Advanced Software Engineering

Fourth Increment Report

Fall 2016

TEAM - 6

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Table of Contents

I. 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.

II. Project Goal and Objectives

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.

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.

Specific Features

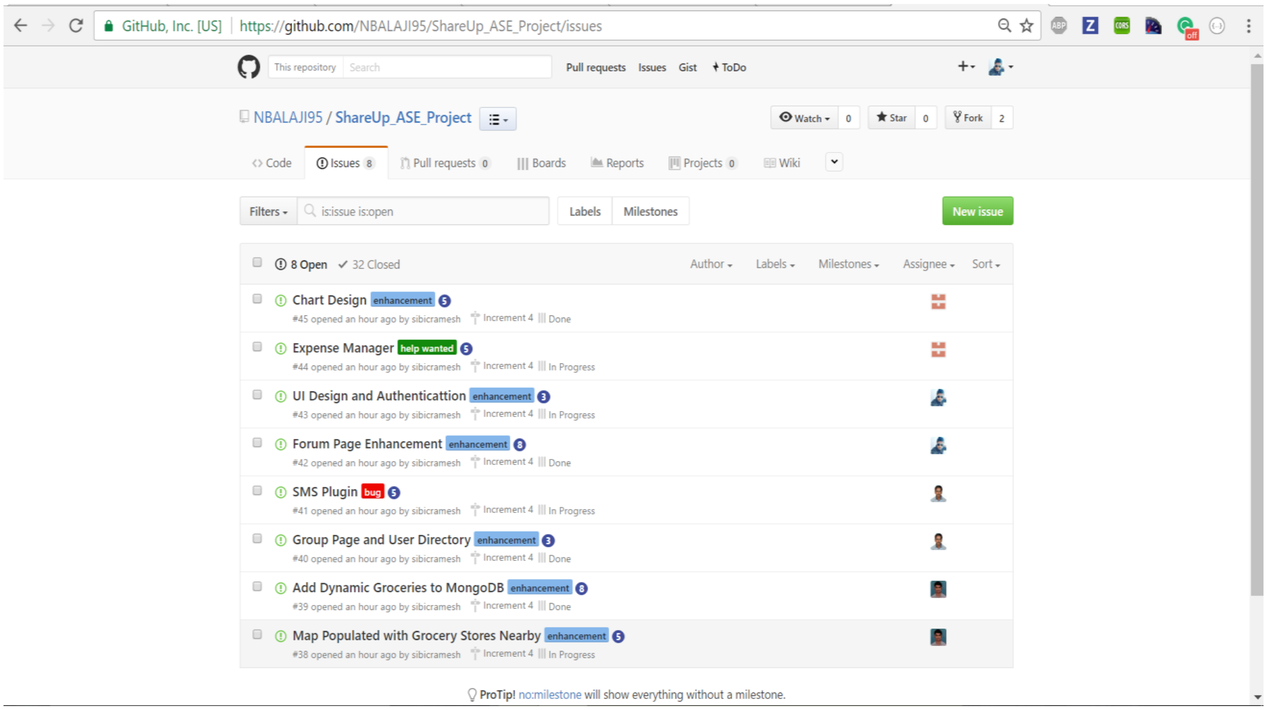
- Group page that finds the group members of the user logged in
- User directory, that finds phone number of user to be searched and to send SMS
- Forum page, that allows users to post ads reg. extra groceries
- Expense manager, that calculates expenses vs income and displays with charts (Google charts)
- Store Finder, that displays all available stores in specified location in a map along with weather conditions

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.

III. Project Plan

Stories(Issues)


GitHub, Inc. [US] | https://github.com/NBALAJI95/ShareUp_ASE_Project/issues
This repository | Search
Pull requests | Issues | Gist | ToDo
NBALAJI95 / ShareUp_ASE_Project
Watch 0 | Star 0 | Fork 2
Code | Issues 8 | Pull requests 0 | Boards | Reports | Projects 0 | Wiki
Filters | is:issue is:open | Labels | Milestones | New issue
Author | Labels | Milestones | Assignee | Sort

8 Open ✓ 32 Closed

Chart Design enhancement 5
#45 opened an hour ago by sibicramesh Increment 4 Done

Expense Manager help wanted 5
#44 opened an hour ago by sibicramesh Increment 4 In Progress

UI Design and Authenticattion enhancement 3
#43 opened an hour ago by sibicramesh Increment 4 In Progress

Forum Page Enhancement enhancement 8
#42 opened an hour ago by sibicramesh Increment 4 Done

SMS Plugin bug 5
#41 opened an hour ago by sibicramesh Increment 4 In Progress

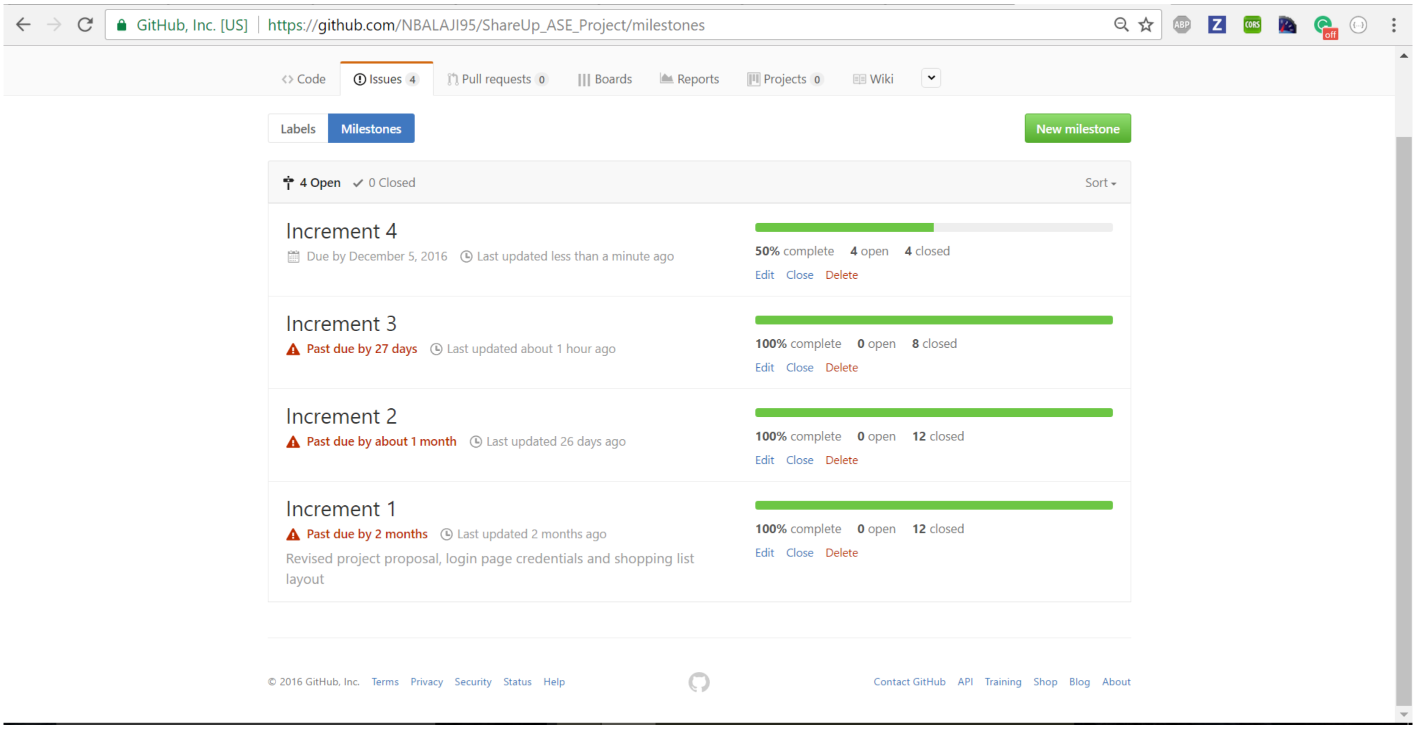
Group Page and User Directory enhancement 3
#40 opened an hour ago by sibicramesh Increment 4 Done

Add Dynamic Groceries to MongoDB enhancement 8
#39 opened an hour ago by sibicramesh Increment 4 Done

Map Populated with Grocery Stores Nearby enhancement 5
#38 opened an hour ago by sibicramesh Increment 4 In Progress

ProTip! no:milestone will show everything without a milestone.

Project Timelines


GitHub, Inc. [US]
https://github.com/NBALAJI95/ShareUp_ASE_Project/milestones
Code
Issues 4
Pull requests 0
Boards
Reports
Projects 0
Wiki
Labels
Milestones
New milestone
Sort
Edit Close Delete
© 2016 GitHub, Inc. Terms Privacy Security Status Help
Contact GitHub API Training Shop Blog About

4 Open ✓ 0 Closed

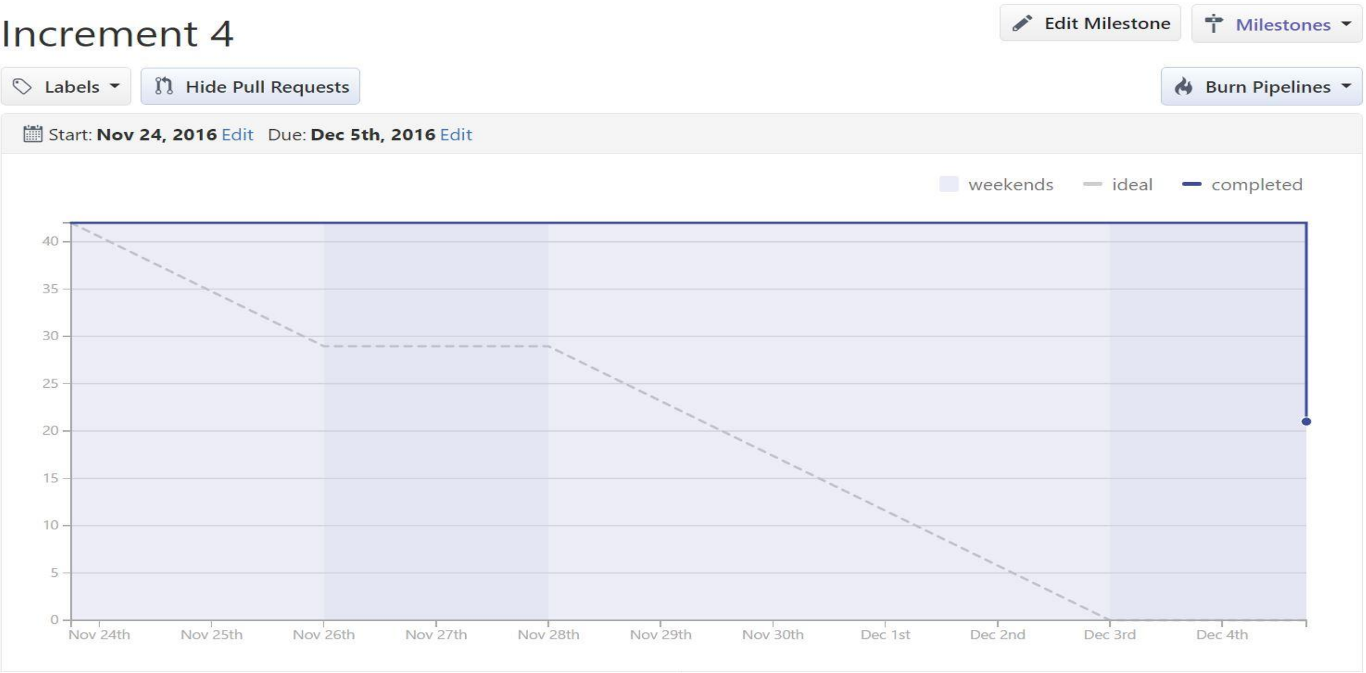
Increment 4
Due by December 5, 2016 Last updated less than a minute ago
50% complete 4 open 4 closed

Increment 3
Past due by 27 days Last updated about 1 hour ago
100% complete 0 open 8 closed

Increment 2
Past due by about 1 month Last updated 26 days ago
100% complete 0 open 12 closed

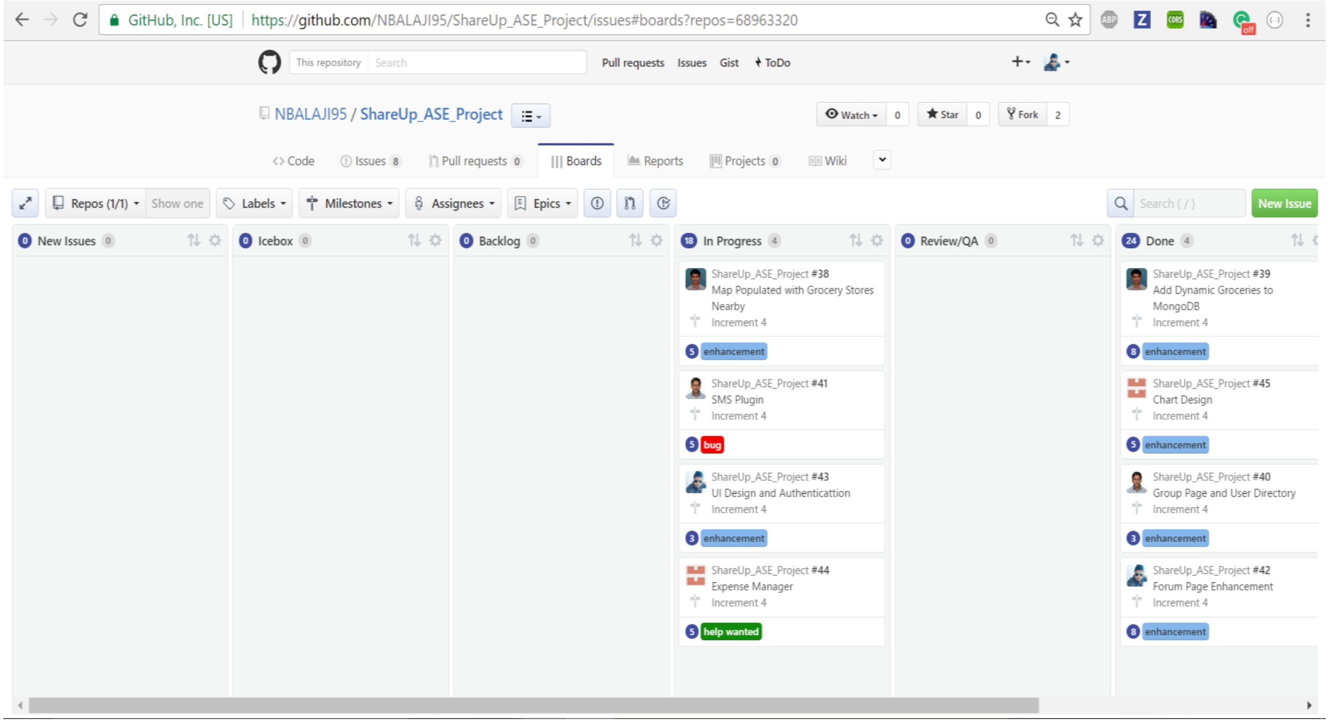
Increment 1
Past due by 2 months Last updated 2 months ago
Revised project proposal, login page credentials and shopping list layout
100% complete 0 open 12 closed

