CSE 535: Mobile Computing

Groupify Android Application

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ABSTRACT

Nowadays, we all notice that one of the arising problems among the students is to find an appropriate group partners for their academic group projects and if the group size to be form is large then the problem becomes even more intense. The app Groupify is designed to solve this common problem. It will enable the users to find them group partners according to their wish by inspecting through either the LinkedIn profile of the people or by judging their skills.

KEYWORDS

Android, Groupify, Android Studio, LinkedIn, GPS, Location.

INTRODUCTION

Seeing the group formation issue in the class, we developed an app that will help students to form groups for their course project. This app will also allow students to check each other's academic and professional information extracted from their LinkedIn account or entered manually which in turn will strengthen their decision of joining a group. Users can also set up team meetings through our app. For additional flexibility, our app will also allow a student to change his/her group before the group formation deadline. Apart from this, we also integrated location tracking feature using GPS in our app.

IMPLEMENTATION AND ALGORITHMS USED

Tracking location and sending notifications

1. **Database Creation and Modification**

1.1 User Registration, Login, Course Selection and Attaching LinkedIn Profile.

SQLite Database is used at the backend of the application to perform the tasks related to storage, update and retrieval of data. We have created multiple tables such as COURSES, GROUP_INFO, GROUP_MEETING_INFO, USER_INFO, and USER_PROFILE_INFO (refer *Figure 3, 4, 5, 6*). The first time user needs to register on the app to create an account by entering data as shown in *Figure 2.* This data is stored in USER_INFO table. When the user tries to login for the first time, his/her credentials are verified from USER_INFO database, if the match is found, his/her professional info is extracted from LinkedIn and stored in USER_PROFILE_INFO and the menu in *Figure 10* appears. The Primary Key for USER_PROFILE_INFO acts as a unique Identifier that will be used to map user details in other tables.

1.2 Group Creation, Join Group, View Group Info, Delete Group

There are 8 pre-created group, each with the capacity of 3 members. When the user selects a particular group and clicks on Join the GROUP_INFO table is updated with the details of the user's unique ID. The user can also view any member's profile (see *Figure 9*) by clicking on their names. The user can remove himself from a joined group by clicking Remove button which removes the users entry from GROUP_INFO table.

1.3 Setting Meetings, View Meetings and Meeting Notifications

When a meeting is set by any member of the group, its entry is recorded in the GROUP_MEETING_INFO table. There other members get a notification of the meeting as shown in *Figure 7.* All the meetings that are created (irrespective of Open/Reject Status) can be viewed by clicking My Meeting button (refer *Figure 8*). The meeting data is extracted from GROUP_MEETING_INFO table by mapping the Group Number for a particular user.

2. **Tracking location and sending notifications**

If the GPS of the user's mobile is enabled, then a background service will constantly monitor the location of the user. If the user is part of a group meeting assigned on a particular day then that background service will pick the address of the meeting location and convert it into longitude and latitude coordinates and find the distance between the user's current location and the meeting location and if the user has not reached the location on time, then the application will notify him about the meeting. I added below three permission in Manifest.xml to access the location via GPS:

```
1. <uses-permission
android:name="android.permission.INTERNET" />

2. <uses-permission
android:name="android.permission.ACCESS_FINE_L
OCATION" />

3. <uses-permission
android:name="android.permission.ACCESS_COARSE
_LOCATION" />
```

TASK DIVISION

	Tasks and work to be done	Member name
1	Login screen which includes Sign in and Sign Up	Arpit Gupta
2	Registration(Signup) page	Arpit Gupta
3	Attach Linkedin Profile	Surbhi Aggarwal
4	Entering and Storing Academic and Professional Information	Prithvish Mamtora
5	Course selection	Surbhi Aggarwal
6	Group Creation	Prithvish Mamtora
7	View Existing Groups	Surbhi Aggarwal
8	View other students' profile	Surbhi Aggarwal
9	Join other groups	Prithvish Mamtora
10	Notifications	Arpit Gupta
11	Share my location	Arpit Gupta
12	Tracking location	Arpit Gupta
13	Setting up a meeting	Surbhi Aggarwal
14	Delete existing groups	Prithvish Mamtora
15	My group information	Prithvish Mamtora

