

# Smart Eating - Food Guide

## Increment 1

Project group 10

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CS5551 - Advanced Software Engineering

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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. Project Goal and 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.

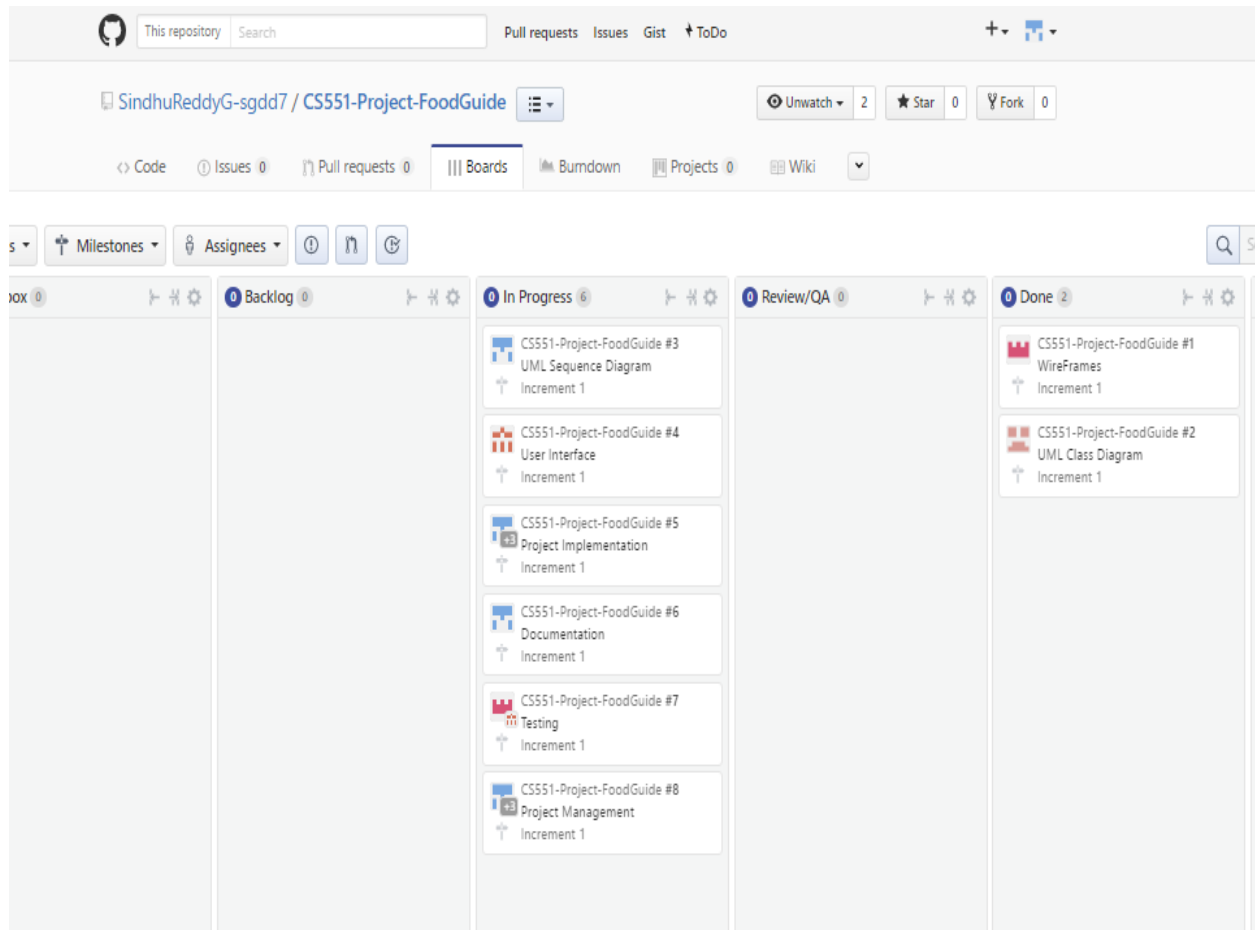
## III. Project Plan

### Team Members:

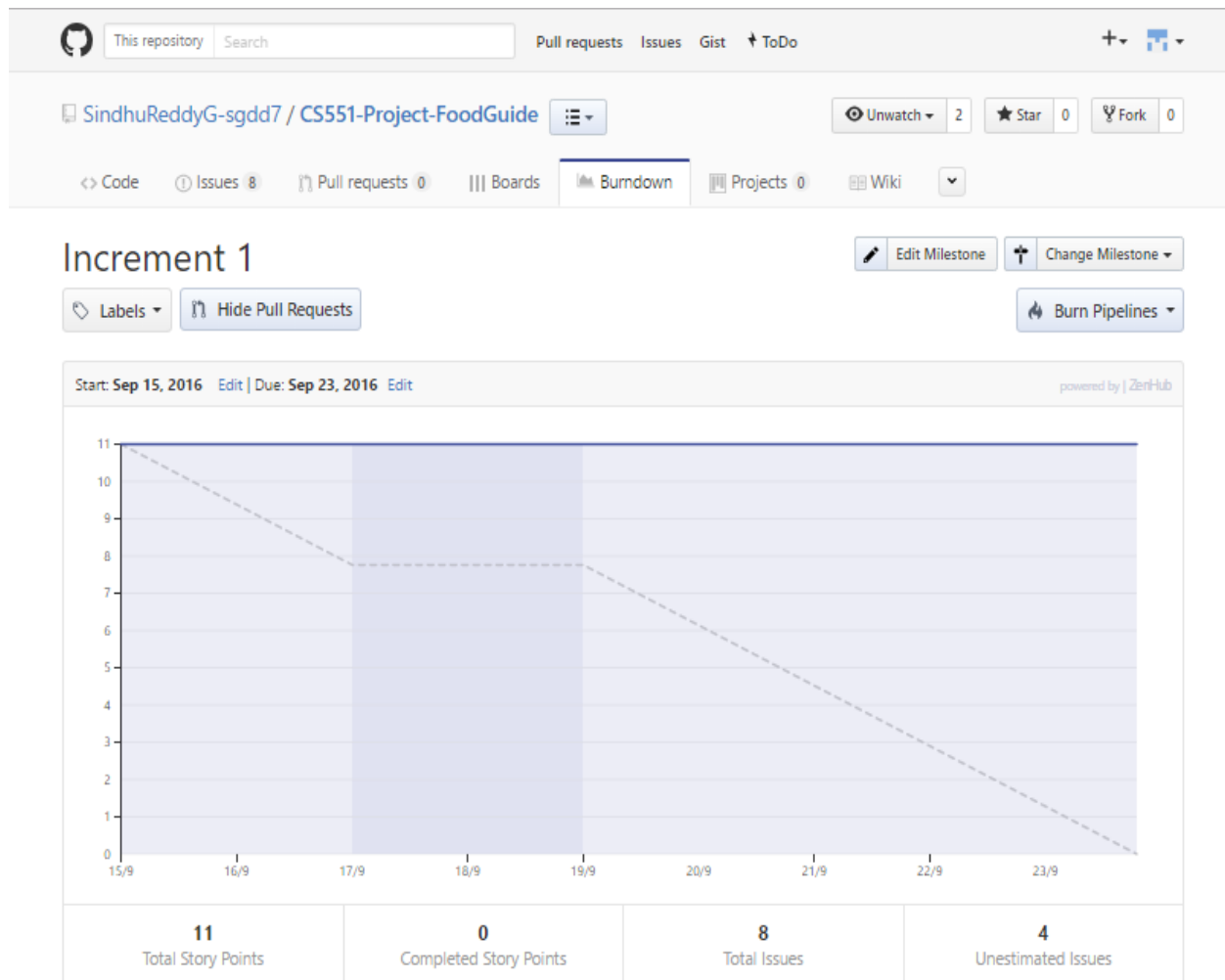
- Advait Nandelli
- Sindhu Golconda
- Ravi Kumar Kurva
- Uday Kiran Mallineni

## 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.



## Burndown Chart for Increment 1:



## IV. First Increment Report

### Existing Service/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. IBM Watson Services:

- Used for getting the reviews for a selected restaurant.

URL: <http://gateway-a.watsonplatform.net/calls/text/TextGetTextSentiment>

#### 3. Google Knowledge graph search API:

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

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

#### 4. SpeechToText API:

- Used to convert Speech to text.

URL: <http://mycaption.com/resources/api>

## Detail Design of Features:

### WireFrames:

Mobile app. main search page:

The wireframe shows a mobile app interface for a 'Food Guide'. It features a title 'Food Guide' in red, italicized font at the top. Below the title, there are four input fields arranged in two columns. The left column contains labels for 'Location', 'Miles', 'Restaurant Type', and 'Rating', each enclosed in a blue-bordered box. The right column contains corresponding input areas: 'Enter Your Location' (with a horizontal line), 'Select Miles' (with a dropdown arrow), 'Select Restaurant Type' (with a dropdown arrow), and 'Select Rating' (with a dropdown arrow). At the bottom center, there is a bright cyan button labeled 'Next'.

<i>Food Guide</i>	
Location	Enter Your Location
Miles	Select Miles
Restaurant Type	Select Restaurant Type
Rating	Select Rating
<b>Next</b>	

Health issue select page: in this page user can give input to the application which type health issues, so that we can provide him suitable food item options.

# Health Issue

☐

Issue 1

☐

Issue 2

☒

Issue 3

☐

Issue 4

☐

Issue 5

Back

Next

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.