Burndown Chart



Start: Nov 24, 2016 Edit Due: Dec 5th, 2016 Edit

Board



In Progress

- ShareUp_ASE_Project #38 Map Populated with Grocery Stores Nearby — Increment 4 — 5 enhancement
- ShareUp_ASE_Project #41 SMS Plugin — Increment 4 — 5 bug
- ShareUp_ASE_Project #43 UI Design and Authenticattion — Increment 4 — 3 enhancement
- ShareUp_ASE_Project #44 Expense Manager — Increment 4 — 5 help wanted

Done

- ShareUp_ASE_Project #39 Add Dynamic Groceries to MongoDB — Increment 4 — 8 enhancement
- ShareUp_ASE_Project #45 Chart Design — Increment 4 — 5 enhancement
- ShareUp_ASE_Project #40 Group Page and User Directory — Increment 4 — 3 enhancement
- ShareUp_ASE_Project #42 Forum Page Enhancement — Increment 4 — 8 enhancement

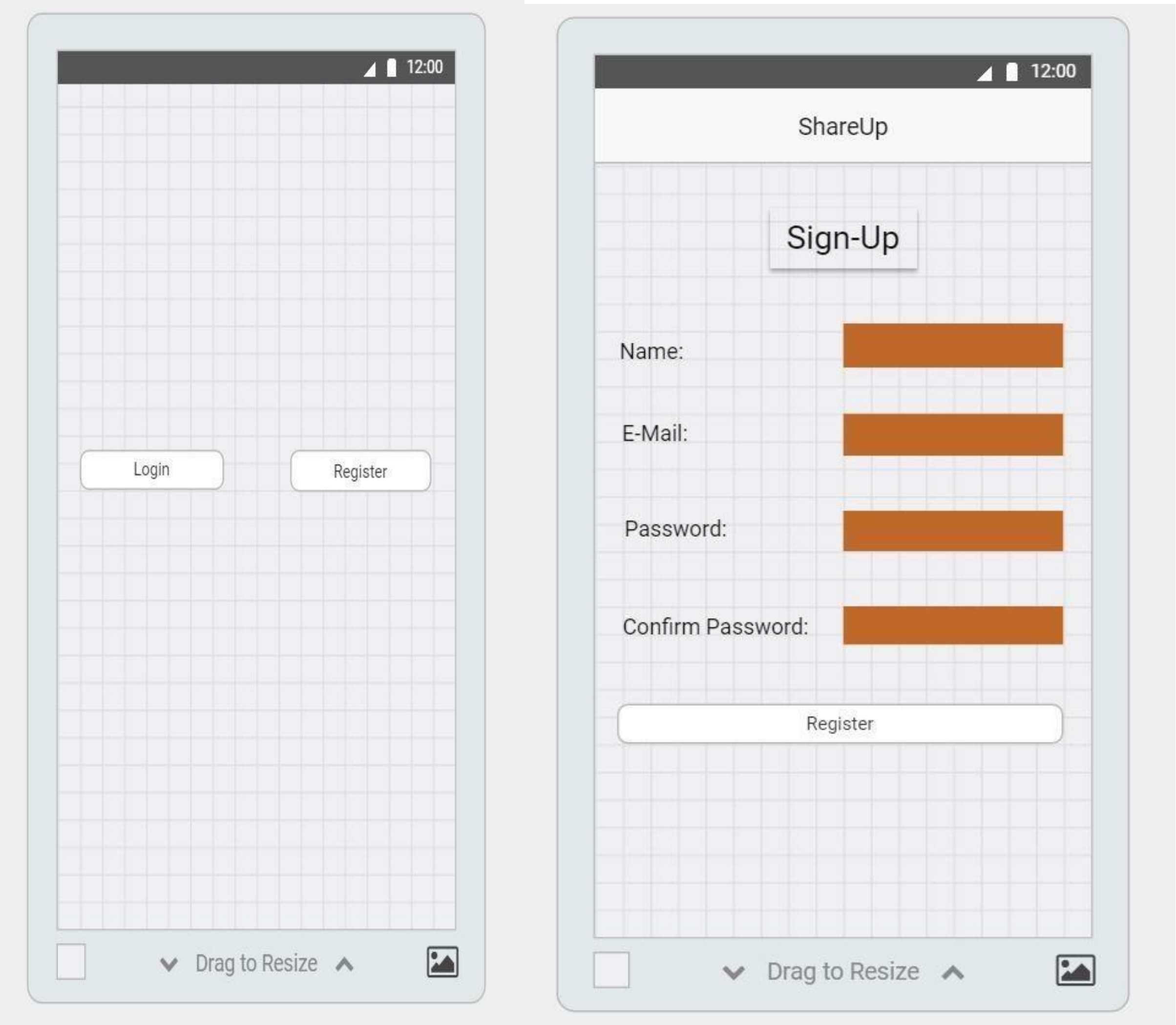
IV. Third Increment Report

Existing Services/REST API

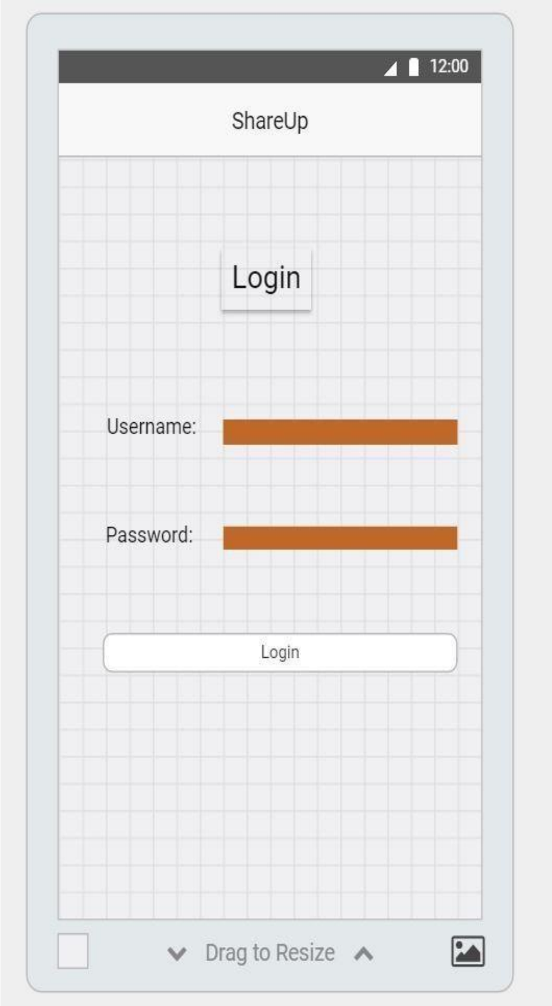
Walmart API
MLab Data API
FourSquare API
Google GeoLocation API
Google maps API
Google charts API
OpenWeatherMap API

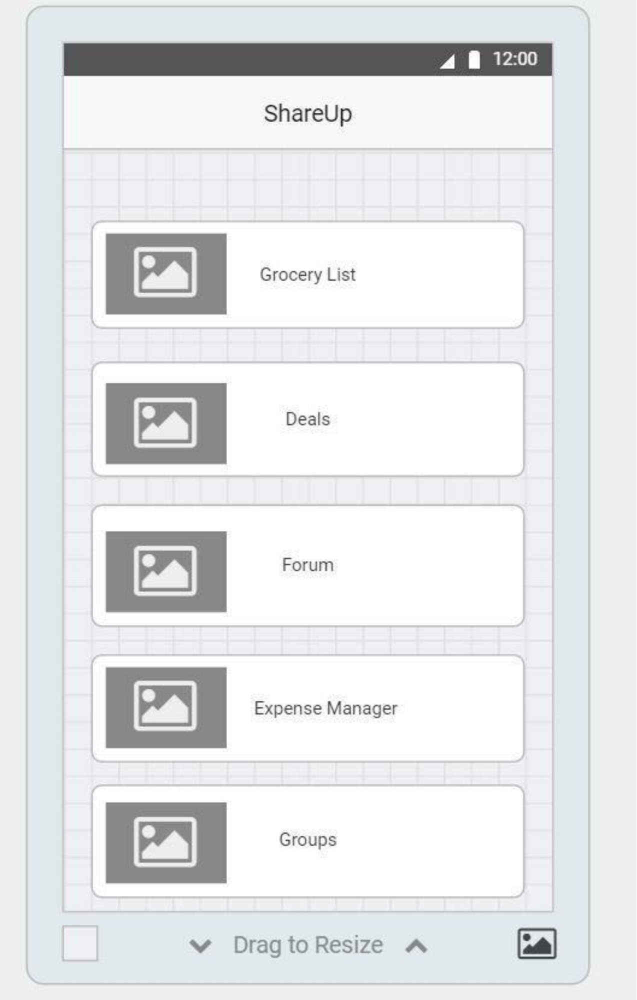
Detail Design of Features (using tools) Wireframes

A wire frame for the main page and the login page has been created and a screenshot has been displayed Below.

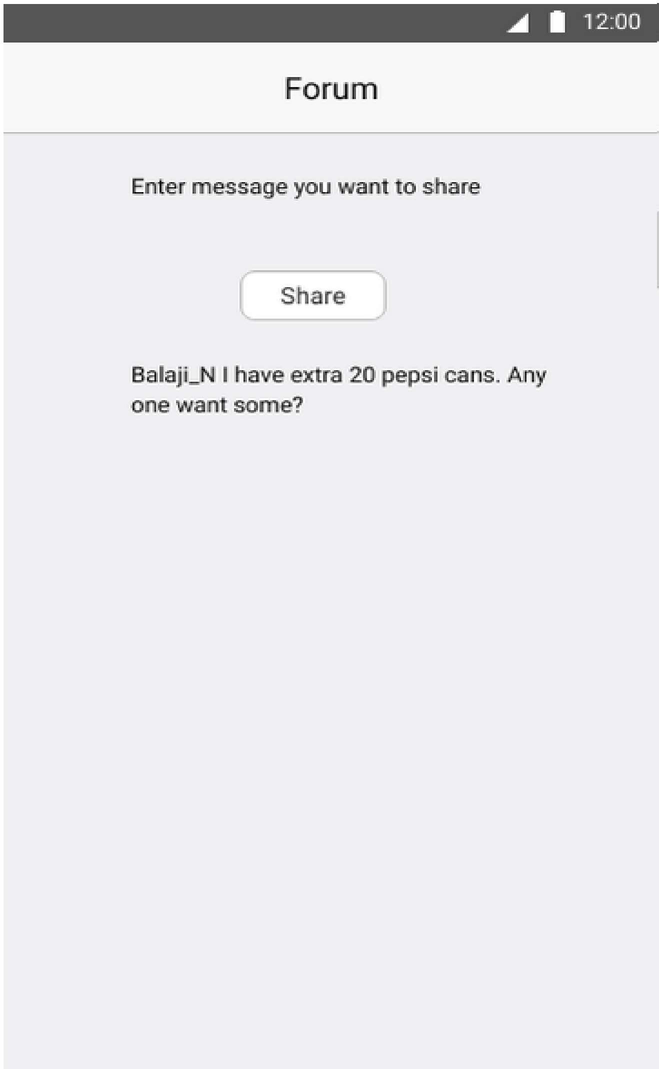


A screenshot for the login page and the home page has been created below.





