4/13/2015

My Shared Diary

Android Application Project

Project Group: PG2

Team Members

Chelle, Vishnu – 07

Arumalla, Chandra Mouli – 03

Lam, Sundar Sagar – 19

Salapaka, Phanideep – 28

I. Introduction

The idea of this project comes from the question which each one of us encounter at some point of our daily life "What have I done during last week/month/someday?", and we don't have an answer. We believe- "Human brains are very powerful to remember almost everything that happens but humans are not that powerful to restore that information from brain". Here comes the necessity of having some other system to track and store our daily activities. This was done traditionally from ages by writing a "Dairy" mostly at the end of day about the events of that day. But now with the busy modern work life, it is difficult to find time to sit and write about ourselves. But still we have to track ourselves right?

This gives us the motivation to create something which will be with us throughout most of our daily time and track out events. Now the question comes what we have to create? Based on our understanding on this modern world we are making this statement "Smartphone is almost a human body part." This motivated us to consider smartphone to track our daily activities.

II. Project Goal and Objectives

Overall goal:

Our main goal is to build an android application [9] which will replace the traditional system of writing dairies in books. We know that this is not a new idea but our objective is to make a part of our personal dairies to get shared between communities. A user can share his/her info as private information which will remain on his time track also share some common events or info with his communities like friends and family. Objective is to track ones individual life based on timestamp and location as well as track daily events of the person based on communities like family.

Specific Objective:

To be specific our objective is to answer two simple questions of an individual:

"What I have done in last month/week/specific date?" – Provide tracked input of user including metrics like travel, restaurants etc.

"What my community (e.g.: family) has done in last month/week/specific date?" – Provides all the shared information from the users belonging to a specific group.

III. Import Existing Services/API:

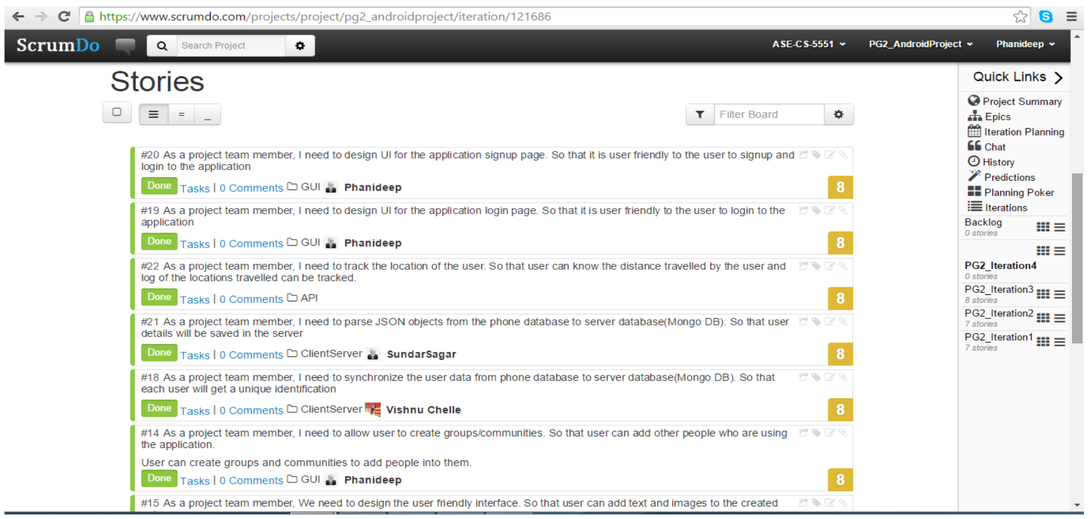
Yelp API: Yelp API is a powerful service to search restaurants using geo location. Our idea of using this service in our project is to provide the user recommendations of restaurants during use's lunch and dinner time.

Google Maps API: We are getting the current location of the user using this service. The location details will be used to calculate user's travel metrics and also to store the user's input with respect to location.

Google Distance Matrix API: We can get the distance between two locations fetched by Google Maps API using this.

IV. Detailed Design and Services

User Storied from ScrumDo:



https://www.scrumdo.com/projects/project/pg2_androidproject/iteration/121686

Stories

#20 As a project team member, I need to design UI for the application signup page. So that it is user friendly to the user to signup and login to the application
Done Tasks | 0 Comments GUI Phanideep 8

#19 As a project team member, I need to design UI for the application login page. So that it is user friendly to the user to login to the application
Done Tasks | 0 Comments GUI Phanideep 8

#22 As a project team member, I need to track the location of the user. So that user can know the distance travelled by the user and log of the locations travelled can be tracked.
Done Tasks | 0 Comments API 8

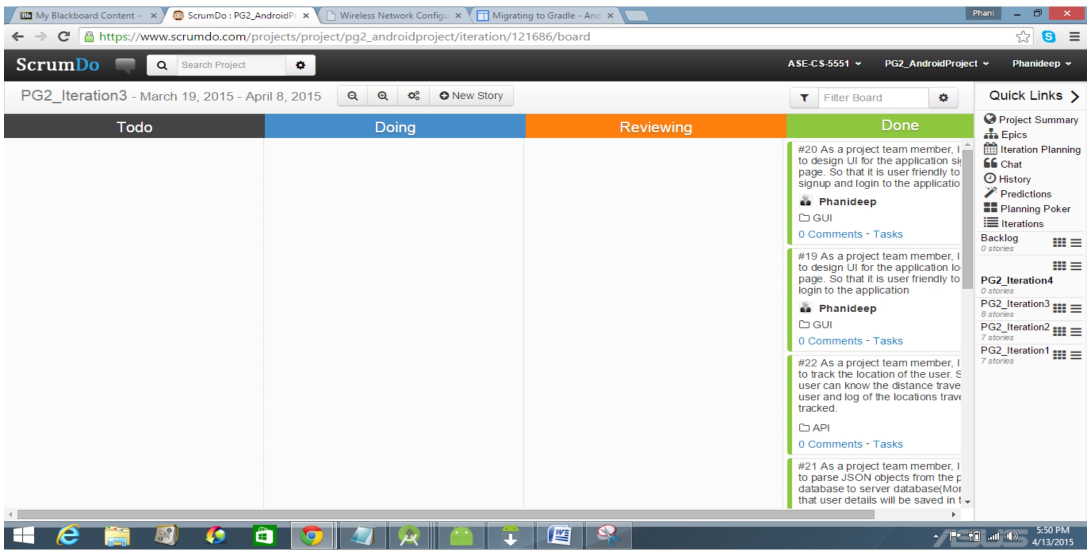
#21 As a project team member, I need to parse JSON objects from the phone database to server database(Mongo DB). So that user details will be saved in the server
Done Tasks | 0 Comments ClientServer SundarSagar 8

