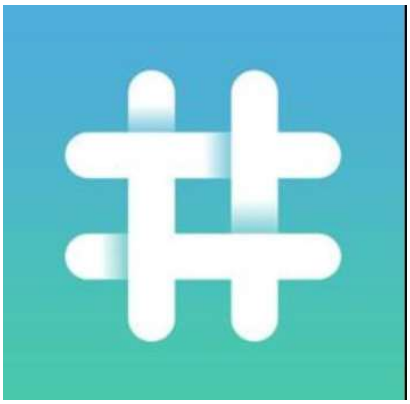
Advanced Software Engineering

Fourth Increment Report

Fall 2016



TEAM - 6

- Kona, Lakshmi Nikitha
- Ramesh, Sibi Chakravarthy
- Natesan Arumugam, Bharath Kumar
- Natarajan, Balaji

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1.Introduction

Share up is a multi-platform application which saves a lot of bucks you spend in buying grocery items by searching for the cheaper and precise deals, for the people who want to shop together. Most of the groceries people tend to buy will probably be similar. So, if they buy those things in bulk they are likely to save a lot of money. They are likely to face problems in sharing household expenses due to lack of understanding. To overcome these problems, we planned to create this application which significantly overcomes the above-mentioned problems in an efficient way. Each group will have a shopping list which any member can access and modify. So, for all the common things you can find cheaper deals, as our idea is to find one in bulk. The unnecessary portion which is yet to be bought can be shared with other members of any group by posting in a common forum visible to all other users who can contact the user to buy. The application also contains features to calculate their monthly income and expenses and generate balance as well as their respective charts.

2 Project Goal and Objectives

2.1 Overall goal

The goal of this project is to create an ionic application which is useful for people living together in shared rooms/apartments for spending money smartly and share wisely.

2.2 Objectives

- To reduce cost of buying items by smart finding feature.
- To get price of grocery items using API call(s).
- To provide common shopping list for all the members in a group.
- To test the application before deploying to uncover bugs.

2.3 Specific Features

- Group page that finds the group members of the user logged in
- User directory, that finds phone number of user to be searched and to send SMS
- Forum page, that allows users to post ads reg. extra groceries

- Expense manager, that calculates expenses vs income and displays with charts (Google charts)
- Store Finder, that displays all available stores in specified location in a map along with weather conditions

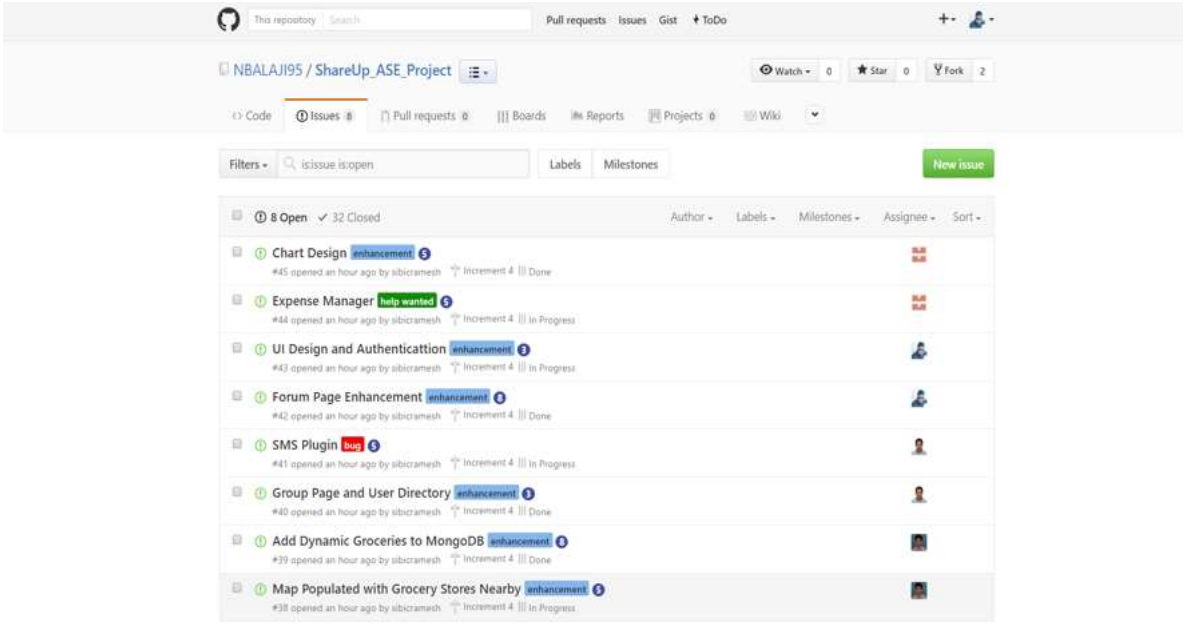
2.3 Significance

Smart spending and sharing will change the way people spend for buying grocery items and manage their expenses. There may be many applications which offer similar features, but this application performs these tasks in a single user interactive application.

3.Project Plan

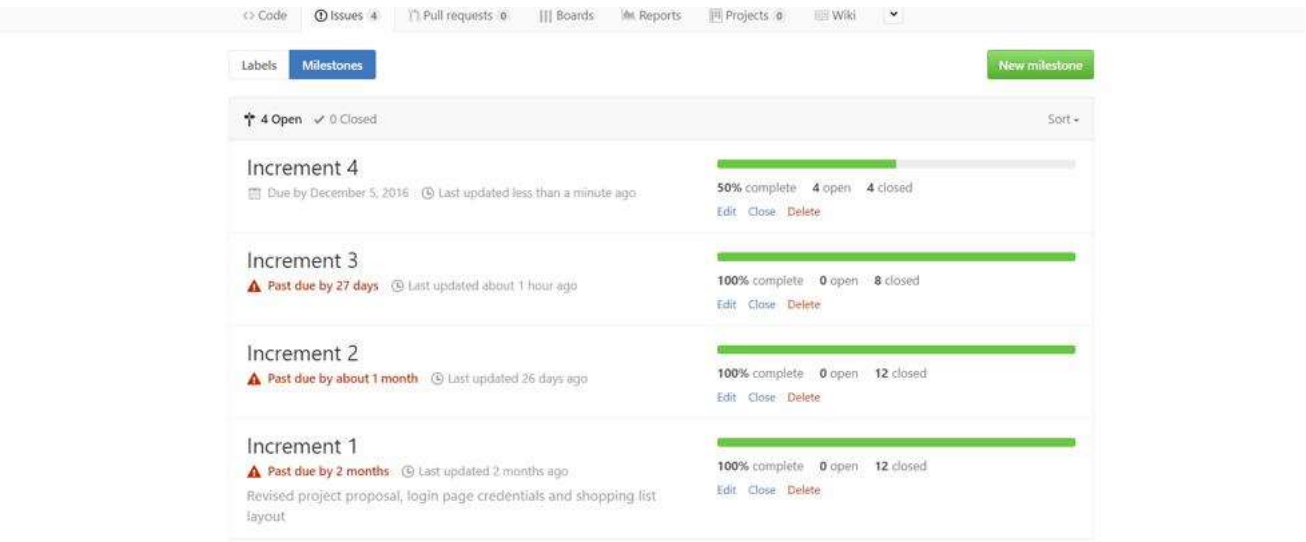
3.1 Stories(Issues)

Issues have been designed based on the issues faced while working on different modules of the Project. Different issues such as chart design enhancement, expense manager was created.



3.2 Project Timelines

Time management plays a vital role in developing an application. To keep track of the time and meet the Deadlines on time timelines were set and we worked as a team to make sure that all the modules of the application were completed based on the timeline set.

