5/4/2015

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:

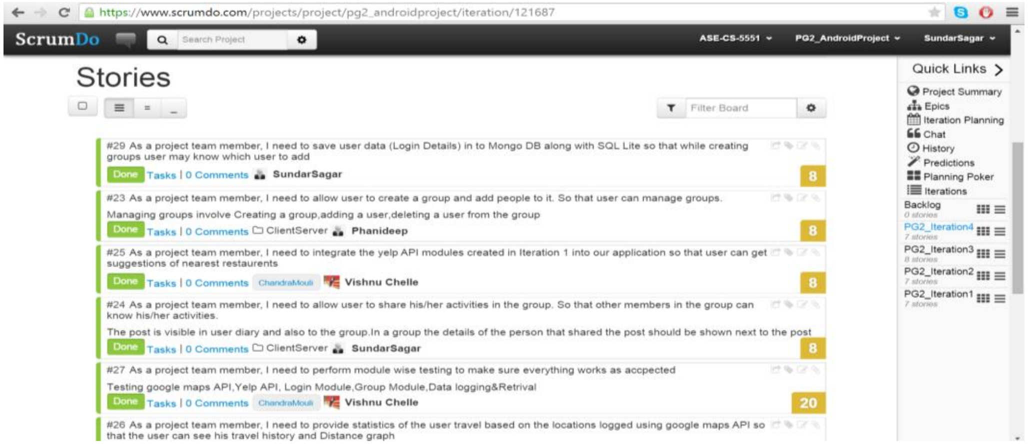
Yelp API: Yelp API is a powerful service to search restaurants using geo location. Our idea of using this service in our project is to provide the user recommendations of restaurants during use's lunch and dinner time.

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 Stories from ScrumDo:



#29 As a project team member, I need to save user data (Login Details) in to Mongo DB along with SQL Lite so that while creating groups user may know which user to add
Done Tasks | 0 Comments SundarSagar 8

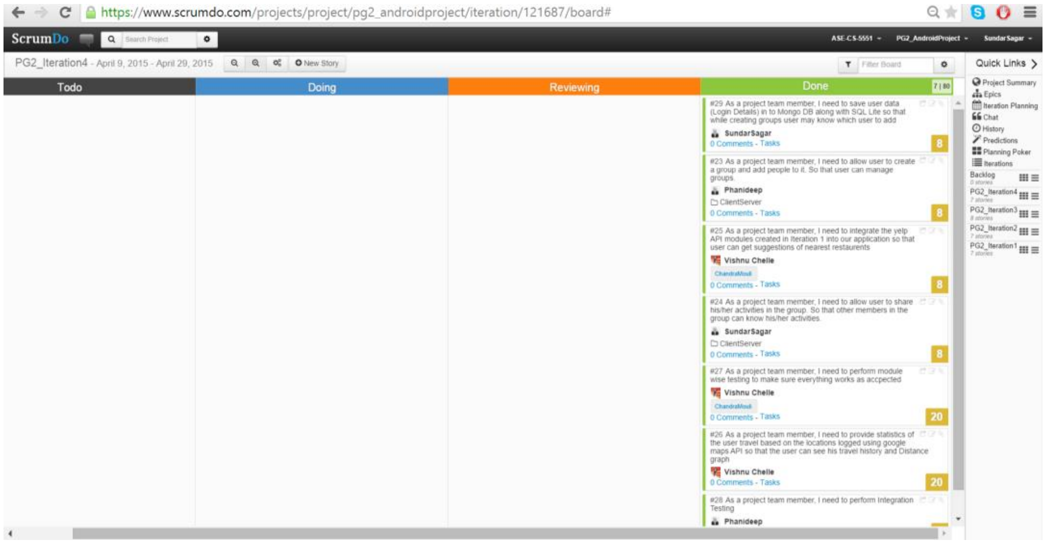
#23 As a project team member, I need to allow user to create a group and add people to it. So that user can manage groups.
Managing groups involve Creating a group,adding a user,deleting a user from the group
Done Tasks | 0 Comments ClientServer Phanideep 8

#25 As a project team member, I need to integrate the yelp API modules created in Iteration 1 into our application so that user can get suggestions of nearest restaurents
Done Tasks | 0 Comments ChandraMouli Vishnu Chelle 8

#24 As a project team member, I need to allow user to share his/her activities in the group. So that other members in the group can know his/her activities.
The post is visible in user diary and also to the group.In a group the details of the person that shared the post should be shown next to the post
Done Tasks | 0 Comments ClientServer SundarSagar 8

#27 As a project team member, I need to perform module wise testing to make sure everything works as accpected
Testing google maps API,Yelp API, Login Module,Group Module,Data logging&Retrival
Done Tasks | 0 Comments ChandraMouli Vishnu Chelle 20

#26 As a project team member, I need to provide statistics of the user travel based on the locations logged using google maps API so that the user can see his travel history and Distance graph



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SundarSagar
0 Comments - Tasks 8

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Phanideep
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Vishnu Chelle
ChandraMouli
0 Comments - Tasks 20