#18 As a project team member, I need to synchronize the user data from phone database to server database(Mongo DB). So that each user will get a unique identification
Done Tasks | 0 Comments ClientServer Vishnu Chelle 8

#14 As a project team member, I need to allow user to create groups/communities. So that user can add other people who are using the application.
User can create groups and communities to add people into them.
Done Tasks | 0 Comments GUI Phanideep 8

#15 As a project team member, We need to design the user friendly interface. So that user can add text and images to the created

Backlog	0 stories
PG2_Iteration4	0 stories
PG2_Iteration3	8 stories
PG2_Iteration2	7 stories
PG2_Iteration1	7 stories



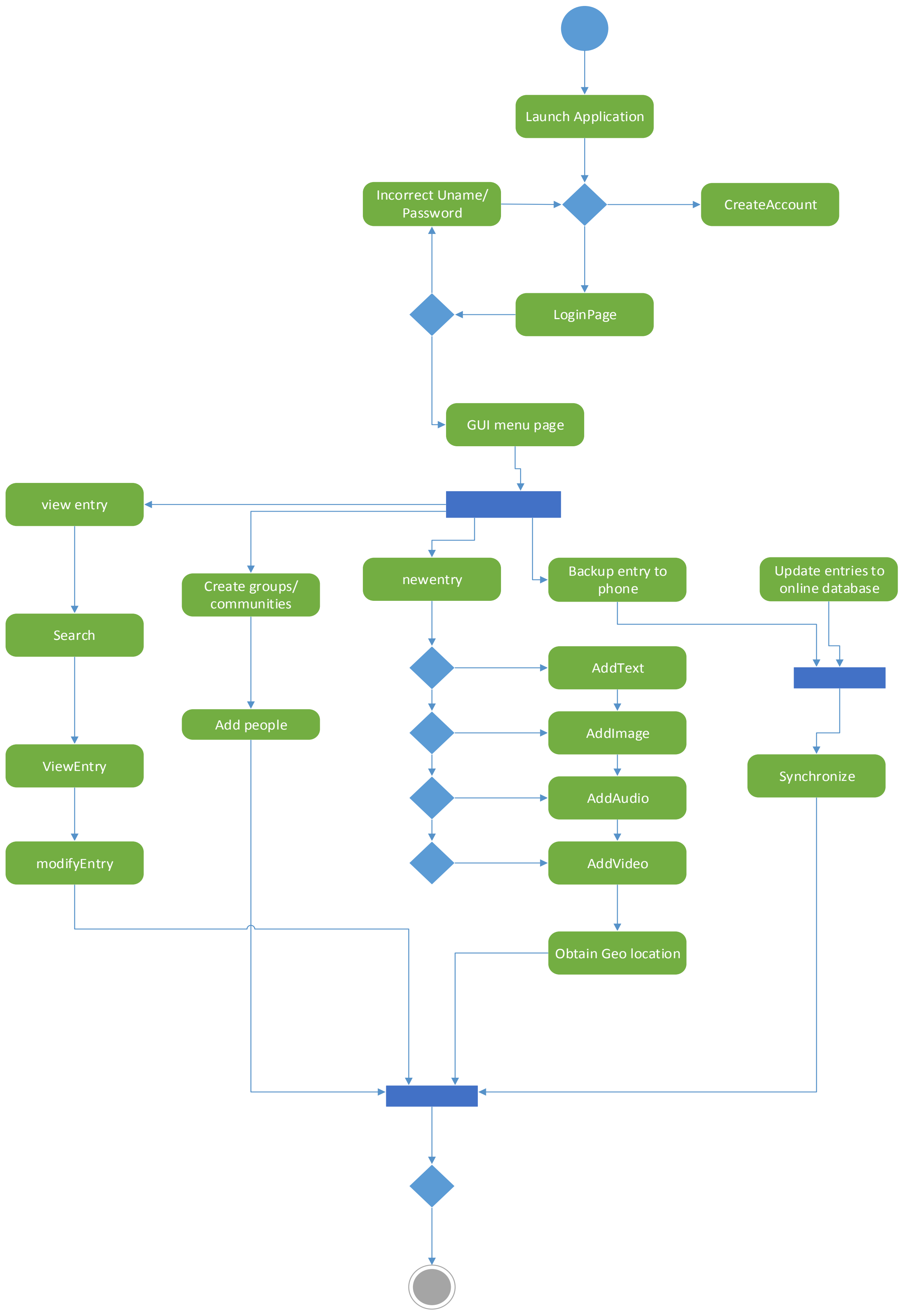
https://www.scrumdo.com/projects/project/pg2_androidproject/iteration/121686/board

