

# **Smart Eating - Food Guide**

## **Increment 3**

Project group 10

Sindhu Reddy Golconda - 14

Ravi Kumar Kurva -- 23

Uday Kiran Chowdary Mallineni - -28

Advaith Nandelli- - 34

CS5551 - Advanced Software Engineering

University of Missouri - Kansas City

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## **I. Introduction**

The project decided by Team 10 is to develop an application which can be used as a Food Guide as well as for smart eating. A person may have various diseases like sugar, high/low blood pressure and also he might have allergic reaction towards few food items like peanuts, milk. Hence he has to be very careful while consuming the food. Also when a person visits a new place and unable to find the appropriate restaurant then this application helps the user by providing the restaurants based on his choice.

## **II. Objectives**

The main goal of the project is to develop a smart eating system which initially allows the user to find a restaurant by selecting a location, range of miles within which the restaurant should be searched, type of the restaurant which can be selected from a dropdown menu containing the details like Mexican, Chinese, Italian, Indian. Then the user can select all the allergies he has towards food and also the diseases he has.

A list of restaurants is populated based on the search criteria. Menu of the selected restaurant is then displayed which contains the details of all the food items and also it will suggest the user whether the food item contains the ingredients that are allergic to user and also if the item is healthy or not based on his diseases.

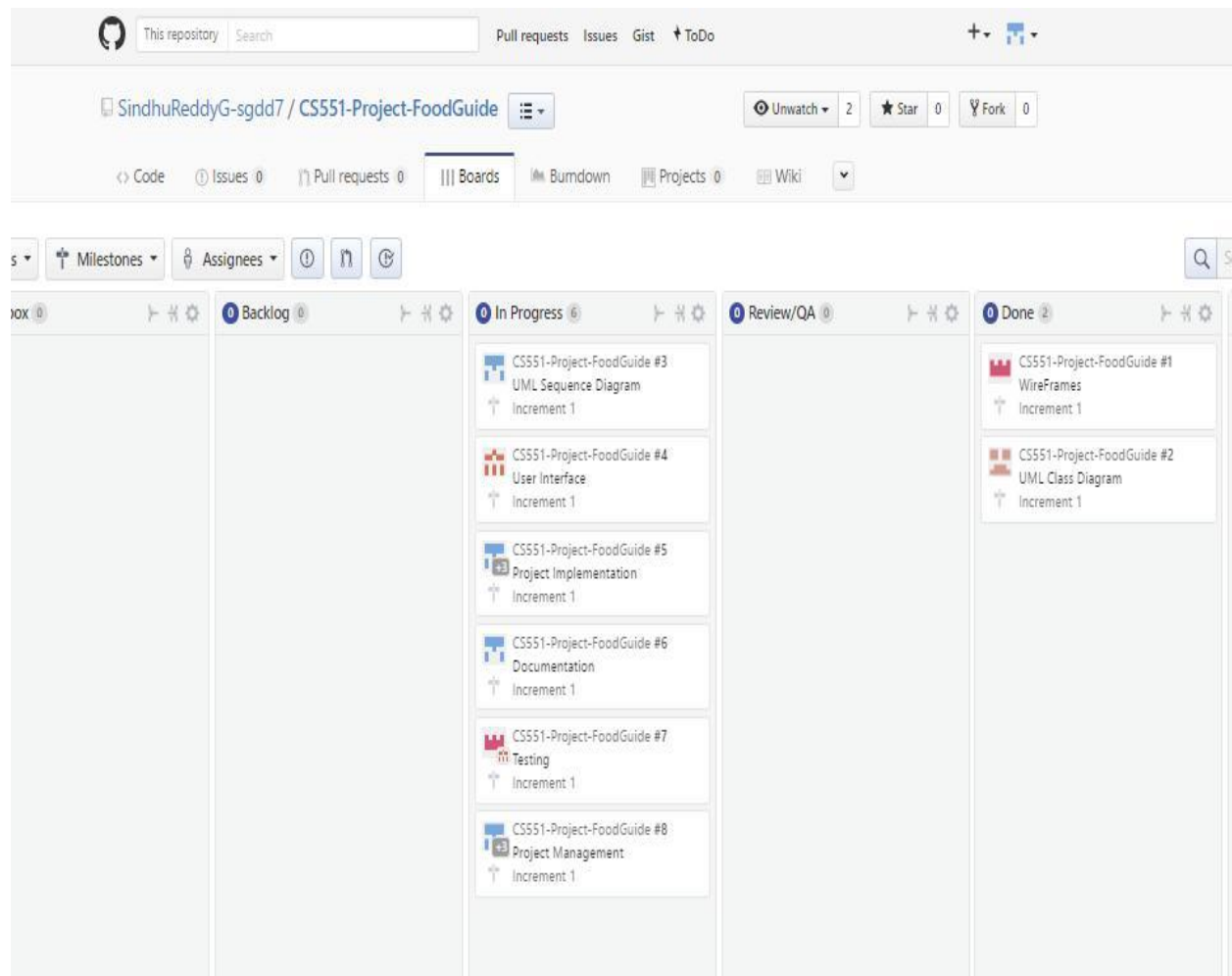
## **III. Project Plan**

### Team Members:

- Advaith Nandelli
- Sindhu Golconda
- Ravi Kumar Kurva
- Uday Kiran Mallineni

## ZenHub Board for Increment 1:

Using Github and Zenhub, Issues for first Iteration are Created. The Zenhub board consisting of all the issues is listed as shown below.



## Zen Hub Board up to Increment 2 :

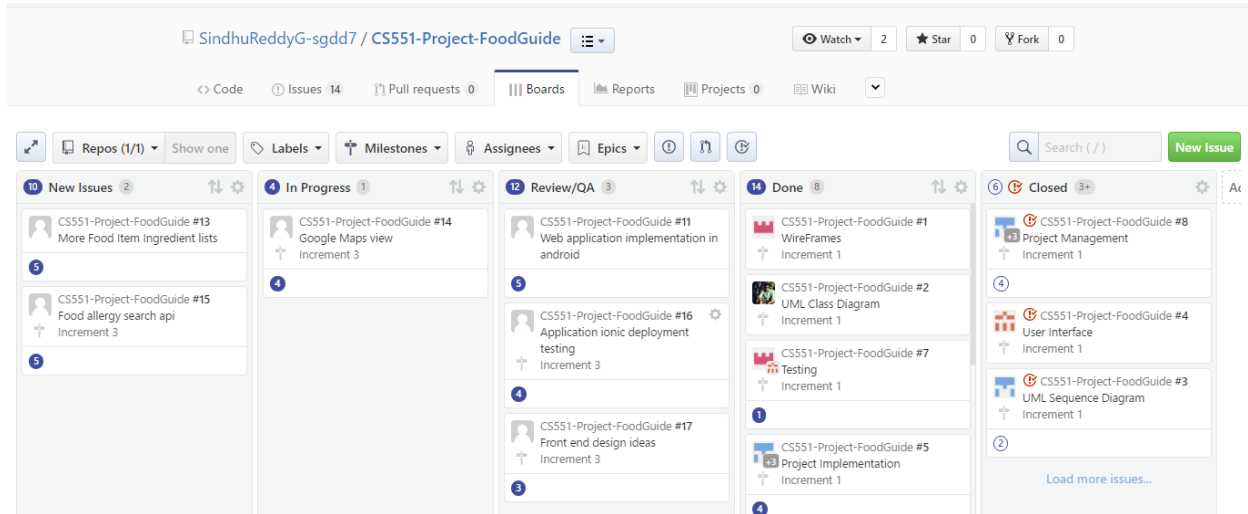
Using GitHub and Zen hub, Issues for Second Iteration are Created. The Zen hub board consisting of all the issues is listed as shown below.

The screenshot displays a GitHub ZenHub board for the repository **SindhuReddyG-sgdd7 / CS551-Project-FoodGuide**. The board is organized into columns representing different stages of the workflow: **New Issues** (2 items), **In Progress** (1 item), **Review/QA** (1 item), **Done** (5 items), and **Closed** (3+ items). Each column contains a list of issues, some with icons representing different types of tasks (e.g., wireframes, UML diagrams, testing, documentation). The issues are categorized by increment (Increment 1, Increment 2). The board also includes a search bar and various filters like Labels, Milestones, and Assignees.

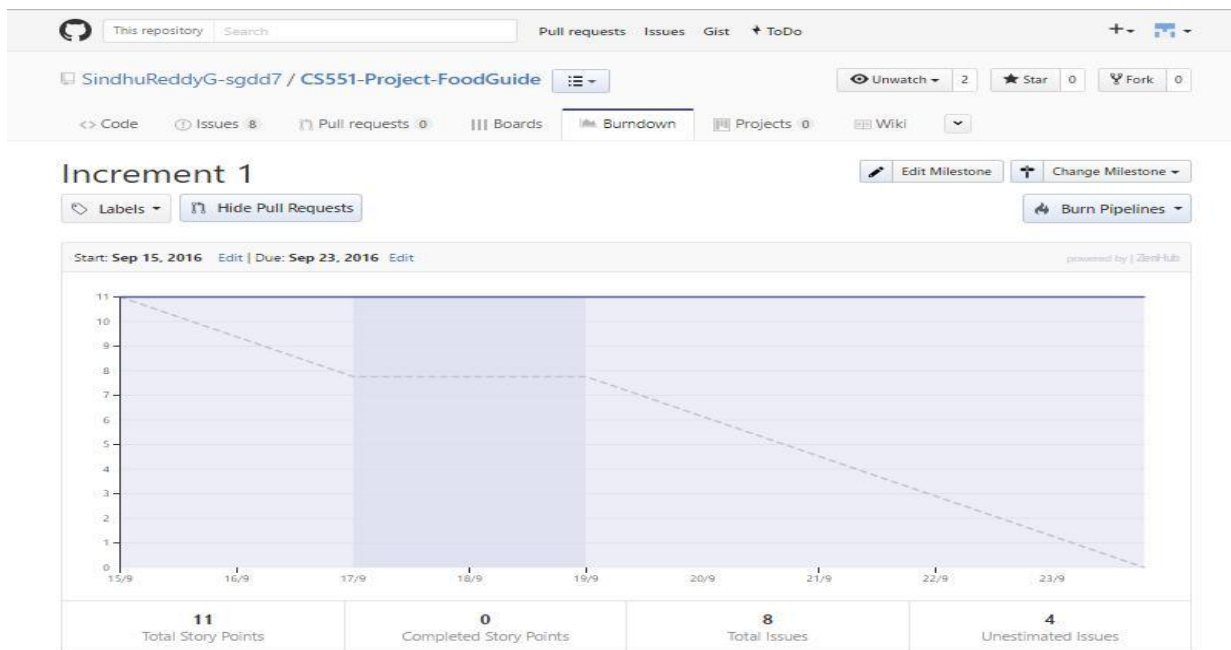
Column	Count	Issue Title	Increment
New Issues	2	CS551-Project-FoodGuide #10 CredentialsStorage using mlab	Increment 2
		CS551-Project-FoodGuide #12 Google Knowledge services	
In Progress	1	CS551-Project-FoodGuide #9 User authentication	
Review/QA	1	CS551-Project-FoodGuide #11 Web application implementation in android	
Done	5	CS551-Project-FoodGuide #1 WireFrames	Increment 1
		CS551-Project-FoodGuide #2 UML Class Diagram	Increment 1
		CS551-Project-FoodGuide #7 Testing	Increment 1
		CS551-Project-FoodGuide #5 Project Implementation	Increment 1
		CS551-Project-FoodGuide #6 Documentation	Increment 1
Closed	3+	CS551-Project-FoodGuide #8 Project Management	Increment 1
		CS551-Project-FoodGuide #4 User Interface	Increment 1
		CS551-Project-FoodGuide #3 UML Sequence Diagram	Increment 1

## Zen Hub Board up to Increment 3:

Using GitHub and Zen hub, Issues for Third Iteration are Created. The Zen hub board consisting of all the issues is listed as shown below.