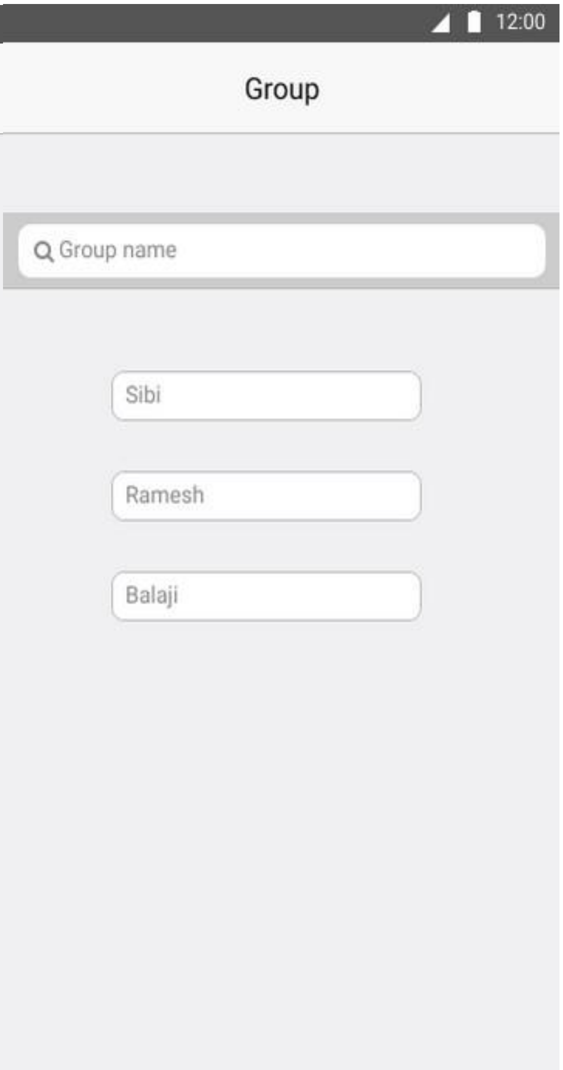
A wireframe for the group page and the forum page has been created and the screenshots have been Displayed below.



Forum

Enter message you want to share

Balaji_N I have extra 20 pepsi cans. Any one want some?

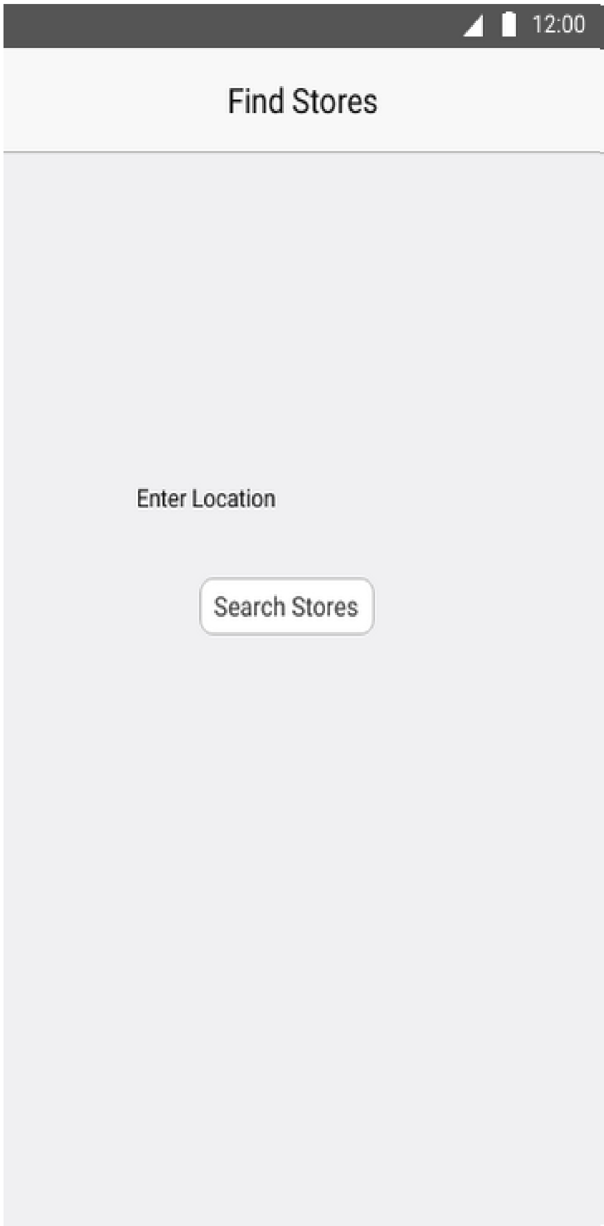


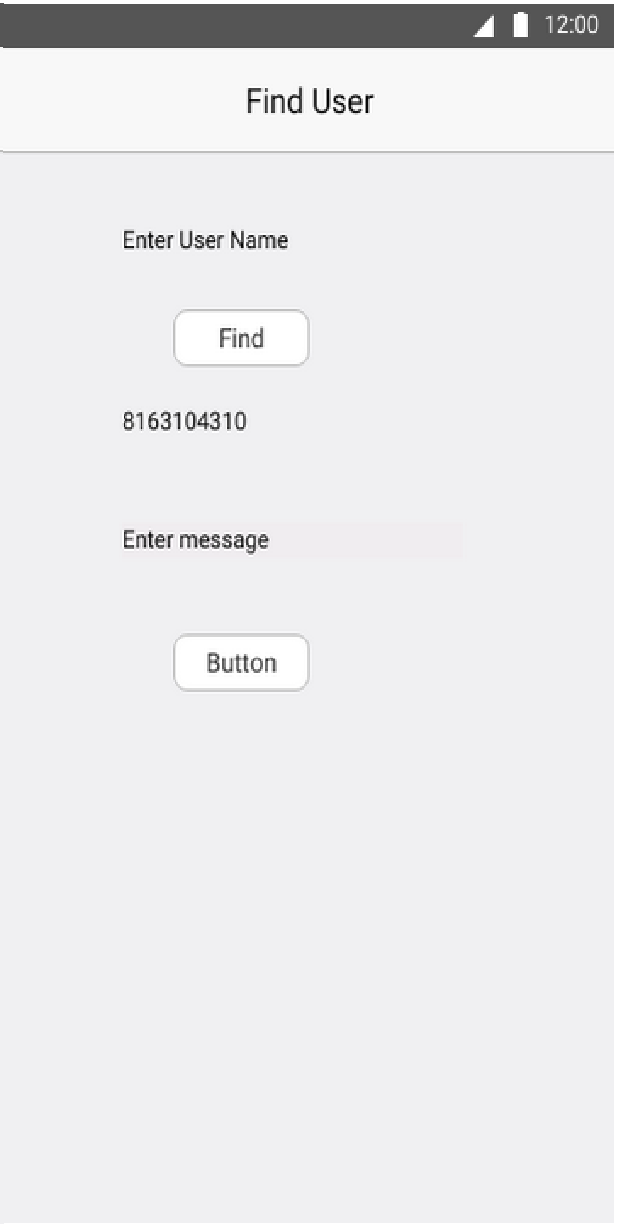
Group

Sibi

Ramesh

Balaji


12:00
Find Stores
Enter Location
Search Stores


12:00
Find User
Enter User Name
Find

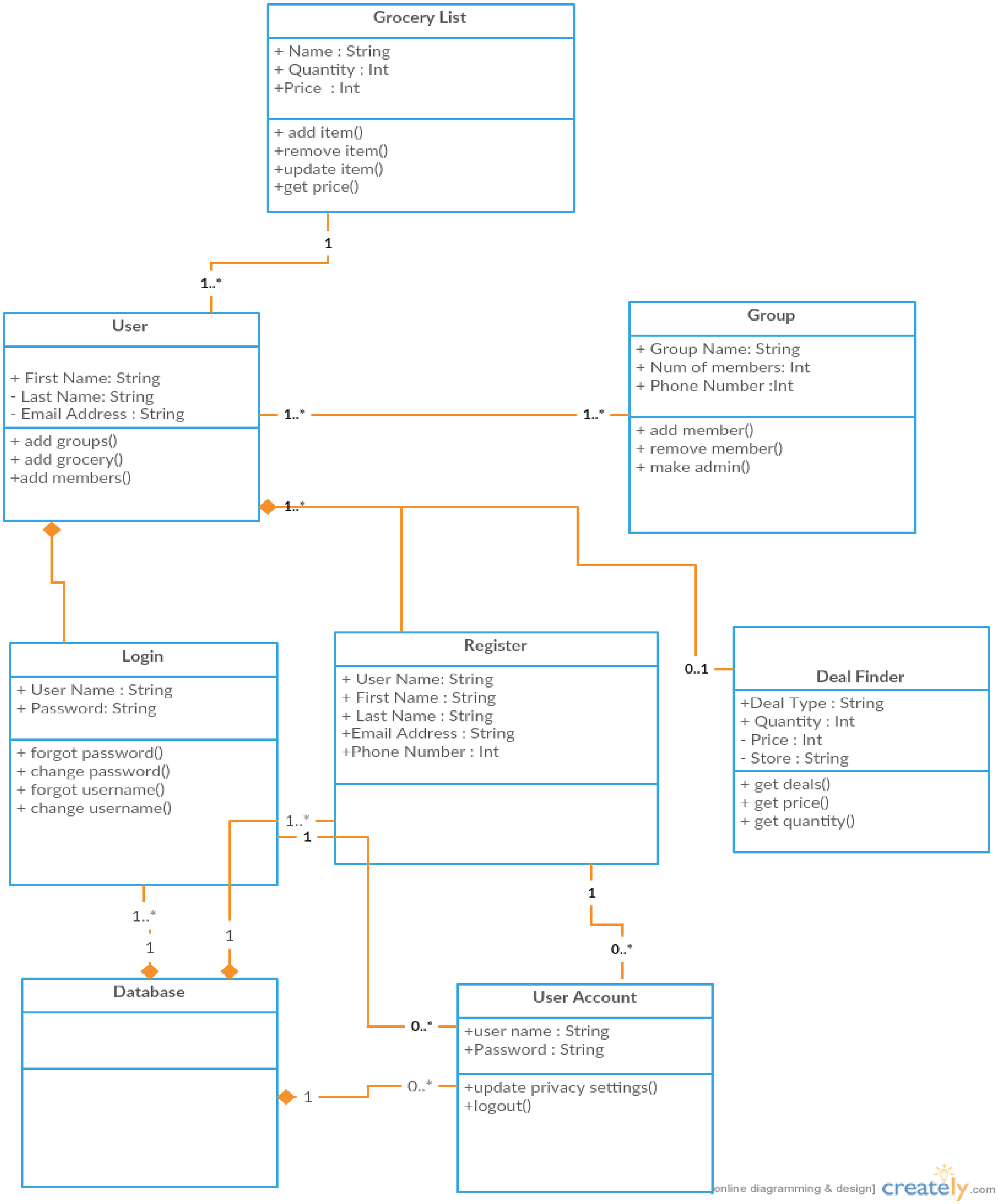
8163104310

Enter message
Button

UML Class Diagram

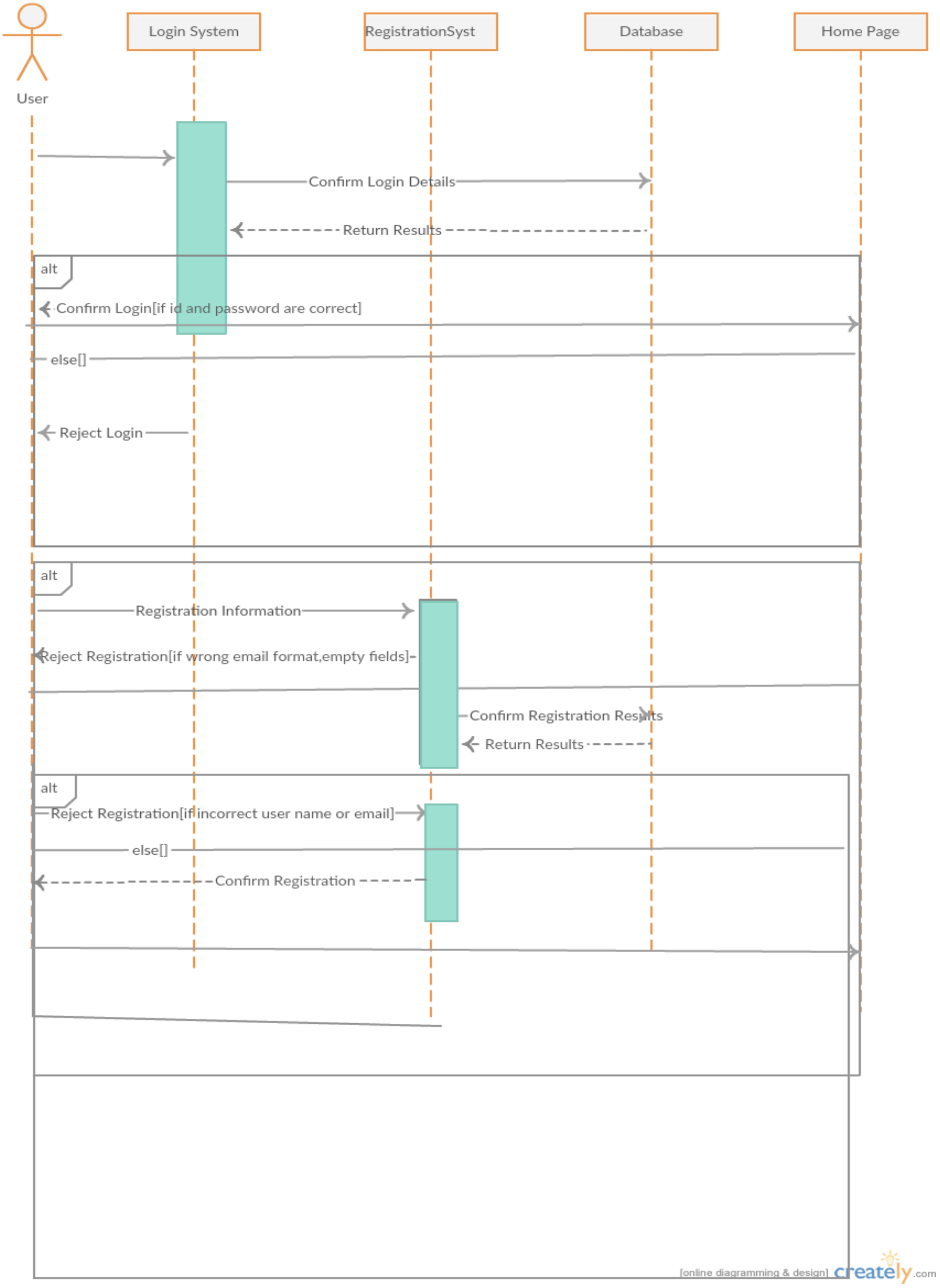
A class diagram has been created with the following classes