PG2_Iteration3 - March 19, 2015 - April 8, 2015

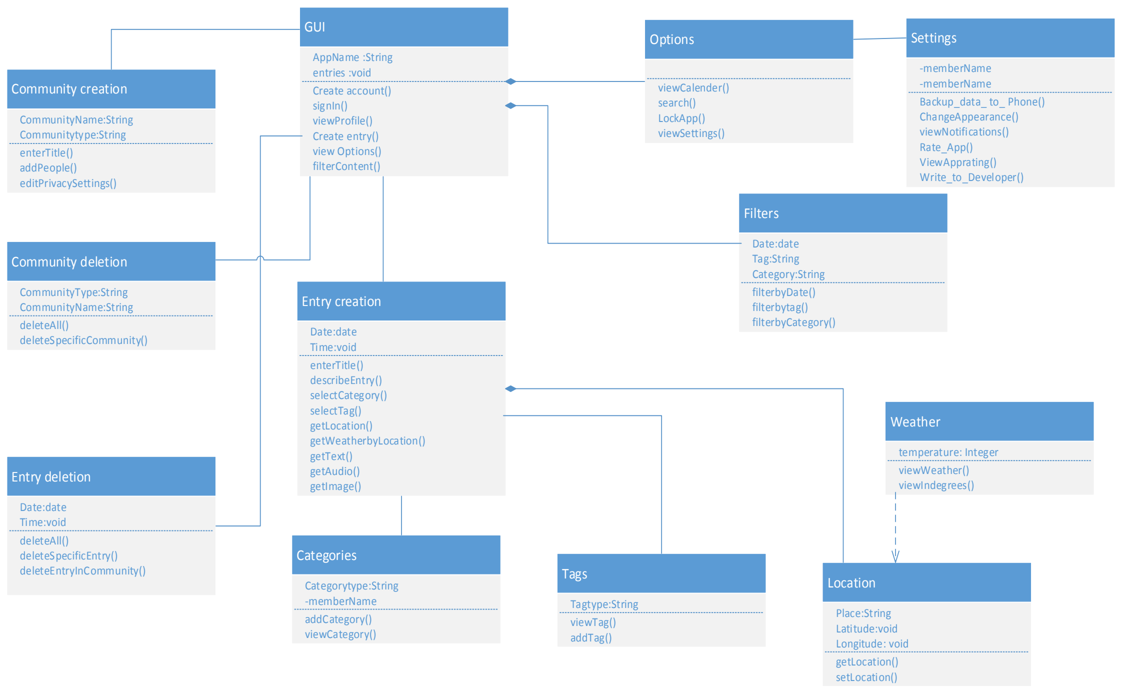
Todo	Doing	Reviewing	Done
			#20 As a project team member, I to design UI for the application si page. So that it is user friendly to signup and login to the applicatio Phanideep GUI 0 Comments - Tasks
			#19 As a project team member, I to design UI for the application lo page. So that it is user friendly to login to the application Phanideep GUI 0 Comments - Tasks
			#22 As a project team member, I to track the location of the user. S user can know the distance trave user and log of the locations trave tracked. API 0 Comments - Tasks
			#21 As a project team member, I to parse JSON objects from the p database to server database(Mor that user details will be saved in t

Backlog	0 stories
PG2_Iteration4	0 stories
PG2_Iteration3	8 stories
PG2_Iteration2	7 stories
PG2_Iteration1	7 stories

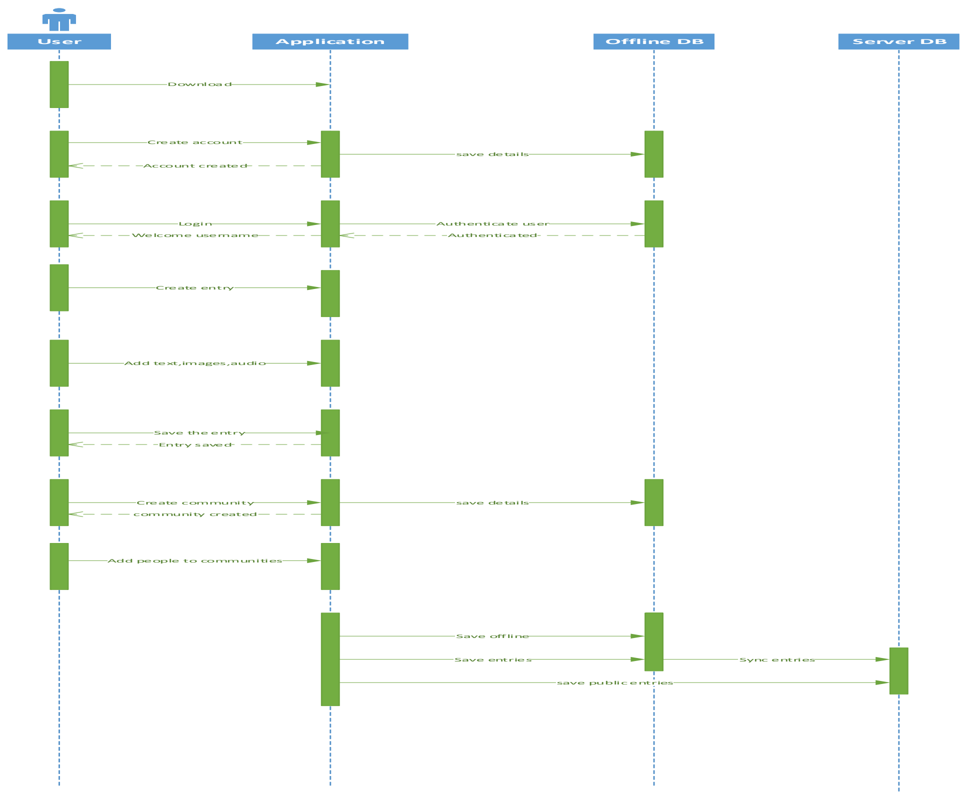
Activity Diagram:



Class Diagram:



Sequence Diagram:



Design of Mobile Client Interface:

Mobile client interface contains login and signup options.

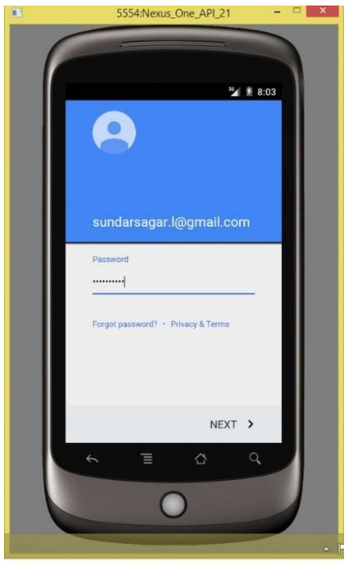
User also has the advantage of logging into the application using google+ account.

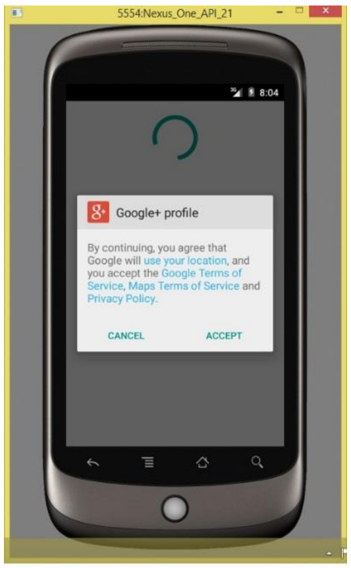
Once the user logs into the application, an entry screen of the dairy will be displayed.

