ITIS 5180 MOBILE APPLICATION DEVELOPMENT

GEO REMIND ME

Location based reminder

Team Members:
Sai Harsha Maddela
Yogeshwar Reddy Anugu

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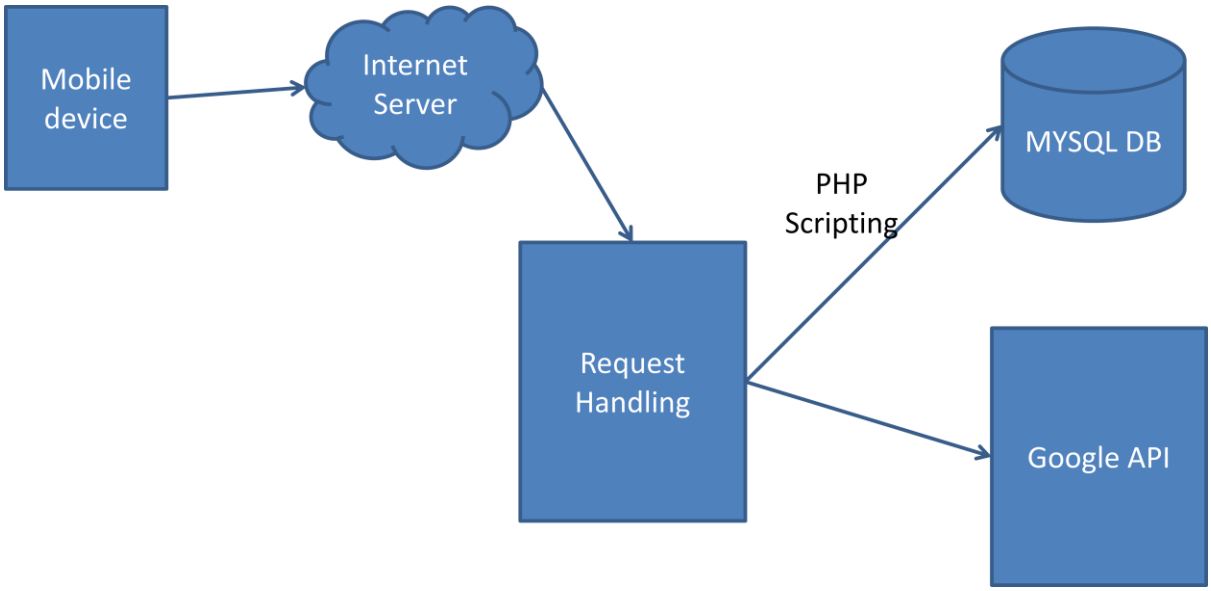
Introduction

Reminders are great applications which always help to keep things organized throughout the day. To do tasks and time based reminders make life lot easier despite the distraction they would cause at times. It is the most common way to accomplish tasks. But there would always be a situation where you wish that the reminder would work based on where you are, reminding the possible tasks that can be accomplished in that area.

There comes the idea of location-based reminders. They add a little intelligence to the old time reminders by reminding you of a task once you arrive at a specific location.

As the name "***GEO REMIND ME***", the app allows user to set location based reminders. Apart from this, the app also comes with a feature to which enable the user to add friends/family and set reminders for them.

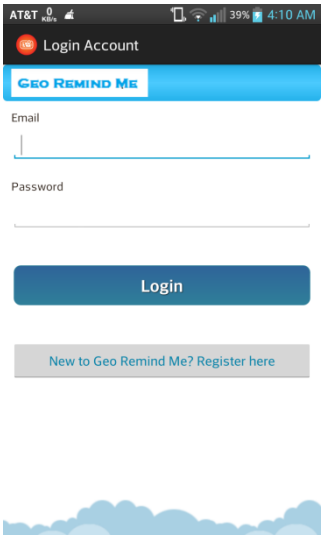
Architecture

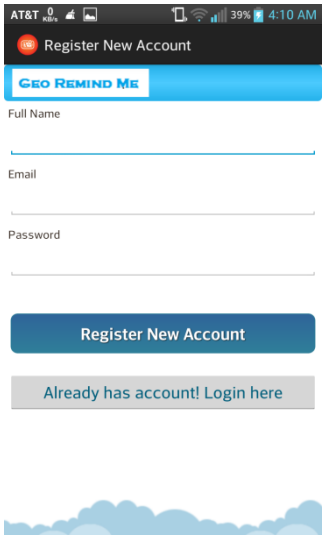


User Activities

1. Login/Register activity

In order to use the application, user should login to the system. This feature was build to keep track of the users and store basic information of the person using the application.