Application Screenshots

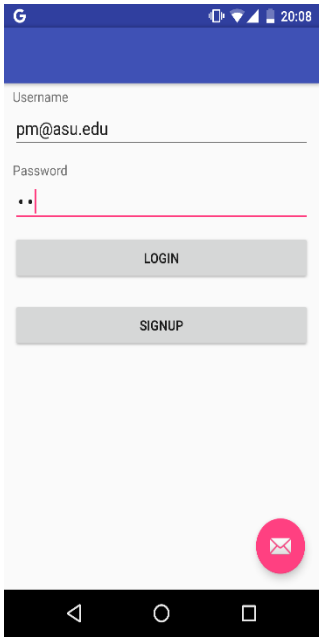

Figure 1

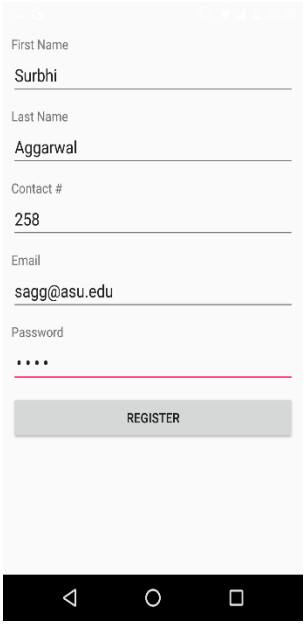

Figure 2

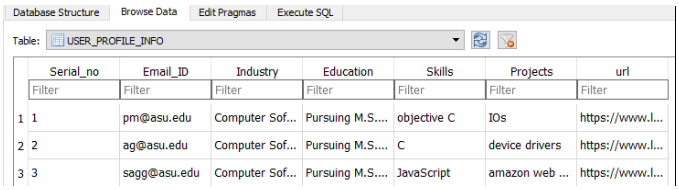

Figure 3

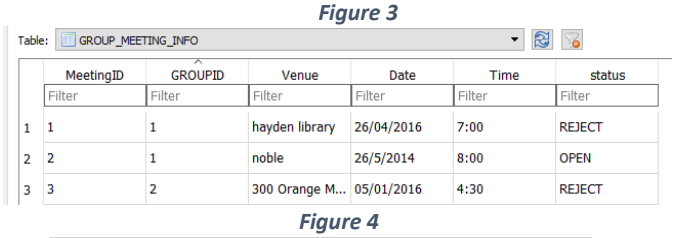

Figure 4

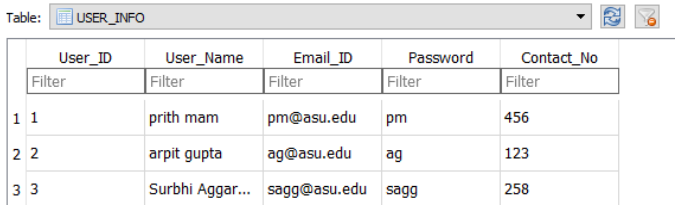

Figure 5

Table: GROUP_INFO

	Group_no	Member_ID1	Member_ID2	Member_ID3	Count
	Filter	Filter	Filter	Filter	Filter
1	1	1	0	0	1
2	2	2	3	0	2
3	3	0	0	0	0
4	4	0	0	0	0
5	5	0	0	0	0
6	6	0	0	0	0
7	7	0	0	0	0
8	8	0	0	0	0

Figure 6

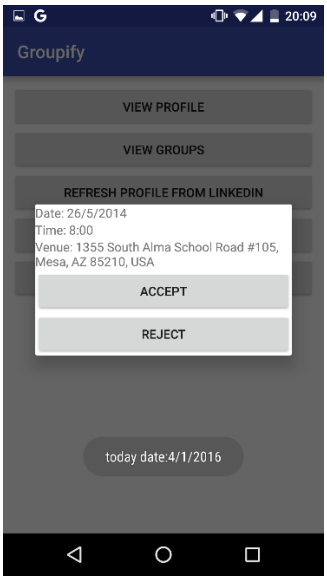

Figure 7

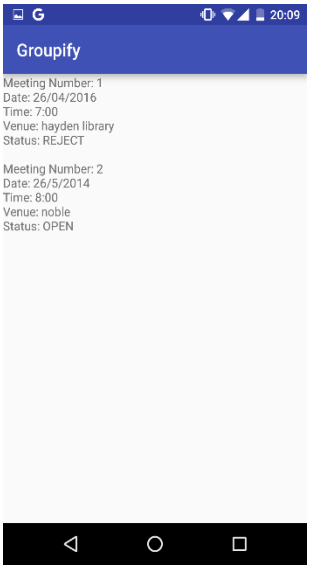

Figure 8

Figure 9

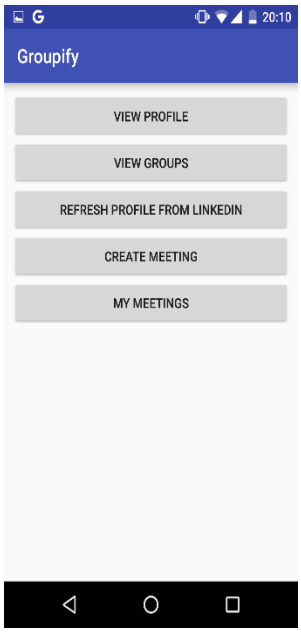

Figure 10

CONCLUSION

The app designed will ease down the students' task to form groups for their course projects. Users need to enable their GPS while using this application in order to access location tracking feature of this application, so the team members get the non-erroneous notification about their location and time. The application will access the LinkedIn profile of the user to get the data related to his academic skills and other professional details and if the user wants to modify the data fetched from his LinkedIn account, he can do that as well.

ACKNOWLEDGEMENTS

We would like to thanks our Professor Dr. Ayan Banerjee and our TA for their continued support. We are grateful of them to provide valuable feedback and comments time to time and to guide us towards the right direction.

REFERENCES

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6. http://developer.android.com/training/index.html