The entry screen of the dairy contains adding an entry to the diary and deletion of an existing entry.

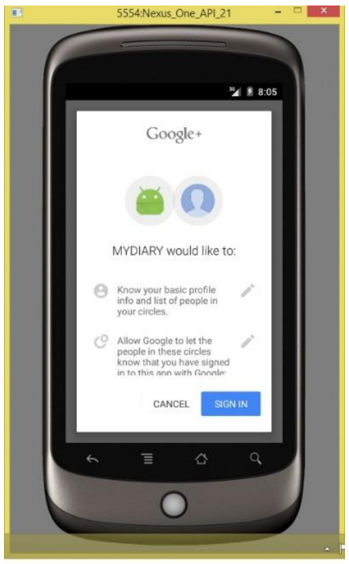
User can create a security pin lock the app.

Below are the screenshots for the above scenarios:



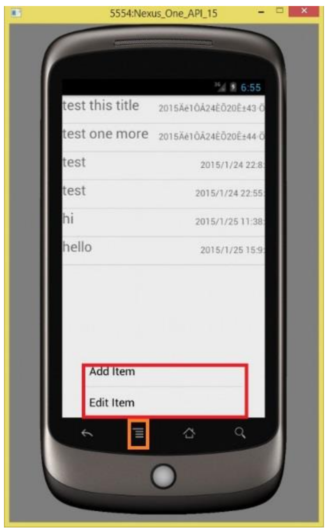


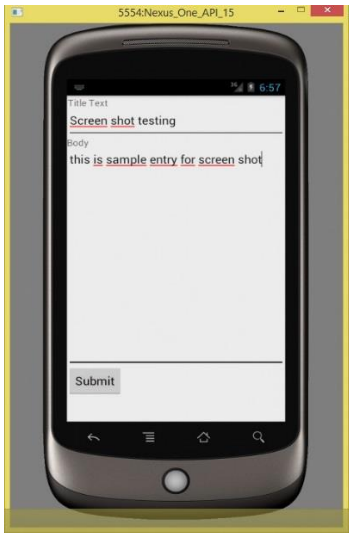
By continuing, you agree that Google will use your location, and you accept the Google Terms of Service, Maps Terms of Service and Privacy Policy.



Know your basic profile info and list of people in your circles.

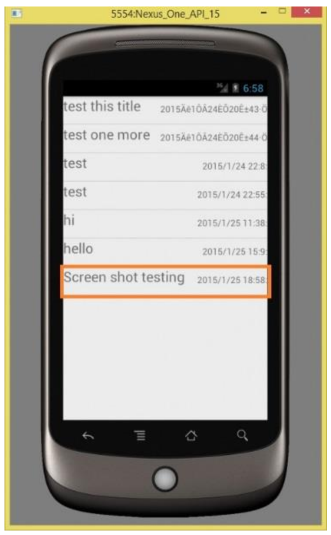
Allow Google to let the people in these circles know that you have signed in to this app with Google

