SOFTWARE ENGINEERING

FOOD SAFETY PORTAL

Review 3

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Introduction

Theoretical Background

The application provides details and specific information about the number of restaurants in a particular city a user is visiting to get a better idea of food-based information in that locality. It also includes categorizing the restaurants on the basis of certain classifications such as local diet, education, delicious type of food(Italian, chinese, south-Indian, beverages).It acts as a user guide which provides additional information with ratings of restaurants (with a maximum of 5) along with menu details and discount facilities of each restaurant. Managers of the restaurants are allowed to update information about their hotels. The visitors are allowed to give review about the hotels they visited and can also mention any important details which the hotel management can implement as a part of service. Application provides the number of branches of a restaurant(if any) and also gives details about their location with their certification. Information about any illness issues are also accepted from the user which helps us in improving the application.

Motivation

The main objective of the project is to provide a comfortable convenience browsing experience for a user to facilitate him with best experience of food and diet eatables with a locality or town.

Objectives

Providing an application which guides a customer for choosing a Restaurant based on his requirements and diet information. The application must be able to list out the hotels in a locality for breaking down the process of search making the process even more simpler. It must be scalable and provide adequate performance efficiency.

Purpose

The purpose of the Software Requirements Specification is to describe the requirements of the Food Safety Portal project that are to be met by the implementation. Description of any constraints or assumptions that the project is working within are supposed to be specified.

The document also provides a description of any project dependencies that are needed to be expressed. Along with the requirements descriptions, it is also the purpose of this document to describe the non-functional requirements that are to be met. Standards and description are also listed above which are to be considered by working with the project.

The purpose of this document is to communicate the system attributes which include reliability, availability, scalability, maintainability, and portability.

Scope

It is within the scope of the Software Requirements Specification to describe the system requirements of the Food Safety Portal project. This would include performance requirements, system constraints, and project assumptions. Any specific details which are needed about the standards or technology used to define these requirements, constraints, and assumptions are within the scope of this document.

It is outside the scope of this document to describe the GPS technology and live tracking of a user to give current updates about the destination distances to be measured. It is also outside the scope of this document to describe in detail about how certain mentioned standards and technologies work and operate to operate the system with ease.

Definitions, Acronyms, and Abbreviations

Table of Definitions, Acronyms, and Abbreviations

Definition, Acronym, or Abbreviation	Description
SRS	Software Requirements Specification.
SMTP	Simple Mail Transport Protocol

References

Table of References

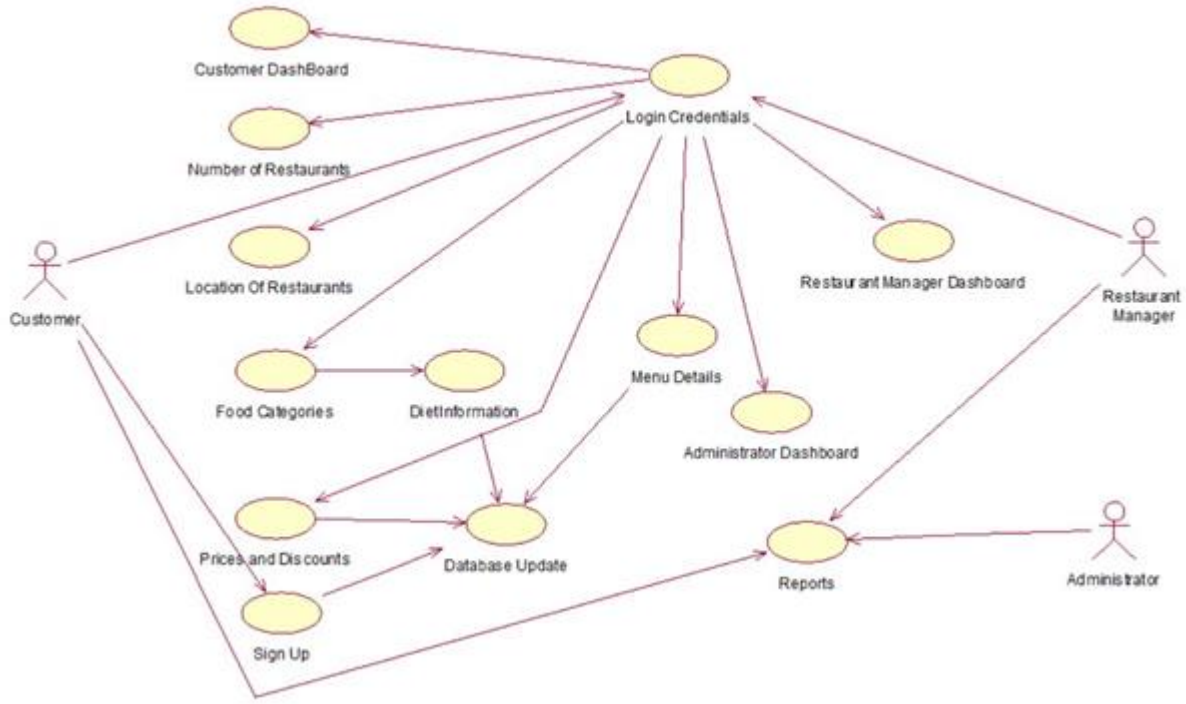
References	Description
Software Development Plan	The Software Development Plan from the Food Safety Portal project was reFfered.