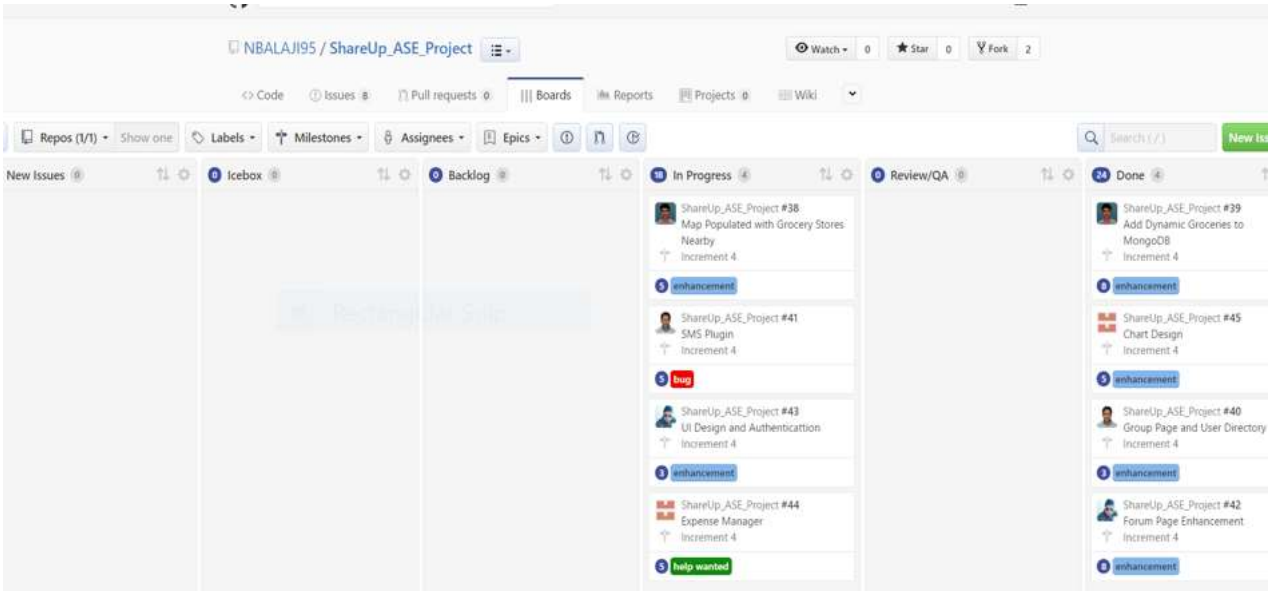


3.3 Burndown Chart

Based on the milestones created burndown charts were created to keep track of the work completed against the time .This chart representation helps the team to coordinate and complete the assigned work accordingly.

3.4 Board

Board is a project management tool for its code repositories. It is done with the help of Zen Hub where the user can arrange the issues in the form of a board where the user can create pull requests and issues.



4 API'S And System Designs

4.1 Existing Services/REST API

Walmart API
MLab Data API
FourSquare API
Google GeoLocation API
Google maps API
Google charts API
OpenWeatherMap API

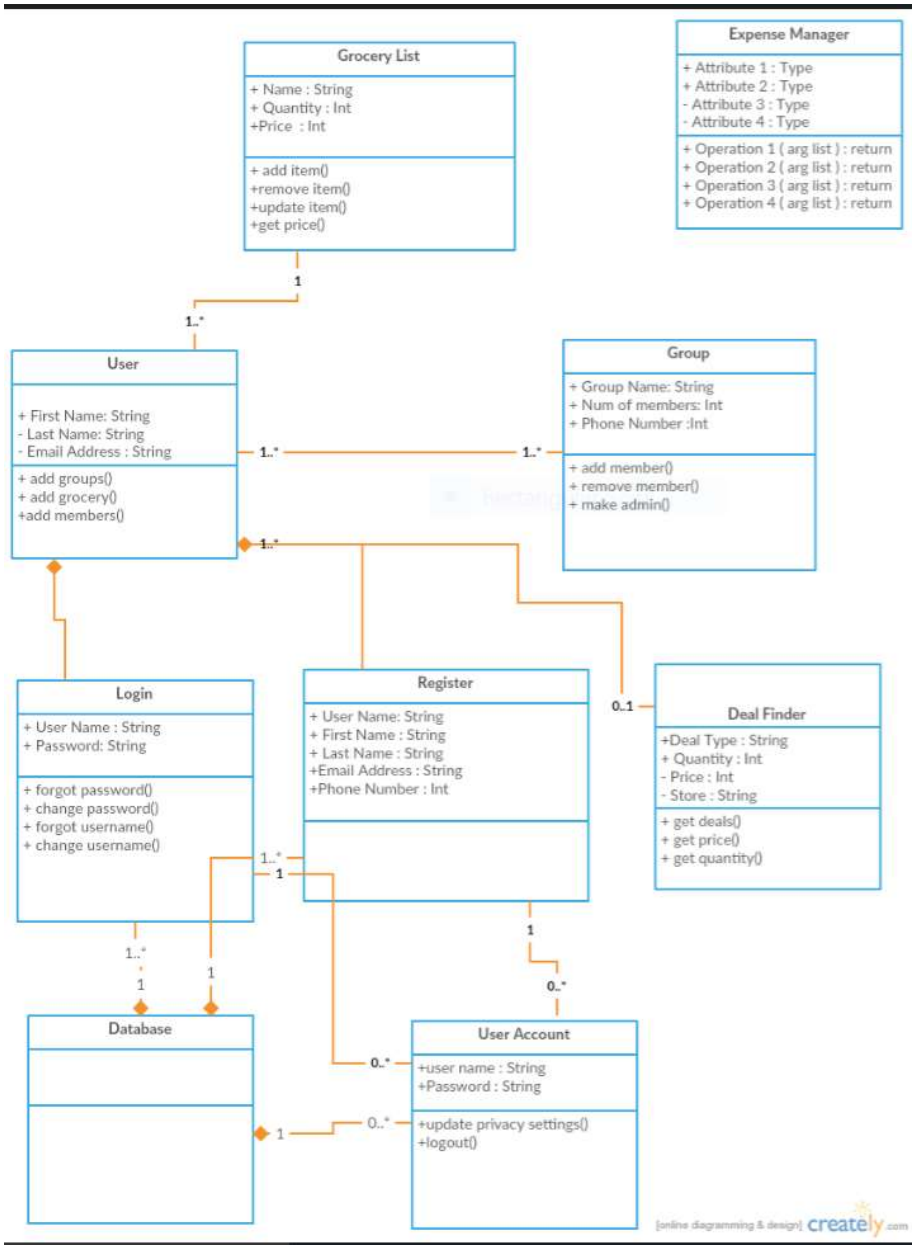
4.2 Detail Design of Features (using tools) Wireframes

A wire frame for the main page and the registration page has been created and a screenshot has been displayed. Similarly wireframes for registration and the home page has been displayed below.

4.3 UML Class Diagram

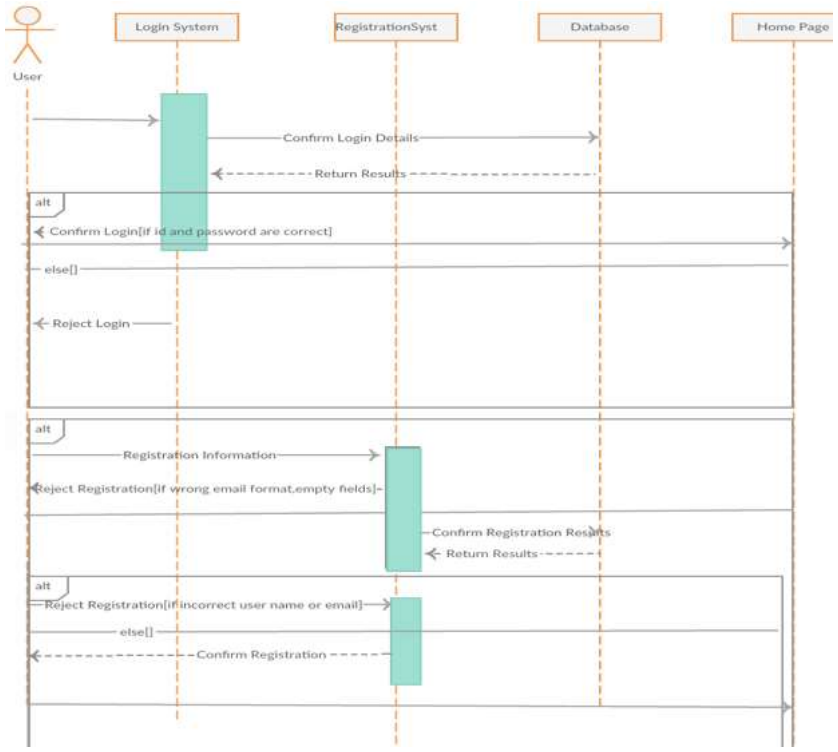
A class diagram has been created with the following classes

- grocery list
- user
- group
- login
- register
- deal finder
- user account
- Expense Manager