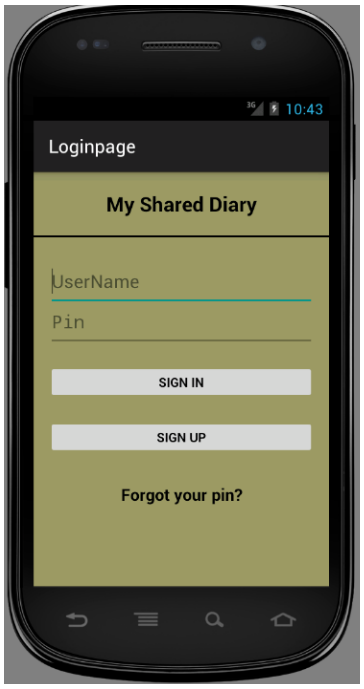


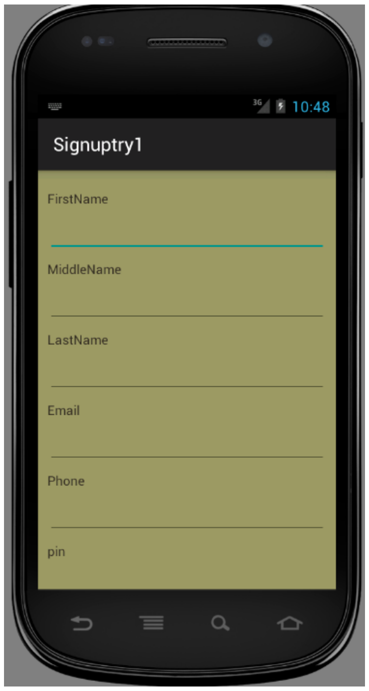


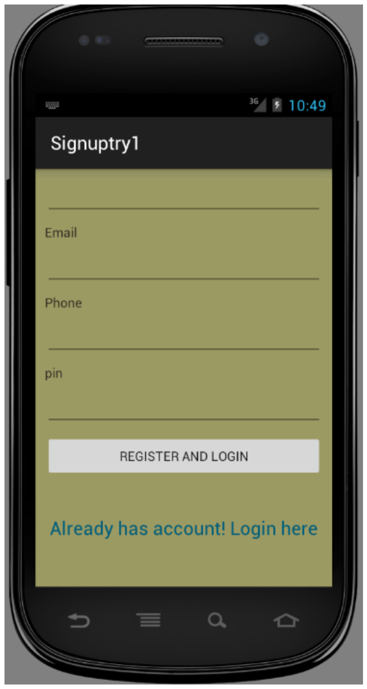
Screen shot testing

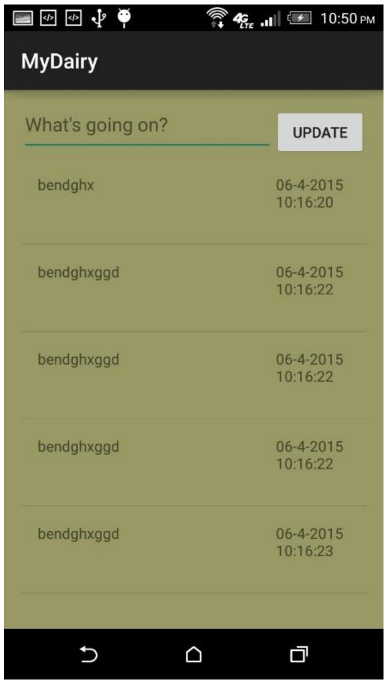
this is sample entry for screen shot

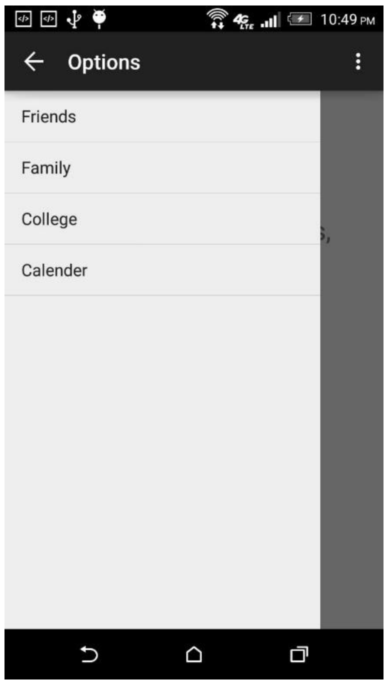



10:43
Loginpage
My Shared Diary
UserName
Pin
SIGN IN
SIGN UP
Forgot your pin?


10:48
Signuptry1
FirstName
MiddleName
LastName
Email
Phone
pin


10:49
Signuptry1
Email
Phone
pin
REGISTER AND LOGIN
Already has account! Login here


10:50 PM
MyDairy
What's going on?
UPDATE
bendghx 06-4-2015 10:16:20
bendghxggd 06-4-2015 10:16:22
bendghxggd 06-4-2015 10:16:22
bendghxggd 06-4-2015 10:16:22
bendghxggd 06-4-2015 10:16:23

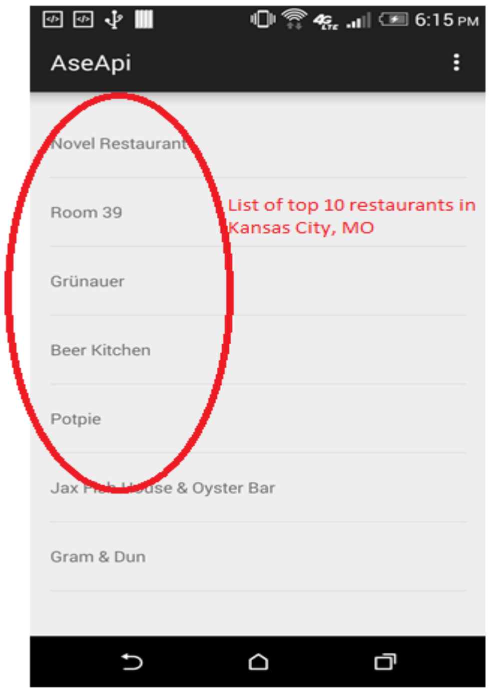

10:49 PM
Options
Friends
Family
College
Calender

V. Implementation of REST Services

We have divided our work into two parts mainly as mentioned below.

1. Implement a simple dairy template with basic inputs like text and store them in the database using timestamp.
2. Play around with existing API's which we will be using in coming iterations. We have developed two sample application for both the API's which we are using to test whether the API's are working as expected.

Yelp API: AseApi application which provides Top 10 restaurant in any search area. This application is developed using Yelp API service. We are making a HTTP POST request to Yelp API and retrieving information. We will get a list of businesses in the searched area in JSON format. For the time being we are only displaying only name of the business in the below application.



AseApi

Novel Restaurant

Room 39

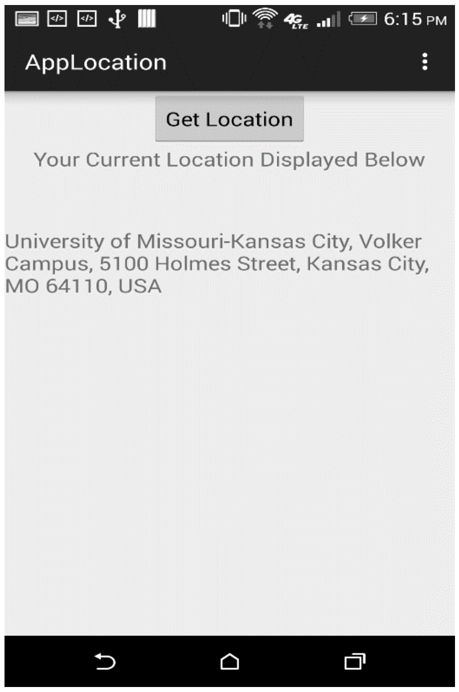
Grünauer

Beer Kitchen

Potpie

Jax Fish House & Oyster Bar

Gram & Dun



AppLocation

Get Location

Your Current Location Displayed Below

University of Missouri-Kansas City, Volker Campus, 5100 Holmes Street, Kansas City, MO 64110, USA