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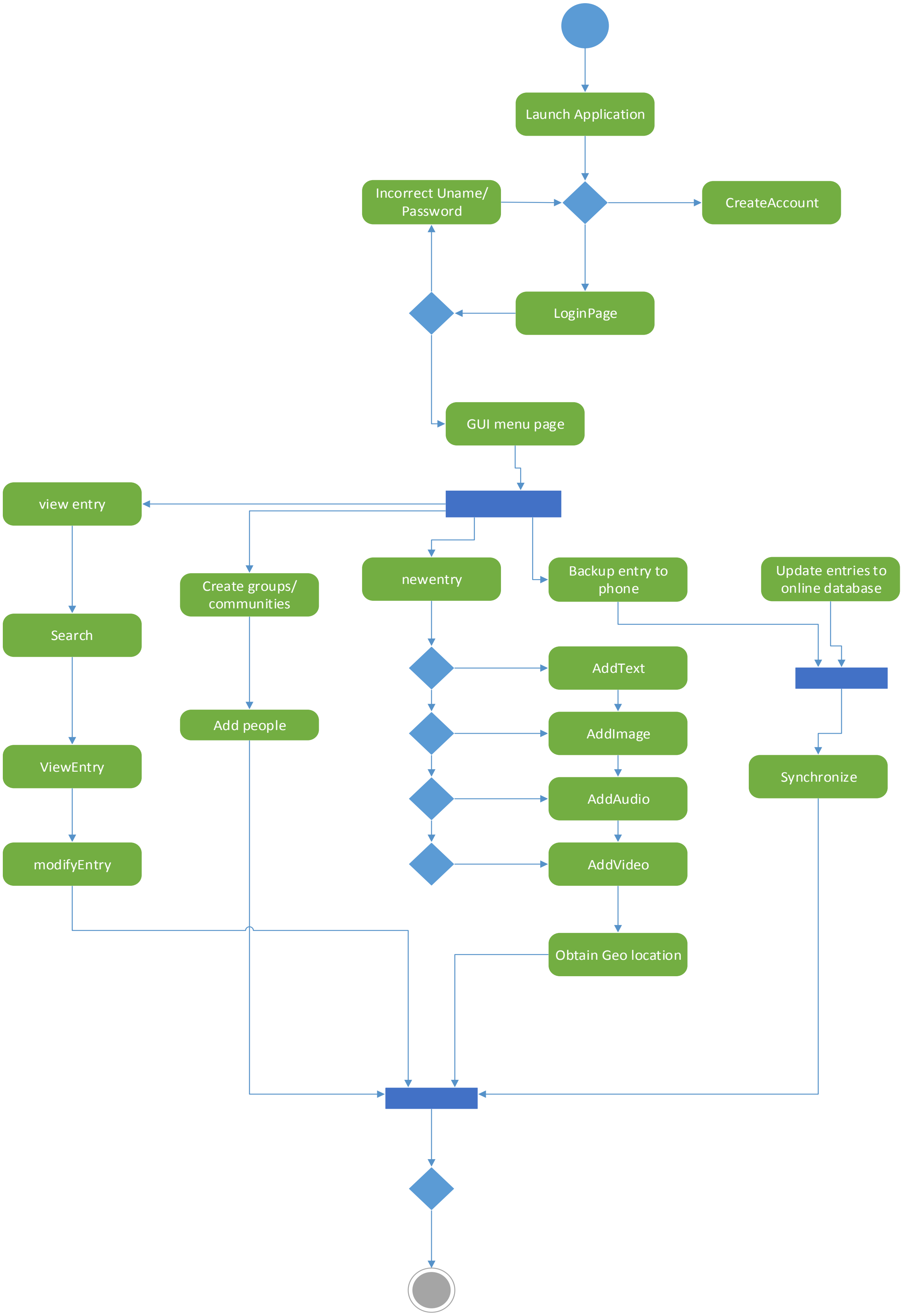
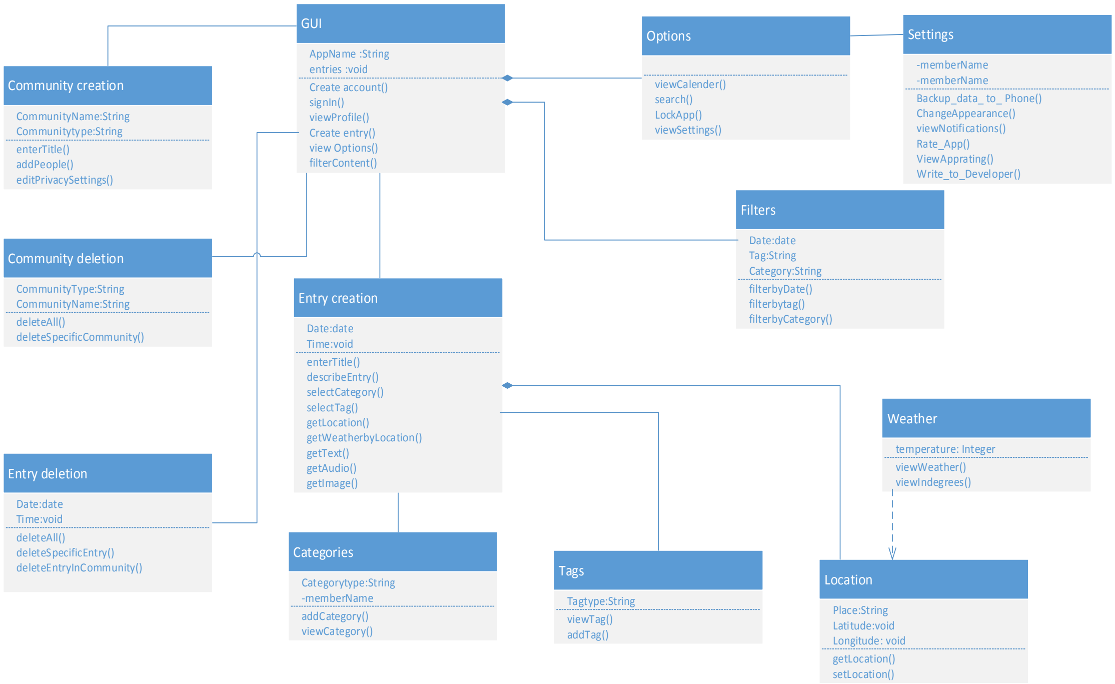
Vishnu Chelle
0 Comments - Tasks 20