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


Grocery List
+ Name : String
+ Quantity : Int
+Price : Int
+ add item()
+remove item()
+update item()
+get price()
1
1..*
User
+ First Name: String
- Last Name: String
- Email Address : String
+ add groups()
+ add grocery()
+add members()
1..*
1..*
Group
+ Group Name: String
+ Num of members: Int
+ Phone Number :Int
+ add member()
+ remove member()
+ make admin()
1..*
0..1
Login
+ User Name : String
+ Password: String
+ forgot password()
+ change password()
+ forgot username()
+ change username()
Register
+ User Name: String
+ First Name : String
+ Last Name : String
+Email Address : String
+Phone Number : Int
Deal Finder
+Deal Type : String
+ Quantity : Int
- Price : Int
- Store : String
+ get deals()
+ get price()
+ get quantity()
1..*
1
1..*
1
1
1
0..*
Database
0..*
1
0..*
User Account
+user name : String
+Password : String
+update privacy settings()
+logout()
online diagramming & design] creately.com

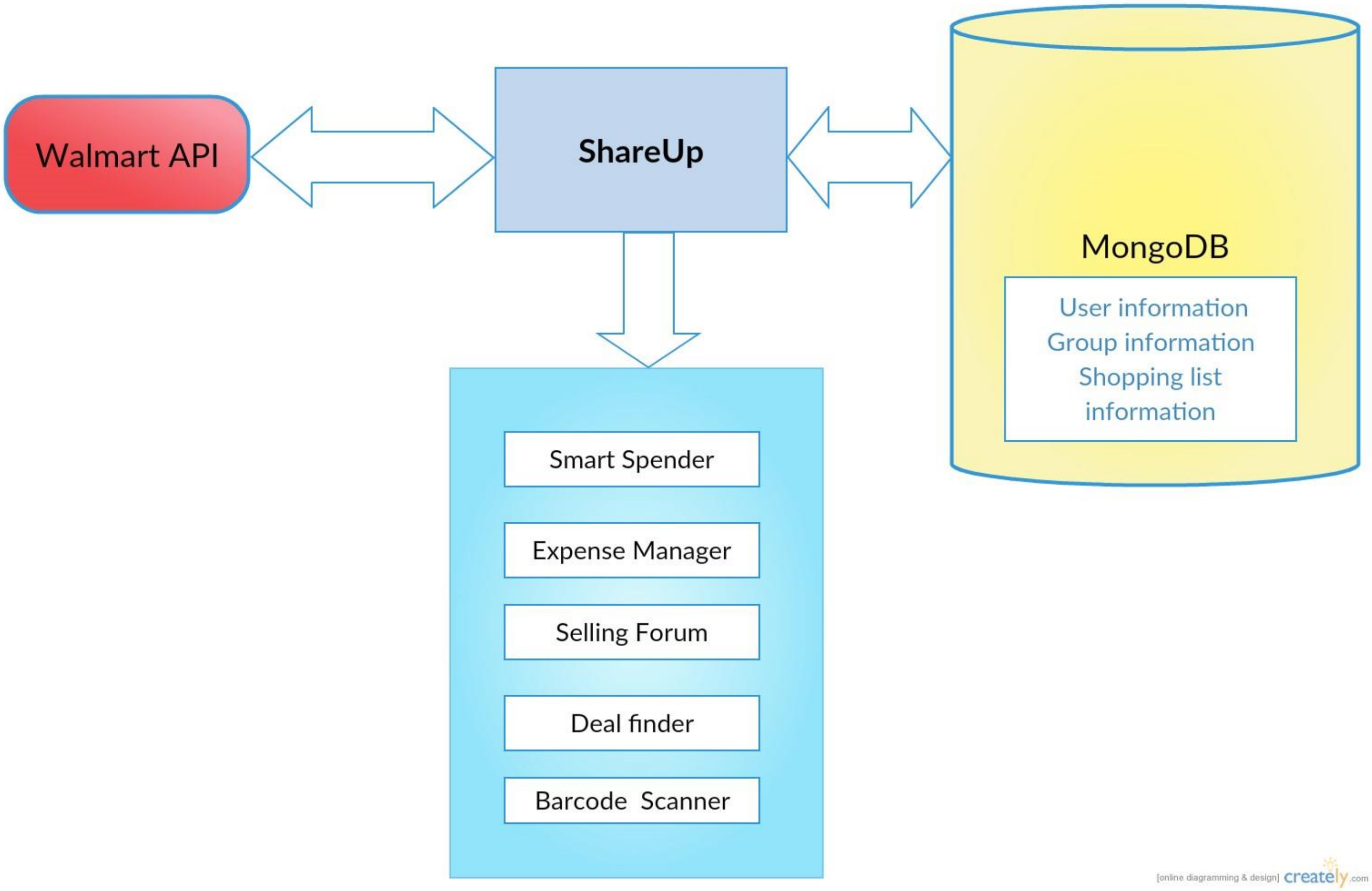
Sequence Diagram

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


User
Login System
RegistrationSyst
Database
Home Page
Confirm Login Details
Return Results
alt
Confirm Login[if id and password are correct]
else[]
Reject Login
alt
Registration Information
Reject Registration[if wrong email format,empty fields]
Confirm Registration Results
Return Results
alt
Reject Registration[if incorrect user name or email]
else[]
Confirm Registration
[online diagramming & design] creately.com

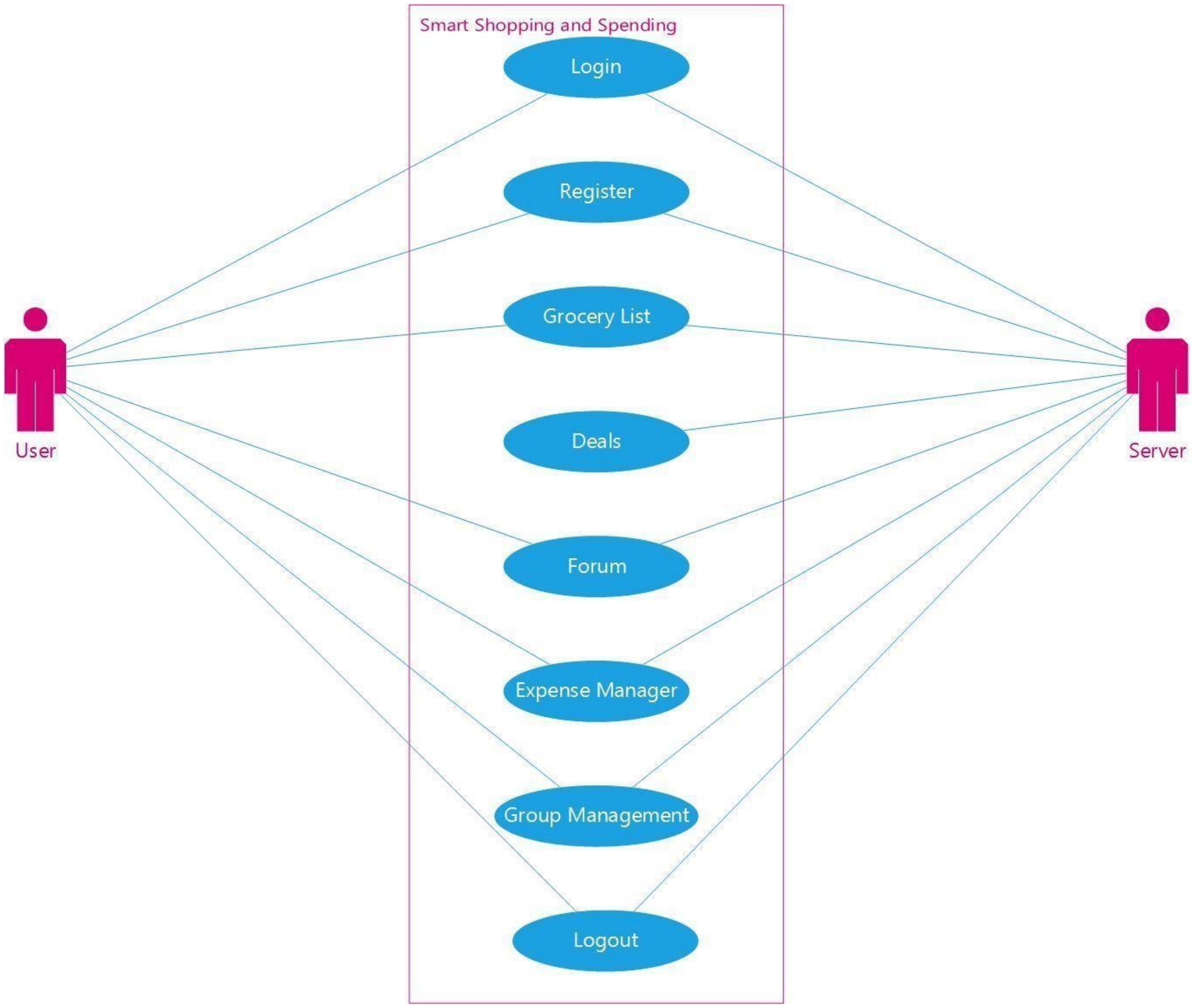
Architecture Diagram

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.



Use Case Diagram

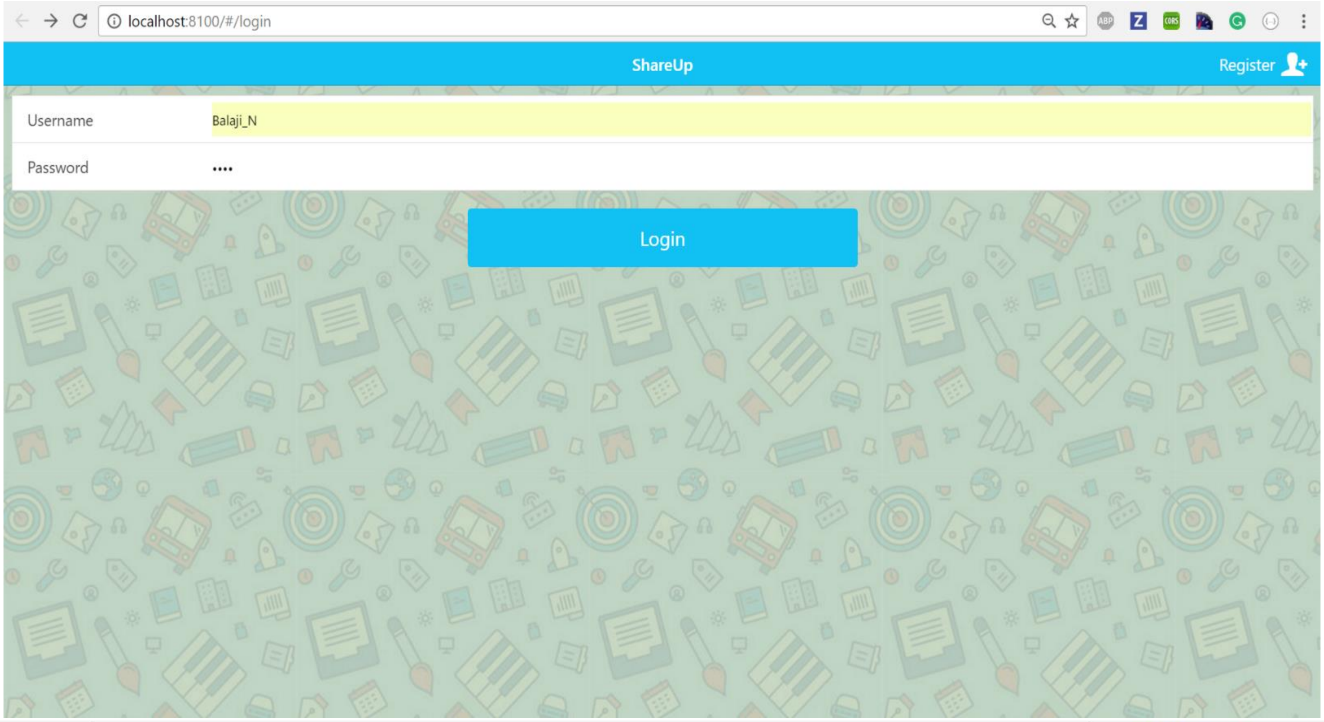
A use case diagram from the user side and the server side has been displayed below.