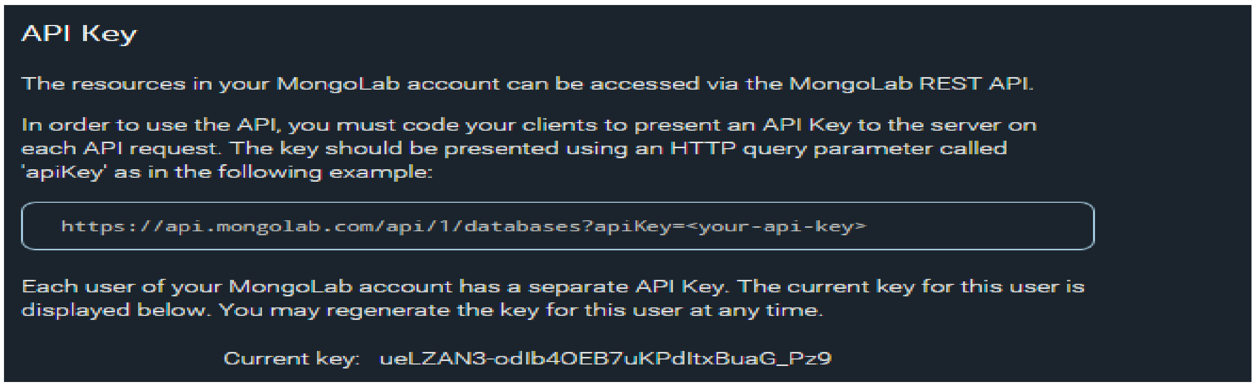
Google Maps API: Below application AppLocation will fetch the current location of the user at any point of time when the user's GPS is on. The application uses Android GPS service to fetch the latitude and longitude of the user and then we will make a HTTP POST request to Google API with the latitude and longitude to get the current address of the user. Google Maps API provides results in a JSON array format with all possible locations. In below application we are displaying the formatted address of the first location in the array.

Google Distance Matrix API: This API will find the distance between two locations on the map. It will use the locations fetched by Google Maps API. The information returned is based on the recommended route between start and end points, as calculated by the Google Maps API.

MONGO database as backend server:

We have chosen mongo db as our server database for its flexible nature. The data model of mongo db helps you to store data of any structure and dynamically modify the schema. Mongolab.com provides sample database to load some data. A collection is created in this database to load the data from SQLite database to mongo. The lab also provides a unique API key for our account which is used as an authentication to load our data. The code included in the query builder will convert the data in the SQLite table to JSON format through parsing. The retrieval in mongo lab also shows the values in JSON format as well as it loads the vaules into it in JSON.

Generation of Unique API Key



API Key

The resources in your MongoLab account can be accessed via the MongoLab REST API.

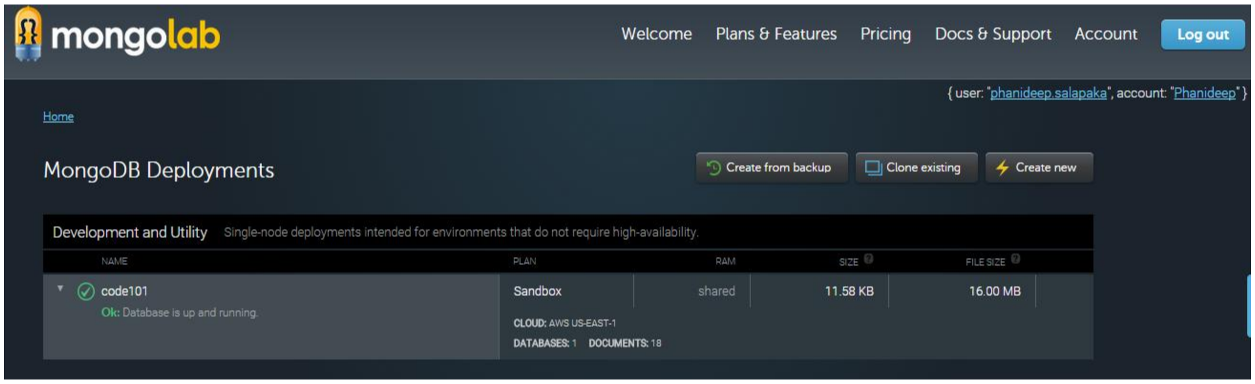
In order to use the API, you must code your clients to present an API Key to the server on each API request. The key should be presented using an HTTP query parameter called 'apiKey' as in the following example:

```
https://api.mongolab.com/api/1/databases?apiKey=<your-api-key>
```

Each user of your MongoLab account has a separate API Key. The current key for this user is displayed below. You may regenerate the key for this user at any time.

Current key: ueLZAN3-odIb4OEB7uKPdItxBuaG_Pz9

Database Creation:



{ user: "phanideep.salapaka", account: "Phanideep" }

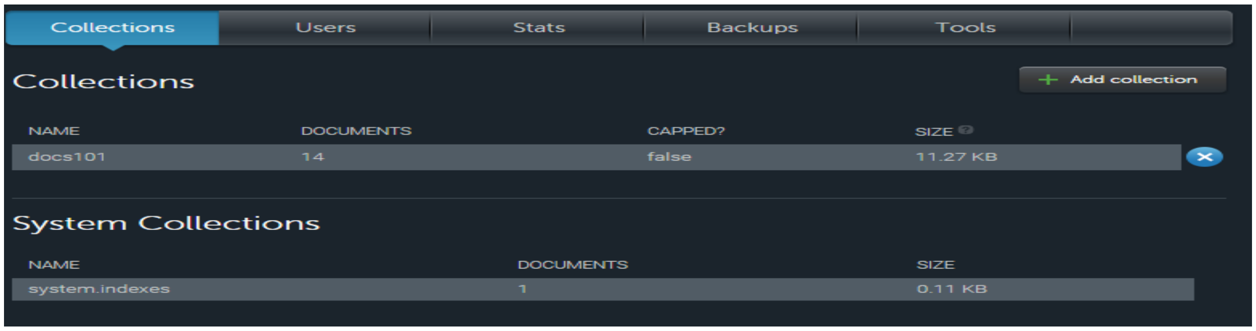
Home

MongoDB Deployments

Development and Utility Single-node deployments intended for environments that do not require high-availability.