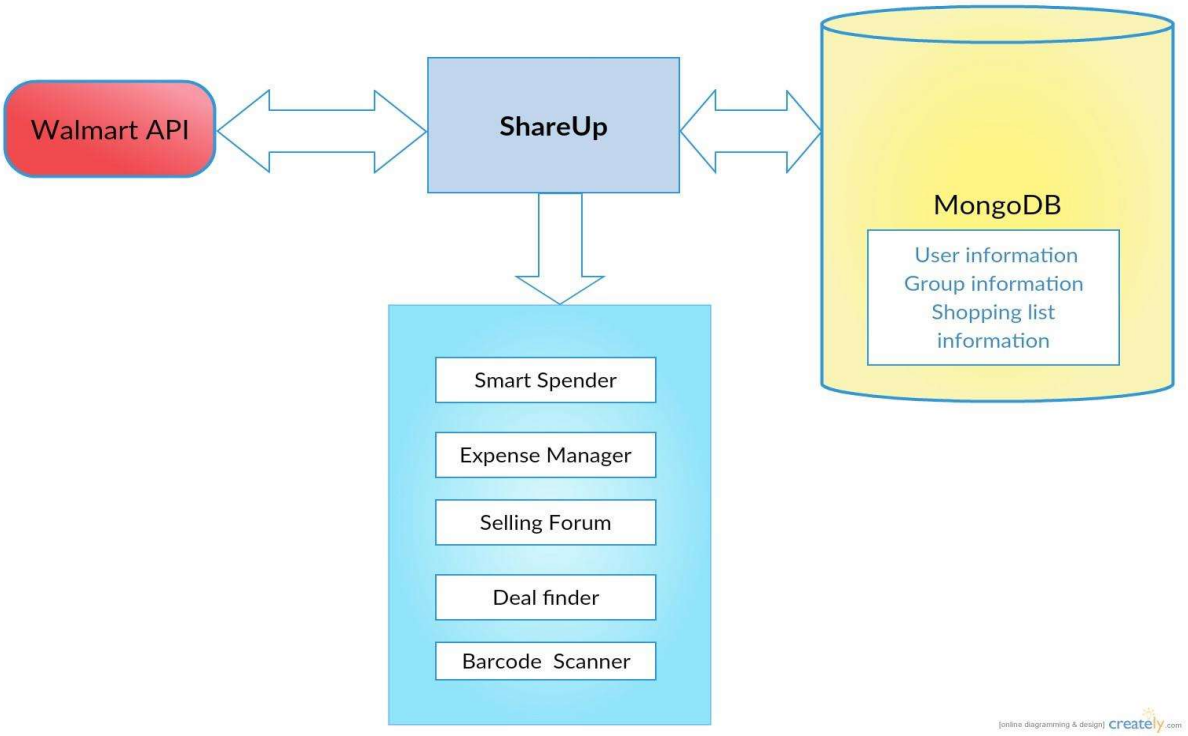
4.4 Sequence Diagram

A sequence diagram for the same scenario has been created and the screenshot has been displayed below.



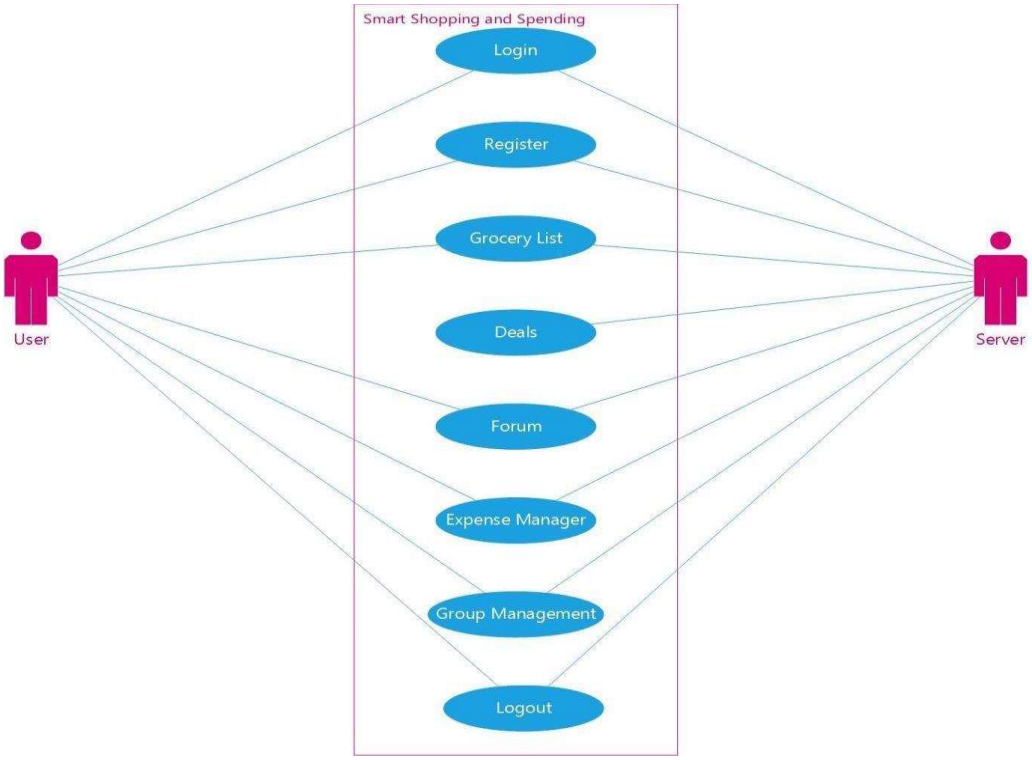
4.5 Architecture Diagram

An architecture diagram displaying how the ShareUp project make uses of different API and how mongo DB has been used in the back end for storying the group information retrieving login and registration pages Details and how authentication is done is displayed. The user is redirected to login and all the details are Stored in the MongoDB.Only the registered users can log in. After successfully logging in the user is redirected to the home page. In the grocery list store the user can enter the required groceries and the prices Can be retrieved .If the user want only a few items in the grocery list the user can post in a forum .And if the user is interested in the post he can find the number of the person posted in the forum and can send a message to the person. Also the user can find the nearby grocery stores using Google API,FourSquare API and the user can also find the weather details. Also all the member of the groups are displayed. Also In the expense manager the users can add income ,expenses based on that the balance is displayed. Based on the expenses and the income the charts are displayed accordingly.



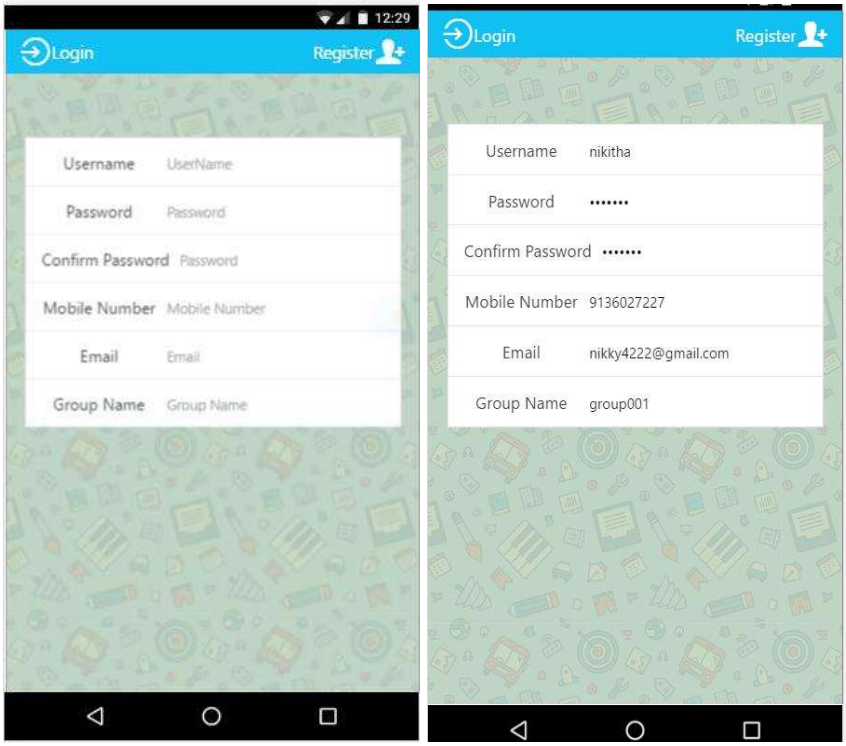
4.6 Use Case Diagram

A use case diagram from the user side and the server side has been displayed below.