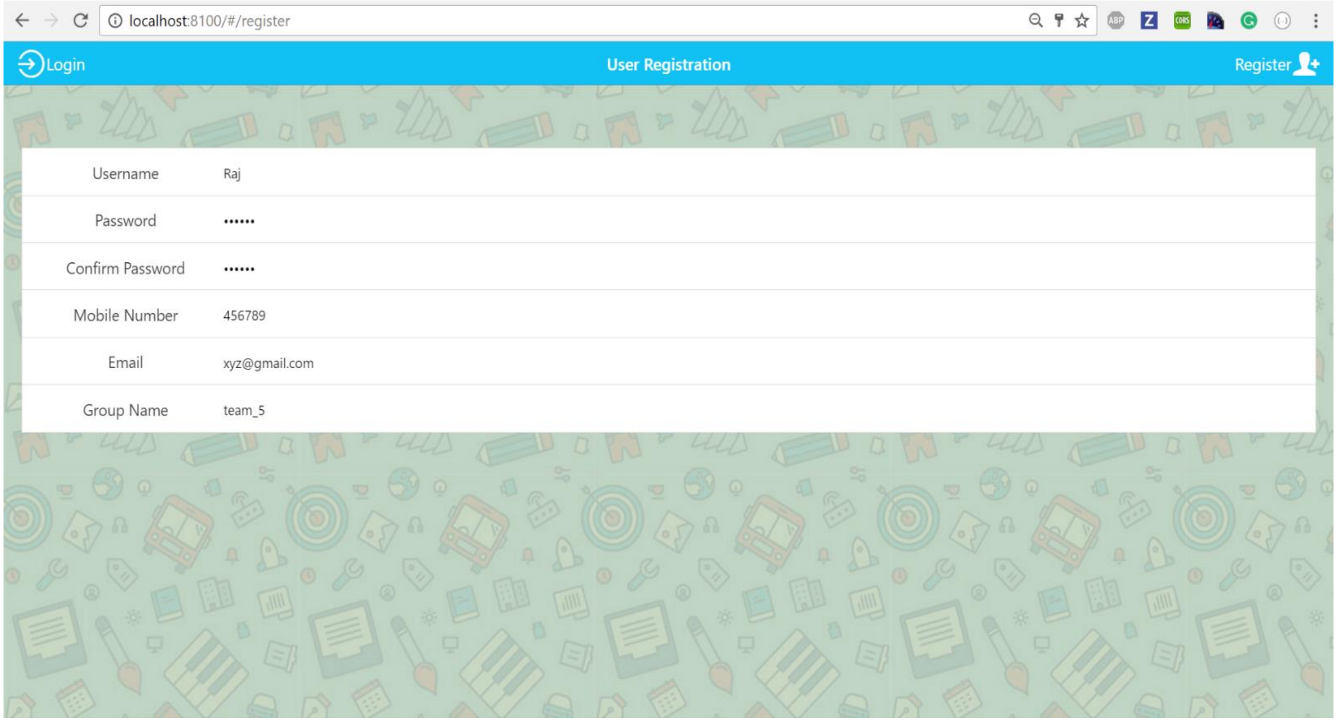
Implementation screenshot

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 will be entered and after successful registration the user will be prompted to the login page And after successfully logging in the user will be prompted to the home page.

Registration Page Screenshot



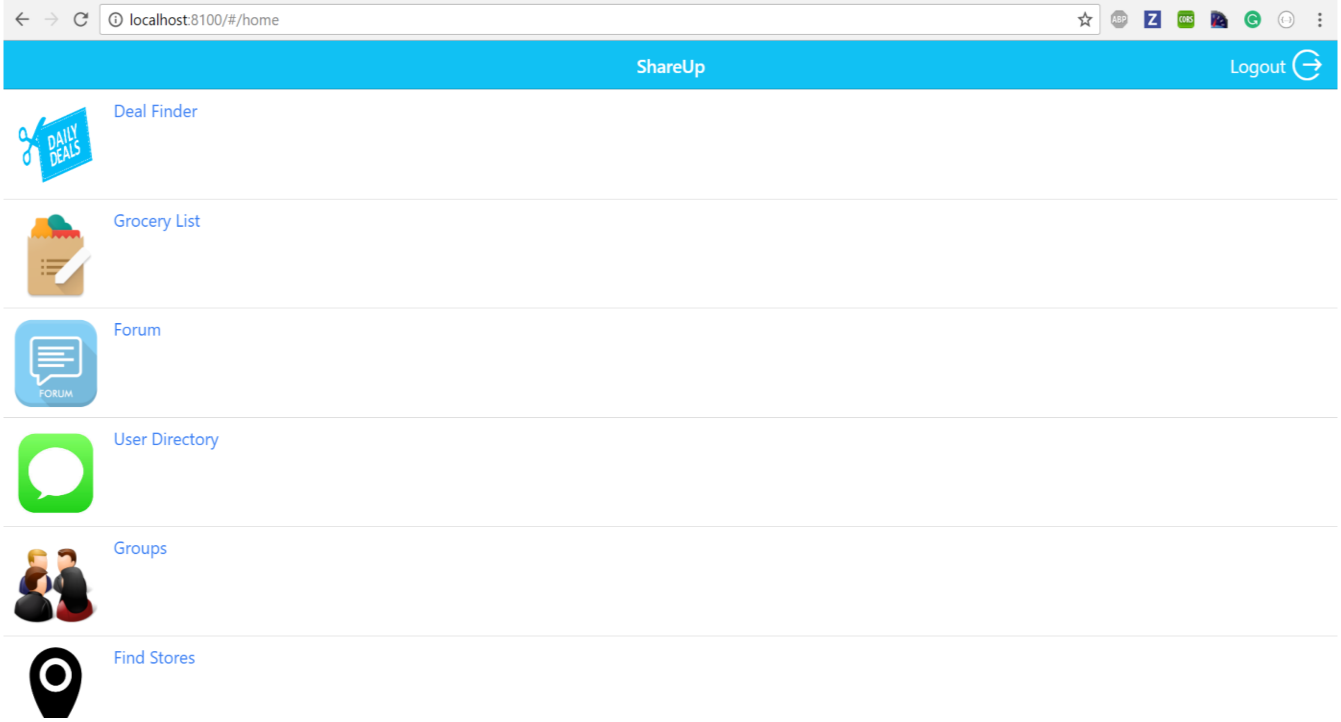
Username	Balaji_N
Password	••••



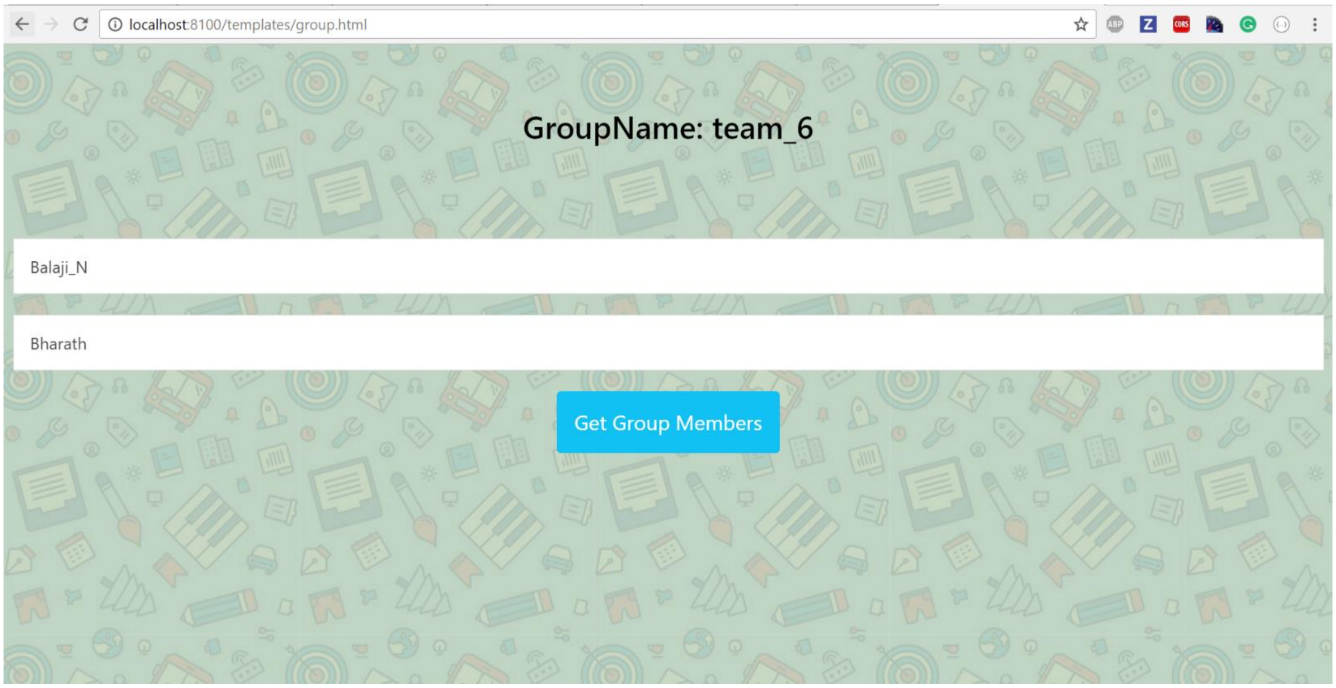
Username	Raj
Password	••••••
Confirm Password	••••••
Mobile Number	456789
Email	xyz@gmail.com
Group Name	team_5

Home Page

Once the user has logged in the user is redirected to the home page where is the user prompted with many Options.



Group Page



GroupName: team_6

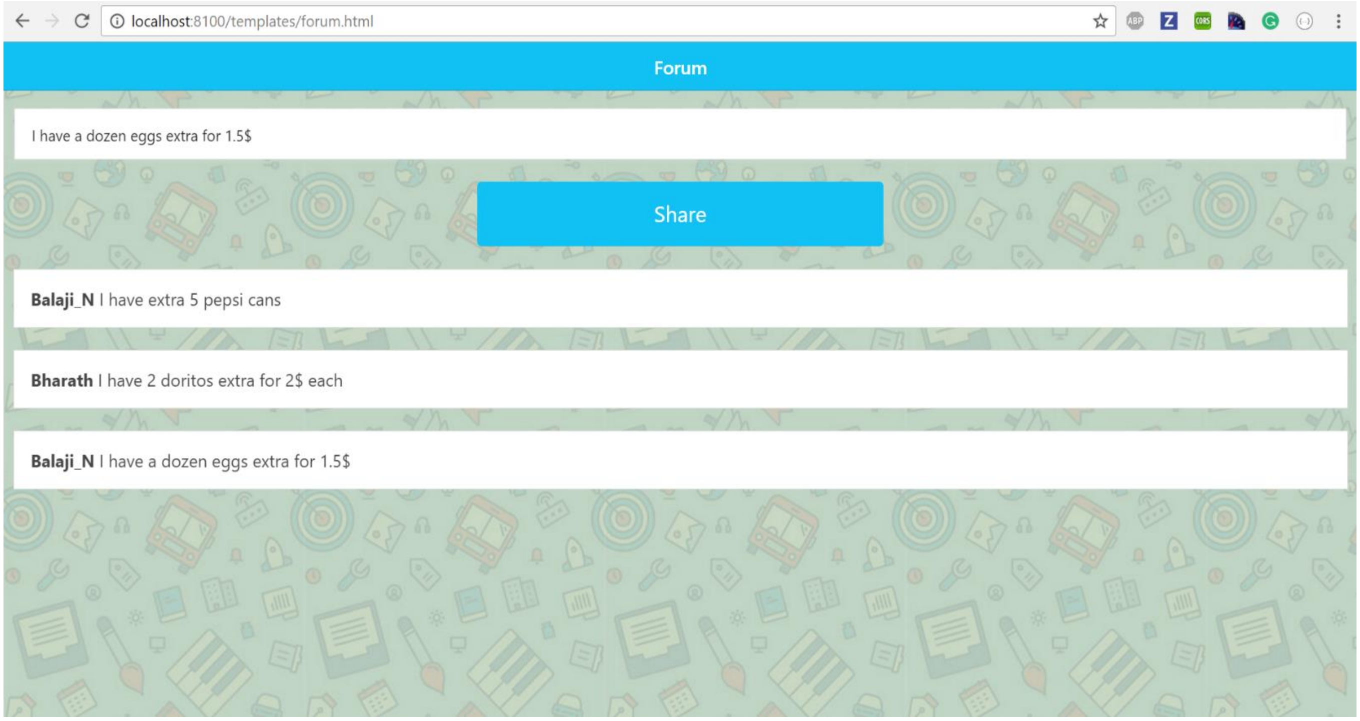
Balaji_N

Bharath

The screenshots has been displayed below. A mongo DB screenshot has been displayed that stores the group information and the corresponding names that are displayed.

Forum Page

A forum page has been created where the user can post the details of the extra grocery items and the user can Post the details. MongoDB is used to store.



I have a dozen eggs extra for 1.5$

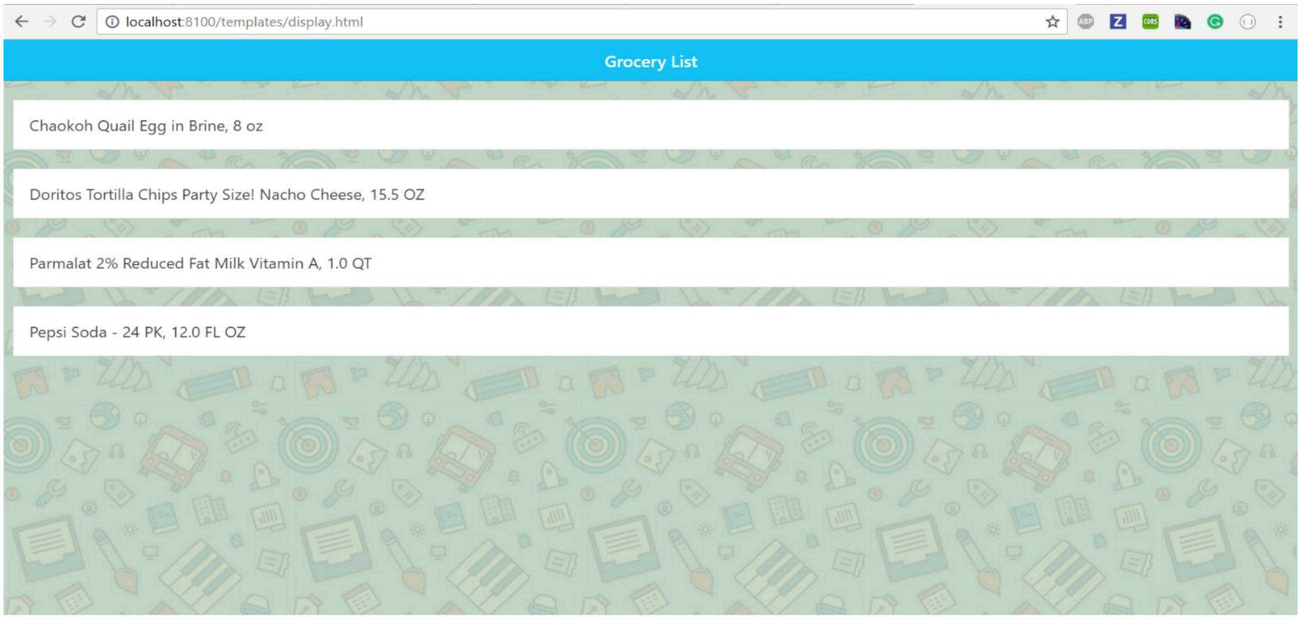
Balaji_N I have extra 5 pepsi cans

Bharath I have 2 doritos extra for 2$ each

Balaji_N I have a dozen eggs extra for 1.5$

Grocery List Page

A grocery list page asks the people in the group to add the required items. A Walmart API call is made and all The details are displayed