NAME	PLAN	RAM	SIZE	FILE SIZE
code101 Ok: Database is up and running.	Sandbox CLOUD: AWS US-EAST-1 DATABASES: 1 DOCUMENTS: 18	shared	11.58 KB	16.00 MB

Collection created inside the database:



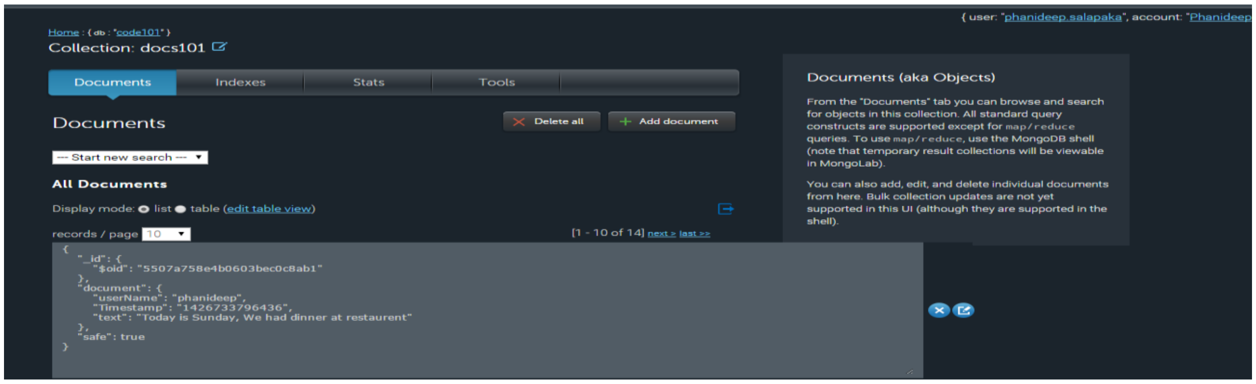
Collections

NAME	DOCUMENTS	CAPPED?	SIZE
docs101	14	false	11.27 KB

System Collections

NAME	DOCUMENTS	SIZE
system.indexes	1	0.11 KB

Key values stored in JSON format



{ user: "phanideep.salapaka", account: "Phanideep

Home : { db : "code101" }

Collection: docs101

Documents

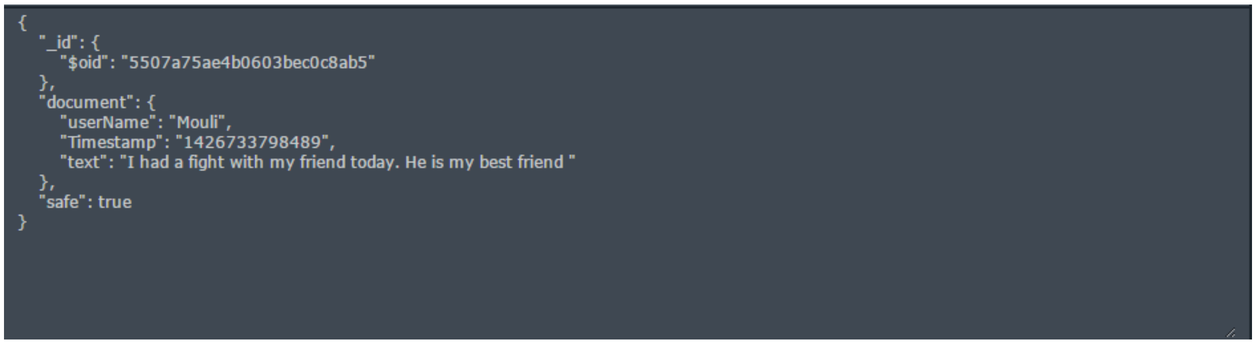
All Documents

```
{
    "_id": {
        "$oid": "5507a758e4b0603bec0c8ab1"
    },
    "document": {
        "userName": "phanideep",
        "Timestamp": "1426733796436",
        "text": "Today is Sunday, We had dinner at restaurent"
    },
    "safe": true
}
```

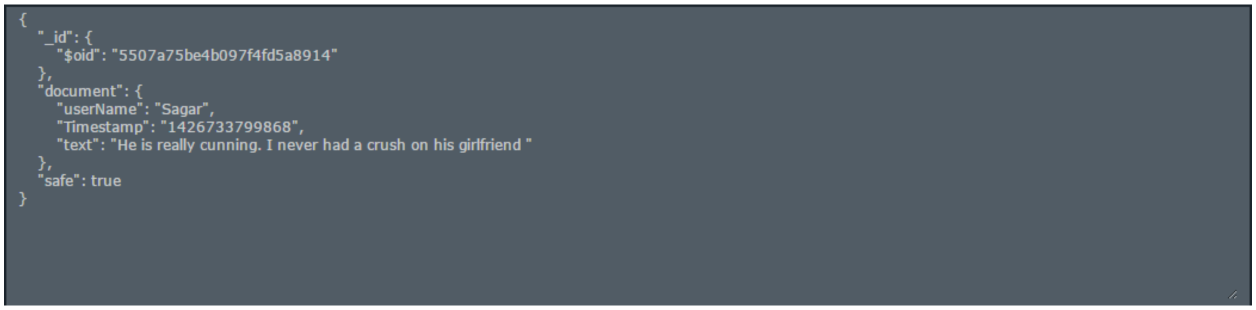
Documents (aka Objects)

From the "Documents" tab you can browse and search for objects in this collection. All standard query constructs are supported except for `map/reduce` queries. To use `map/reduce`, use the MongoDB shell (note that temporary result collections will be viewable in MongoLab).

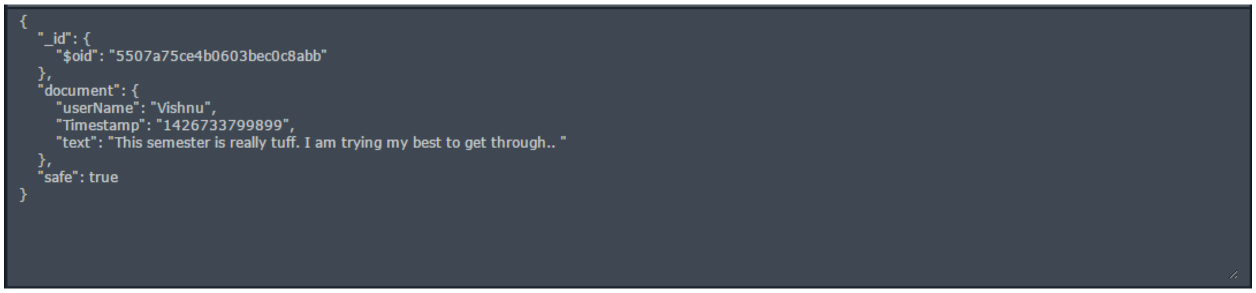
You can also add, edit, and delete individual documents from here. Bulk collection updates are not yet supported in this UI (although they are supported in the shell).



```
{
   "_id": {
      "$oid": "5507a75ae4b0603bec0c8ab5"
   },
   "document": {
      "userName": "Mouli",
      "Timestamp": "1426733798489",
      "text": "I had a fight with my friend today. He is my best friend "
   },
   "safe": true
}
```



```
{
   "_id": {
      "$oid": "5507a75be4b097f4fd5a8914"
   },
   "document": {
      "userName": "Sagar",
      "Timestamp": "1426733799868",
      "text": "He is really cunning. I never had a crush on his girlfriend "
   },
   "safe": true
}
```



```
{
   "_id": {
      "$oid": "5507a75ce4b0603bec0c8abb"
   },
   "document": {
      "userName": "Vishnu",
      "Timestamp": "1426733799899",
      "text": "This semester is really tuff. I am trying my best to get through.. "
   },
   "safe": true
}
```

VI. Testing

Test case 1: Login using valid username and password.