## Burndown Chart for Increment 1



## Burndown Chart for Increment 2:

### Increment 2

Labels ▾

Hide Pull Requests

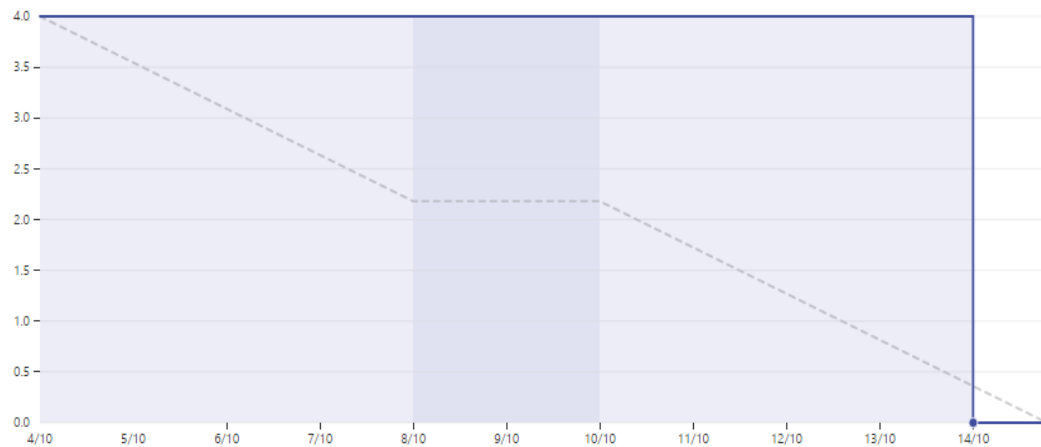
Edit Milestone

Change Milestone ▾

New Issues, In ... ▾

Start: Oct 4, 2016 Edit | Due: Oct 14, 2016 Edit

powered by JZenHub



4

Total Story Points

4

Completed Story Points

1

Total Issues

0

Unestimated Issues

## Burndown Chart for Increment 3:

### Increment 3

Labels ▾

Hide Pull Requests

Edit Milestone

Milestones ▾

Burn Pipelines ▾

Start: Oct 29, 2016 Edit | Due: Nov 17th, 2016 Edit



## Existing Services/Rest API:

### 1. Foursquare API:

- Used for retrieving Restaurants based on location and search query.
- Also used for getting categories and menu items for a specific restaurant.

URL: <https://api.foursquare.com/v2/venues/>

### 2. Google Knowledge graph search API:

- Auto population of data in the textfield is implemented using this API. URL:

<https://developers.google.com/knowledge-graph/>

### 3. Edamam API:

- This API is used to get ingredients for the different food items.

URL: <https://developer.edamam.com/>

### 4. The Yummly Recipe API :

- It is used to get all the recipe's and ingredients of the food items.

URL: <https://developer.yummly.com>

### 5. Mlab online database service

- By using this service, we are implementing the online user account database to login

URL: <https://mlab.com/databases/SmartEating>

### 6. Google Maps API

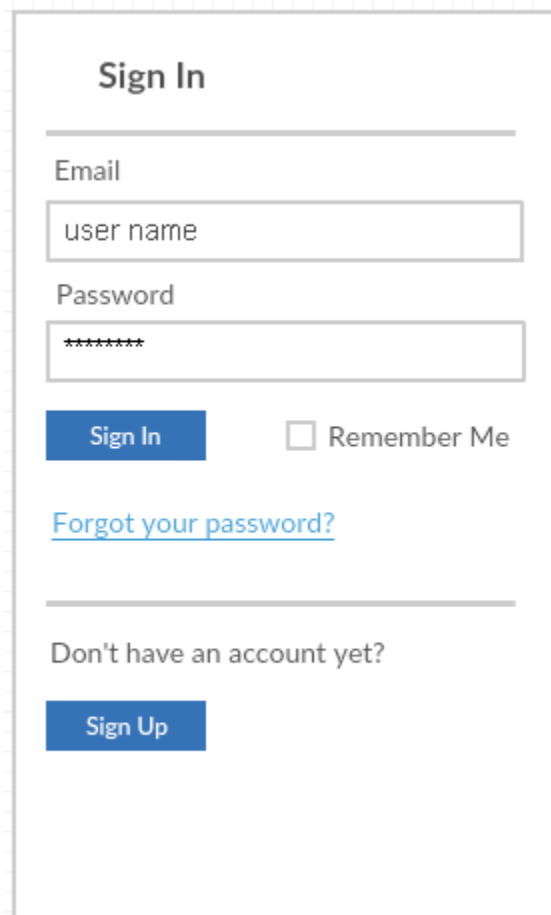
- We are using the google maps API to display the restaurant location in google maps.

URL: <https://developers.google.com/maps/>

## **Detail Design of Features:**

Wireframes:

Login page:



A wireframe of a login page. It features a central white box with a light gray border. At the top of the box is the title "Sign In" in bold black text, followed by a horizontal separator line. Below this are two input fields: "Email" with the placeholder text "user name", and "Password" with placeholder text represented by seven asterisks. To the left of the password field is a blue button labeled "Sign In". To the right of the password field is a checkbox labeled "Remember Me". Below these fields is a blue hyperlink that reads "Forgot your password?". Another horizontal separator line follows. At the bottom of the box, the text "Don't have an account yet?" is displayed above a blue button labeled "Sign Up".

**Sign In**

---

Email

user name

Password

\*\*\*\*\*

**Sign In** ☐ Remember Me

[Forgot your password?](#)

---

Don't have an account yet?

**Sign Up**



Register page:

## Sign Up

---

Full Name

Name

Email

mark@creately.com

User Name

username

Password

\*\*\*\*\*

Confirm

mark@creately.com

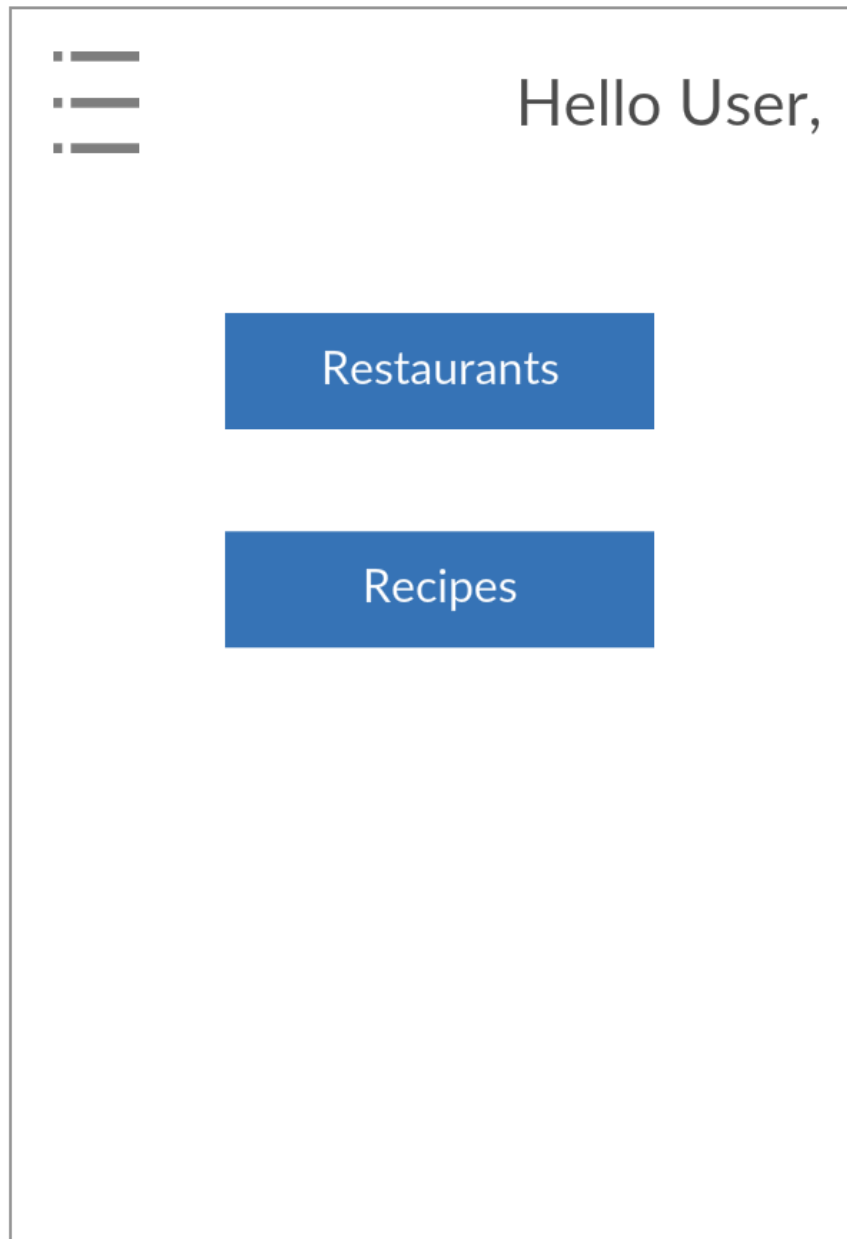
Sign Up




10k



Mobile app. main search page:



Restaurant Result page: In this page we will display best resulted restaurants based on the given input options by the user.



# Hello User,

## Restaurant Search

Enter Location

Enter Item

Search

Search Result:



Hello User,

## Restaurant List

Restaurant 1

[Menu](#)

[Recipe](#)

Restaurant 2

[Menu](#)

[Recipe](#)

Restaurant 3

[Menu](#)

[Recipe](#)

Restaurant 4

[Menu](#)

[Recipe](#)

Restaurant 5

[Menu](#)

[Recipe](#)

### Menu page:

In this page we will display the menu with the items and health concern to give the user feedback whether is it good or bad to his health by indicating green / red mark.



Hello User,

## Restaurant 1

Menu:

[Appetizers](#)

[Salads](#)

[Main Course](#)

[Dessert](#)

Allergic food page: In this page user can specify the which items he his allergic so that we can give him food options without them like some members will allergic to the peanut we can give him food items list which don't have the peanuts in it.



# Hello User,

Item	Allergic
Item 1	✓
Item 2	✓
Item 3	✗
Item 4	✓
Item 5	✗

### Recipe Search:

User can search the Ingredients of the Food item, So that he can prepare that food at home. Here we have used the edamam API to search the food ingredients.