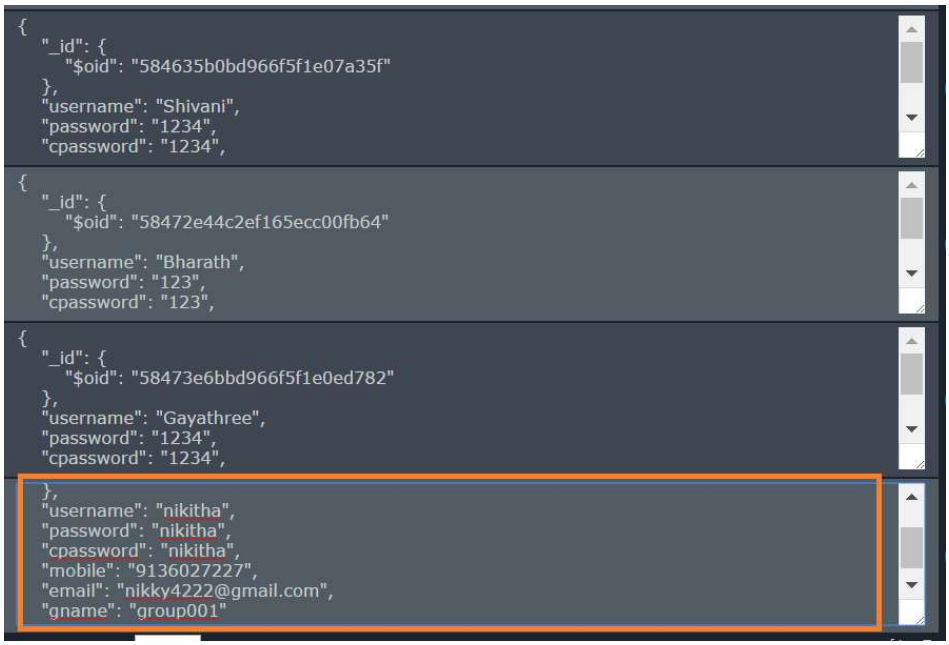
5. User Registration

A login and a registration page has been created where a Mongo DB is connected at the back end where an Authentication is done. First the user is prompted to the registration page where is the user is asked to enter the basic details. After successful registration, the user will be prompted to the login page. after successfully logging in the user will be prompted to the home page.



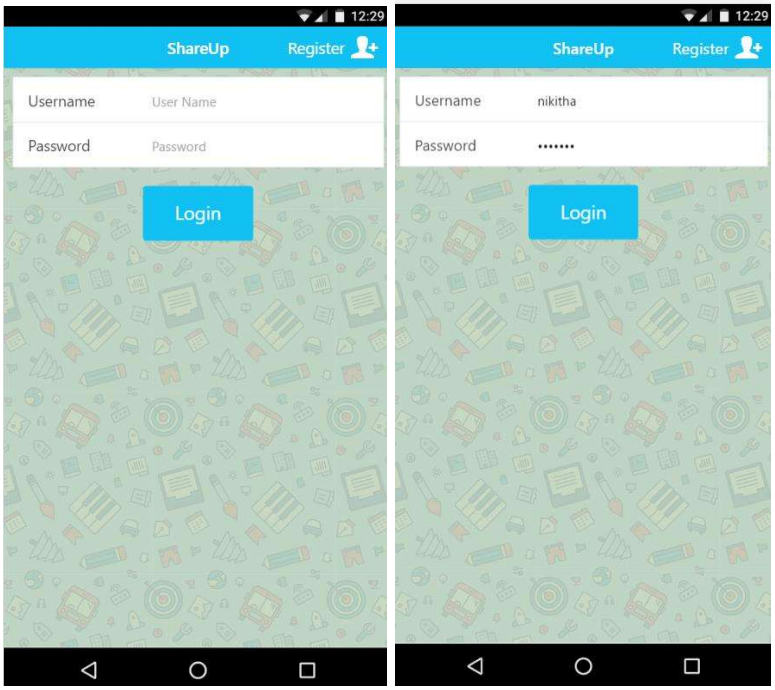
5.1 MONGO DB STORAGE

All the details entered are stored in the MongoDB. This information is later user logs in and authentication is performed



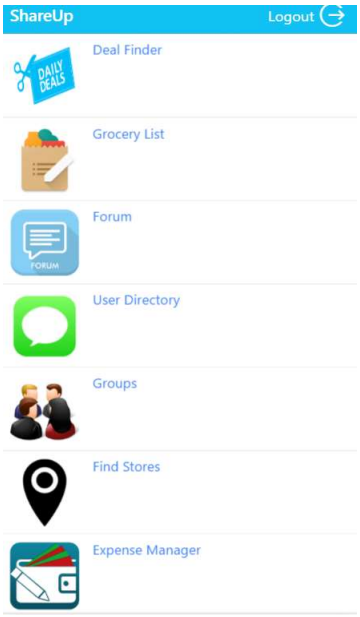
6. USER LOGIN

After the user have successfully registered the user can log in with registered credentials. After validating the credentials the user is redirected to the home page where he can choose the desired category.



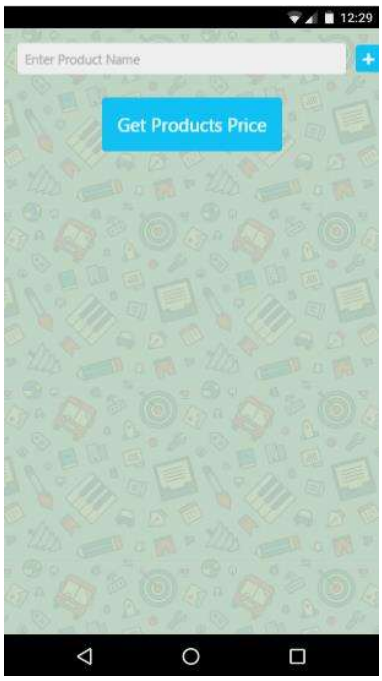
7. Home Page

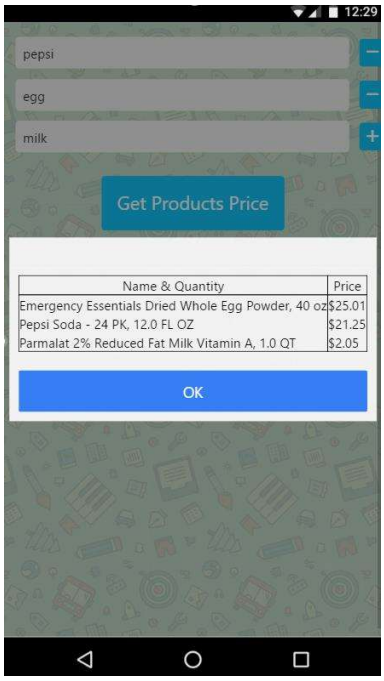
Once the user has logged in the user is redirected to the home page where is the user prompted with many Options. The user can choose from the plenty of available options.



8. Deal Finder

The user can enter the required grocery items required. All the members in the group will be able to edit the grocery list. Once all the items are entered the data is fetched using Walmart API.





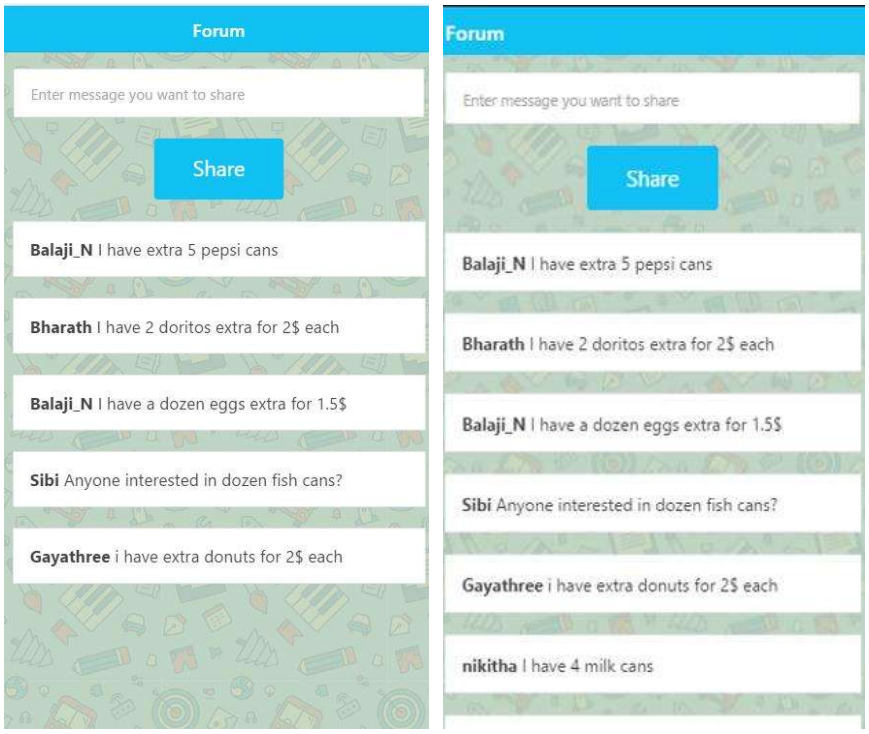
9. Grocery List

Before getting the grocery items the users within the same group can enter all the required grocery items. Once all the List is updated, this data is passed to the deal finder to get the required results.