Expected result: User should be able to login.

Result: Pass

Test case 2: Options in the entry screen of the dairy.

Expected result: Once user clicks the options button on the screen, he should be able to see add and edit item entry options.

Result: Pass

Test case 3: Clicking create an entry in the dairy.

Expected result: Once user implements creating an entry, He should be forwarded to a screen having title and body columns.

Result: Pas

Test case 4: Creation of an entry.

Expected result: User should be able to save the entry of title and body by giving the submit option in the entry creation screen.

Result: Pass

Test case 5: Saved entries should be displayed to the user.

Expected result: User should able to see the entries made by him on the screen once he saves the entries.

Result: Pass

Test case 6: Deletion of an entry.

Expected result: User should be able to delete an entry by using this option.

Result: Pass

Test case 7: Create a pin for the application and login using pin.

Expected result: User should be able to login using username and pin

Result: Pass

Test case 8: User data should be saved in server (Mongo DB) when a new user registers in the app.

Expected result: When a new user is created, user details like user name, email and mobile number should be saved in the server.

Result: Pass

Test case 9: Create a group or community.

Expected result: User should be able to create a group and add other people to the group.

Result: Pass.

Test case 10: Share data in groups.

Expected result: User should be able to share data in groups or communities.

Result: Pass.

Test case 11: calculate distance travelled by the user.

Expected result: Google distance matrix API should return the distance between two location fetched by google maps API.

Result: Pass.

Test case 12: User cannot login with wrong pin.

Expected result: User should not login if he enters wrong pin.

Result: Pass.

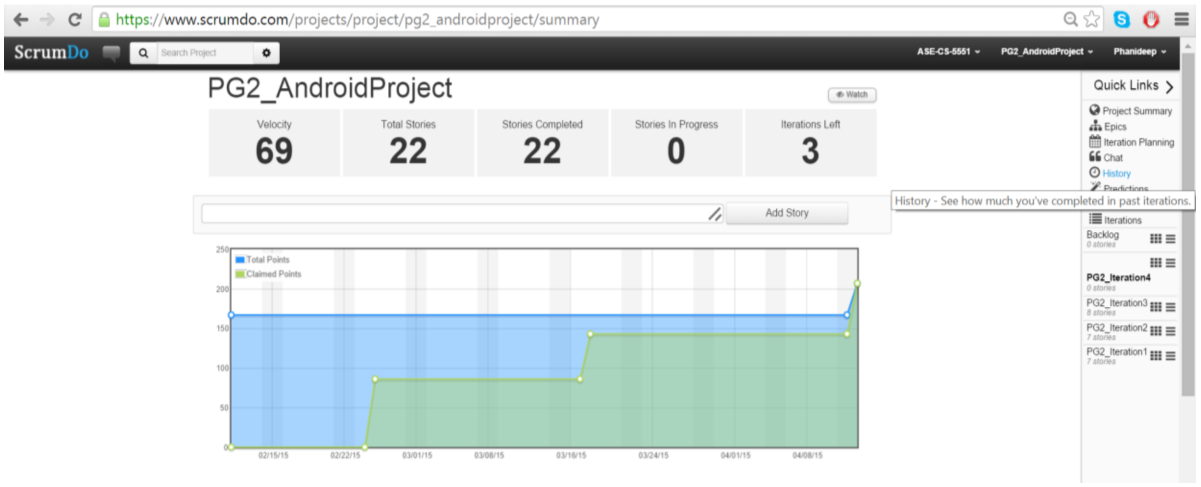
Test case 13: User can add only registered users to a group.

Expected result: People who are not registered with the application cannot be added to a group.

Result: Pass.

VII. Deployment

ScrumDo URL: http://www.scrumdo.com/projects/project/pg2_androidproject/summary



GitHub Link of the Project: https://github.com/vishnuchelle/My_Shared_Diary

We have uploaded the repost both in GitHub and Blackboard.

VIII. Project Management

The project is maintained in ScrumDo. Task assignments and descriptions are updated in ScrumDo stories. Below is an over view of the tasks performed by each individual.

ScrumDo URL: http://www.scrumdo.com/projects/project/pg2_androidproject/summary

Vishnu Chelle: Creating groups and data sharing between groups.

Chandra Mouli: Implement google distance matrix API to calculate distance travelled by the user, GPS location services and Google maps API.

Phanideep: GUI for login and signup modules.

Sundar Sagar: Storing user data in Mongo database.

IX. Work To Be Completed

As of now we are able to store text data, for the next iteration we will add the feature to save images also. Future work will also include adding more features to the GUI, adding remainders and to visualize background analytics. Considering the time left we are removing audio recording feature for the user but will be considered under future work.

Bibliography

[1] http://www.techhive.com/article/2599838/the-best-apps-for-taking-notes.html
http://en.wikipedia.org/wiki/Evernote
https://evernote.com/

[2] http://privatediary.net/
https://play.google.com/store/apps/details?id=app.diaryfree&hl=en

[3] https://play.google.com/store/apps/details?id=com.aiguo.handydiary&hl=en

[4] https://play.google.com/store/apps/details?id=com.android10.diarylog&hl=en

[5] https://developers.facebook.com/docs/android

[6] https://developers.google.com/maps/documentation/android/

[7] http://www.yelp.com/developers/documentation

[8] http://docs.mongodb.org/manual/

[9] https://developer.android.com/training/basics/firstapp/index.html