Overall Description

Product Perspective

FOOD SAFETY PORTAL project is a development of an existing software member of similar type of product family. The main requirement that has been taken into consideration is the diet and food items maintained by the restaurants, which is very certain for many tourists and visitors. So we have decided to work on this requirement. We are going to implement our project by using MYSQL for backend database and PYTHON as interconnection for front end and back end and HTML, JAVASCRIPT and CSS for front end.

USE CASE DIAGRAM



2.2Product Functions

The follow is a table of the requirements that the system SHALL meet. The list of requirements was produced from the initial project documentation provided by the requirements expert.

Table of Shall Requirements

ID	Origin	Shall Requirement
1	*ADMINISTRATOR*	The Administrator SHALL be able to Login to the website.
2	*ADMINISTRATOR*	The Administrator SHALL be able enter details of the new restaurants in the city.
3	*ADMINISTRATOR*	The Administrator SHALL be able to create and update Diet information.
4	*ADMINISTRATOR*	The Administrator SHALL be able to view the changes made by the managers about their hotels and update them if necessary.
5	*ADMINISTRATOR*	The Administrator SHALL be able to view the reports generated by customers.
6	*RESTAURANT MANAGER*	The Manager SHALL be able to Login to the website.

7	*RESTAURANT MANAGER*	The Manager SHALL be able to enter the details of his/her Restaurant and also the food menu available in his/her Restaurant.
8	*RESTAURANT MANAGER*	The Manager SHALL be able to view the reports generated by the customers.
9	*CUSTOMER*	The Customer SHALL be able to see the food items available in various

ID	**Origin**	**Shall Requirement**
10	*CUSTOMER*	The Customer SHALL be able see the diet information provided in the website.
11	*CUSTOMER*	The Customer SHALL be able to give rating and reviews to various Restaurants.

2.3 Constraints

The follow is a table of the design constraints that the system SHALL meet. The list of constraints was produced from the initial project documentation provided by the requirements expert.

Table of Design Constraints

ID	Origin	*Shall Requirement*
1	Customer	A customer shall be able to give Reviews and Ratings to the Restaurants with the assurance that he/she will give his genuine opinion without any bias or personal issues with the Restaurants.
2	Restaurant Manager	A Restaurant Manager shall be able to display his/her Restaurant details in the software with the assurance that all the details displayed are true and not manipulated to meet customer's requirements.
3	Administrator	The administrator shall be able to change the details of the Restaurants without informing them with the assurance that he/shall change the details with true knowledge and without any bias towards a particular Restaurant.
4	Restaurant Manager	The Restaurant Manager shall be able to login or signup into the software with the help of Manager ID given to him/her by the administrator.
5	Customer	A customer shall signup/login into the software in order to view the details of the Restaurant and to give Ratings and Reviews to the Restaurant so that the correctness of Reports is maintained.
6	Administrator	The Administrator shall display a diet menu with the assurance that he/she will take the advice of experts in generating a diet report and not include his/her own assumptions in the diet report.

2.4 User Class and Characteristics

Table of User Characteristics

User or Class	Description
City Resident	It has attributes like user id, user name, password, email-id, contact no, address, city and date of birth. The class city resident is connected to restaurant class, template class and feedback class for giving feedback about the restaurant and restaurant guide
Restaurant	Attributes of reataurant class are id, name, address, contact no, and password. The functions it performs are review() and update(). It is connected to city resident and restaurant guide with M:M cardinality
Restaurant Guide	Its attributes are id, name, contact no, email-id , address, password and rate. It has functionality of set up a deal between user and restaurant.
Administrator	Administrator can look at all the activities that are being taken place. Its attributes are id, name, password, email-id, contact no, address, city. A feedback form is submitted to the admin and according to the feedback he can rate the restaurants and restaurant guide.
Feedback	Feedback class has attribute id, date, subject, content and name of the user who submitted the feedback. It is associated to the user with M:1 cardinality that means one user can submit more then one feedback.
Visitor	Visitor can visit the website without logging in. They can use the templates and can also see the city map for findind the location of restaurants.