Hello User,

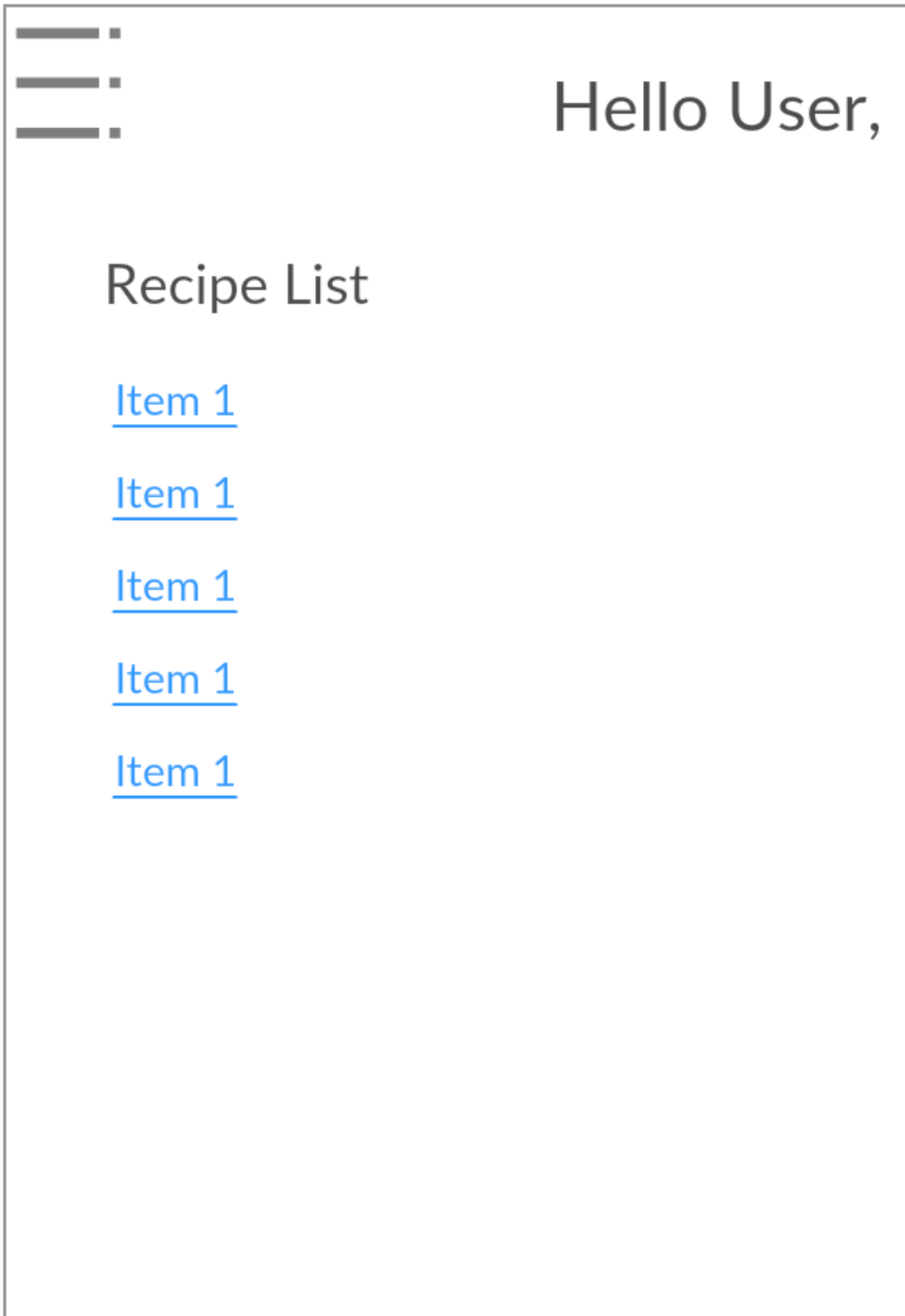
Recipe Search

Enter Food Item

Search

### Recipe Result page:

Here user will get the relevant search results items list based on the food item.





Ingredient result:



Hello User,

## Item 1

Ingredient 1

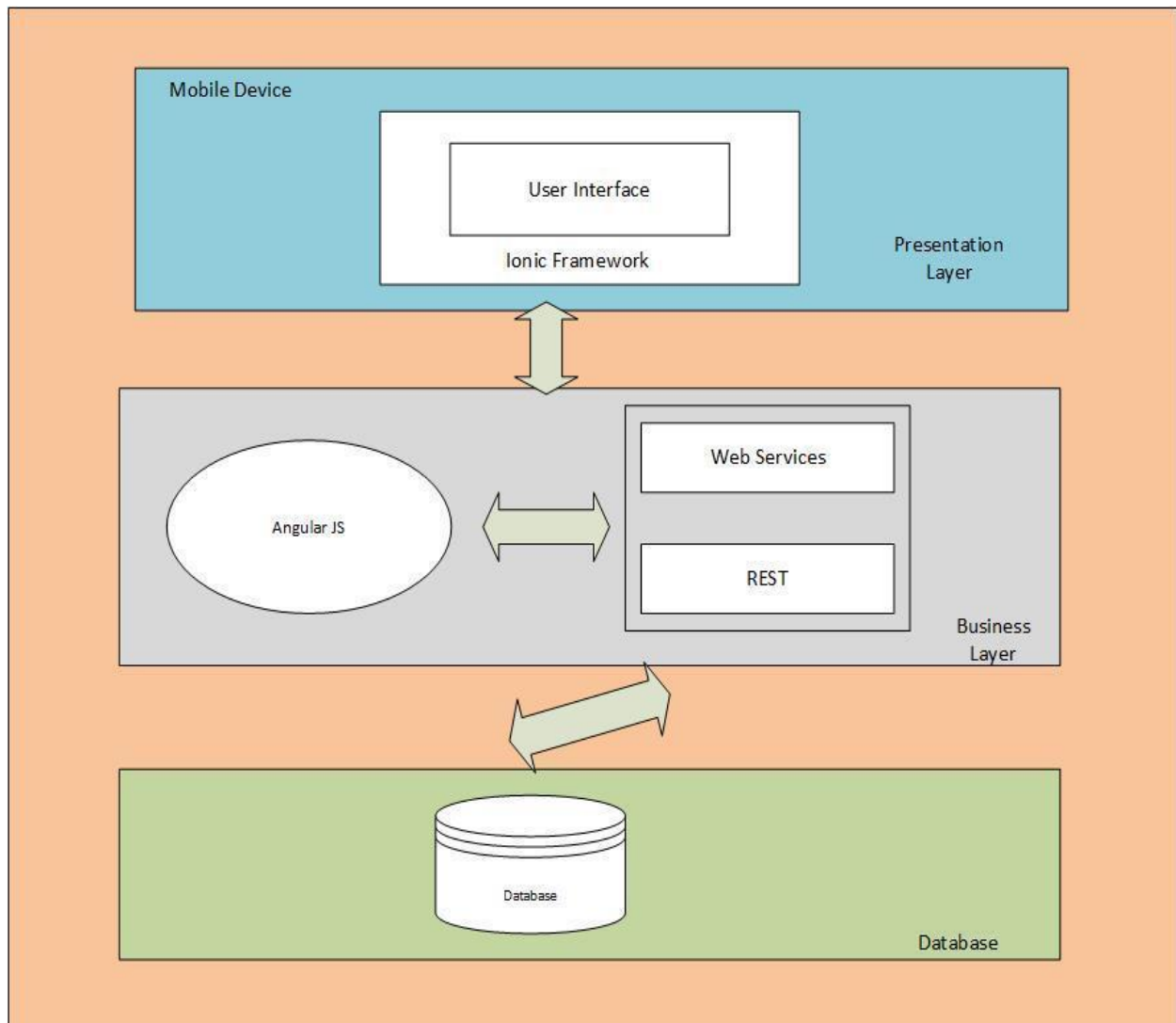
Ingredient 2

Ingredient 3

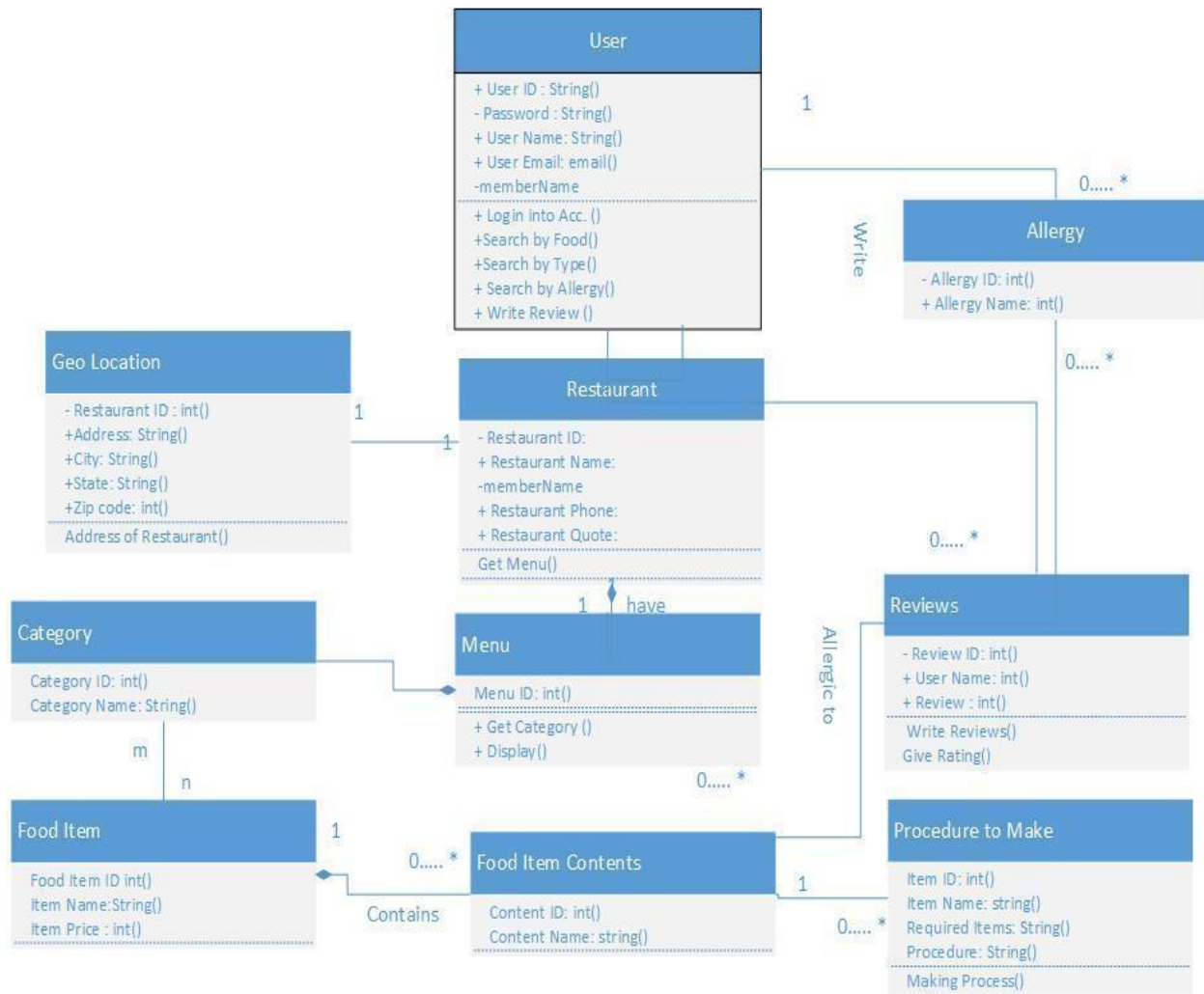
Ingredient 4

Ingredient 5

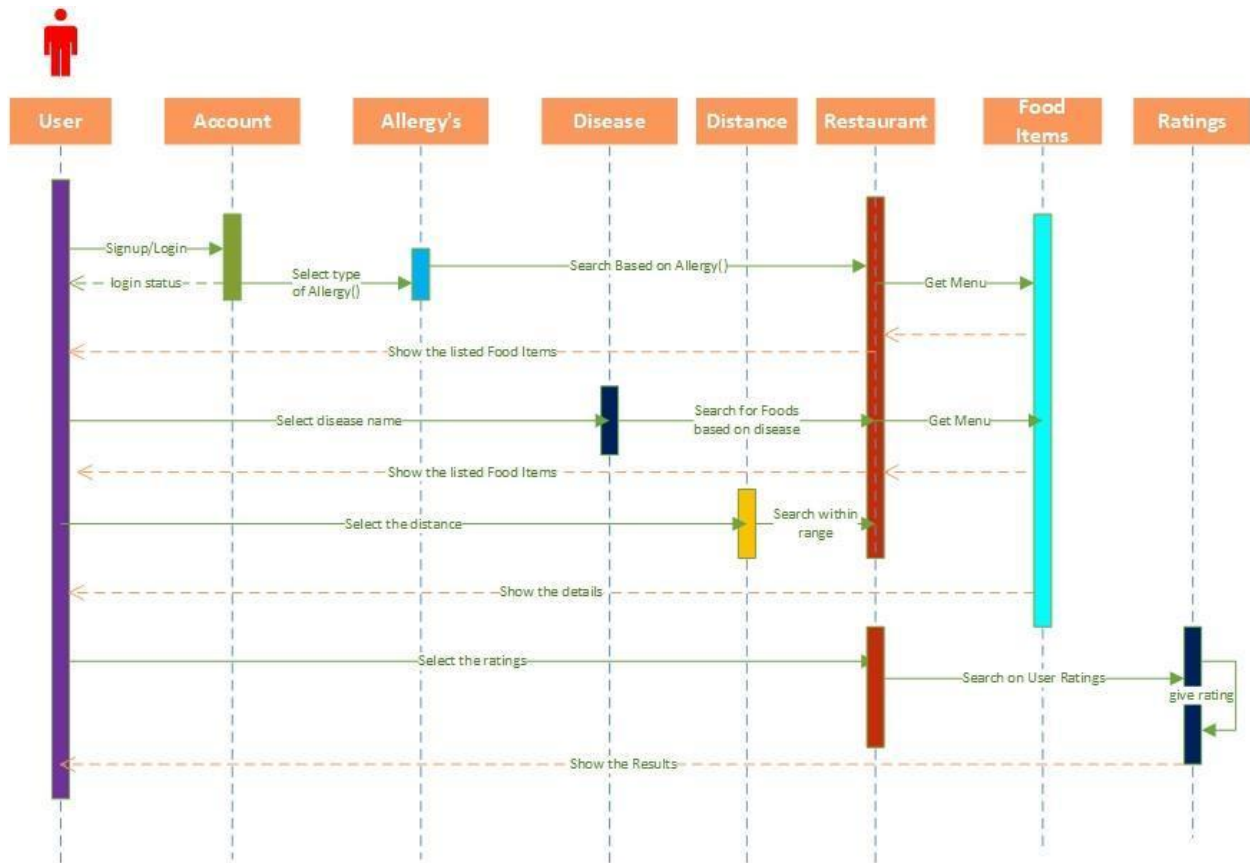
Architecture Diagram:



## UML Class Diagram:



## UML Sequence Diagram:



## Project Deployment:

### User Registration:

In this page, user can enter his/ her credentials into our application in order to sign up and all the details will be stored in the online mlab database (mongo dB).



Registration Page

SmartEating

Advaith

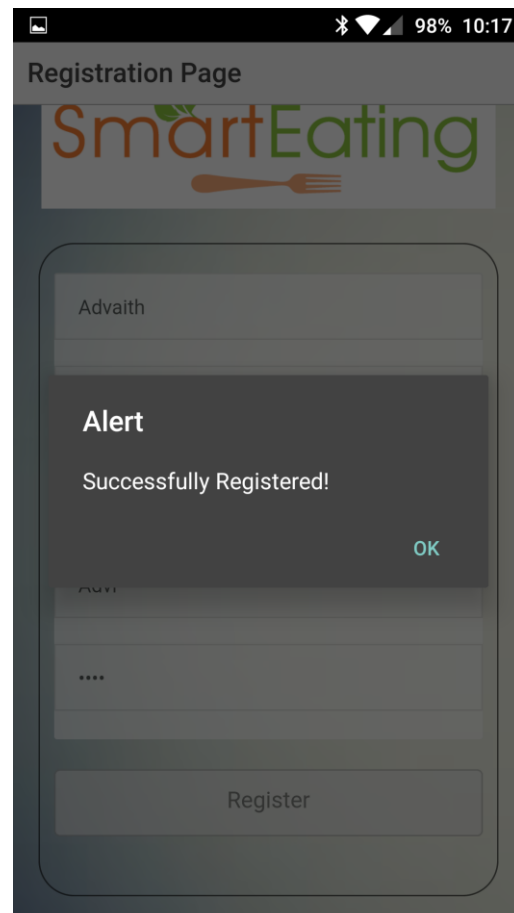
Nandelli

1245

Advi

\*\*\*\*

Register



Registration Page

SmartEating

Advaith

Alert

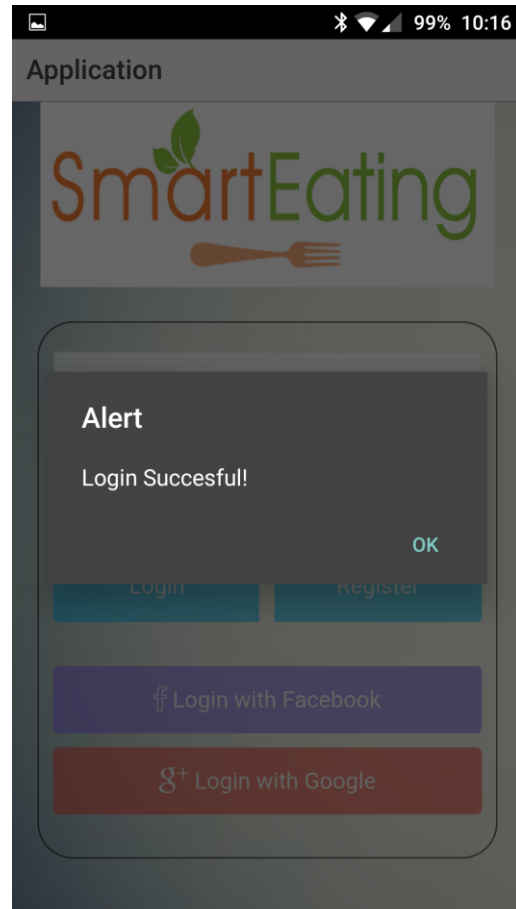
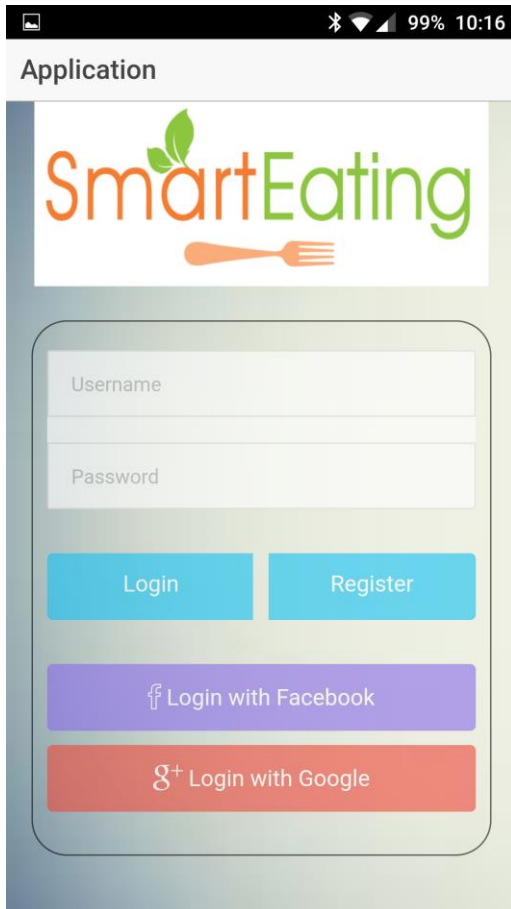
Successfully Registered!

OK

Register

## User Login:

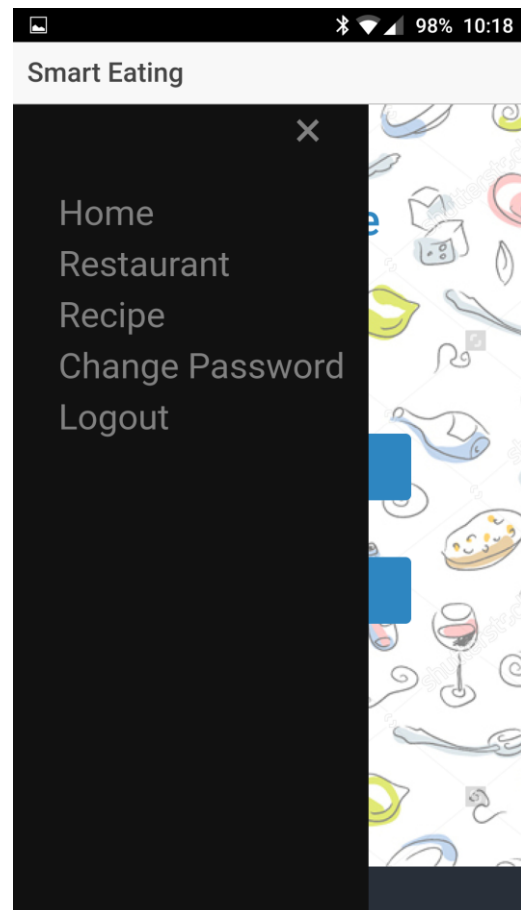
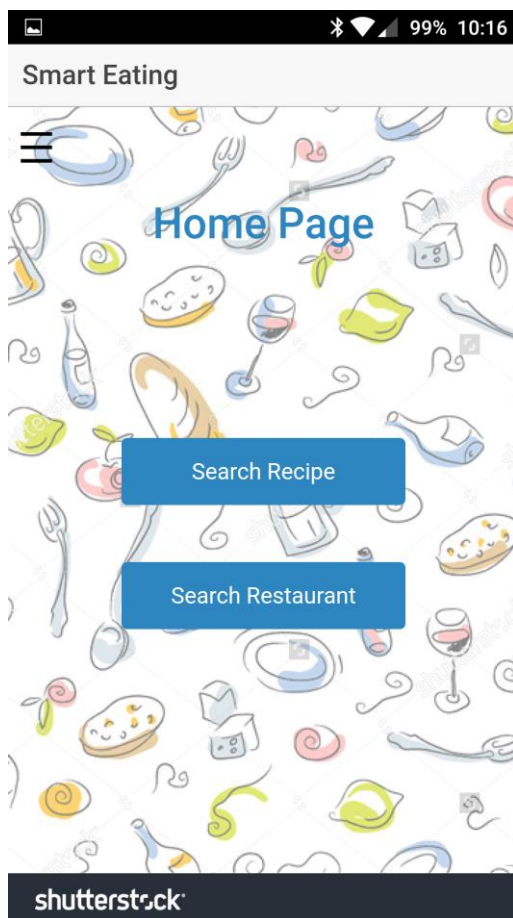
In this page user is able to login into his account with the valid credentials.