10. Forum

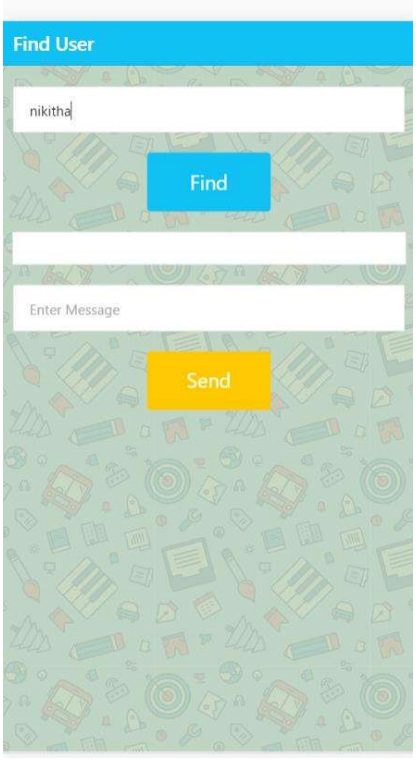
Once the user purchases the grocery items and if he wants only a few items .For example if the user buys 25 tins of Pepsi in Walmart or Cosco for a lesser price and if he wants only 10 tins,then can post an advertisment in forum that He have 15 cans for sale.Here only the registered users can post in the forum.

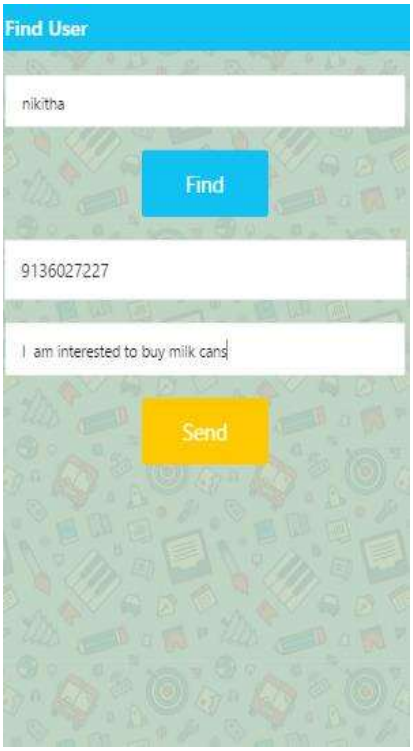
During log in the user signed is “Nikitha”.She has posted 4 milk cans are available.All the registered users can have Access to the forum and check if they are interested in any of the posts .



11. User Directory

Once the logged in users posts in the forum and if some one is interested and he needs a medium to connect to the posted user.In our case”Nikitha” has posted that 4 cans of milk is available and if a user is interested to buy milk our user directory will help the user to find the number of Nikitha and send a message with the help of Codova social share plugin.This way after getting the number the user will be redirected to send a message of his interest.



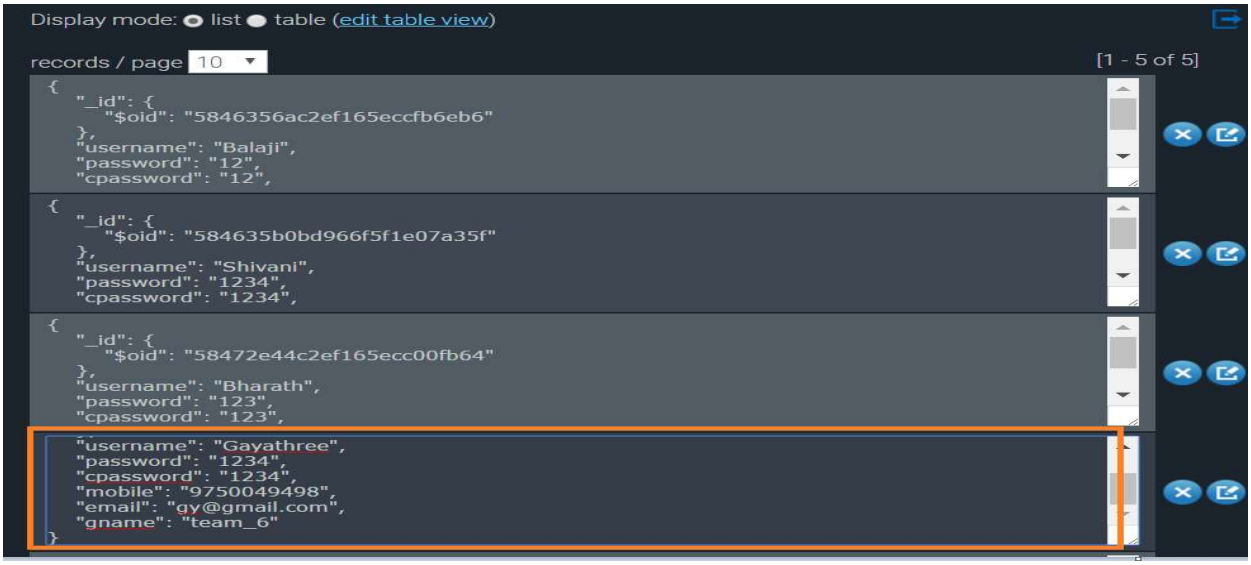


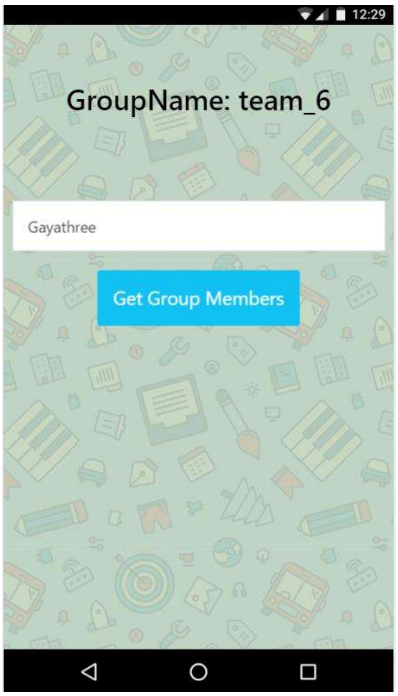
12. User Groups

If the user wants to communicate or send a broadcast message to all the members in a group. Users group feature Enables a user to find the all the registered users. This information will be useful for communication. For example If the members in "Group001" are planning to go to Walmart. With the help of users group he can find all the members in "Group000" and using users directory he can contact them, plan in advance and shop, which leads to a smart shopping and sharing. Here Gayatree belongs to" team_6" and there is only one member in that group.

12.1MongoDB

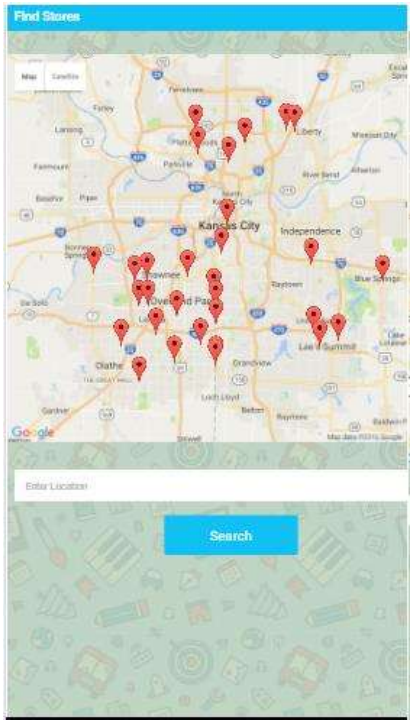
Gayatri was registered under team_6 during registration. All the details are stored in MongoDB'