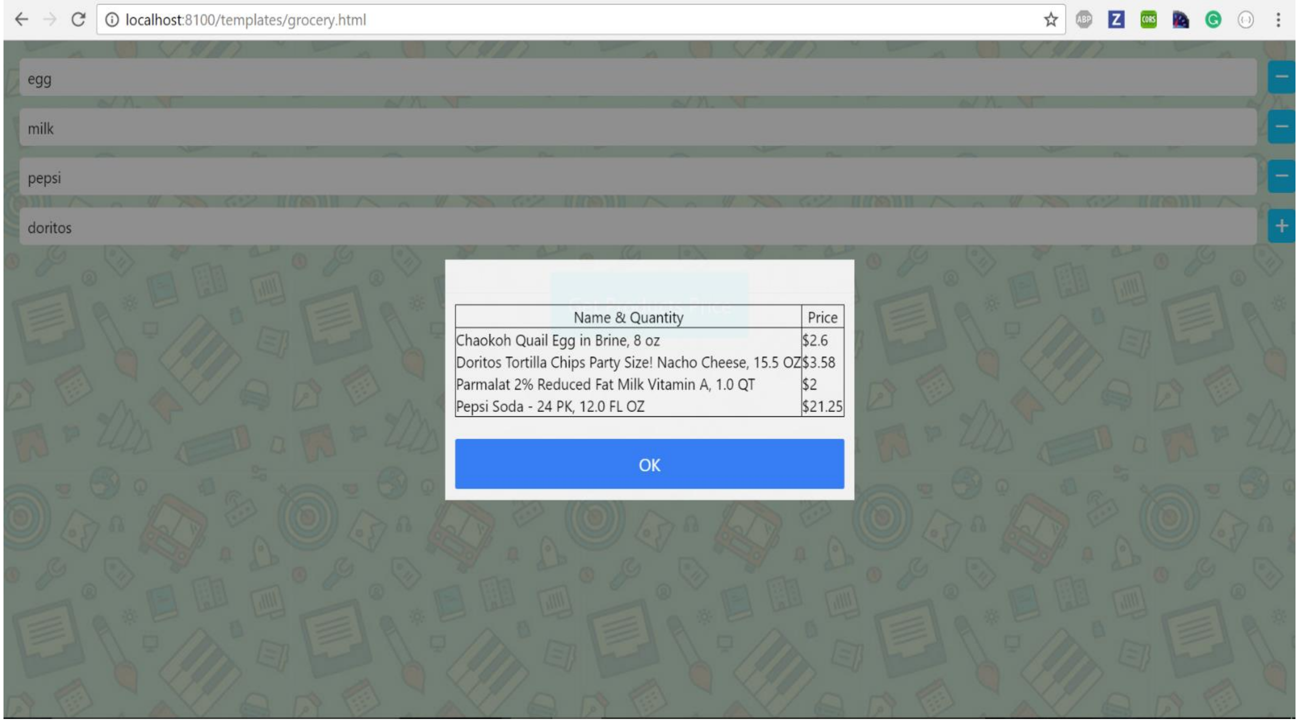


Chaokoh Quail Egg in Brine, 8 oz

Doritos Tortilla Chips Party Size! Nacho Cheese, 15.5 OZ

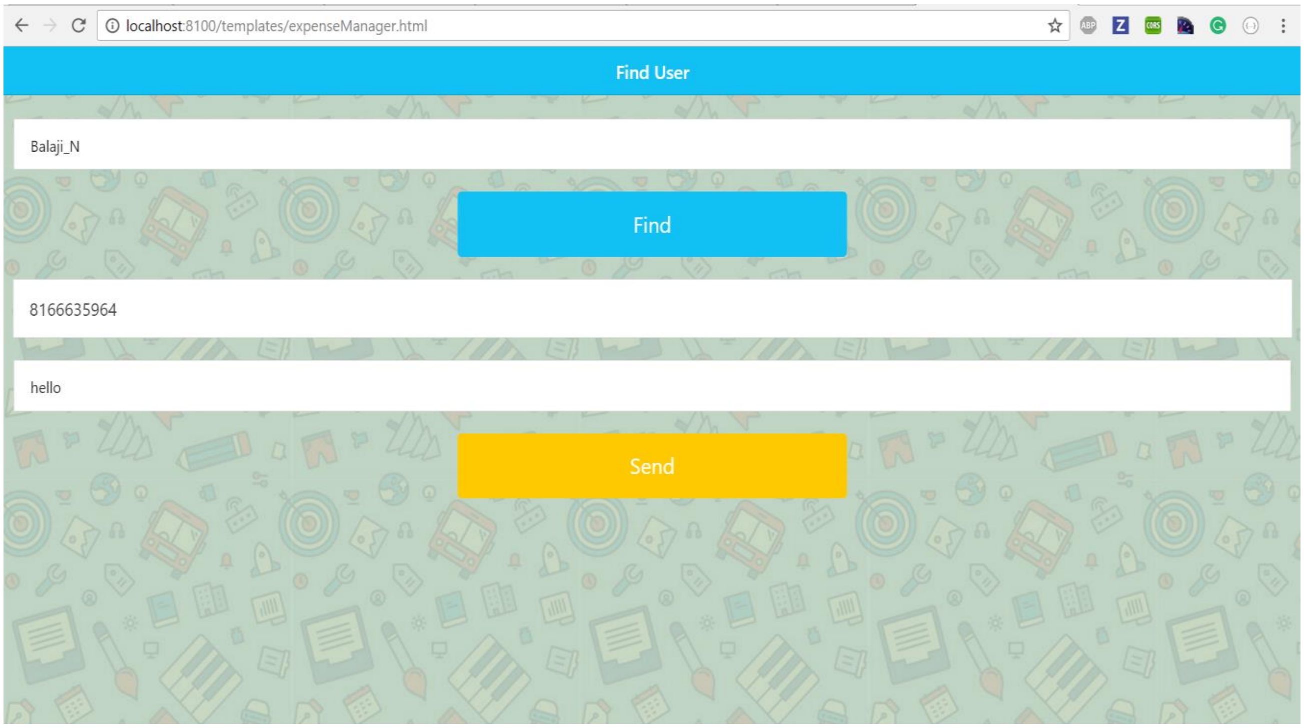
Parmalat 2% Reduced Fat Milk Vitamin A, 1.0 QT

Pepsi Soda - 24 PK, 12.0 FL OZ



Name & Quantity	Price
Chaokoh Quail Egg in Brine, 8 oz	$2.6
Doritos Tortilla Chips Party Size! Nacho Cheese, 15.5 OZ	$3.58
Parmalat 2% Reduced Fat Milk Vitamin A, 1.0 QT	$2
Pepsi Soda - 24 PK, 12.0 FL OZ	$21.25

User Directory



localhost:8100/templates/expenseManager.html

Find User

Balaji_N

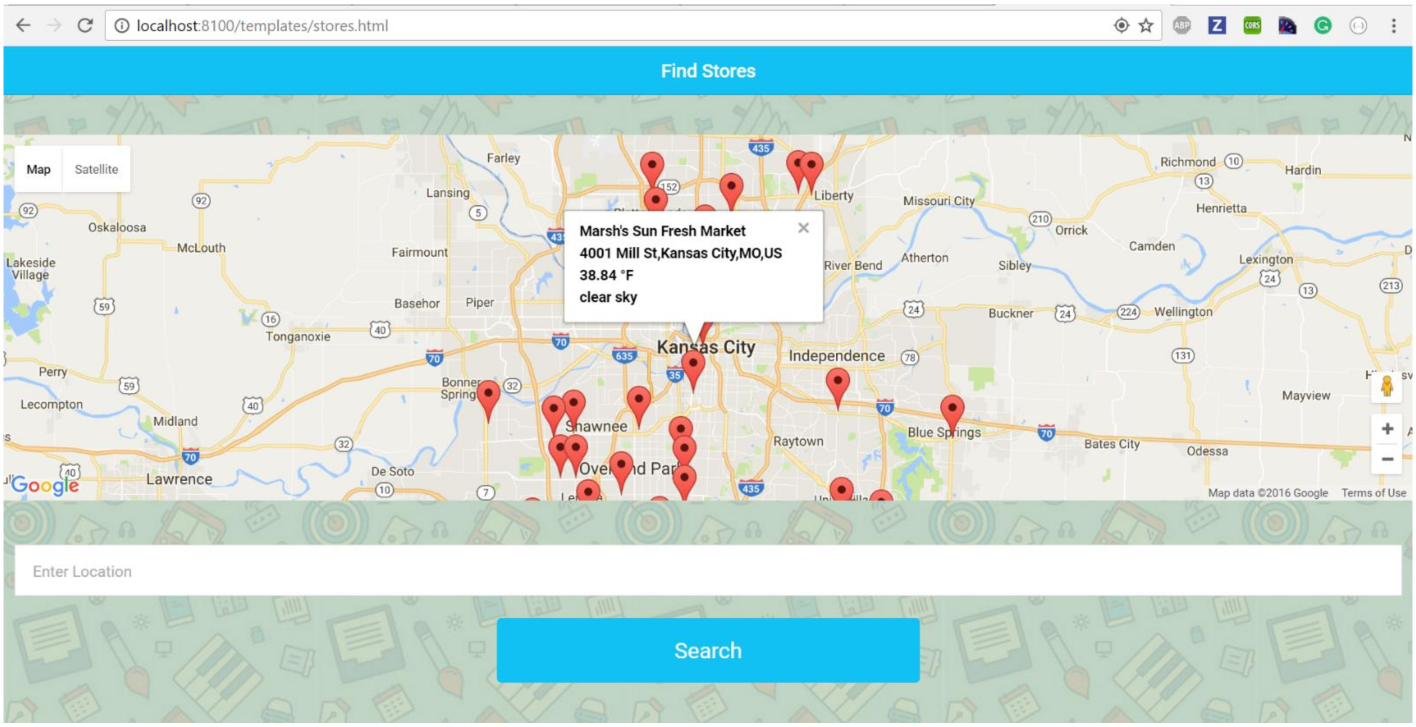
Find

8166635964

hello

Send

Find Nearby Stores Page



localhost:8100/templates/stores.html

Find Stores

Marsh's Sun Fresh Market
4001 Mill St,Kansas City,MO,US
38.84 °F
clear sky

Enter Location

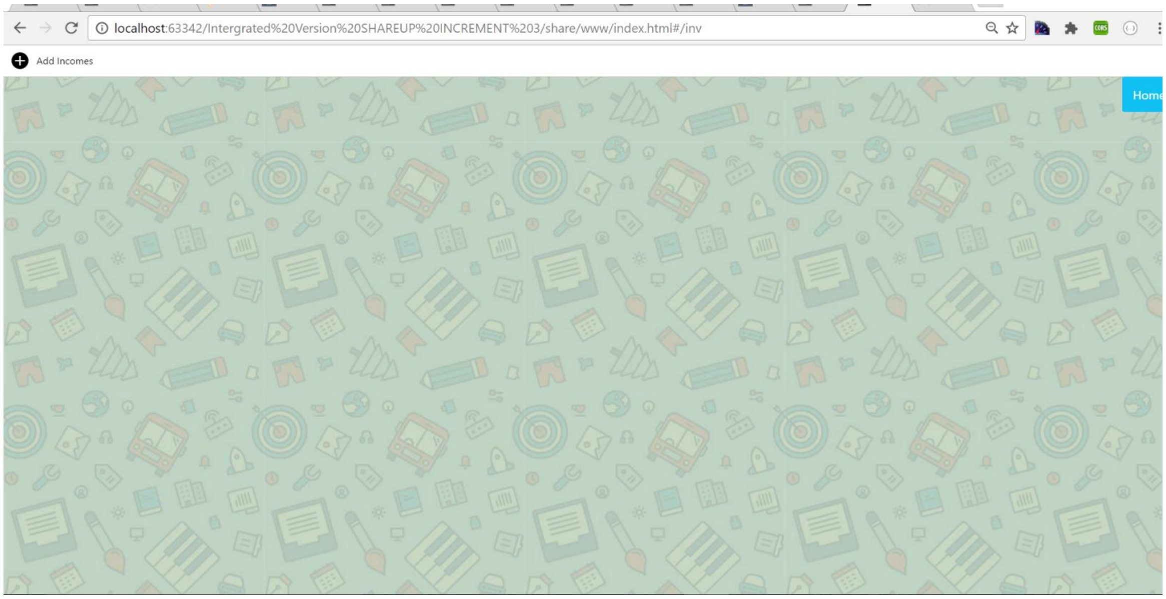
Search

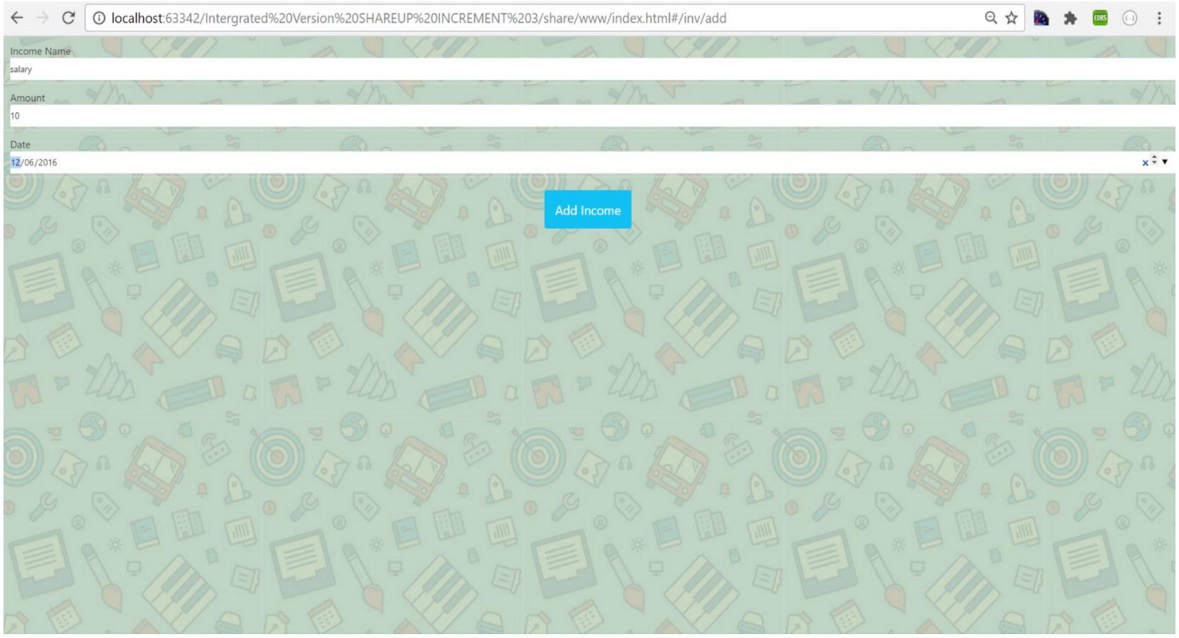
Expense Manager

Here the user is able to add the Income, Expense. Based on that the balance is generated and a chart is displayed.