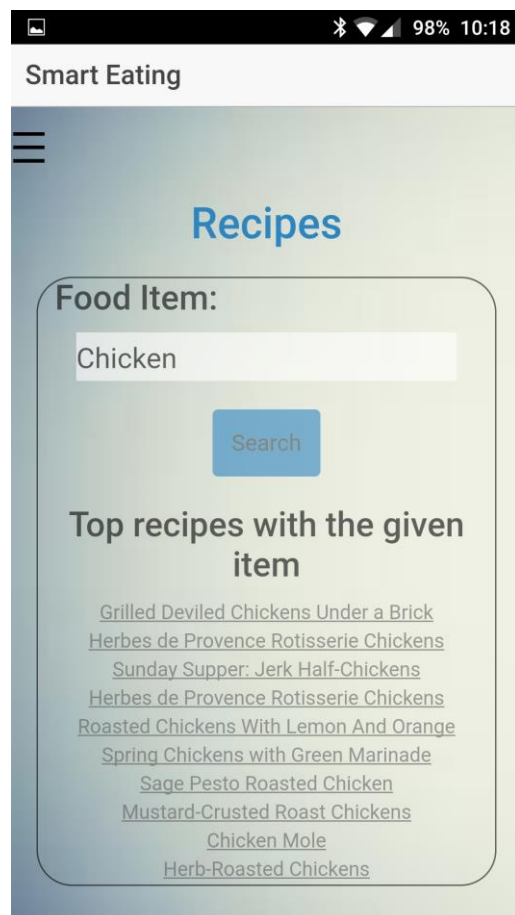
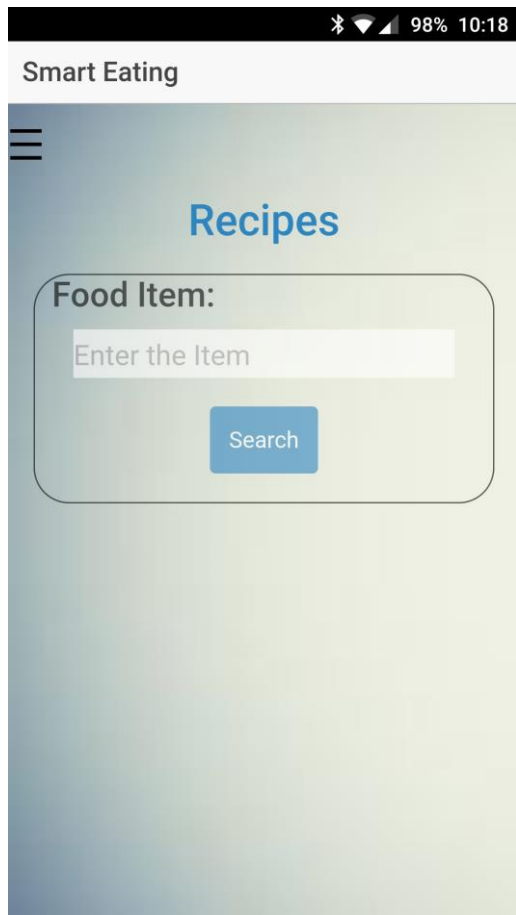
We will validate the user credentials, if they match the online database username and password it will give the user a successful login pop message and then redirected to the home page.

## Home page:

In this page where user select search recipe or search restaurant to try new food.

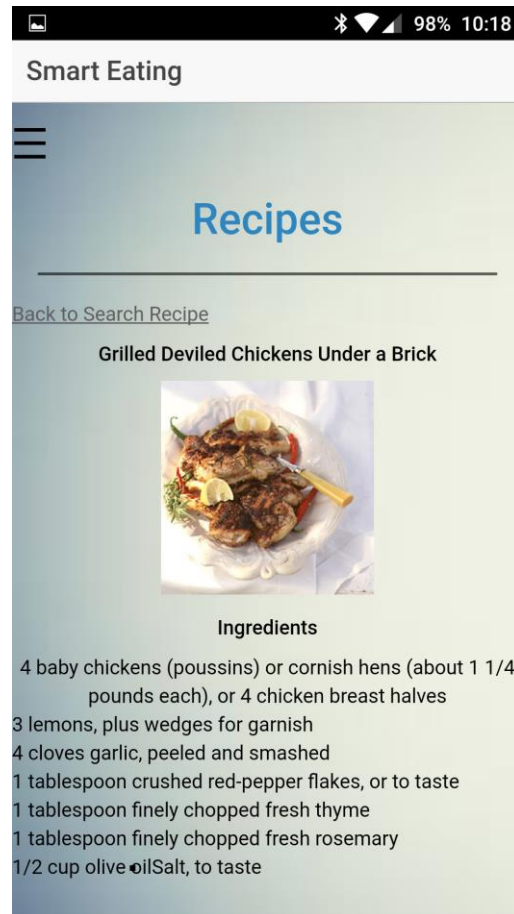


Search Recipe: Here in this page user can search the food items to get their recipe's



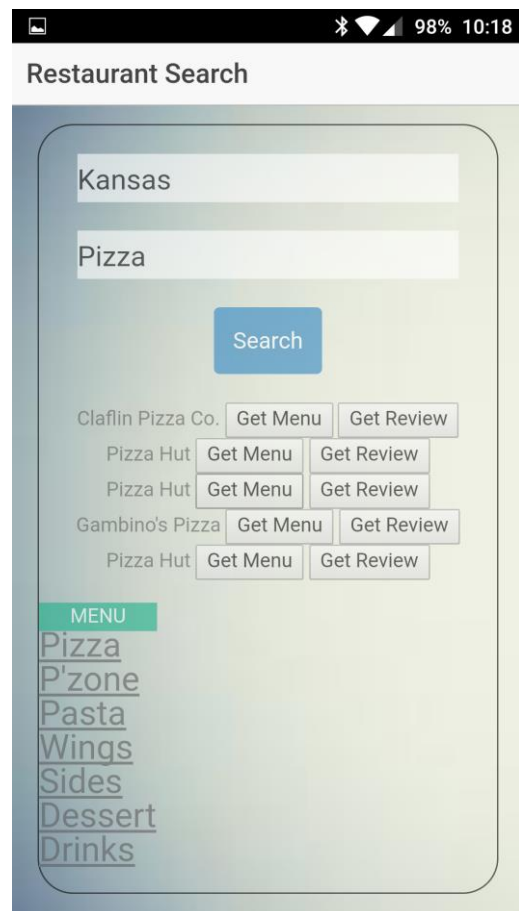
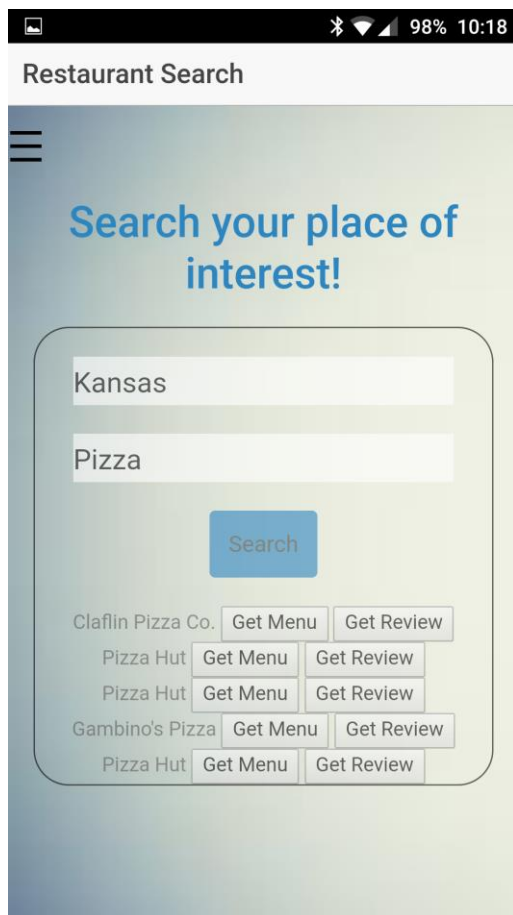


User can also get the images of the food items as well as the ingredients as shown below



### Restaurant Search:

Once he selects the place and which type of the food he wants to try we will display all the results related to the search field.



After getting the results we will display the restaurant name and menu and reviews from the previous users. Menu button will show the restaurant menu with the item names.

User Reviews: Here we will display the review of the food item from the previous customer.

The screenshot shows a mobile application interface with a status bar at the top displaying signal, Wi-Fi, and 98% battery at 10:19. The app has a header 'Restaurant Search' and a blue 'interest!' logo. Below is a search form with two input fields: 'Kansas' and 'Pizza', followed by a blue 'Search' button. The results section lists five restaurants: Claflin Pizza Co., Pizza Hut, Pizza Hut, Gambino's Pizza, and Pizza Hut. Each restaurant has 'Get Menu' and 'Get Review' buttons. Below the list is a green header 'Sentiment Analysis From Using Alchemy API'. The analysis section shows: 'Most recent review' as 'It's a great place to eat and good pizza too!!!!:)', 'Sentiment of the review' as 'positive', and 'Sentiment Score of the review' as '0.951734'. A green bar at the bottom repeats the review text.

Restaurant Search

interest!