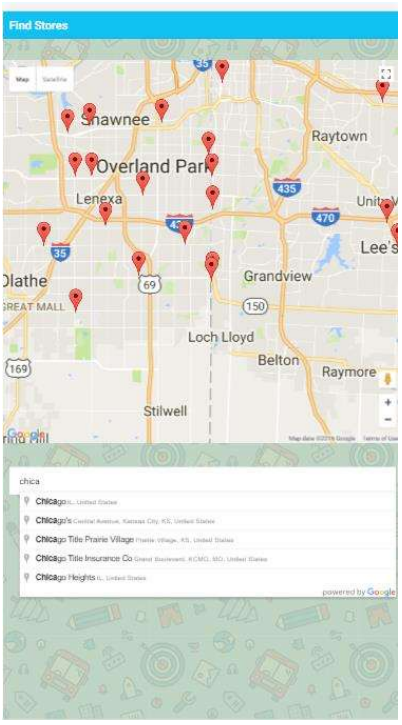


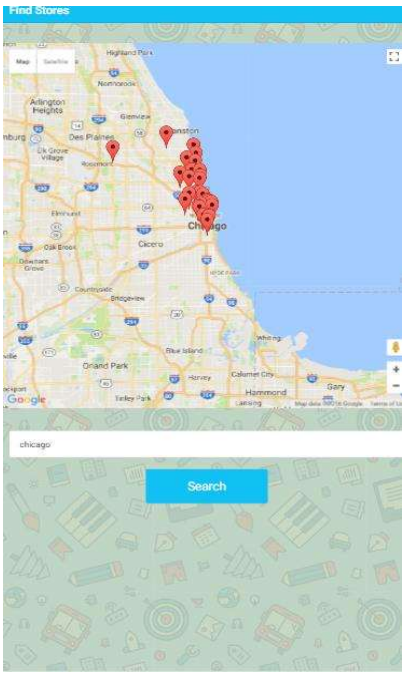


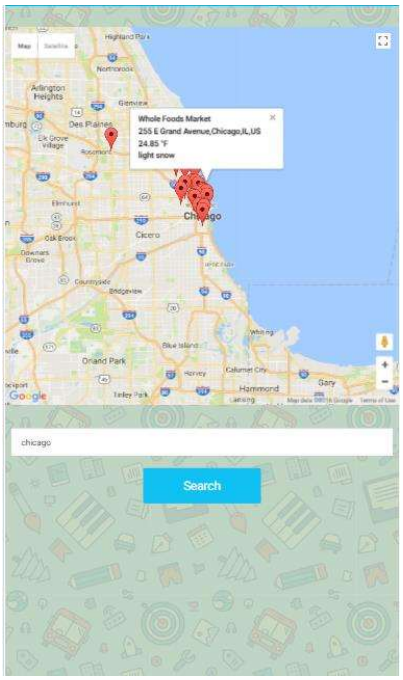
13. Find Stores

The user can find all the nearby grocery stores using Four-square API and Google Maps. Th user can find all the grocery stores when he on the GPS. Also, the user has the visibility to search for the desired stores Looking in the search bar which has an autocomplete feature. Also, the user can see the climate and temperature before he steps out for shopping. Firstly all the grocery stores in "Kansas" are displayed. If the User want to see the grocery stores in "Chicago" the user can see the stores with the climate with auto search Enabled.



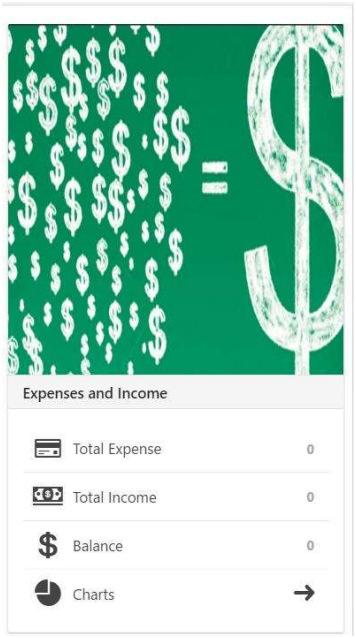






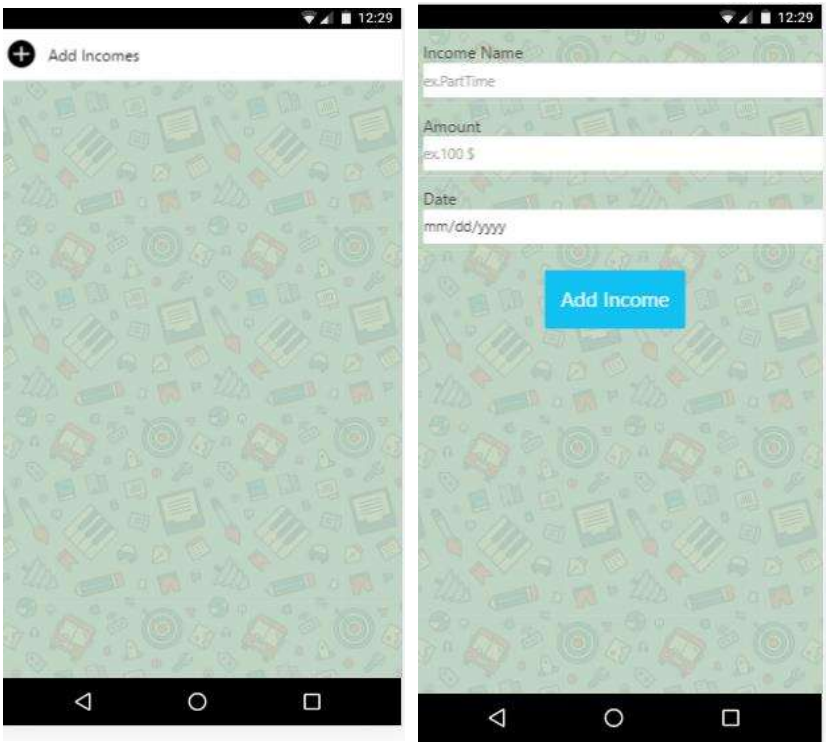
14. Expense Manager

The user is abled manage the money he spent using our expense manager. The user can add income, can add expense. Based on that the balance is displayed and chart is displayed using Google Charts. The user After choosing the expense manager is redirected to the home page of expense manager. As the user hasn't entered any income or expense all (Expense,Balance and Income is set to Zero)

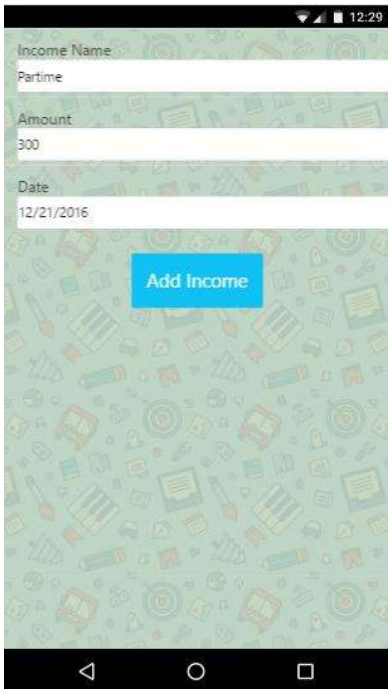


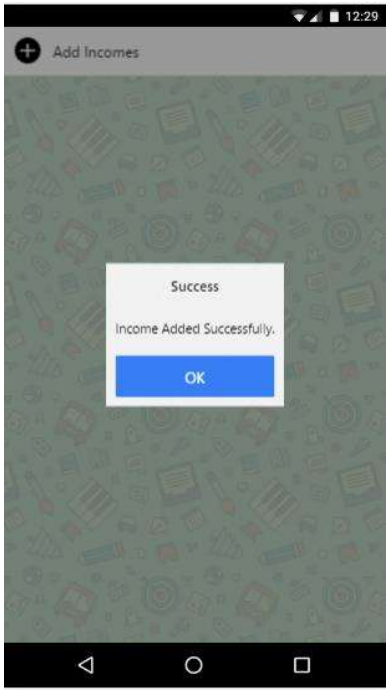
14.1 1Total Income

The user is prompted to add the income. The user has entered (IncomeName:Partime ,Amount:$30,Date:2016-12-21).



After the user has entered all the details the data has been successfully stored in the MongoDB and a popup has been displayed .



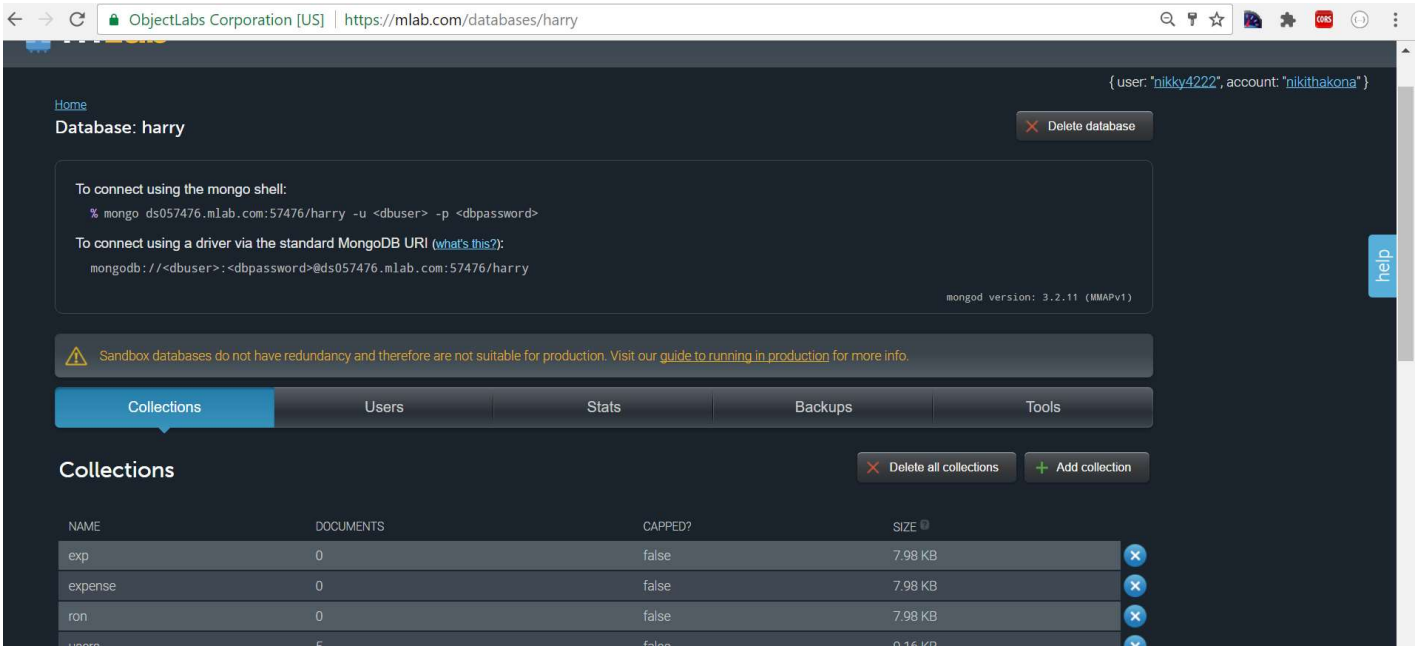


After succesffully adding the(Income:300,Expense:0,Balanc:300-0=300) is displayed

4.1.1 1MongoDB Storage

All the details are stored in the MongoDB .First two collections Exp,Expense have been created.Firstly all the collections are set to zero.Once the user have successfully added details the mongoDB is populated.