## Allergic Food

☐

Item 1



Item 2

☐

Item 3



Item 4

☐

Item 5

Back

Next



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

# Available Restaurants

Image1	<b>Restaurant 1</b> Type, Location, Distance	5
Image2	<b>Restaurant 2</b> Type, Location, Distance	5
Image3	<b>Restaurant 3</b> Type, Location, Distance	4
Image4	<b>Restaurant 4</b> Type, Location, Distance	3
Image5	<b>Restaurant 5</b> Type, Location, Distance	3

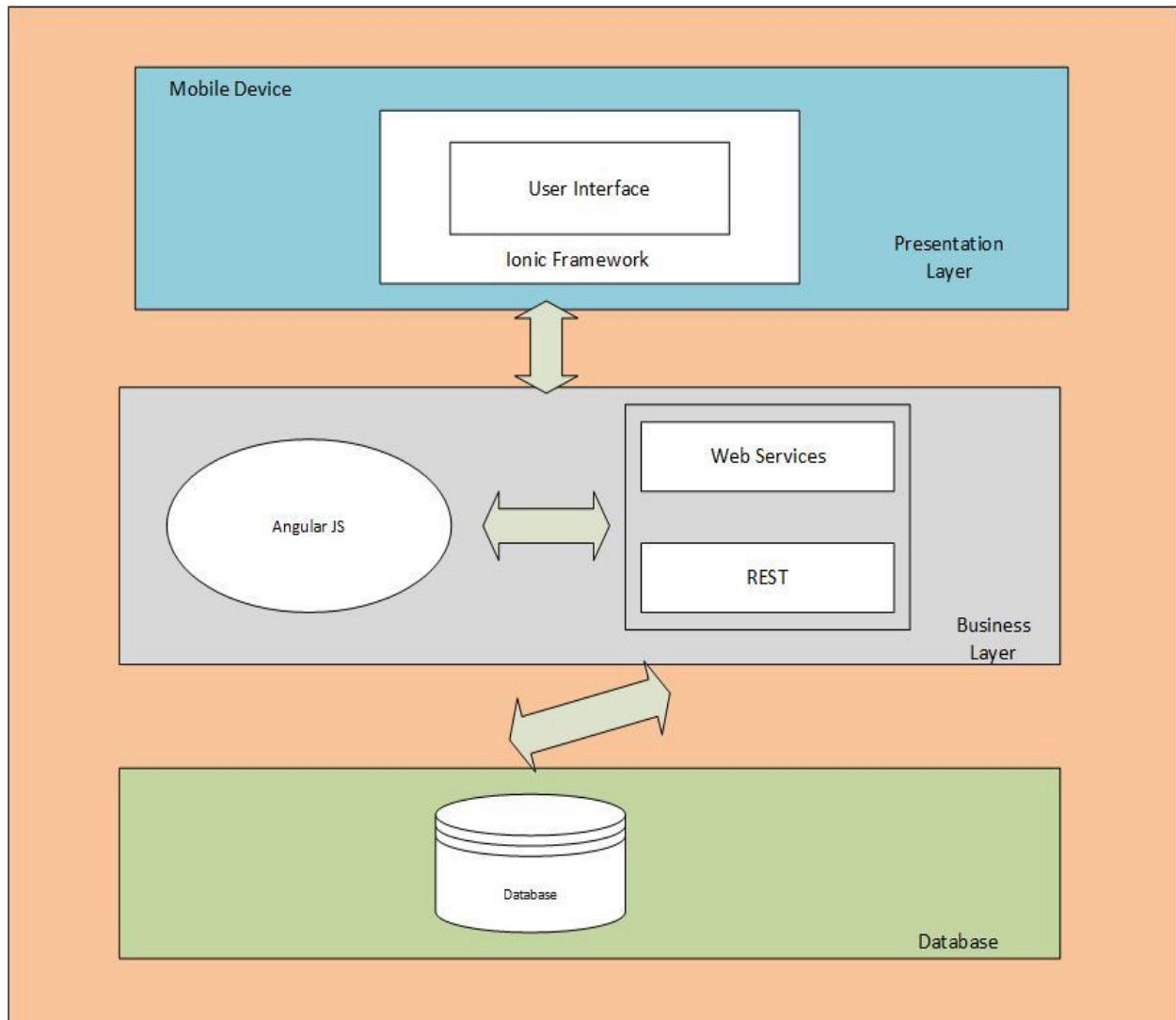
[Home](#)

Menu page:

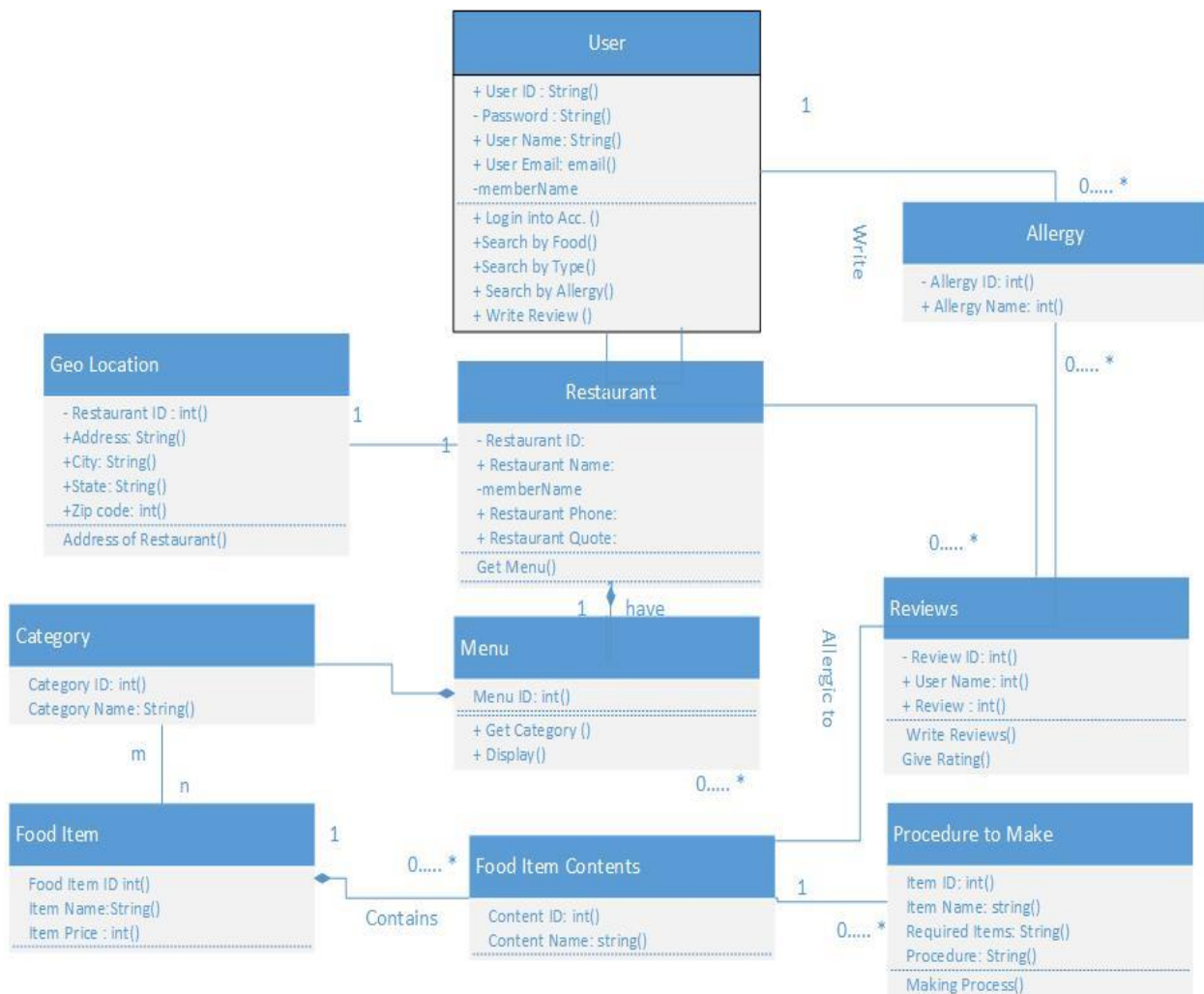
In this page we will display the menu with the items and health concern to give the user feedback whether is it good or bad to his health by indicating green / red mark.

Menu	Health
➤ Food Item 1	
➤ Food Item 2	
➤ Food Item 3	
➤ Food Item 4	
➤ Food Item 5	
➤ Food Item 6	
<a href="#">Home</a>	