Income

Here the user is able to add the income.


localhost:63342/Intergrated%20Version%20SHAREUP%20INCREMENT%203/share/www/index.html#/inv
Add Incomes
Home

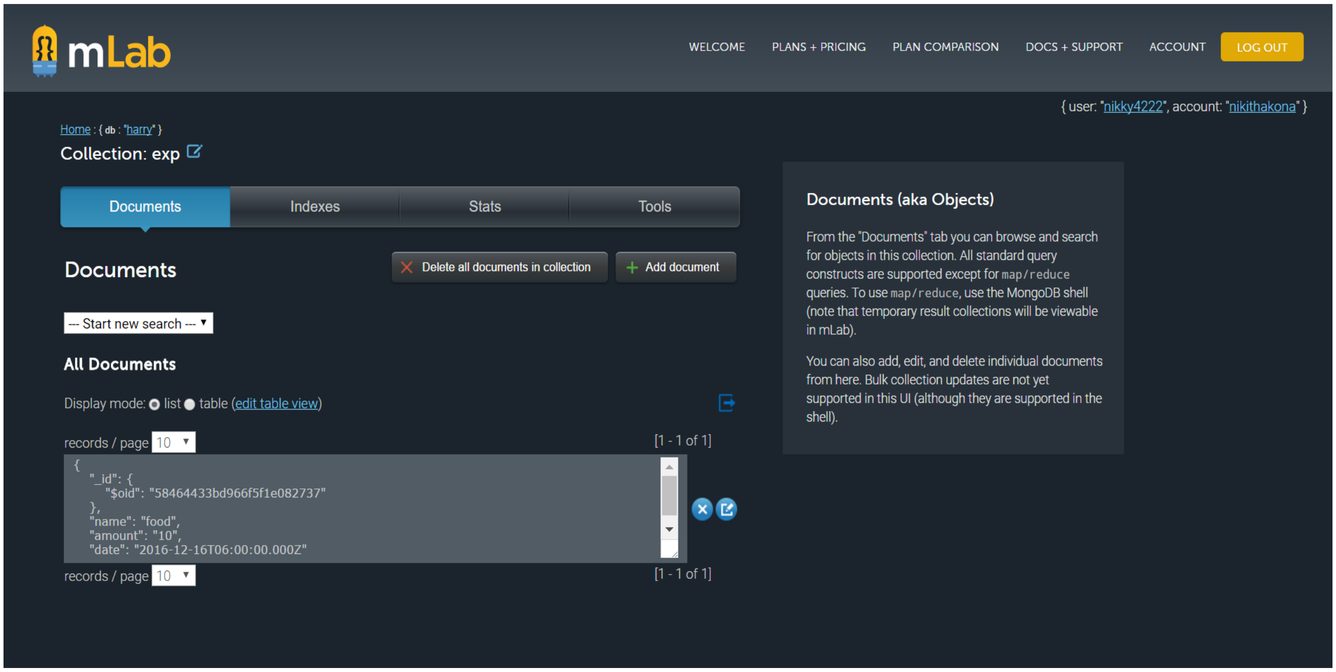

localhost:63342/Intergrated%20Version%20SHAREUP%20INCREMENT%203/share/www/index.html#/inv/add

Income Name
salary

Amount
10

Date
12/06/2016

The data is stored in the MongoDB



{ user: "nikky4222", account: "nikithakona" }

Home : { db : "harry" }

Collection: exp

Documents

All Documents

Display mode: ● list ○ table (edit table view)

records / page 10 [1 - 1 of 1]

```
{
    "_id": {
        "$oid": "58464433bd966f5f1e082737"
    },
    "name": "food",
    "amount": "10",
    "date": "2016-12-16T06:00:00.000Z"
```

records / page 10 [1 - 1 of 1]

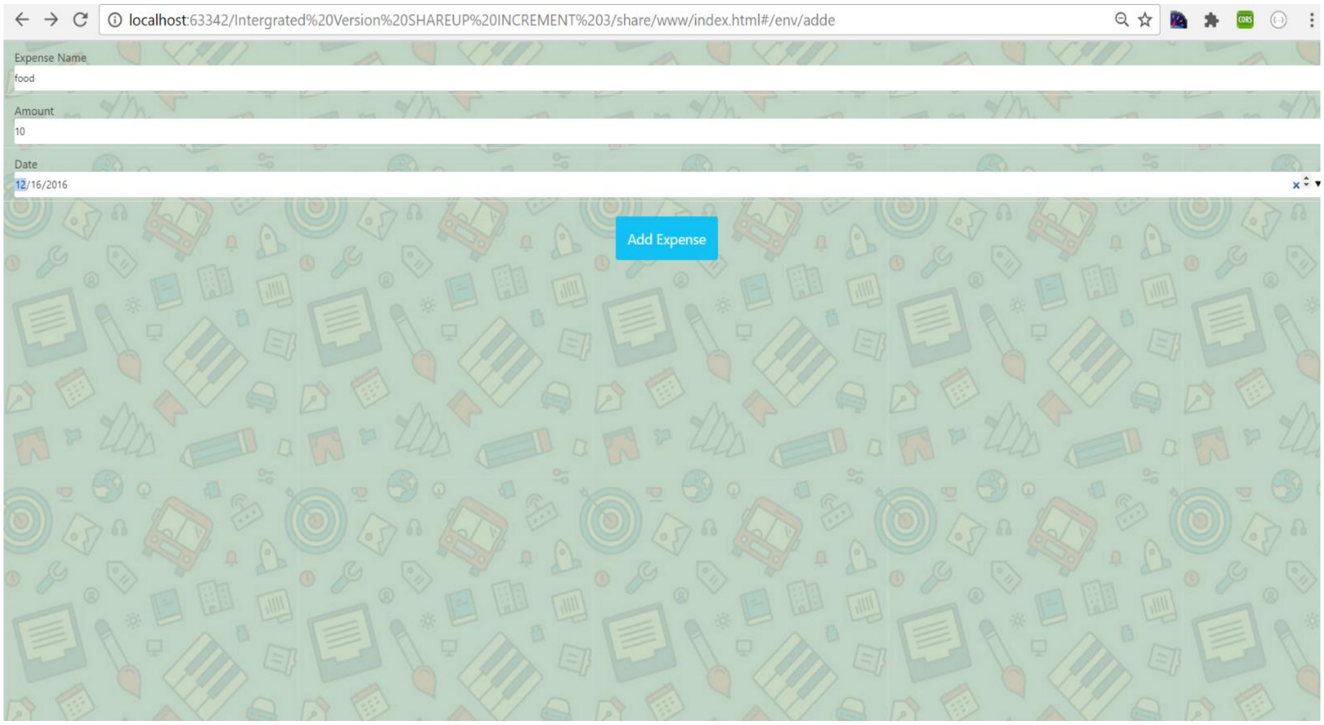
Documents (aka Objects)

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 mLab).

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).

Expense

Similarly, the user is redirected to add the expenses.

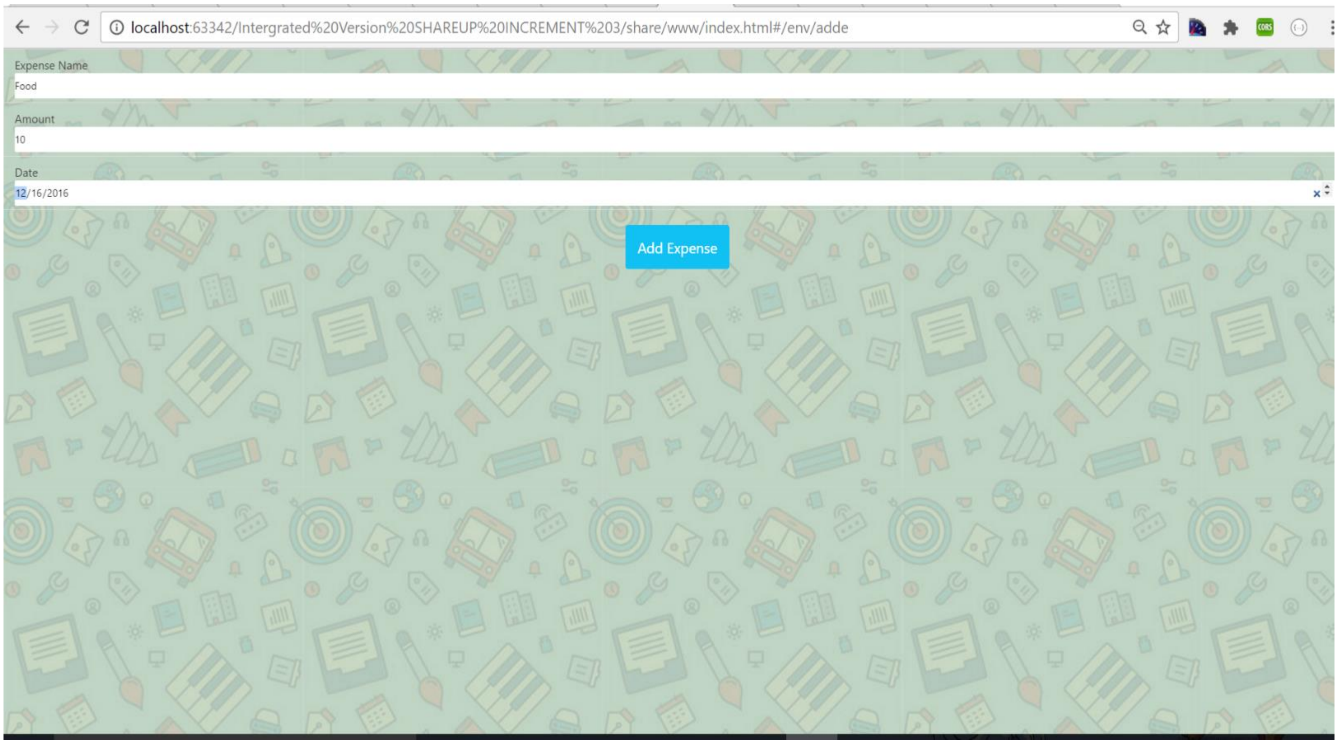


localhost:63342/Intergrated%20Version%20SHAREUP%20INCREMENT%203/share/www/index.html#/env/adde