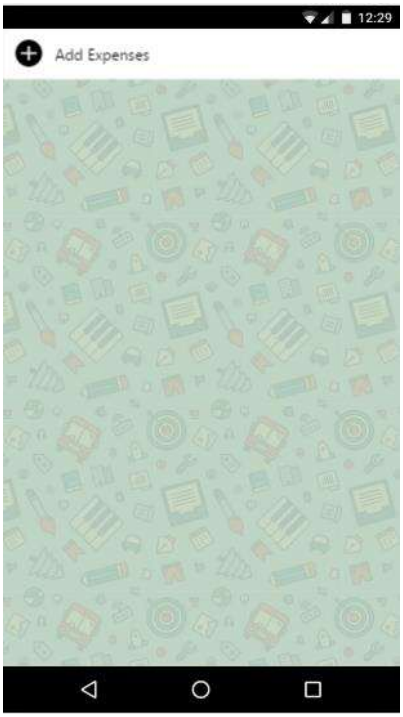
Before Adding Income & Expense

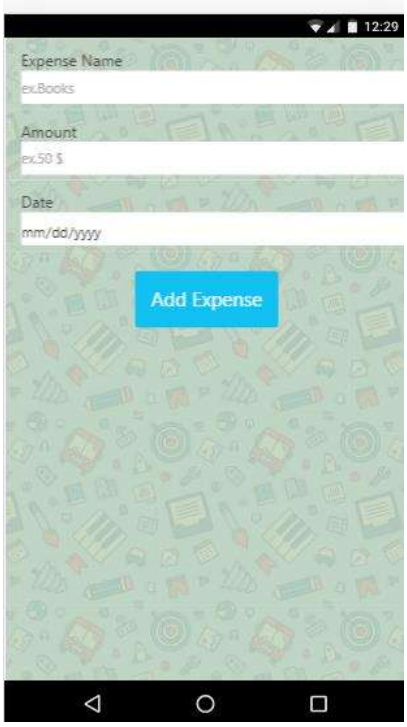


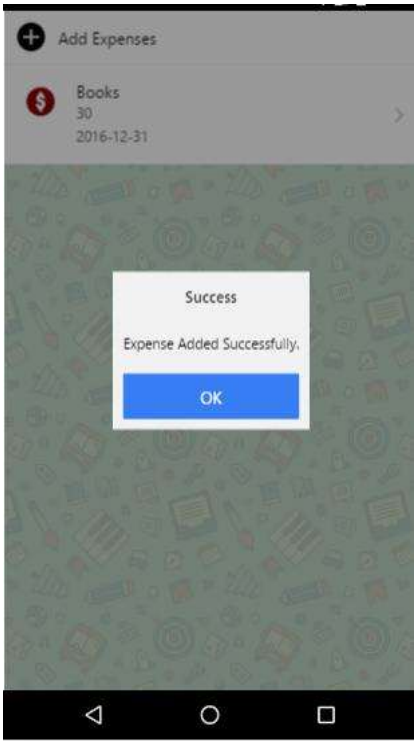
After the income has been added successfully the income data has been added to the mongoDB.

14.2 Total Expense

The user is redirected to add the expenses here.Once the expense is addes succesfully the data is stored in the Mongo DB and the balance is updated accordingly.Here the user has entered (Income:300,Expense:30,Balanc:300-30=270).After entering the details the balance will be updated autmitically and the user can add any number of expenses and this will be useful to keep track of the money he spend daily.