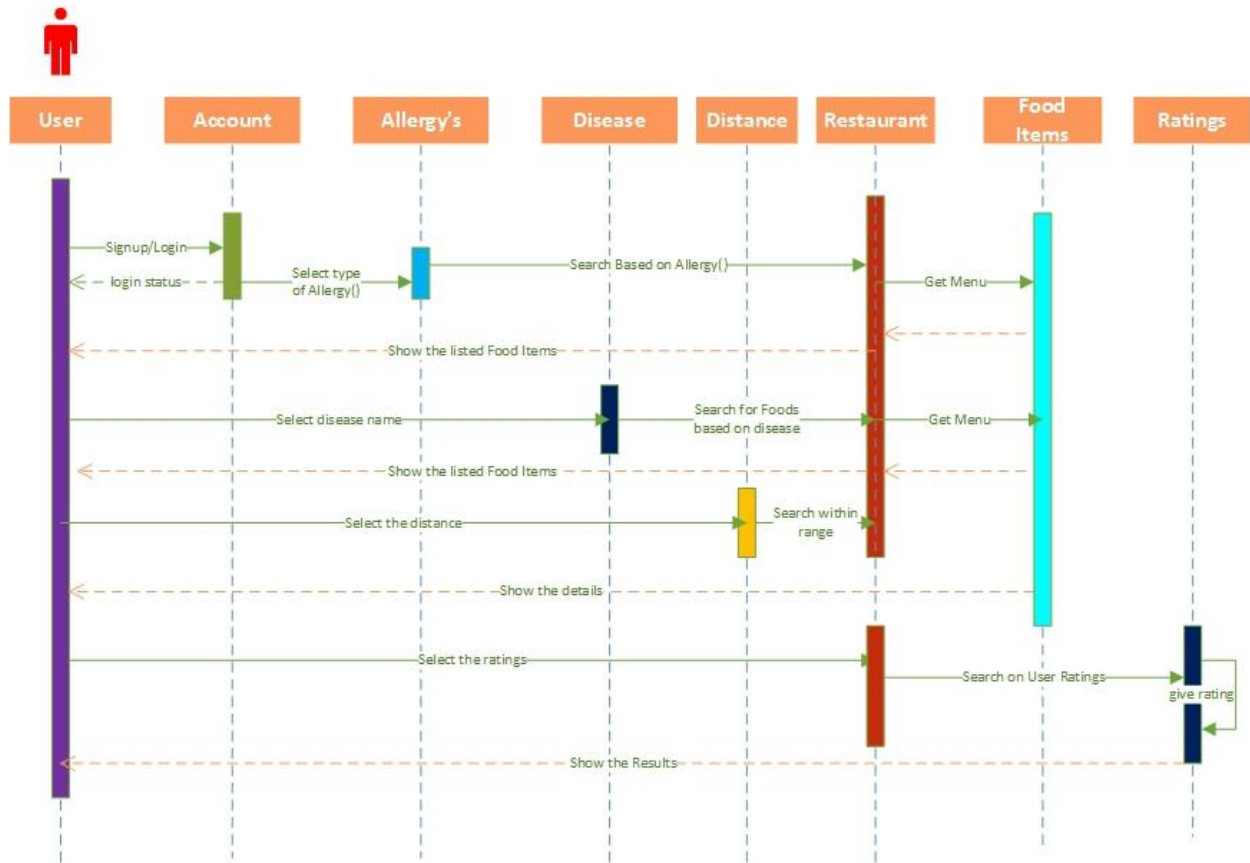
## Architecture Diagram:



## UML Class Diagram:

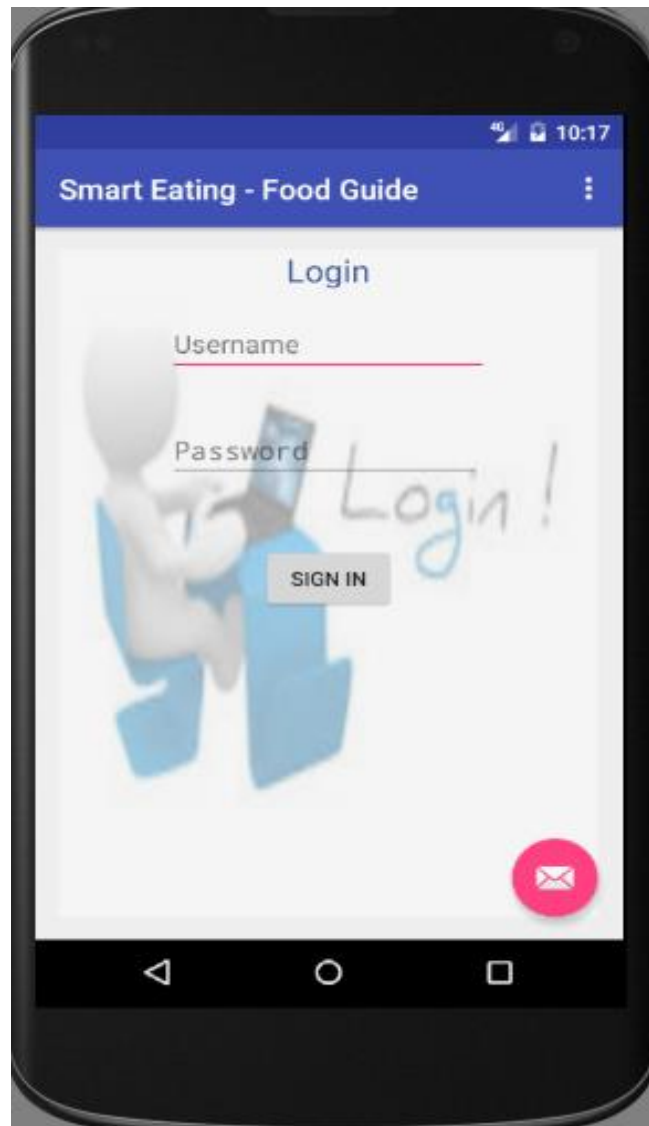


## UML Sequence Diagram:

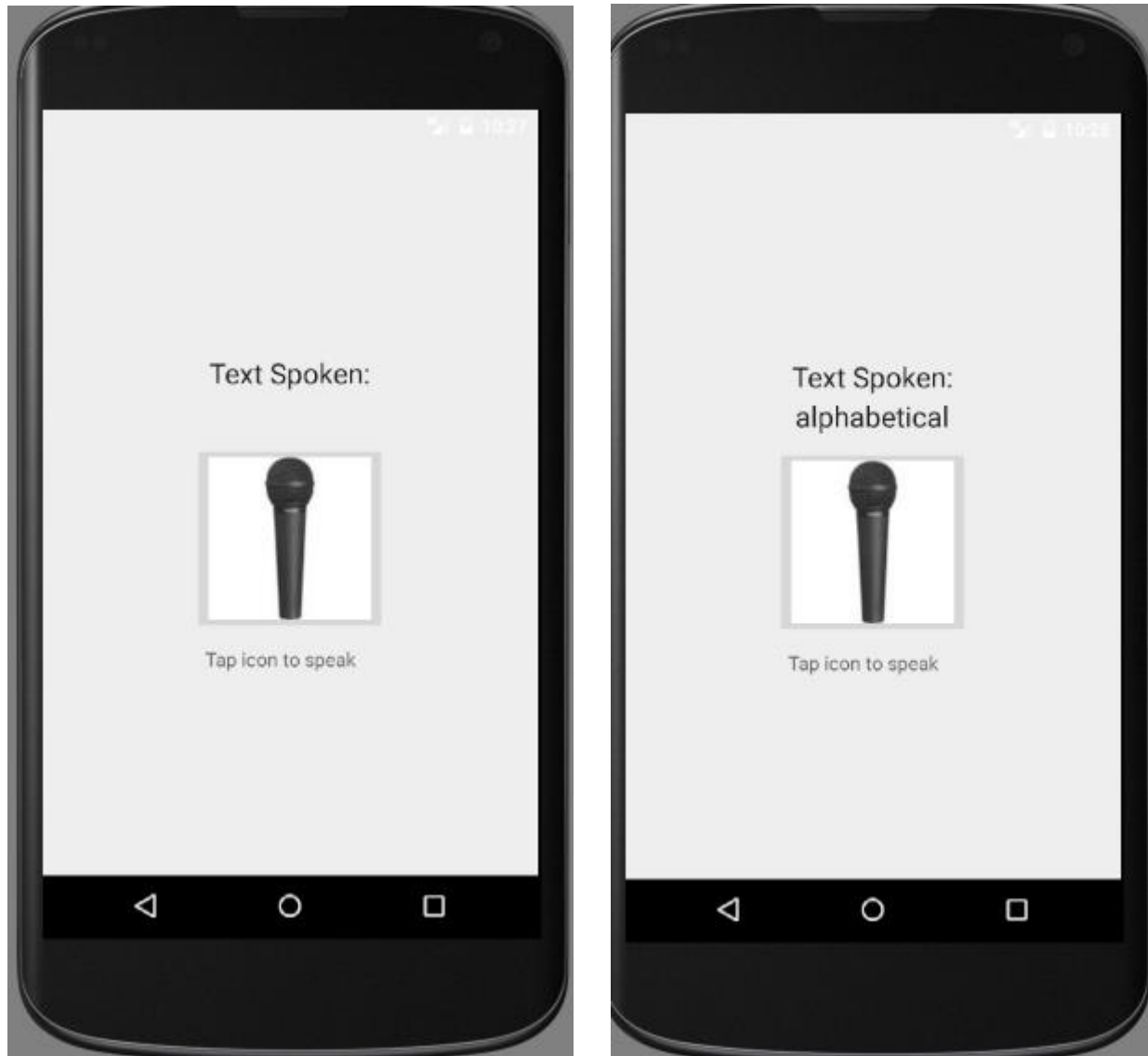


## Project Implementation:

Mobile app login page: In this page we will validate the user credentials to access the application.



After successful login, the page should redirect to the restaurant search page, but now we just redirected it to Speech to text conversion page which is used in the further project.