#28 As a project team member, I need to perform Integration Testing
Phanideep

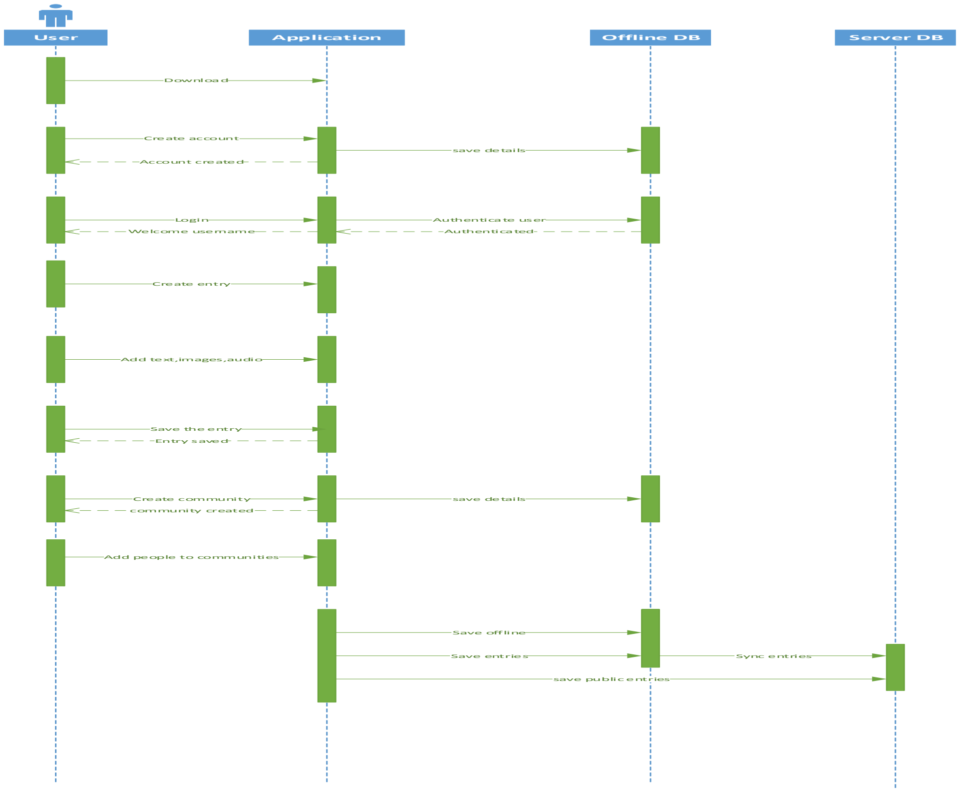
Activity Diagram:



Class Diagram:



Sequence Diagram:



Design of Mobile Client Interface:

Mobile client interface contains login and signup options.

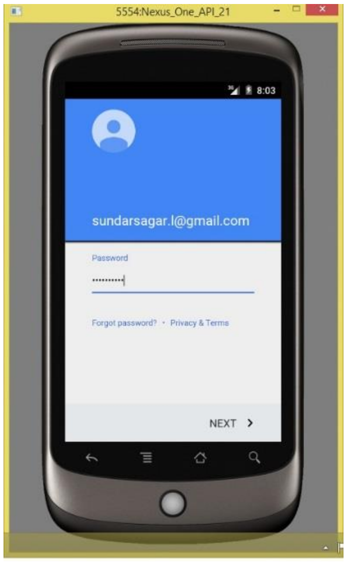
User also has the advantage of logging into the application using google+ account.

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

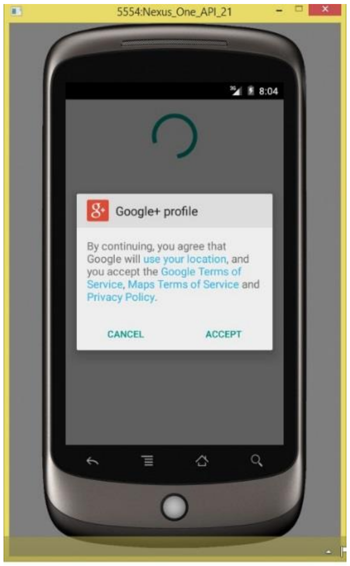
The entry screen of the dairy contains adding an entry to the diary and deletion of an existing entry.

User can create a security pin lock the app.

Below are the screenshots for the above scenarios:

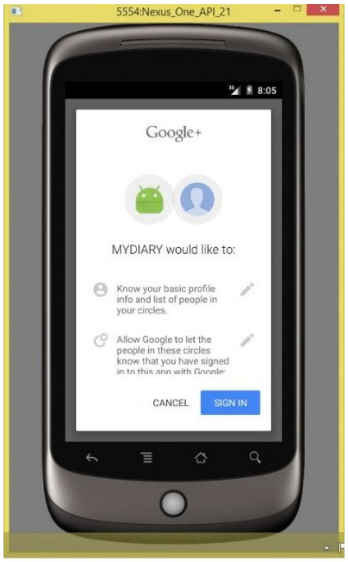


sundarsagar.l@gmail.com



Google+ profile

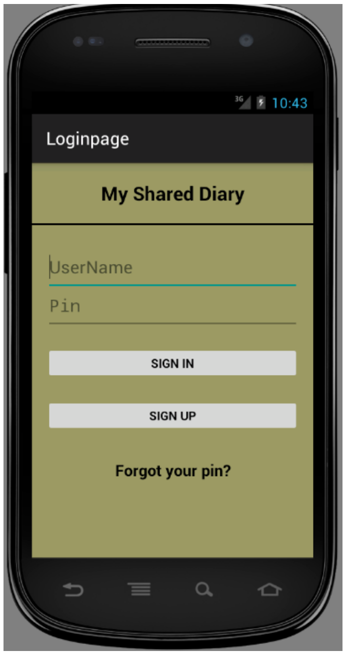
By continuing, you agree that Google will use your location, and you accept the Google Terms of Service, Maps Terms of Service and Privacy Policy.

