. No	Test No.	+/-	Short Description	Steps to follow	Expected Result	Obtained Result
1	Test 1	+	Check click on circle button	Click Circle Button	Dialog box appear	Dialog box appear
2	Test 2	+	Check click on “Location Reminder”	Click Location Register	Forwarded to reminder page	Forwarded to reminder page
3	Test 3	+	Check click on “Select Area”	Click Select Area	Forwarded to Maps page	Forwarded to Maps page
4	Test 4	+	Check click on Date	Click Number	Dialog box appear for selecting date	Dialog box appear for selecting date
5	Test 5	+	Check click “SAVE”	Click SAVE	Message display “Successfully saved”	Message display “Successfully saved”
6	Test 6	+	Click on “Stored Reminder”	Click Stored Reminder	Forwarded to stored reminder page	Forwarded to stored reminder page
7	Test 7	+	Click continuously on stored reminder	Long press on reminder	Reminder deleted	Reminder deleted
8	Test8	+	Check Click on “Spot Reminder”	Click Spot Reminder	Forwarded to spot reminder page	Forwarded to spot reminder page
9	Test9	+	Check Click on Place	Click Place	Scroll of different places appear	Scroll of different places appear
10	Test10	+	Click on “stored Spot Reminder”	Click Stored Spot Reminder	Forwarded to stored spot reminder page	Forwarded to stored spot reminder page

Fig 6.1 Test Report

7.0 Conclusion, Limitation & Future Scope

Nowadays it is the era of Android mobile everywhere, we travelled at so many location or places in our daily life it is necessary to know at what location what we have to do and what task should we have to perform on that location, generally we forgot which location we are existing and the important work we have to do on that specified location. This project presents a new application for android based smart phones and tablets that allows the users to create reminders based on location, date etc. Beep Me allows users to create location reminders and be alerted when they enter the locality of a given location. Beep Me has unique features spot finder (alert when reaches a specified place or location), alerting the user with voice, user can delete stored reminder or see stored reminder.

Every android application has some limitation so does our Beep Me android app as it is working on internet connection and GPS of Smartphone's the app can work slow or some problem can occur while selecting location. The app also not work on offline basis and this functionality can be added later in the app. There is no time based reminder. The battery drainage will also be a limitation as the app continuously needs internet connection and GPS on.

As we see the of Beep Me android app has many limitations as our knowledge is limited and some technology limitation the app in future can still improve at later times as knowledge and technology improved and developed. We can add more functionality to the app. We can add time based reminder in the application. We can add battery saver feature in the application. Safe driving feature can also later add in the application. The android application can also work better on slow internet connection as technology improved. The android application data can be stored in cloud database. The application can later share reminder with friends using app.

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