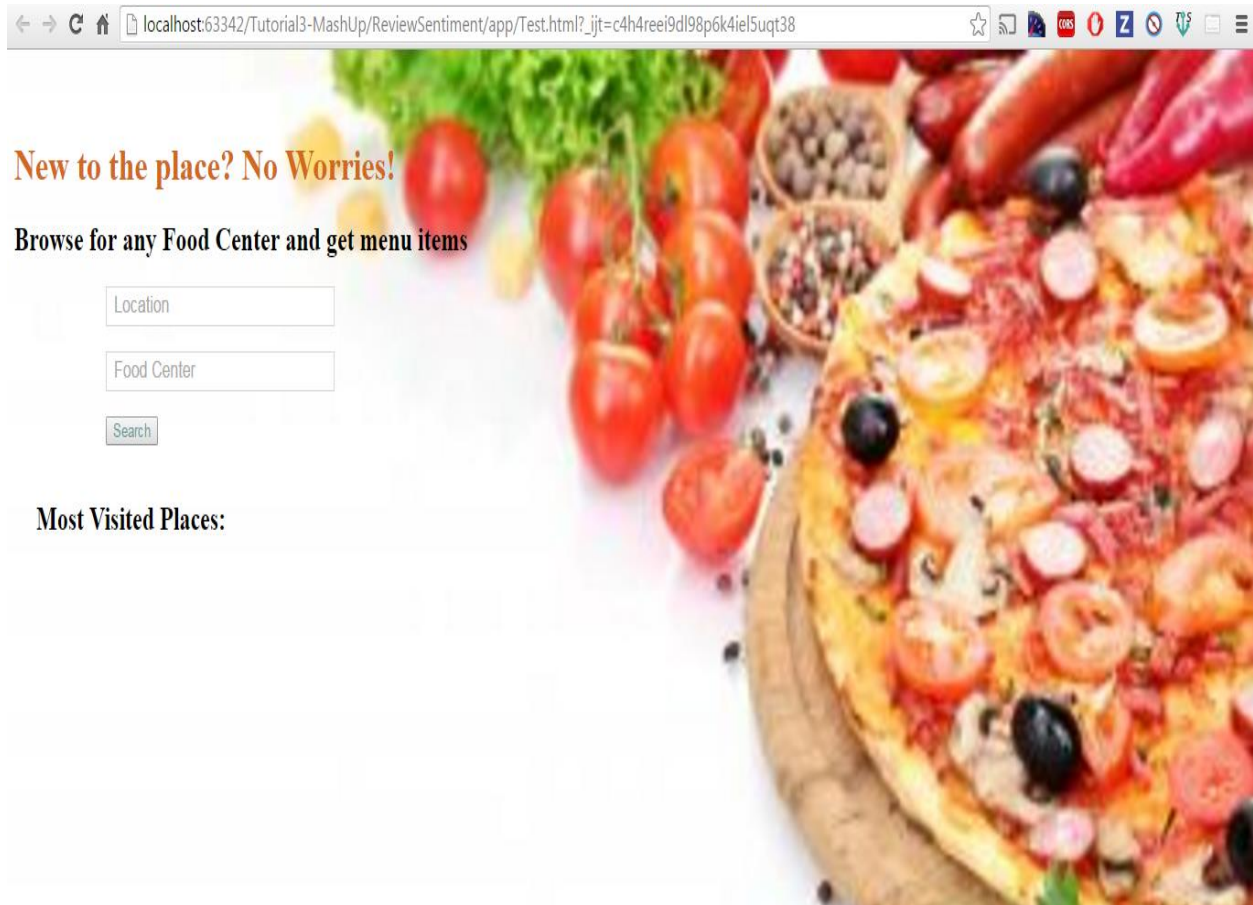


Voice to text conversion page:

After successful login user can search the food items by voice instead of typing, here we have implemented with speech to text API.

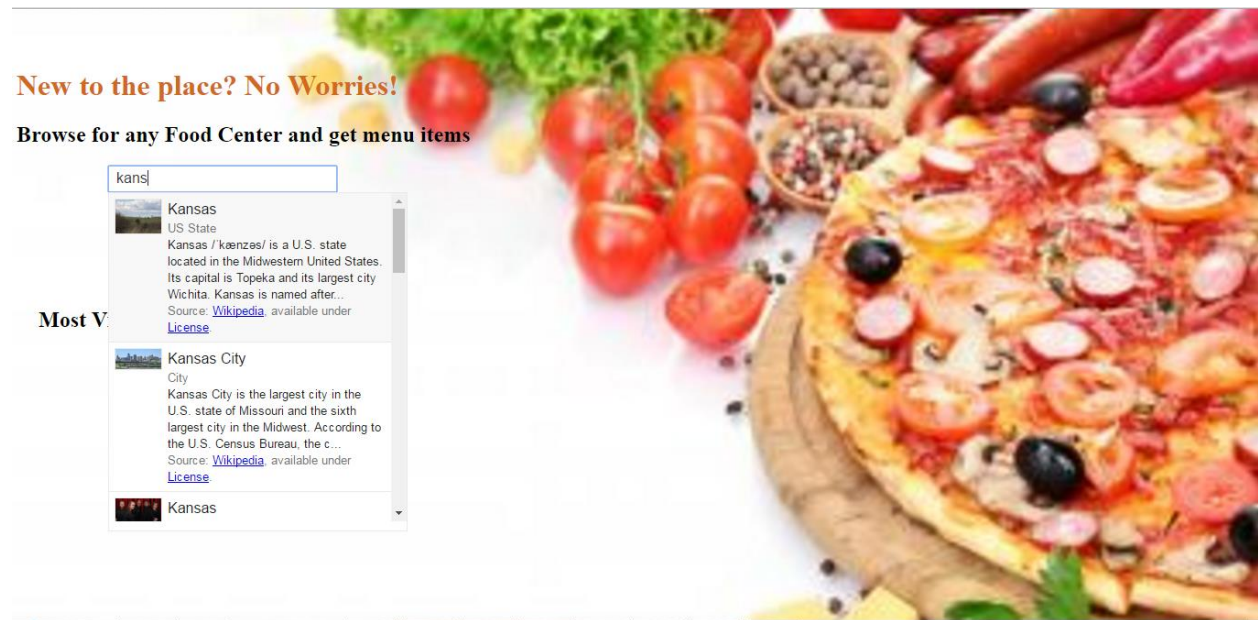
Main Home page:

By using foursquare and google knowledge service API's we have implemented user interaction page to give input to our web application in the location text box user can choose the place where he wants to eat and in the food center textbox we have built an auto suggestion feature so that user can decide easily.