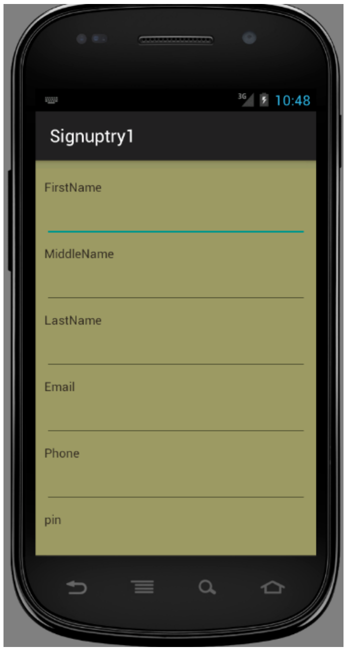


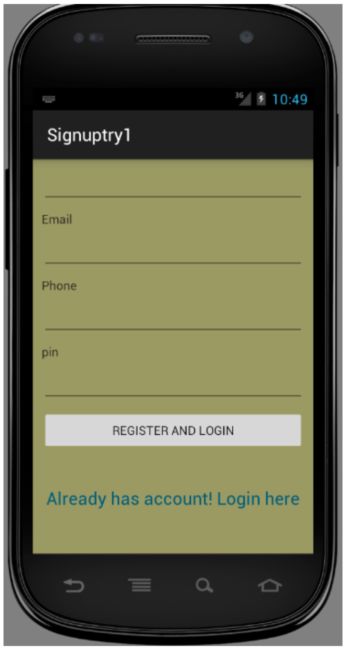
MYDIARY would like to:

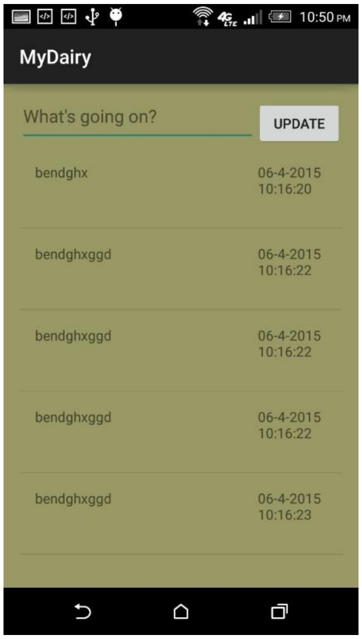
Know your basic profile info and list of people in your circles.

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









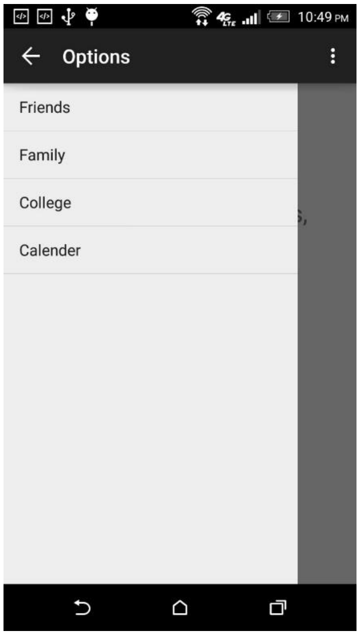
bendghx 06-4-2015 10:16:20

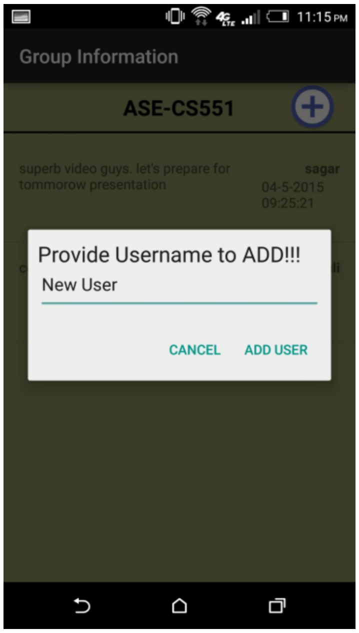
bendghxggd 06-4-2015 10:16:22

bendghxggd 06-4-2015 10:16:22

bendghxggd 06-4-2015 10:16:22

bendghxggd 06-4-2015 10:16:23

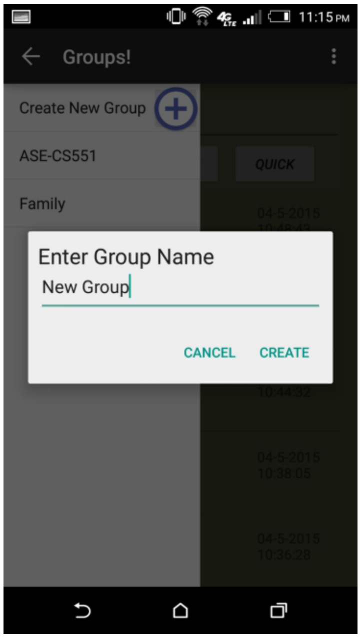




superb video guys. let's prepare for tommorow presentation sagar 04-5-2015 09:25:21

Provide Username to ADD!!!