Expense Name
food

Amount
10

Date
12/16/2016



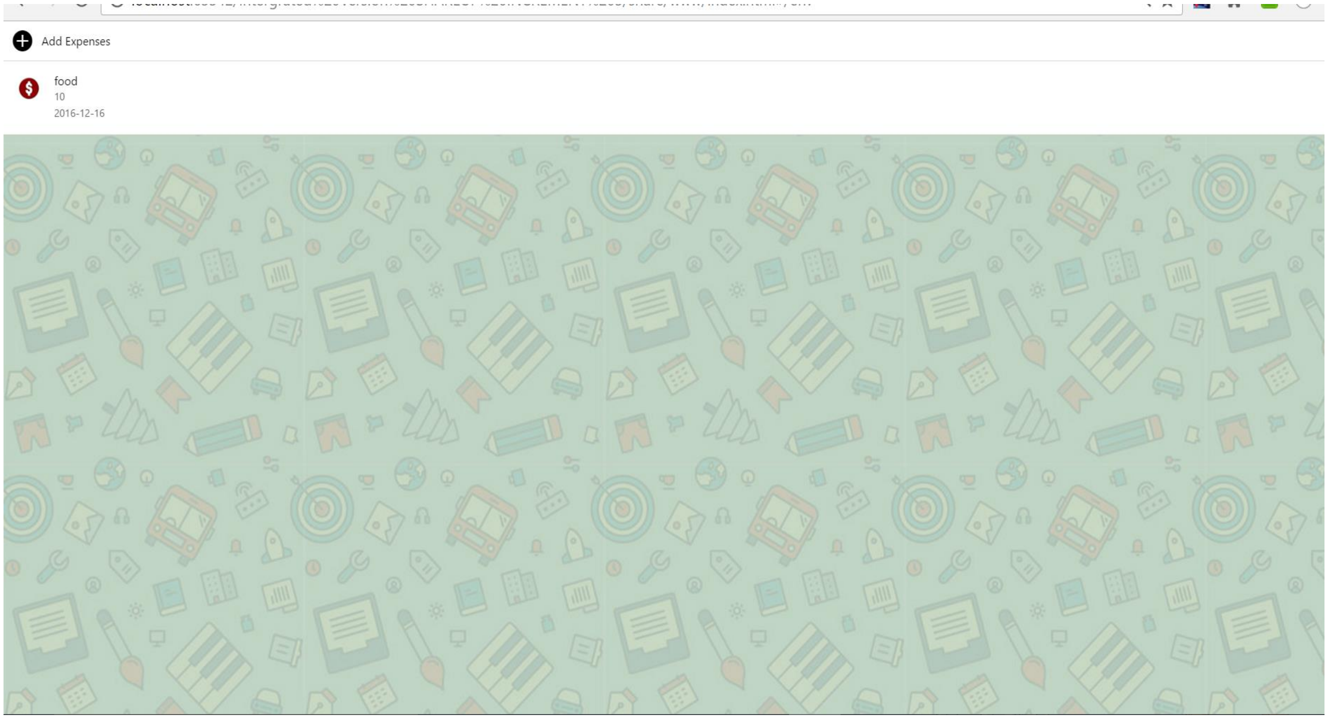
localhost:63342/Intergrated%20Version%20SHAREUP%20INCREMENT%203/share/www/index.html#/env/adde

Expense Name
Food

Amount
10

Date
12/16/2016

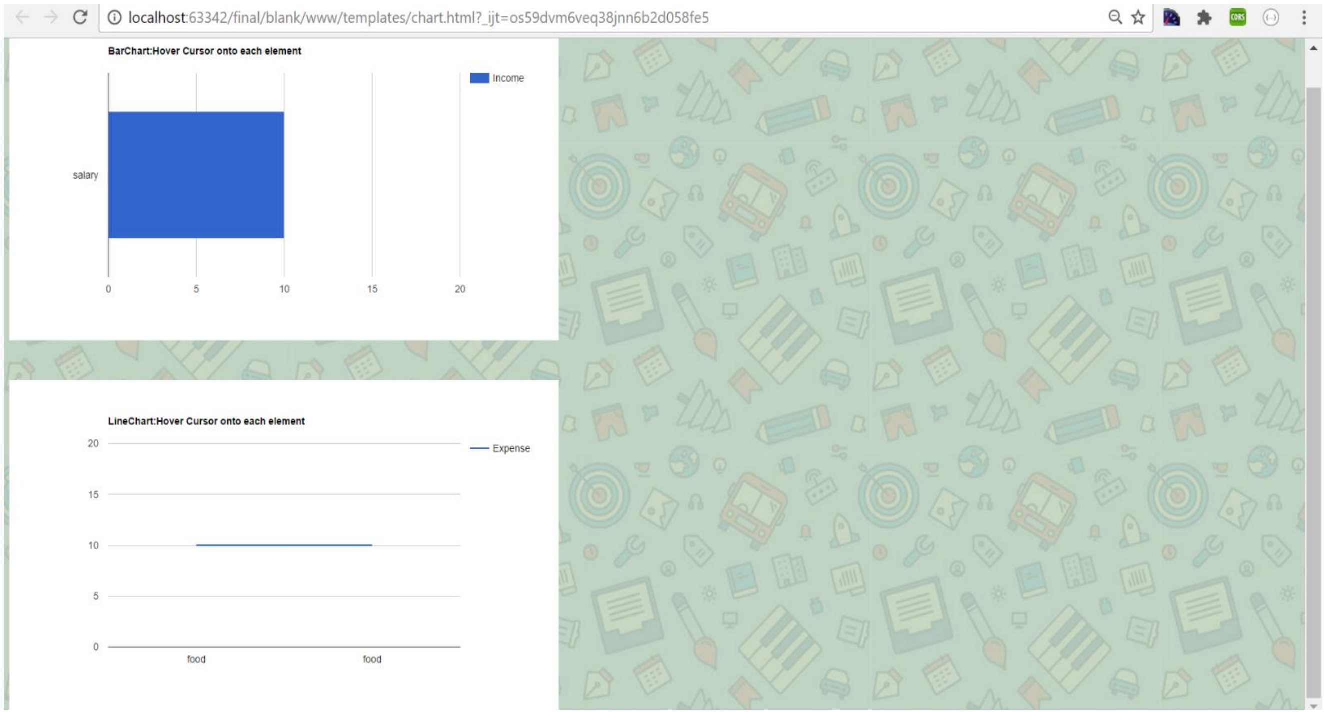
The items are added as the following



food
10
2016-12-16

Visualization

Visualization is displayed based on the added expenses


localhost:63342/final/blank/www/templates/chart.html?_ijt=os59dvm6veq38jnn6b2d058fe5
BarChart:Hover Cursor onto each element
Income
salary
0
5
10
15
20
LineChart:Hover Cursor onto each element
Expense
20
15
10
5
0
food
food

Project Management

Implementation status report

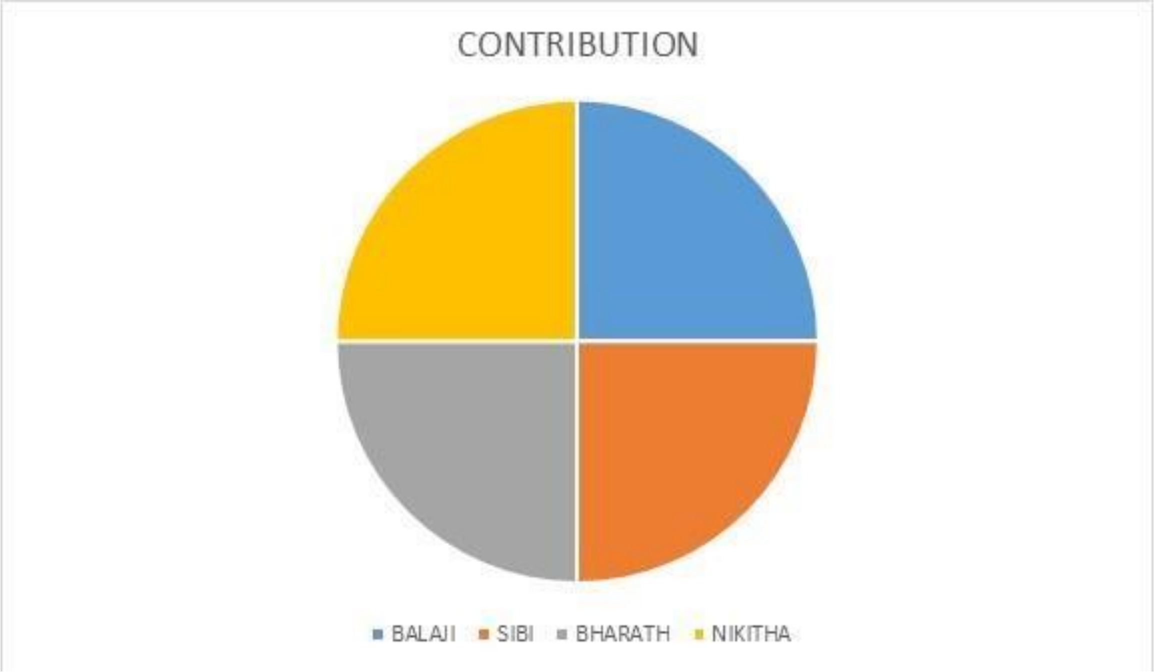
Technology Used: Ionic, HTML, CSS, JS, and Angular JS.

Work Completed

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

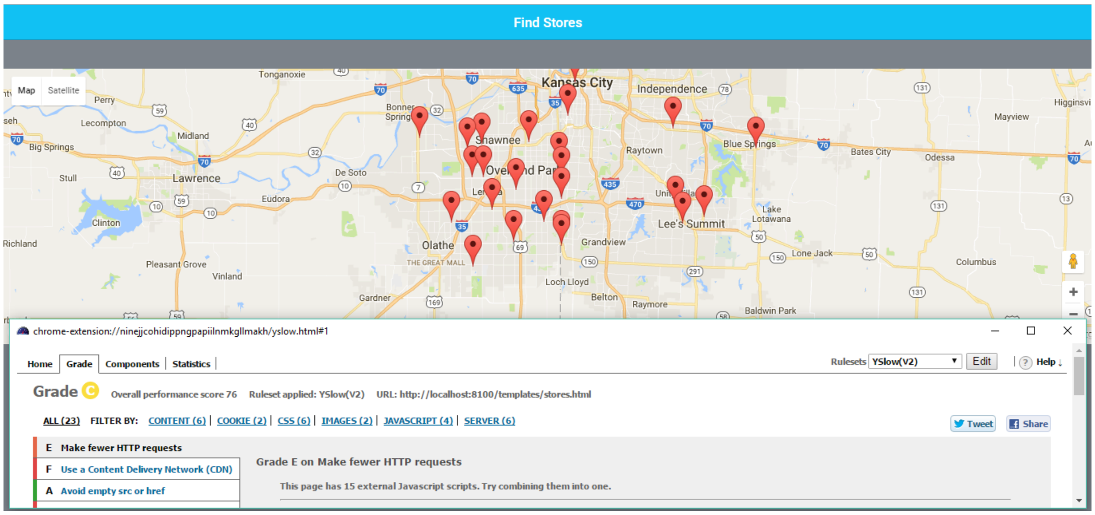
Contribution:

- Balaji Natarajan – 25%
- Bharath Kumar A – 25%
- Sibi Chakravarthy Ramesh – 25%
- Nikitha Kona – 25%



Yslow

Yslow page testing has been done and the grade of the project is displayed below.



chrome-extension://ninejjcohidippngpapiilnmkgllmakh/yslow.html#1

Home | Grade | Components | Statistics | Rulesets YSlow(V2) Edit | ? Help ↓

Grade C Overall performance score 76 Ruleset applied: YSlow(V2) URL: http://localhost:8100/templates/stores.html

ALL (23) FILTER BY: CONTENT (6) | COOKIE (2) | CSS (6) | IMAGES (2) | JAVASCRIPT (4) | SERVER (6) Tweet Share

E Make fewer HTTP requests
F Use a Content Delivery Network (CDN)
A Avoid empty src or href

Grade E on Make fewer HTTP requests

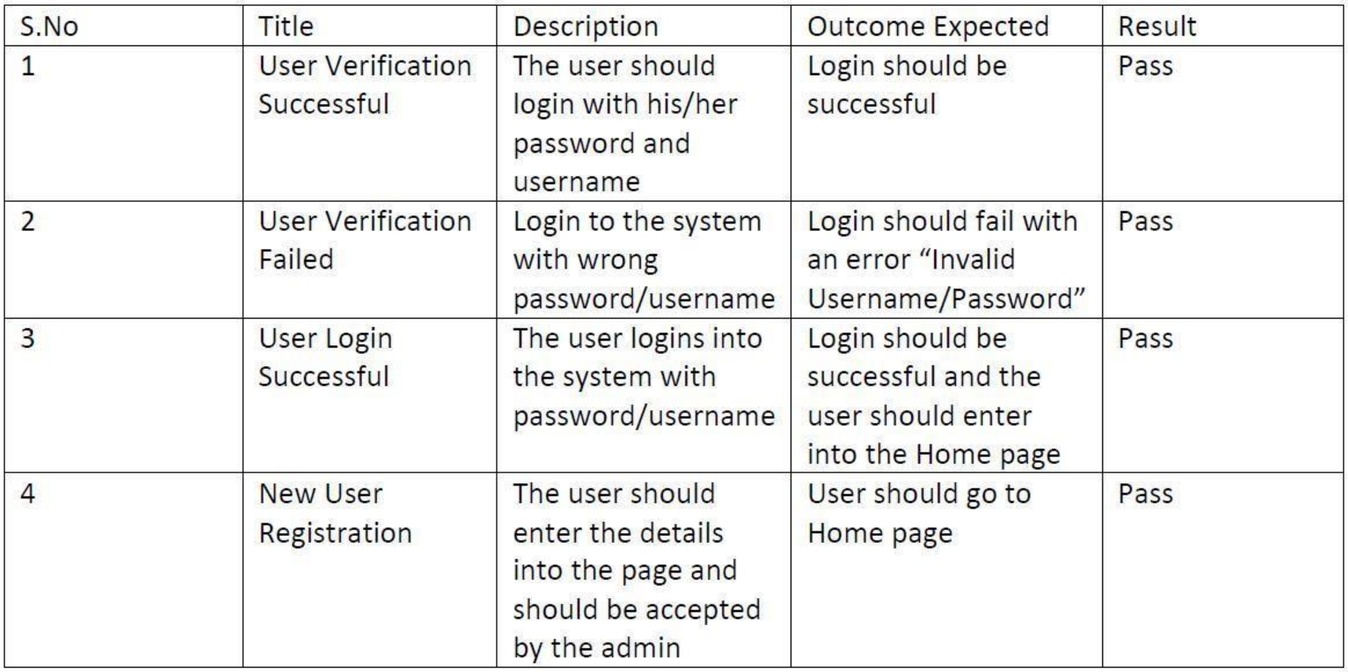
This page has 15 external Javascript scripts. Try combining them into one.

Project Video:

Link: https://www.youtube.com/watch?v=XVIqYpK8J-o&feature=youtu.be

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

Bibliography

http://ionic.io/developers
http://creately.com/ https://mockingbot.com/
http://www.supermarketapi.com/Default.aspx