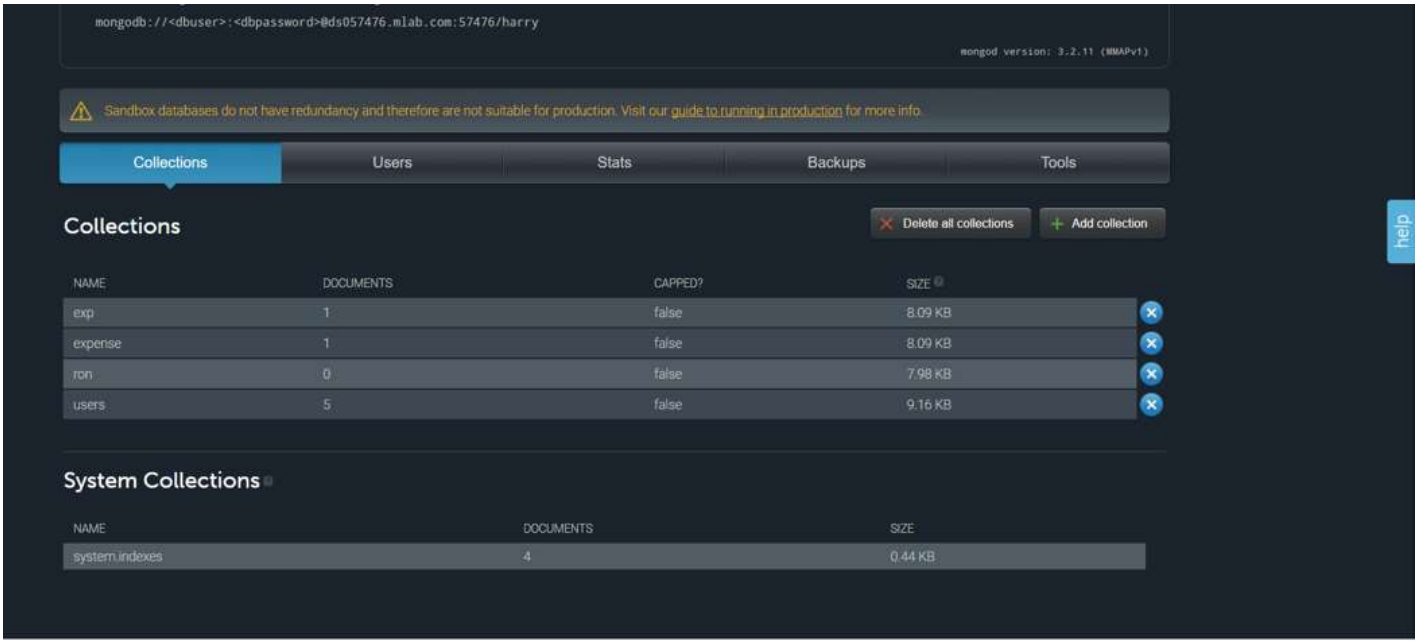




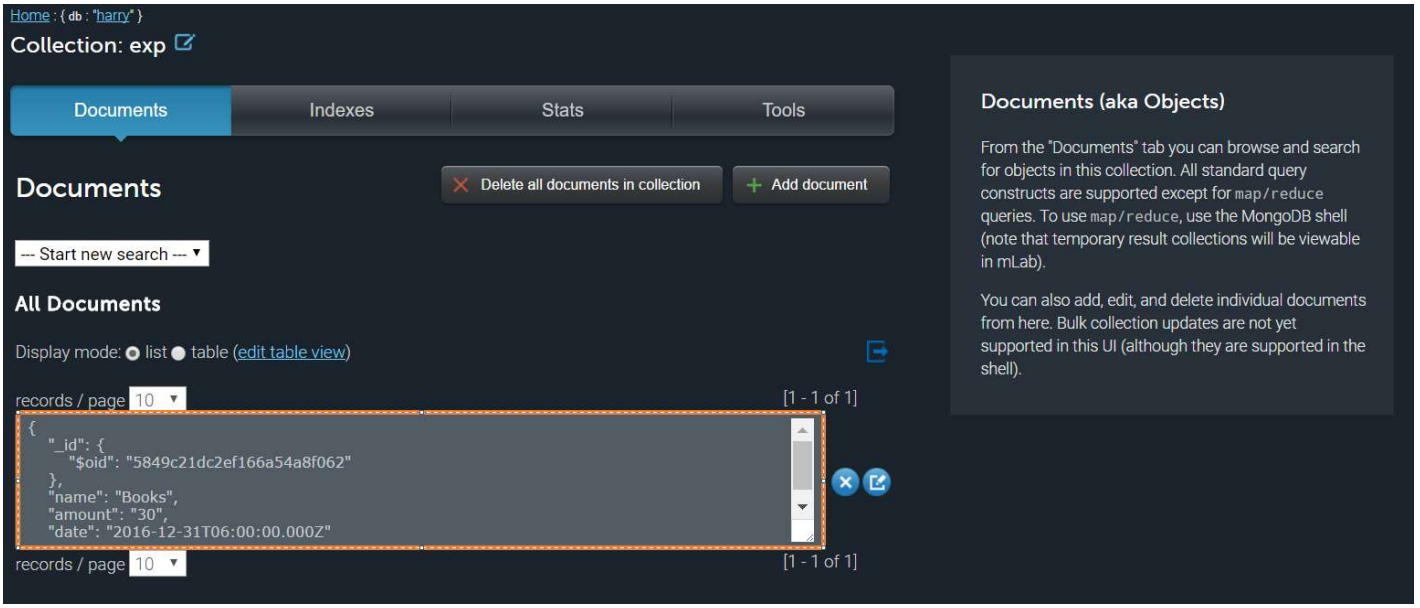


14.2.1 MongoDB Storage

Once the details are added successfully.After succesffully addded both the collections(Expense:1,Exp:1) have been updated .Also the expense data have been added successfully.

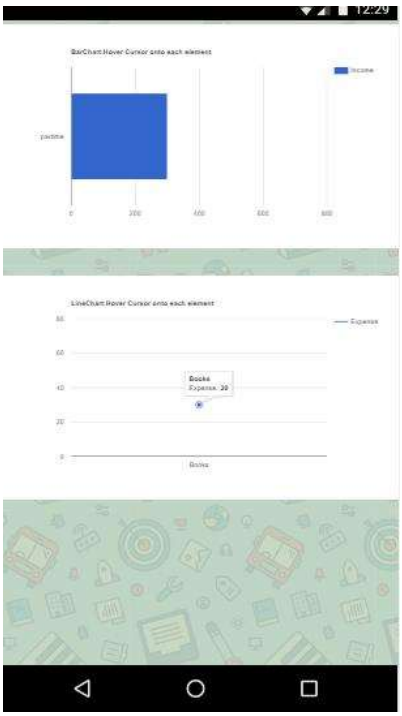


After the user, have added the details the database is populated.



15. Charts

Based on the income and the expense added by the user Google charts API is used to display the graphical representation in the form of Line Chart and Bar Chart. Based on the data entered by the user(Income:300, Expense:30).Based on this a chart is displayed



16. Project Management

Technology Used: Ionic, HTML, CSS, JS, and Angular JS.

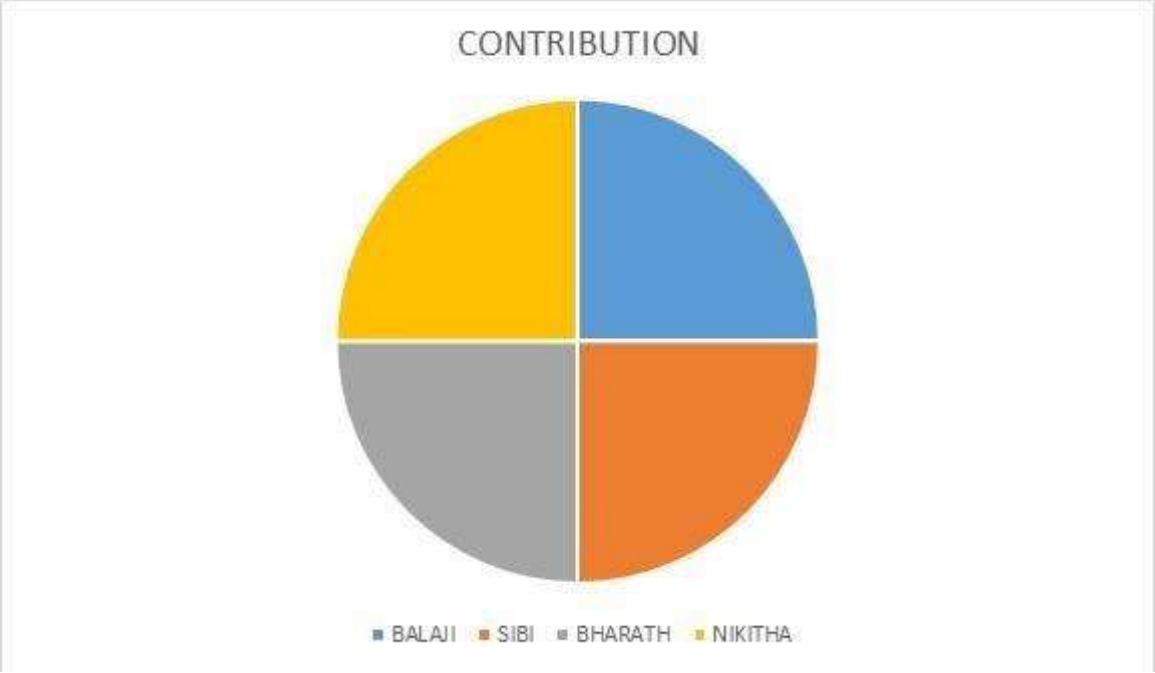
16.2 Work Completed

- Group page modification
- Addition of User directory
- Forum page modification
- Creation of Expense manager
- Store Finder addition

16.3 Contribution:

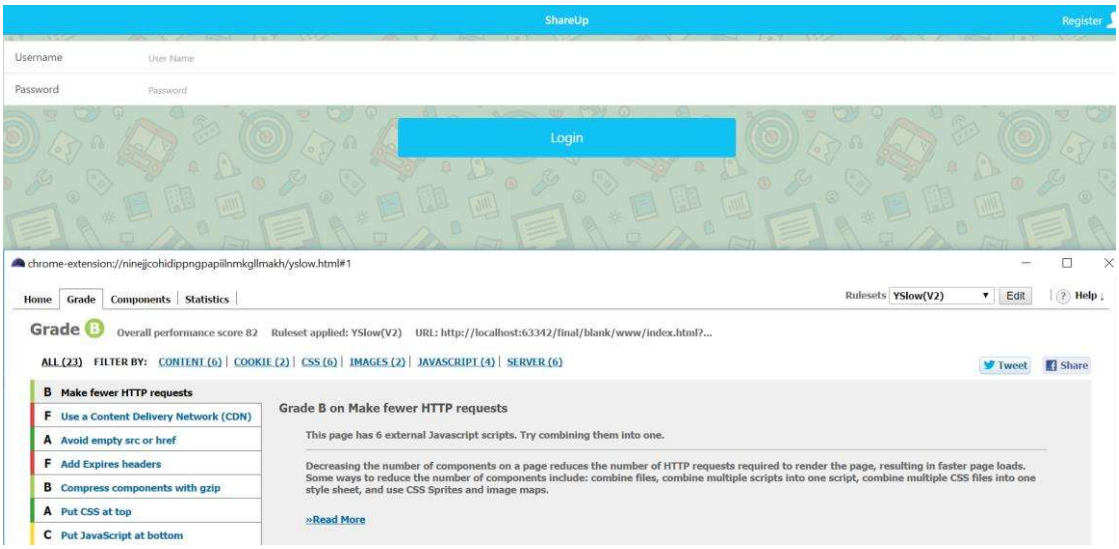
- Balaji Natarajan – 25%
- Bharath Kumar A – 25%

- Sibi Chakravarthy Ramesh – 25%
- Nikitha Kona – 25%



17.Yslow

Yslow page testing has been done and the grade of the project is displayed below. Yslow testing helps the developers to improve and manage code and make changed for a robust code



18. Unit Testing

Unit testing is performed on different validations in the login and the registration page. First the user is redirected to the registration page once all the details are given the user is redirected to the login page. All the validations are performed for different login and registration cases and a table has been displayed below

S.No	Title	Description	Outcome Expected	Result
1	User Verification Successful	The user should login with his/her password and username	Login should be successful	Pass
2	User Verification Failed	Login to the system with wrong password/username	Login should fail with an error "Invalid Username/Password"	Pass
3	User Login Successful	The user logins into the system with password/username	Login should be successful and the user should enter into the Home page	Pass
4	New User Registration	The user should enter the details into the page and should be accepted by the admin	User should go to Home page	Pass

19. Bibliograph

http://ionic.io/developers

http://creately.com/ https://mockingbot.com/

http://www.supermarketapi.com/Default.aspx