New User



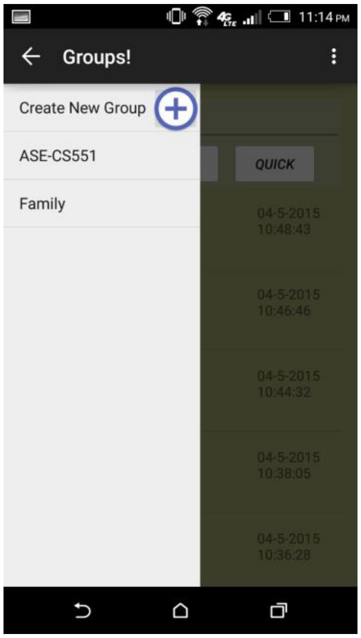
Enter Group Name

New Group

04-5-2015 10:44:32

04-5-2015 10:38:05

04-5-2015 10:36:28



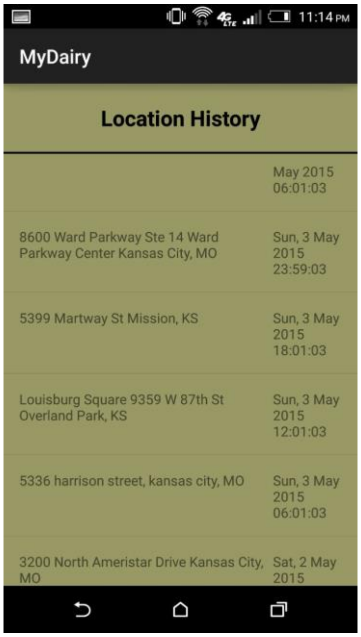
04-5-2015 10:48:43

04-5-2015 10:46:46

04-5-2015 10:44:32

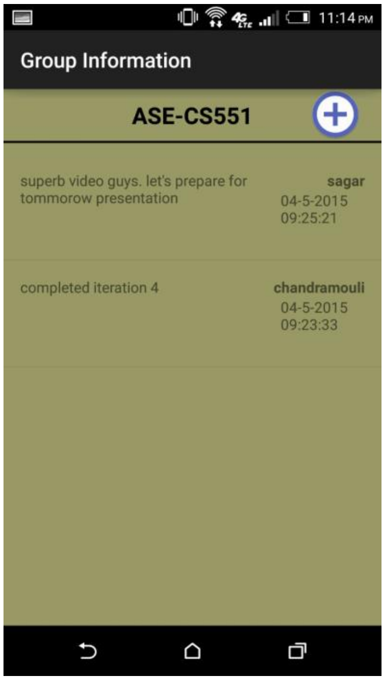
04-5-2015 10:38:05

04-5-2015 10:36:28



Location History

	May 2015 06:01:03
8600 Ward Parkway Ste 14 Ward Parkway Center Kansas City, MO	Sun, 3 May 2015 23:59:03
5399 Martway St Mission, KS	Sun, 3 May 2015 18:01:03
Louisburg Square 9359 W 87th St Overland Park, KS	Sun, 3 May 2015 12:01:03
5336 harrison street, kansas city, MO	Sun, 3 May 2015 06:01:03
3200 North Ameristar Drive Kansas City, MO	Sat, 2 May 2015

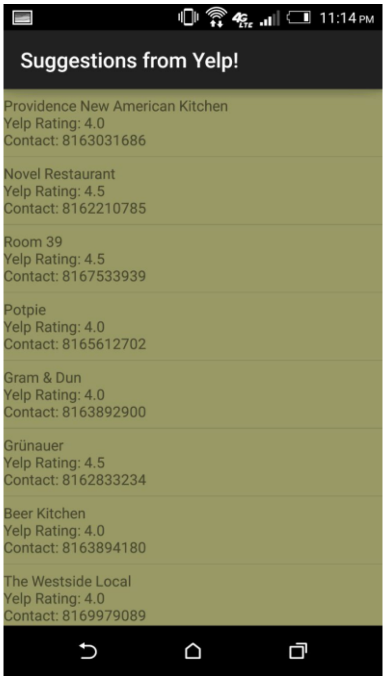


Group Information

ASE-CS551

superb video guys. let's prepare for tommorow presentation — sagar, 04-5-2015 09:25:21

completed iteration 4 — chandramouli, 04-5-2015 09:23:33



Suggestions from Yelp!

Providence New American Kitchen
Yelp Rating: 4.0
Contact: 8163031686

Novel Restaurant
Yelp Rating: 4.5
Contact: 8162210785

Room 39
Yelp Rating: 4.5
Contact: 8167533939

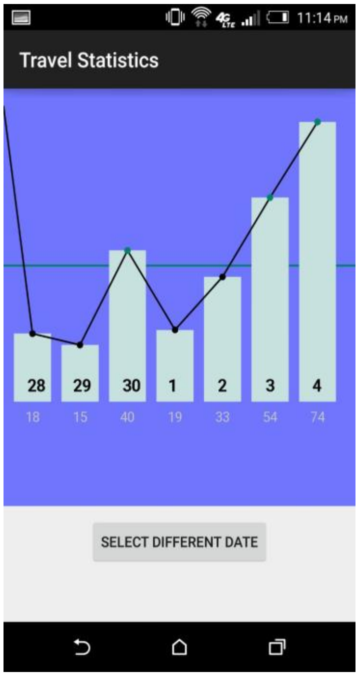
Potpie
Yelp Rating: 4.0
Contact: 8165612702

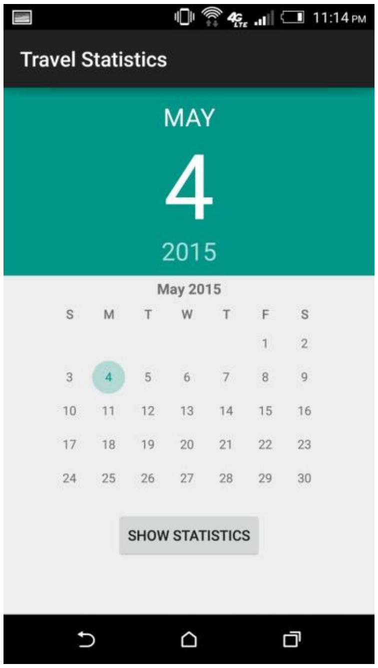
Gram & Dun
Yelp Rating: 4.0
Contact: 8163892900

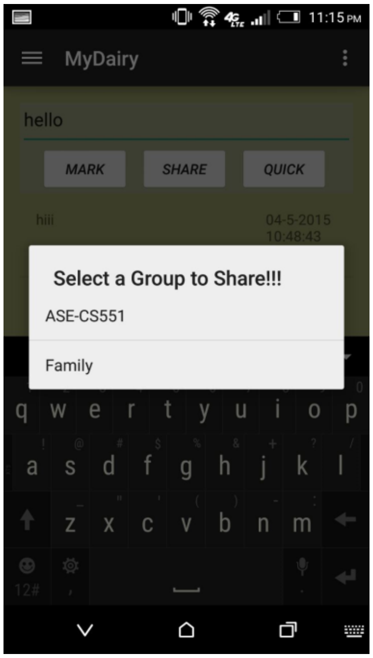
Grünauer
Yelp Rating: 4.5
Contact: 8162833234

Beer Kitchen
Yelp Rating: 4.0
Contact: 8163894180

The Westside Local
Yelp Rating: 4.0
Contact: 8169979089







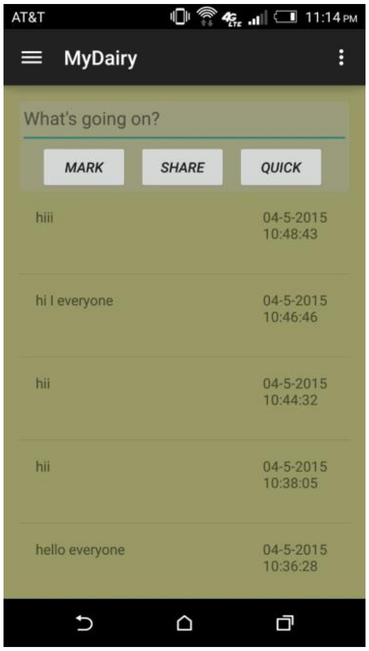
hello

hiii — 04-5-2015 10:48:43

Select a Group to Share!!!