Kansas

Pizza

Search

Claflin Pizza Co. Get Menu Get Review

Pizza Hut Get Menu Get Review

Pizza Hut Get Menu Get Review

Gambino's Pizza Get Menu Get Review

Pizza Hut Get Menu Get Review

Sentiment Analysis From Using Alchemy API

Most recent review It's a great place to eat and good pizza too!!!!:)

Sentiment of the review positive

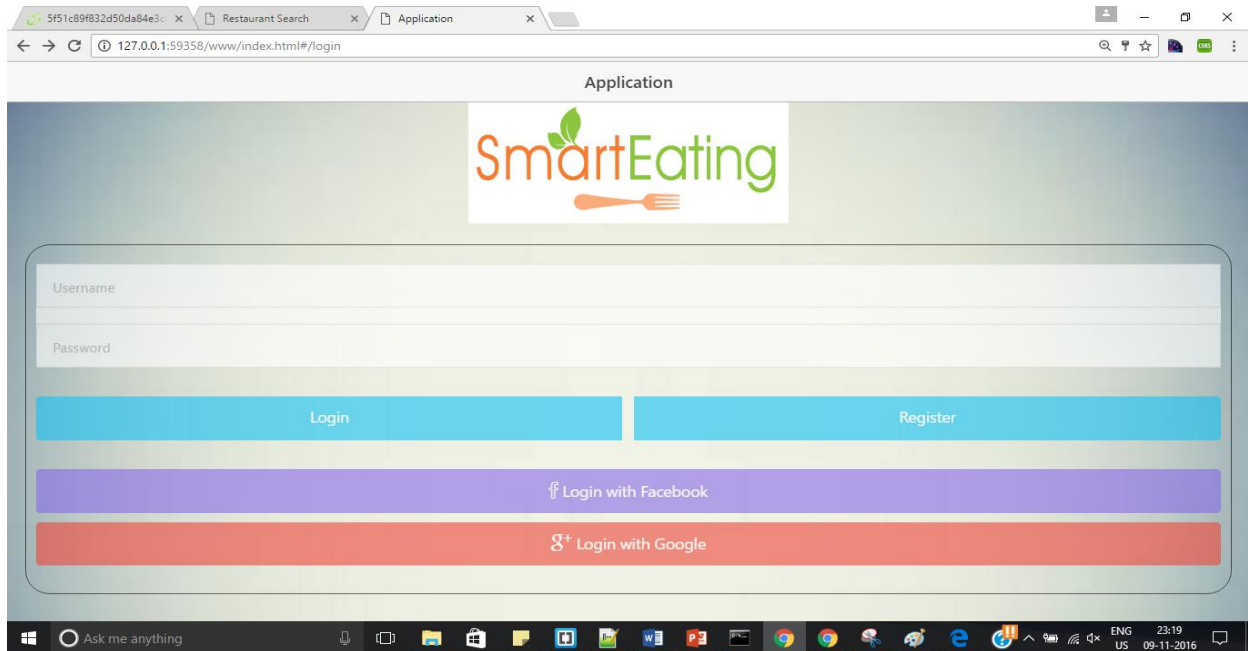
Sentiment Score of the review 0.951734

It's a great place to eat and good pizza too!!!!:)

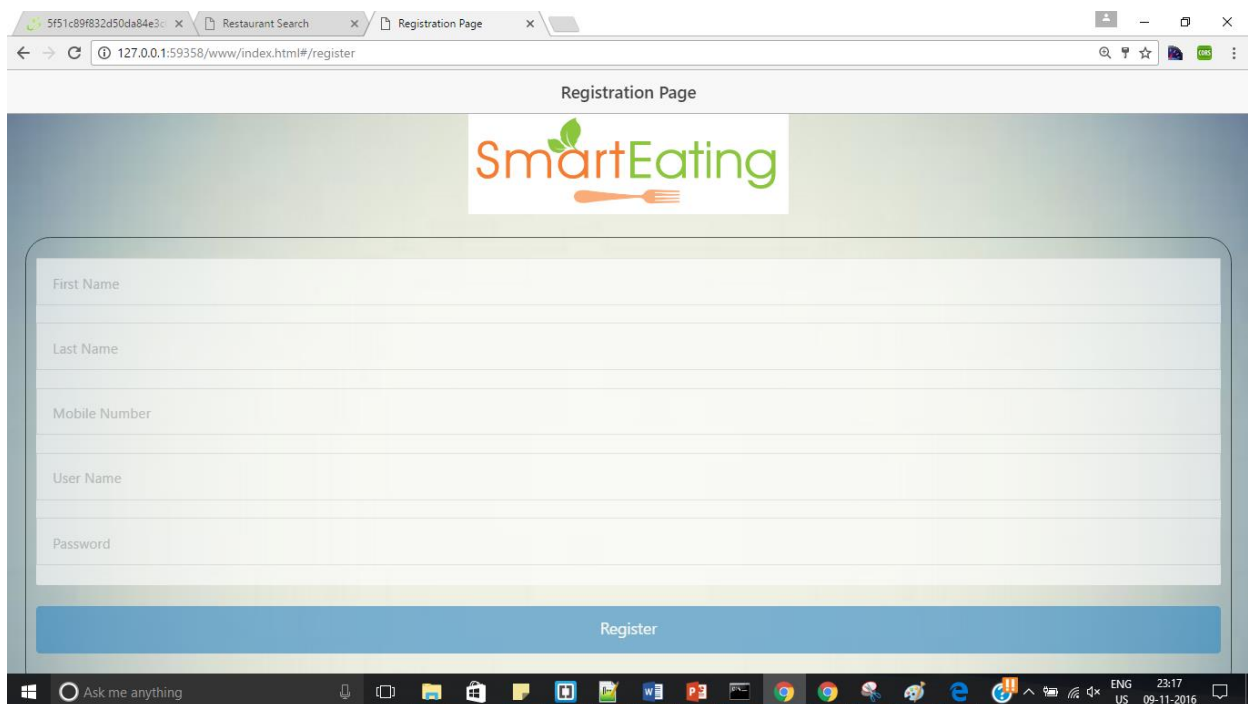
## Deployment in browser:

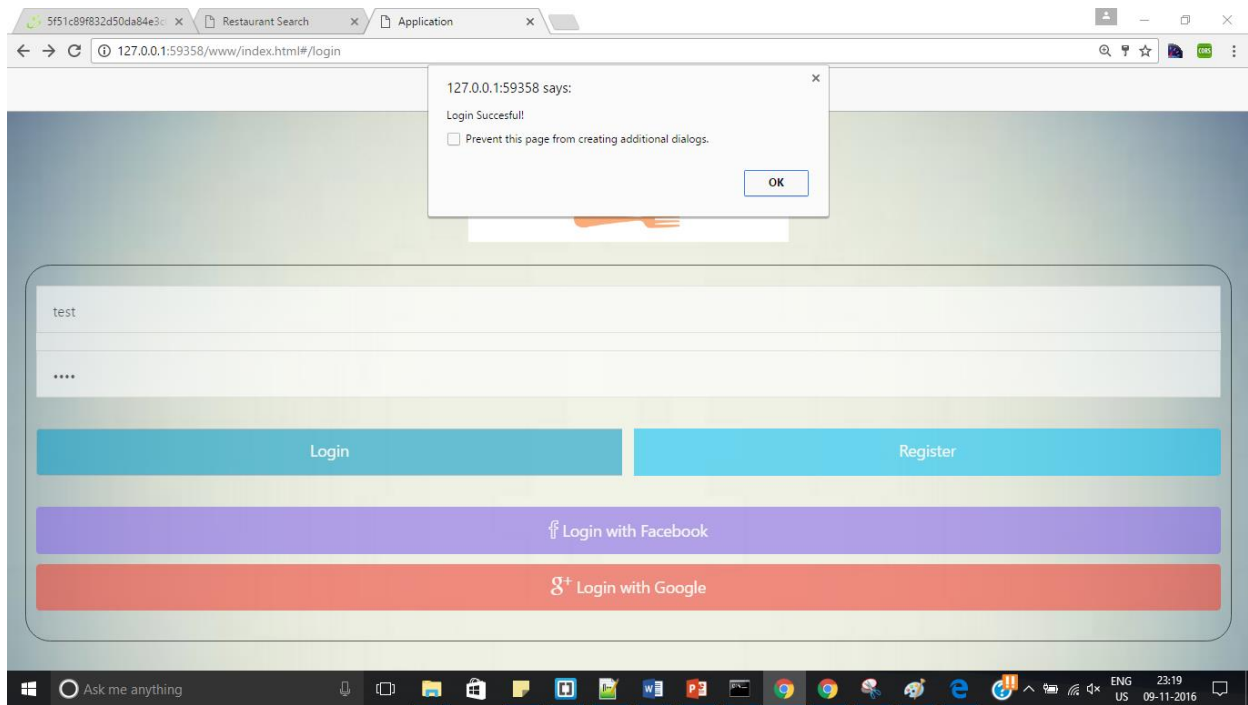
we have deployed our application in web browser and android platform the web browser screen shoots are posted below android screen shots are posted already in above pages.