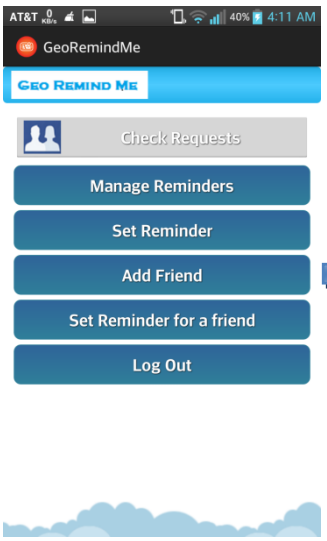


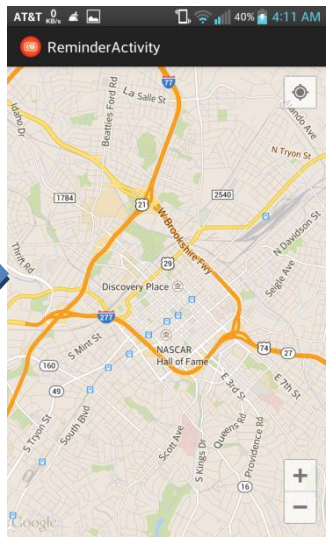
Login Form ***Register Form***

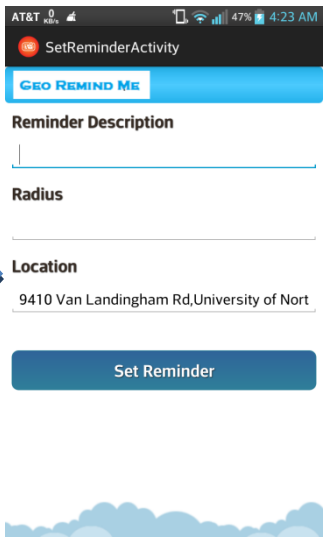
2. Reminder activity

In order to setup Reminders based on the location there involves 3 steps

Step 1: One need to add a location and the proximity range feasible for them.
Step 2: Choose a related description for the reminder
Step 3: Set alerts so that it notifies whenever you enter the proximity range of the location.

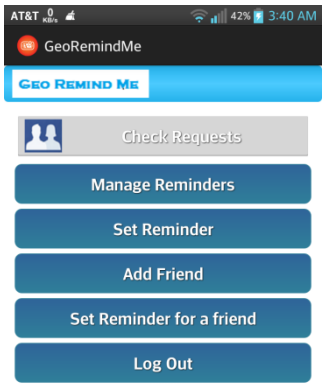






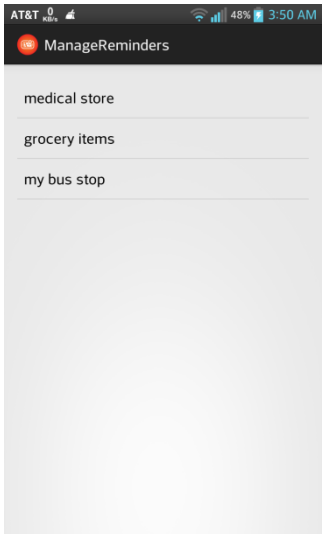
3. Alerts activity

After the User adds reminder, he can chose whether to set alerts for those reminders or not. This feature is made optional in order to make sure whether the user wishes to be disturbed or not.



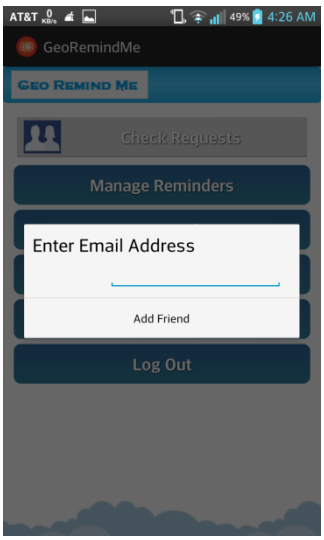
4. Managing Reminder activity

The user can view the list of the reminders set by him/her and can delete the completed tasks.



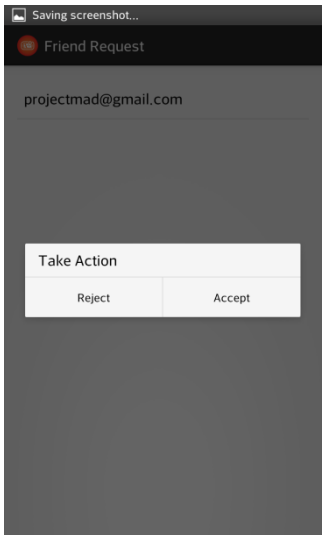
5. Adding Friend's activity

We can add a friend using his email address.