ASE-CS551

Family



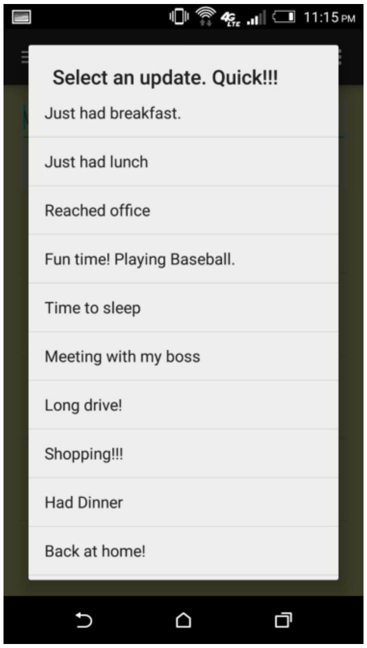
hiii — 04-5-2015 10:48:43

hi I everyone — 04-5-2015 10:46:46

hii — 04-5-2015 10:44:32

hii — 04-5-2015 10:38:05

hello everyone — 04-5-2015 10:36:28

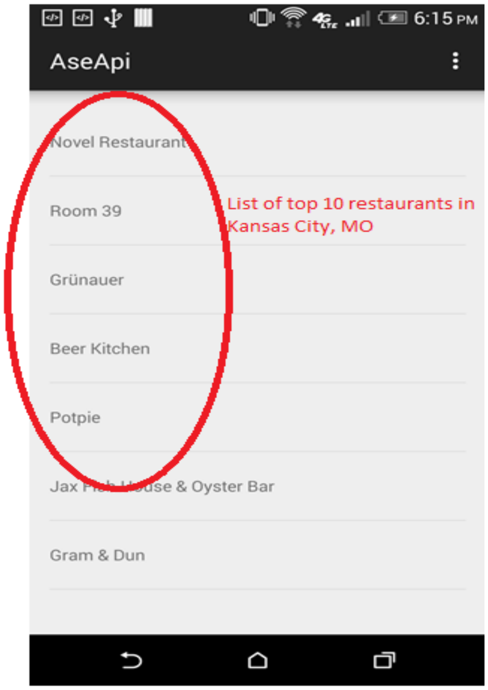


V. Implementation of REST Services

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

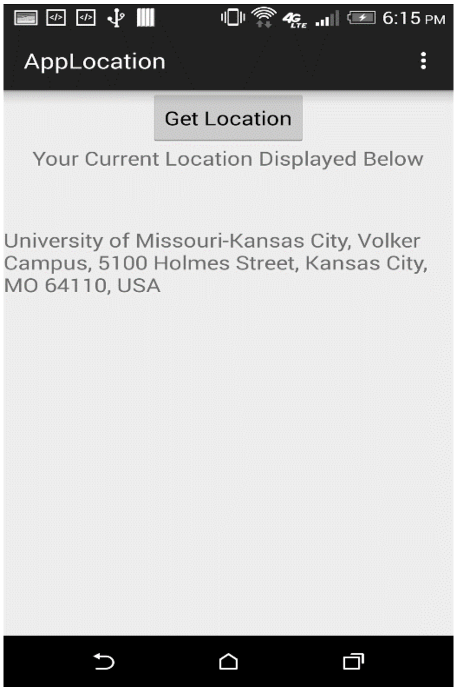
Beer Kitchen

Potpie

Jax Fish House & Oyster Bar

Gram & Dun

List of top 10 restaurants in Kansas City, MO



AppLocation

Get Location

Your Current Location Displayed Below

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

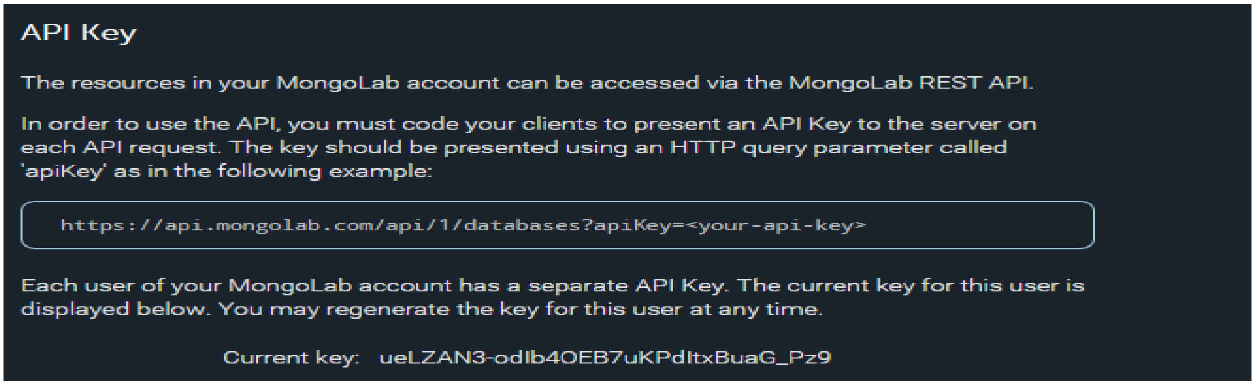
Google Maps API: Below application AppLocation will fetch the current location of the user at any point of time when the user's GPS is on. The application uses Android GPS service to fetch the latitude and longitude of the user and then we will make a HTTP POST request to Google API with the latitude 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.