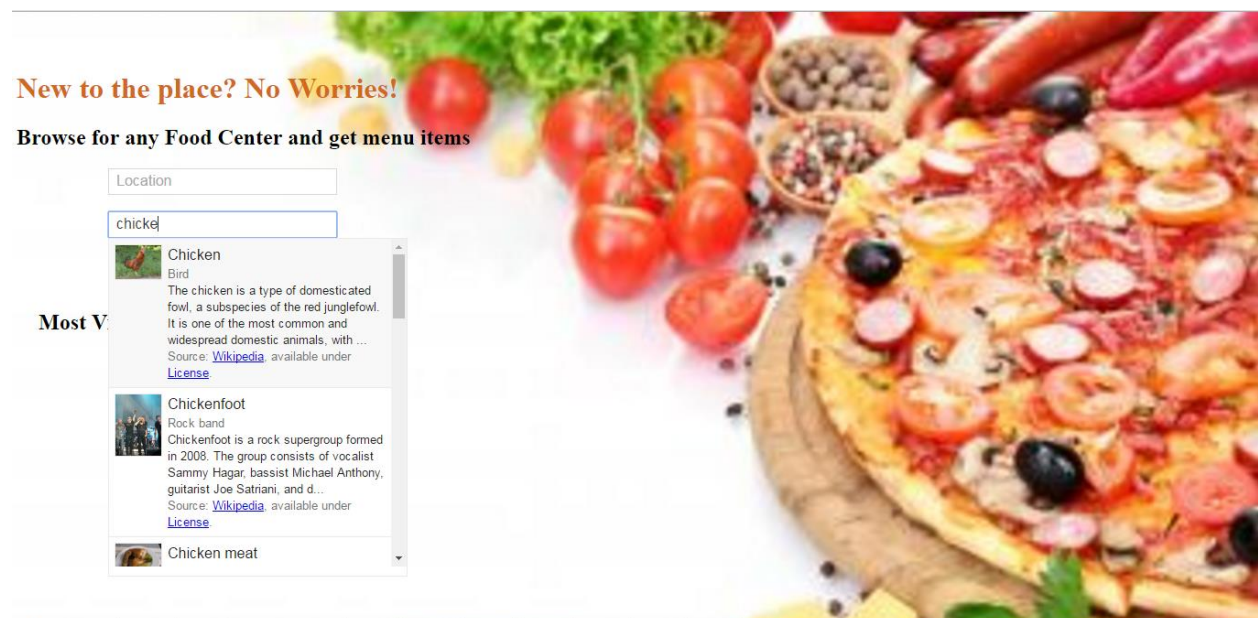


Auto population of the data in the text field is done using Google Image Graph Search API which is as shown below.



Application search page:

After giving the proper inputs where and which food he wants to try our application will search and displays that respective restaurants, we have given for each restaurant Get menu and review options to choose the items based on the other previous customer's reviews and ratings.



**New to the place? No Worries!**

**Browse for any Food Center and get menu items**

**Most Visited Places:**

Cal-Maine Chicken Farm

KFC

MENU :

[Salads](#)

[Kfc Famous Bowls](#)

[Chicken](#)

[Flavors & Snacks](#)

[Sandwiches](#)

Menu screen shot:

The below screen shot will show us the restaurant menu and food item names as shown below.

**Browse for any Food Center and get menu items**

**Most Visited Places:**

Cal-Maine Chicken Farm

KFC

MENU :

[Salads](#)

[Kfc Famous Bowls](#)

[Chicken](#)

[Flavors & Snacks](#)

[Sandwiches](#)

[Sides](#)

[Desserts](#)

**Salads**

Roasted Caesar Salad  
Mashed Potato Bowl  
Grilled

**Deployment:**

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

## Project Management:

- **Login Page:** User can login and redirect to the restaurant selection page.
  - Contributors: Uday, Advait
- **Auto-Population of Textboxes:** While entering text in the search fields, application suggests by auto populating the data using Google Image Graph search API.
  - Contributors: Sindhu, Ravi
- **SpeechToText for Textboxes:** Instead of typing in the search fields, user is provided with the Speech to Text option by which he can search just by speaking.
  - Contributors: Ravi, Uday
- **Restaurant Search:** Using Foursquare API, the restaurants are retrieved based on location and search query.
  - Contributors: Advait, Ravi
- **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: Sindhu, Advait
- **Restaurant Review:** Reviews of selected restaurants are retrieved using IBM Watson API.
  - Contributors: Uday, Sindhu

## Bibliography

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