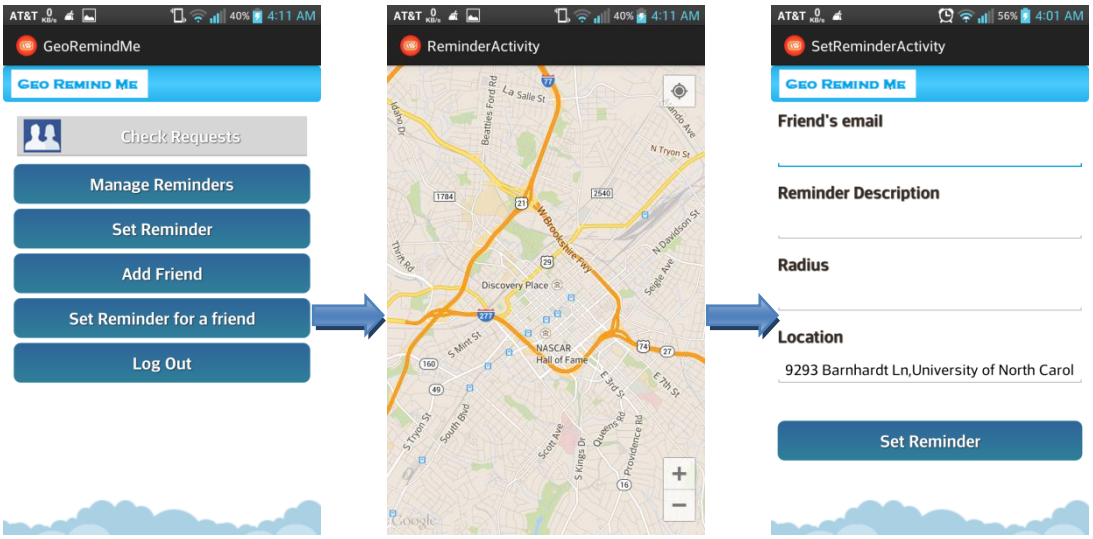
6. Accepting/Checking friend requests activity

From the list of the friend requests the user gets, he can take an action to accept the request or reject it. If the user accepts the friend request, the person will be able to set reminder for him. If the user rejects the request, the person won't be able to set reminder for him.



7. Reminder for a friend activity

Similar to the way, the user would set a reminder for himself, except that he would be asked to enter the email address of the friend he would like to set the reminder for. If the email address exists in his friends list only then the user would be able to set reminder for him.



Implementation

Methodology:

Location based reminder is a useful functionality in smart phone devices. Combining it with Google maps gives a good experience to the user about their location. Location service allows finding out the device current location. The application can request for periodic update of the device location information.

Android has its location API which helps retrieve the location information of the user. These are the different classes present under Location API package.

1. LocationManager: The class provides access to the location service. It also provides facility to get the best location Provider as per the criteria.
2. LocationProvider: It's an abstract super class for location providers. A location provider provides periodic reports on the geographical location of the device.
3. LocationListener: This class provides callback methods which are called when location gets changed. The listener object has to be registered with the location manager.
4. Criteria: The class provides the application to choose suitable Location Provider by providing access to set of required properties of the LocationProvider.

Android provides an API to access the google maps; hence with the help of the google maps and the location APIs the application can show required places to the user on the map.

The project is implemented in a systematic manner and the code reusability has been taken care. The naming of the files has been taken care for easily understanding and the project has met the proposal made earlier. Client-side functionality is developed by using the android SDK manager. Server-side functionality is achieved by using PHP and MySQL and APACHE server.

Individual Contribution

1. Sai Harsha Maddela: MainActivity, LoginActivity, RegistrationActivity ,ManageFriendsActivity
2. Yogeshwar Reddy Anugu: ManageRemindersActivity, SetReminderActivity, SetRemindersForFriendsActivity, AddFriendActivity.

System Testing

We developed the mobile application on android covering all the mentioned APIs on Eclipse using the Android SDK manager.

Specification:

Android Version 4.4.2

Android Permissions:

1. android.permission.INTERNET
2. android.permission.ACCESS_NETWORK_STATE
3. android.permission.WRITE_EXTERNAL_STORAGE
4. com.google.android.providers.gsf.permission.READ_GSERVICES
5. android.permission.ACCESS_COARSE_LOCATION
6. android.permission.ACCESS_FINE_LOCATION

7. android.permission.ACCESS_MOCK_LOCATION
8. android.permission.VIBRATE

Devices Used for testing:

Samsung Note 2, HTC One and LG Optimus G

Application Constraints:

1. ***Blind spot location***

   The major problem in location based reminders is that there is a lack of spread of the net connectivity countryside. Therefore this might create some blind spot areas where the location might not be detected by the application.

2. ***Internet connectivity***

   The application would notify only when the device has net connectivity enabled. A general time based reminder would be able to notify without the need of net connectivity but in order to retrieve the location it becomes mandatory to have net connectivity for alerts.

App Highlights

1. **Alerts**:

   Alerts save the burden to keep knowledge of the set reminders.

2. **Socializing**:

   Communication between the users makes this app interesting i.e. the feature to add friends & set reminders for them.

Issues Faced

The application uses the basic features of an Android application. The main task in building this application is to use the Google API, which is provided by the android and retrieve the appropriate and accurate location selected by the user using Android API.

Developing a reminder type app has the major issue on how the user would like to the view of the application and how he would like to be reminded. Moreover, alert activity is a feature which would need a wide understanding on how to make it user friendly and less distractive for the user.

Future Scope

1. Integration with Social Networking sites
2. Personalization
   a. Reminder view
   b. Notification Sounds
   c. Feature to set for when you “go in” or “go out.”
   d. Allowing to edit the reminder
3. Developing for tablets & IOS framework

Demo

https://www.youtube.com/watch?v=a8m7SJwY5Q4

References

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