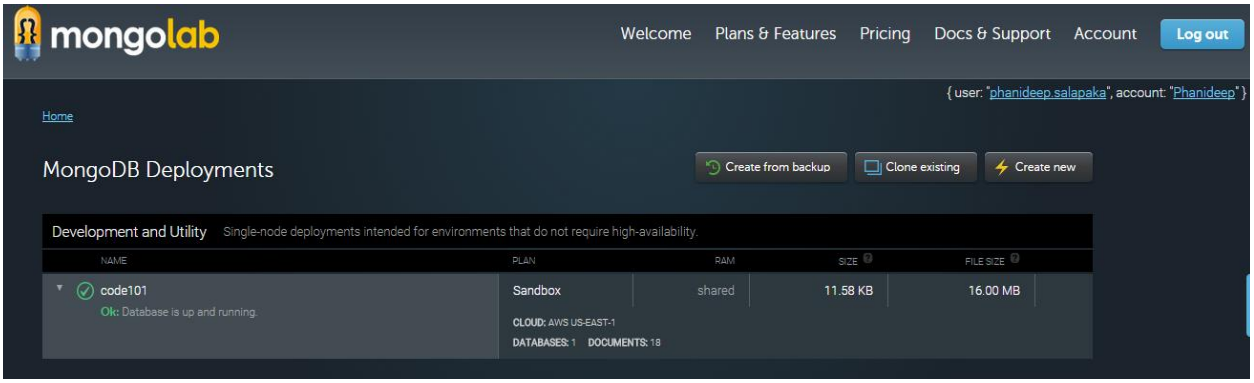
In order to use the API, you must code your clients to present an API Key to the server on each API request. The key should be presented using an HTTP query parameter called 'apiKey' as in the following example:

```
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:



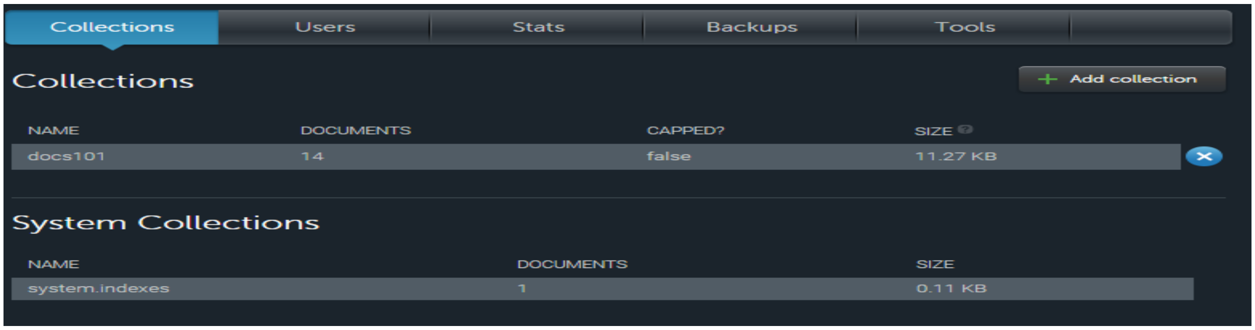
{ user: "phanideep.salapaka", account: "Phanideep" }

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:



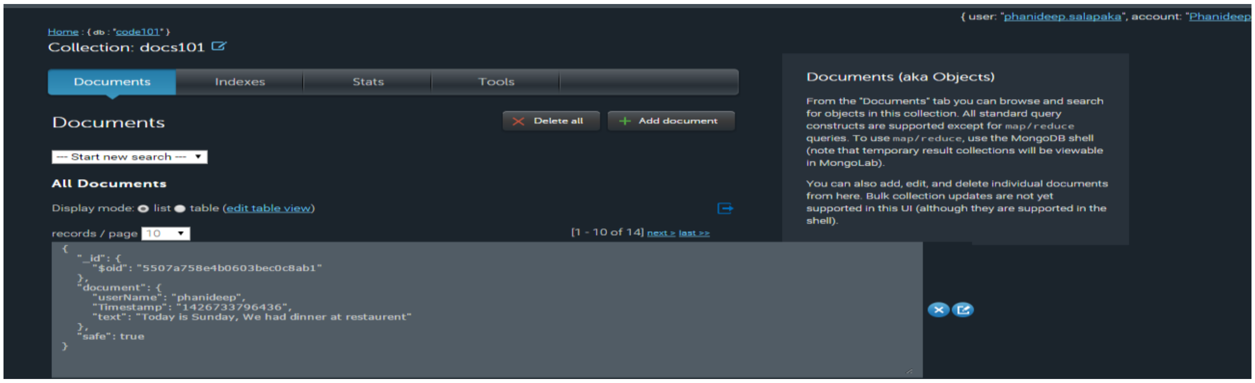
Collections

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



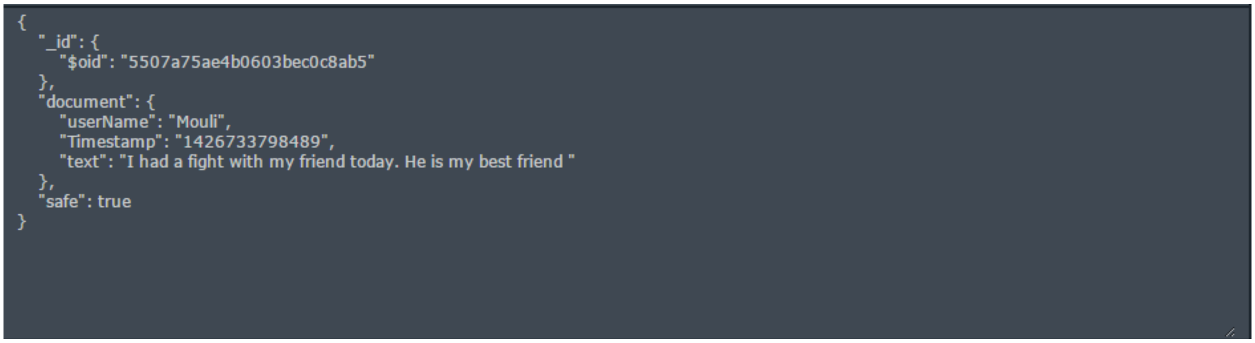
{ user: "phanideep.salapaka", account: "Phanideep
Home : { db : "code101" }
Collection: docs101
Documents
Indexes
Stats
Tools
Documents
Delete all
Add document
--- Start new search ---
All Documents
Display mode: ○ list ● table (edit table view)
records / page 10
[1 - 10 of 14] next > last >>

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

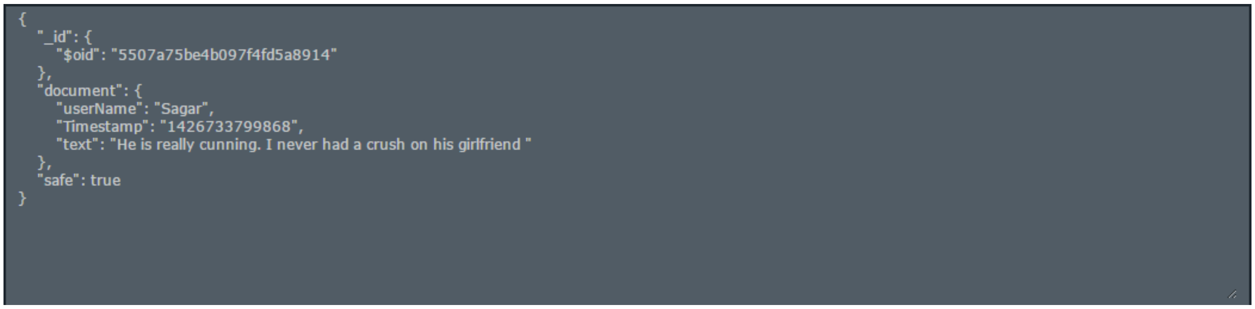
Documents (aka Objects)

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).

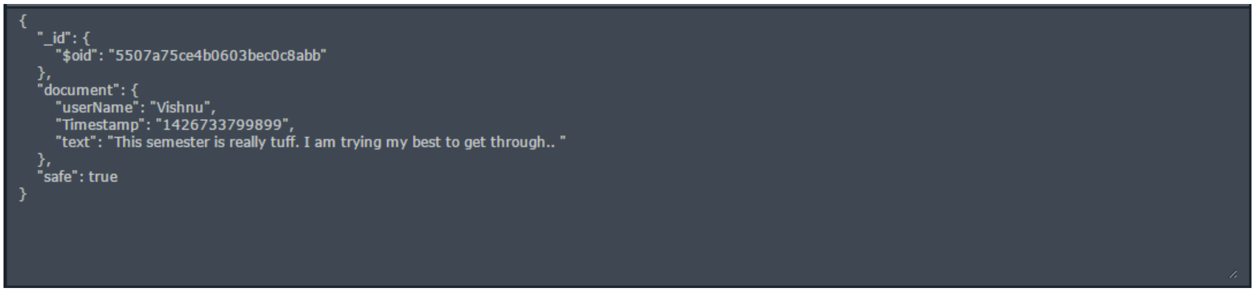
You can also add, edit, and delete individual documents from here. Bulk collection updates are not yet supported in this UI (although they are supported in the shell).