### Web application login:

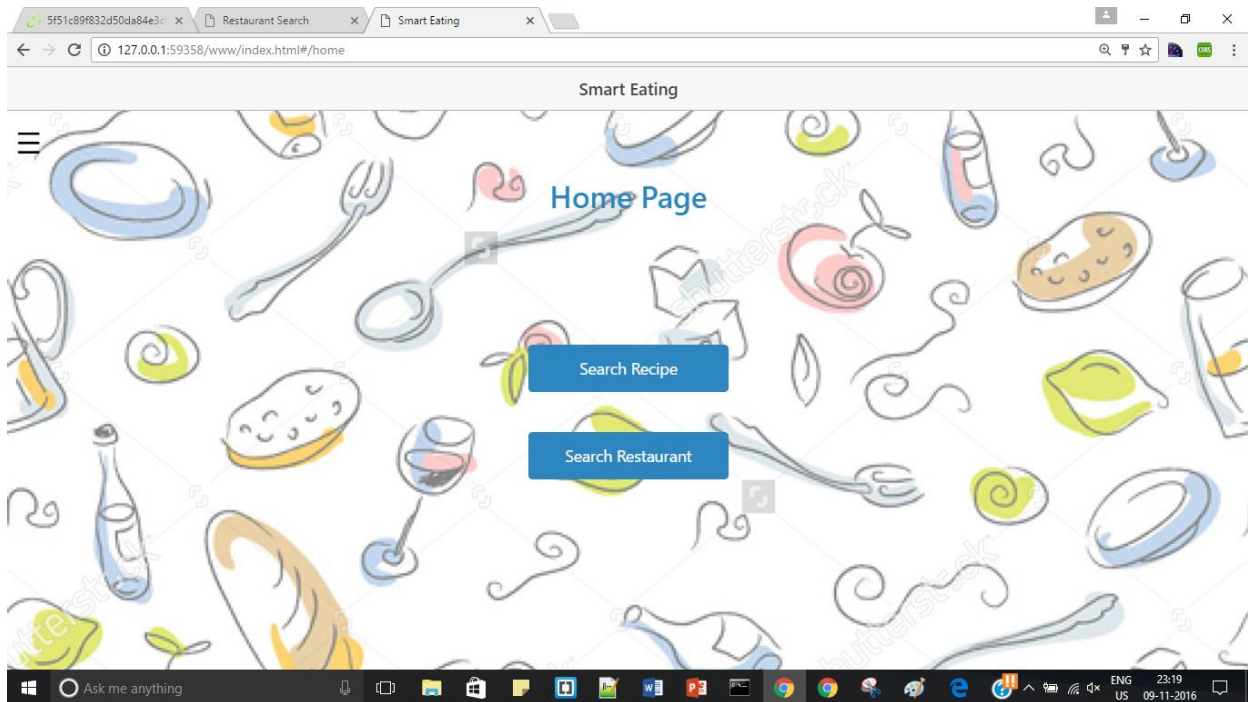


### Register page:

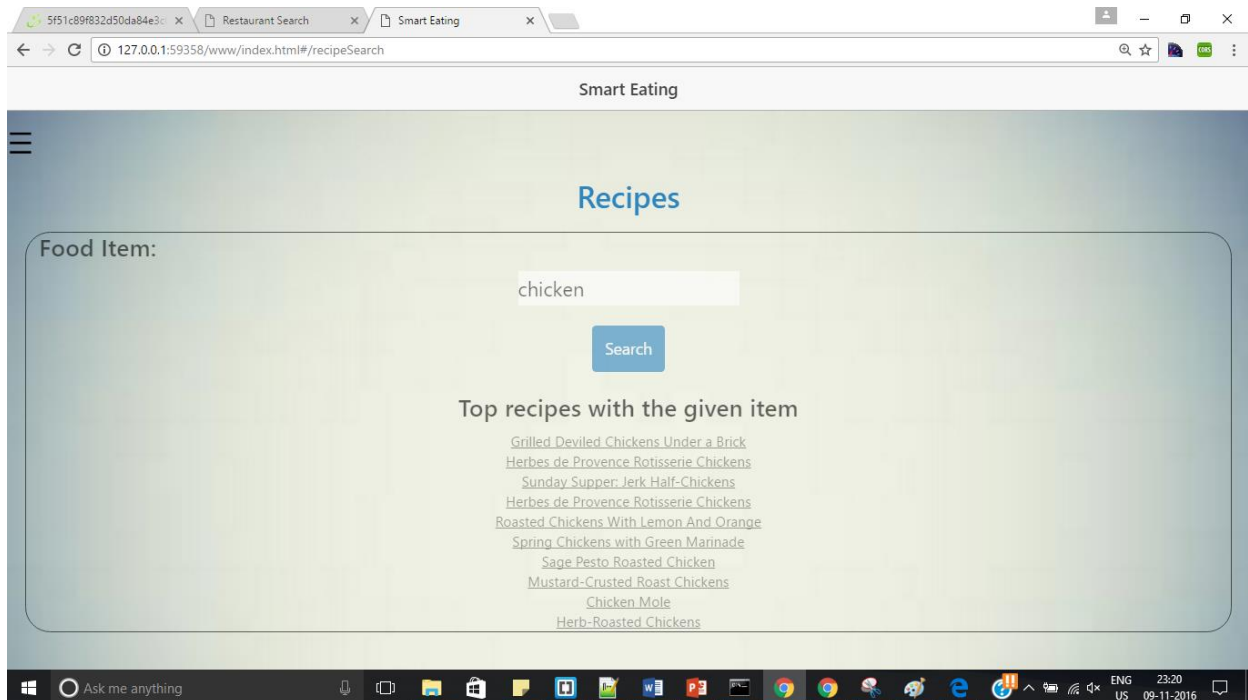
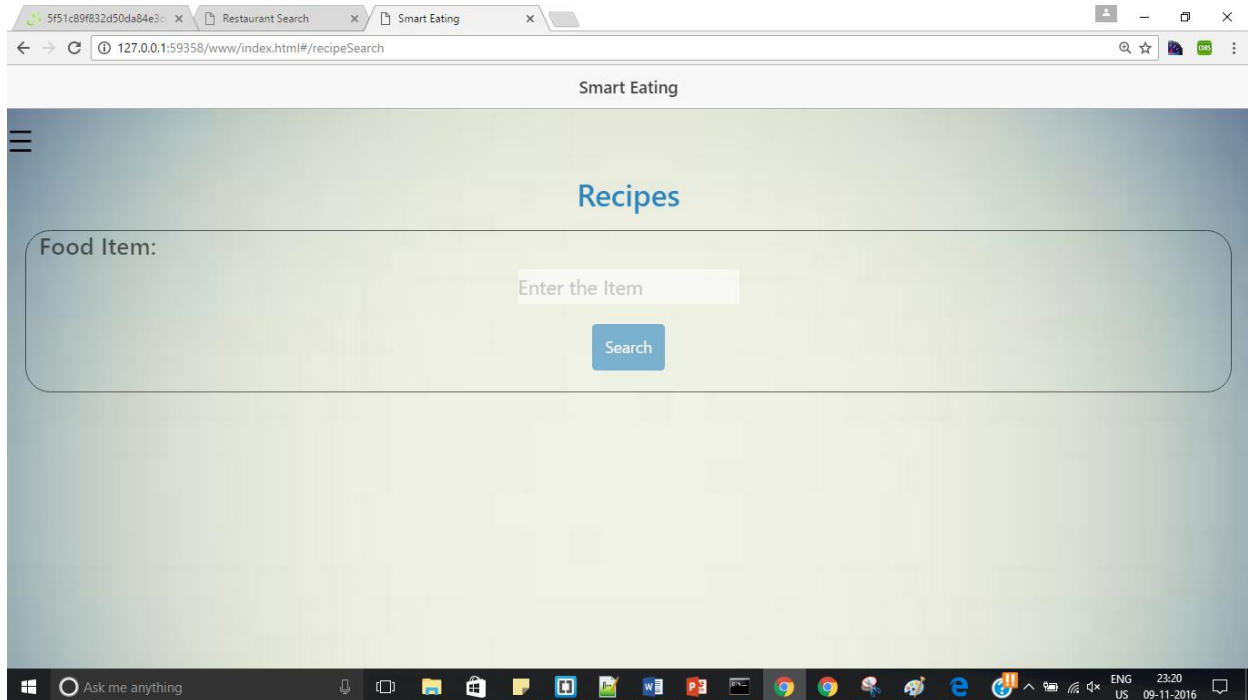


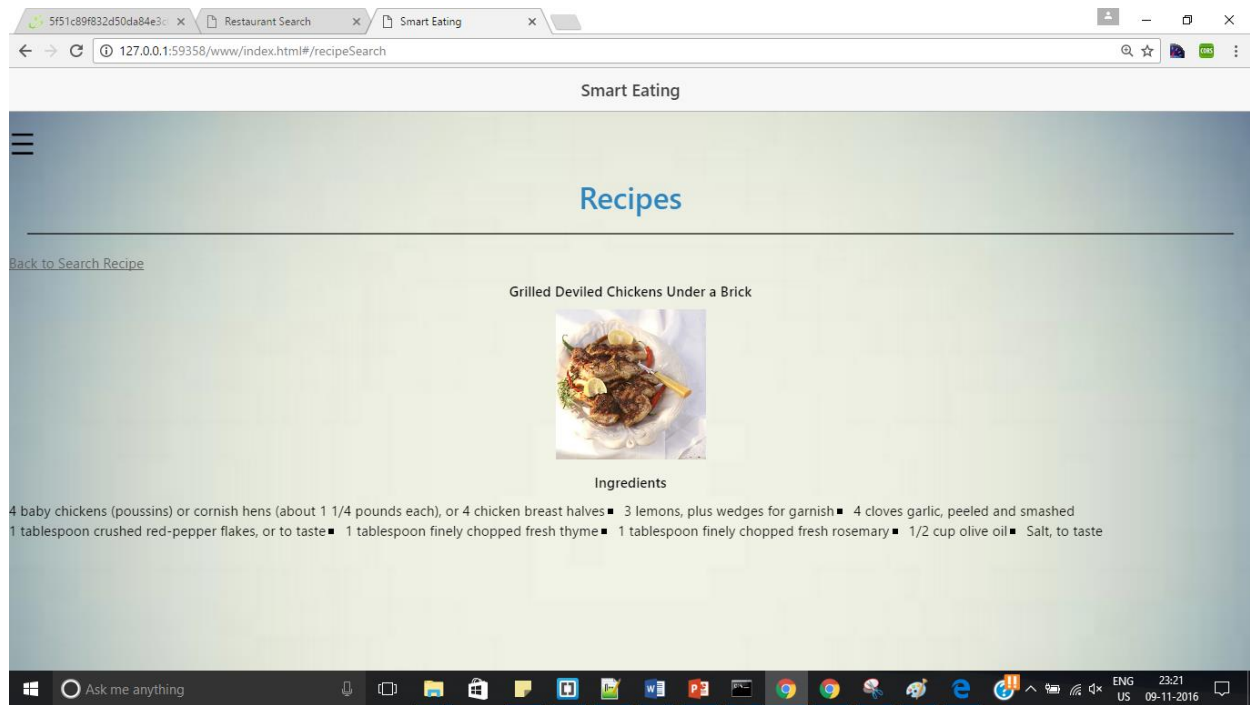


Home page:

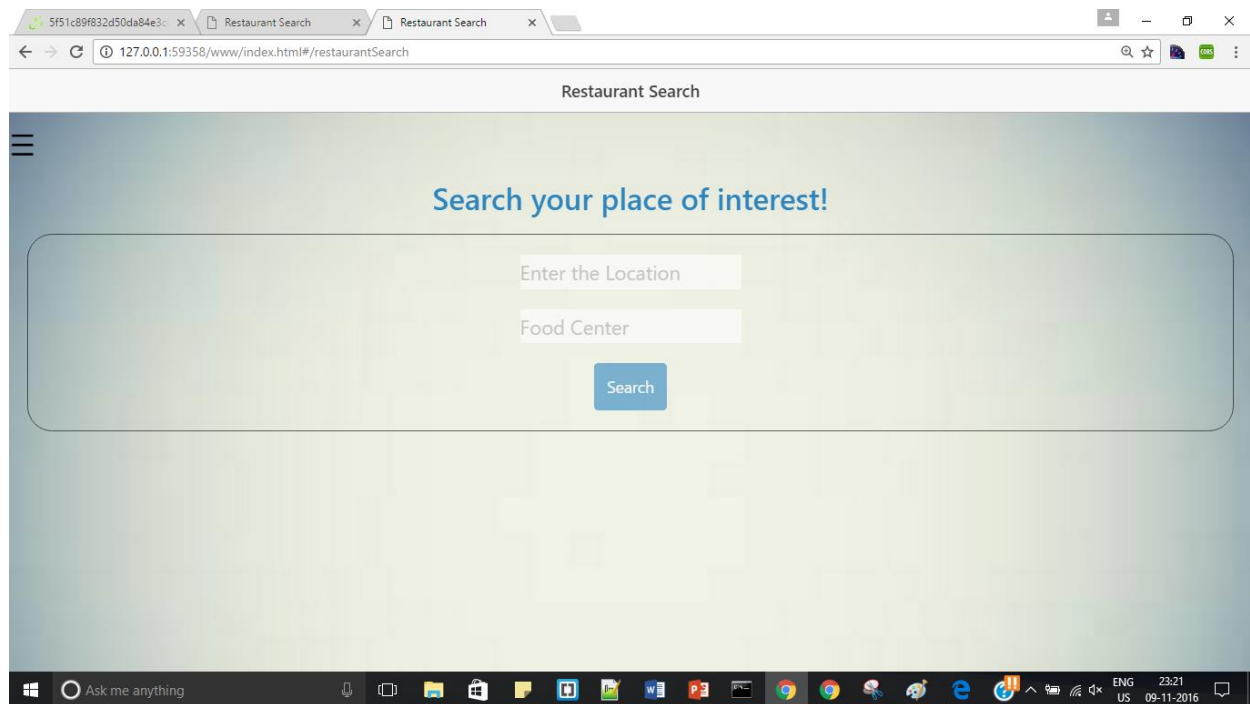


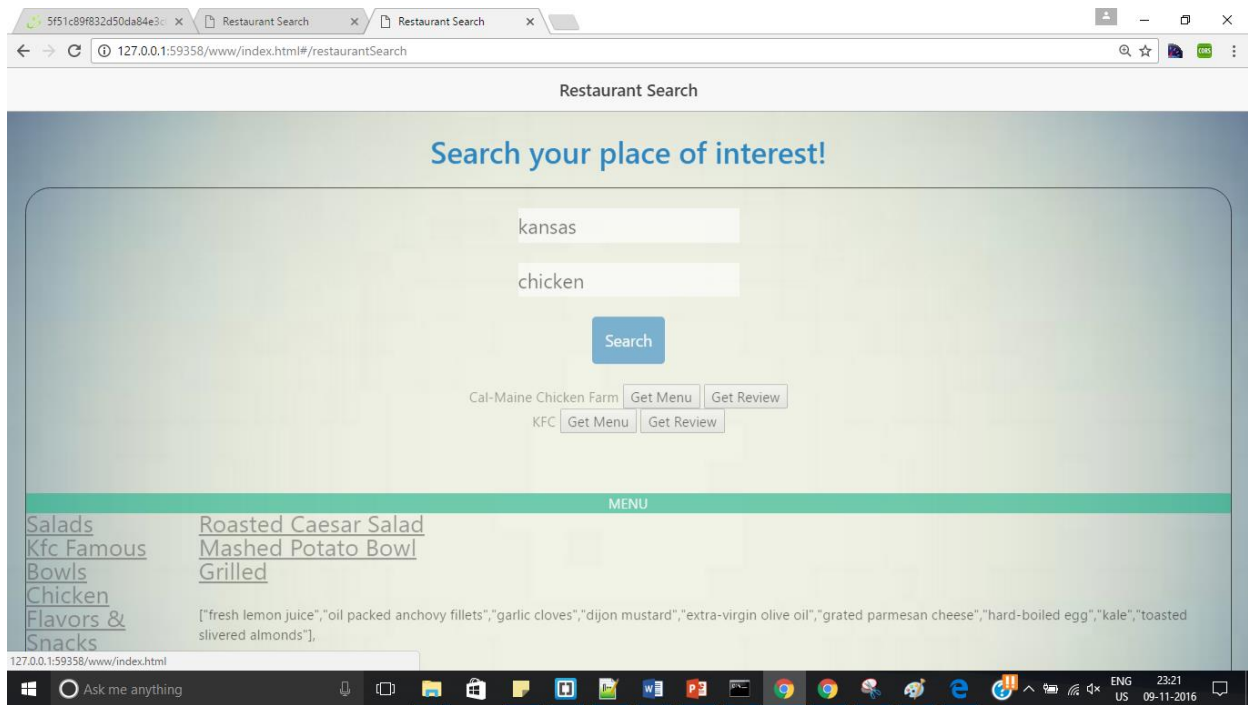
## Search Recipe:



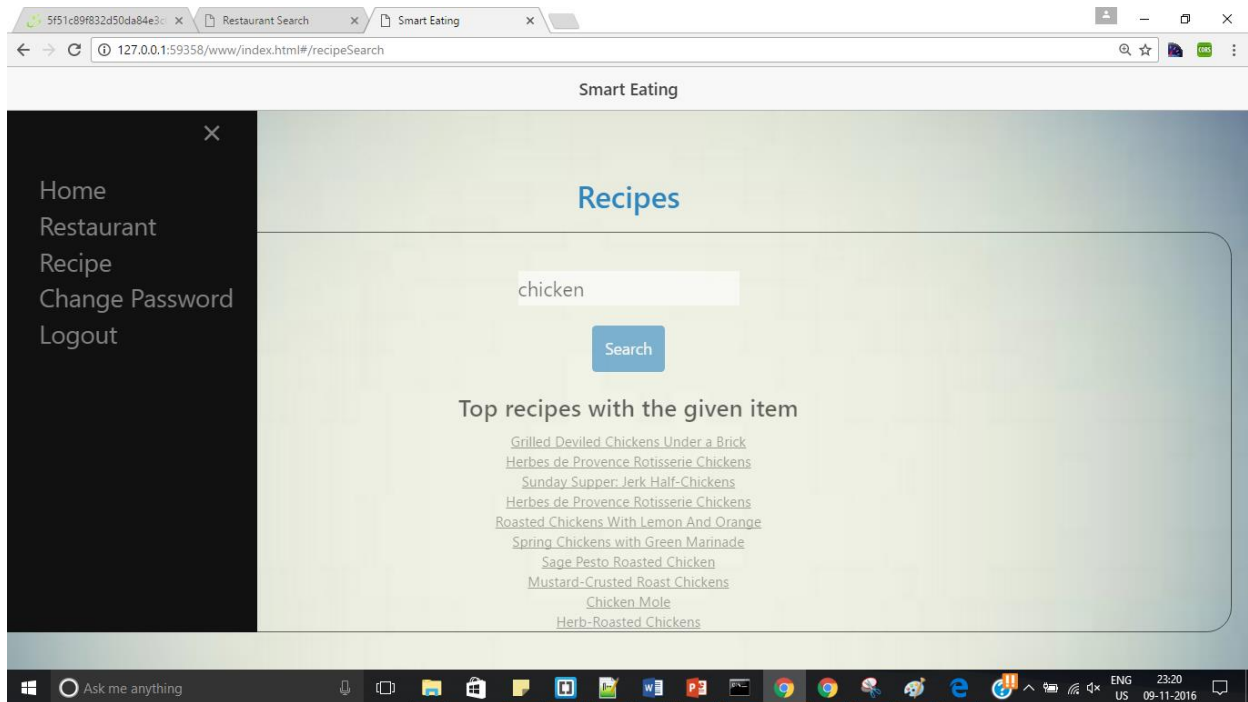


## Search Restaurant:





## Side Menu:

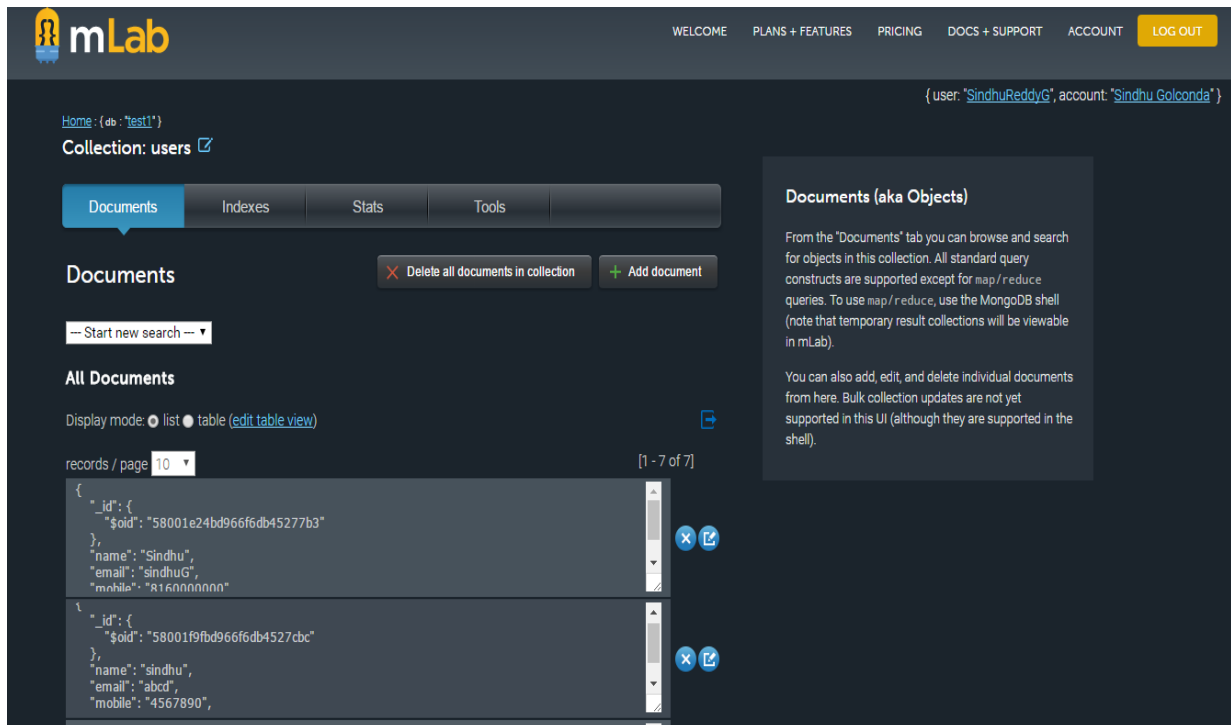




## Server Implementation:

Database for User account data:

In our project we are using the mlab online mongo dB data base, in this database we are storing the all the user information.



## GITHUB URL:

Source code GITHUB link is provide below:

Github URL: <https://github.com/SindhuReddyG-sgdd7/CS551-Project-FoodGuide>

## **Project Management:**

- **User account database development :** User account details are stored in the mlab's online mongo database.
  - Contributors: Advait, Ravi
- **User credentials validation test cases :** User login credentials are validated with the values in database of mongo lab.
  - Contributors: Sindhu, Uday
- **Web application User Interface:** Front end idea and implementation of webpages in html.
  - Contributors: Uday, Advait
- **Android application Development:** Front end idea and implementation of android application design idea in mobile.
  - Contributors: Sindhu, Ravi
- **Application Program Interface Use Cases:** Implementation of different use cases from the Web API like ingredient search, items and allergy's.
  - Contributors: Sindhu, Ravi, Advait, Uday
- **Restaurant Name Search:** Using Foursquare API, the restaurants are retrieved based on location and search query.
  - Contributors: Advait, Ravi, Sindhu, Uday
- **Menu and Item Search:** For the selected restaurant, Menu is retrieved which contains different Categories of items using foursquare API. By selecting the Category, all the items belonging to particular category are displayed.
  - Contributors: Uday, Sindhu
- **Android Application deploying and debugging :** We had deployed our application in android platform using Ionic.
  - Contributors: Sindhu, Ravi.

- **Web Application deploying and debugging:** We had deployed our Application in browser as well. Also debugged when errors occurred.
  - Contributors: Sindhu, Ravi, Advait, Uday
- **Application testing:** Deployed application is then tested using JLint and YSlow for better performance.
  - Contributors: Advait, Uday
- **Restaurant Review:** Reviews of selected restaurants are retrieved using IBM Watson API.
  - Contributors: Uday, Sindhu

## **Bibliography:**

<https://developers.google.com/knowledge-graph/how-tos/search-widget>  
<https://developer.foursquare.com/overview/realtime>  
<https://webdesign.tutsplus.com/articles/making-websites-location-aware-with-html5-geolocation--webdesign-10495>  
[http://www.w3schools.com/html/html5\\_geolocation.asp](http://www.w3schools.com/html/html5_geolocation.asp)  
<http://www.w3schools.com/js/default.asp>  
<https://www.jetbrains.com/webstorm/features/coding-assistance.html>  
<https://developer.android.com/studio/intro/index.html>  
<http://mycaption.com/resources/technology/voice-recognition>  
<https://colorlib.com/wp/html5-and-css3-login-forms/>  
<https://cordova.apache.org/>