```
{
   "_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: Pass

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.

Test Case 14: User should get suggestion of nearby restaurants during lunch and dinner.

Expected result: User should get a list of nearby restaurants between 12:00PM to 1:00PM and 7:00PM to 8:00PM.

Result: Pass.

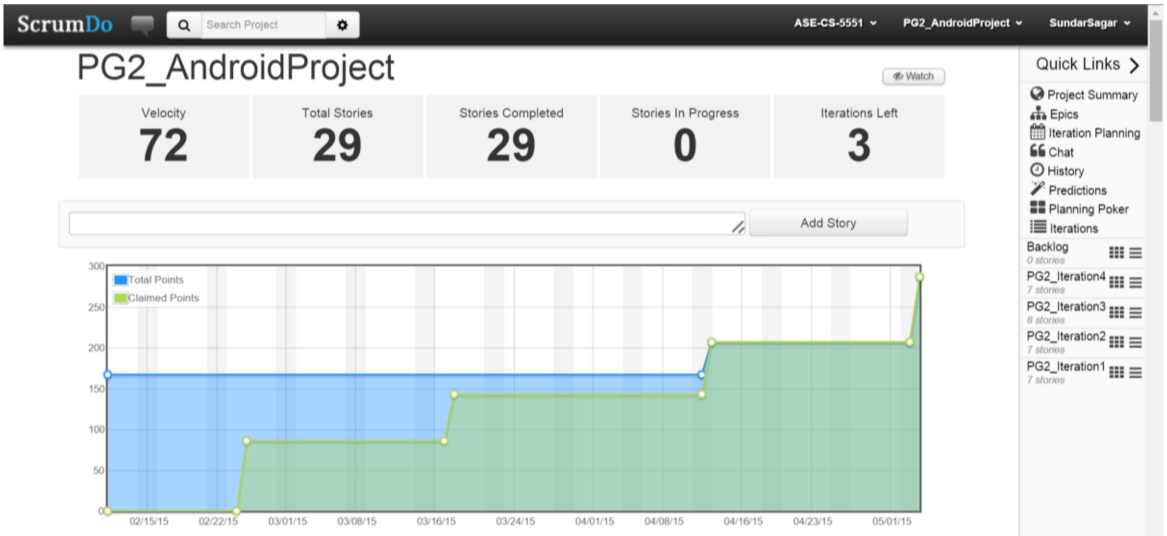
Test Case 15: User can view the distance travelled graph for the past seven days.

Expected result: User should get the distance travelled chart for the last seven days from the given date.

Result: Pass.

VII. Deployment

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



PG2_AndroidProject

Velocity	Total Stories	Stories Completed	Stories In Progress	Iterations Left
72	29	29	0	3

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

We have uploaded the repost both in GitHub and Blackboard.

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: Created travel history and distance travelled graph modules.

Chandra Mouli: Integrated YELP API and did module wise testing.

Phanideep: Creation and managing groups and did Integration testing

Sundar Sagar: Saving user data, groups data to MongoDB.

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