2.5 META DATA DETAILS:

USER TABLE:

Serial No	Field name	Data type	Constraint
1	User Id	Varchar	Primary key
2	User name	varchar	
3	Password	Varchar	
4	Security Question	Varchar	
5	Security Answer	Varchar	
6	Email id	Varchar	
7	Contact no	Numeric	
8	Address	Varchar	
9	City	Varchar	
10	DOB	Date	

ADMIN TABLE:

Serial No	Field name	Data type	Constraint
1	Admin Id	Varchar	Primary key
2	Admin name	Varchar	
3	Password	Varchar	
4	Security Question	Varchar	
5	Secqurity Answer	Varchar	
6	Email id	Varchar	
7	Contact no	Numeric	
8	Address	Varchar	
9	City	Varchar	
10	DOB	Date	

RESTAURANT TABLE:

Serial No	Field name	Data type	Constraint
1	Rest Id	Varchar	Primary key
2	Rest name	Varchar	
3	Contact no	numeric	
4	Address	Varchar	
5	City	Varchar	

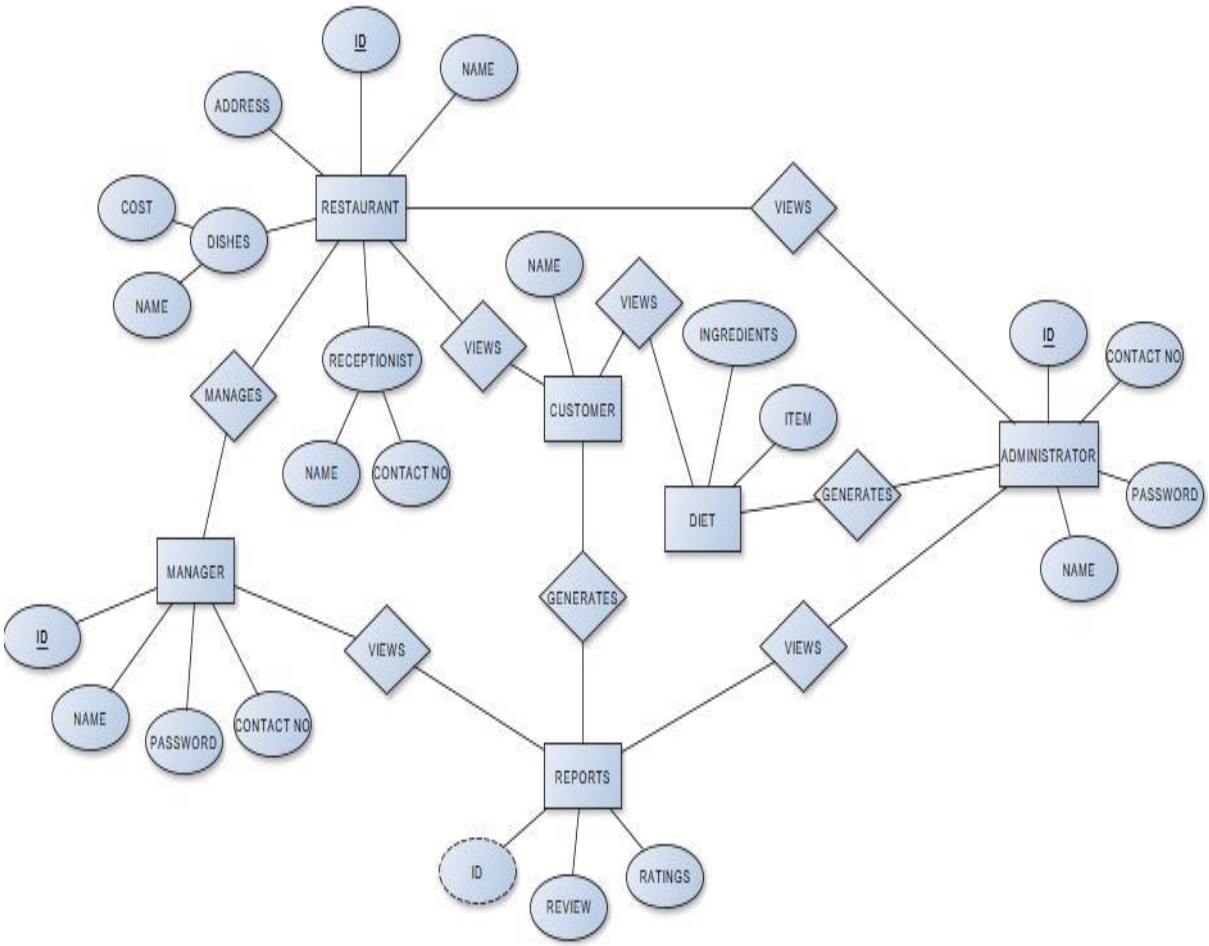
RESTAURANT TABLE GUIDE:

Serial No	Field name	Data type	Constraint
1	Guide Id	Varchar	Primary key
2	Guide name	Varchar	
3	Password	Varchar	
4	Security Question	Varchar	
5	Secqurity Answer	Varchar	
6	Email id	Varchar	
7	Contact no	numeric	
8	Address	Varchar	
9	City	Varchar	
10	DOB	date	

TEMPLATE TABLE:

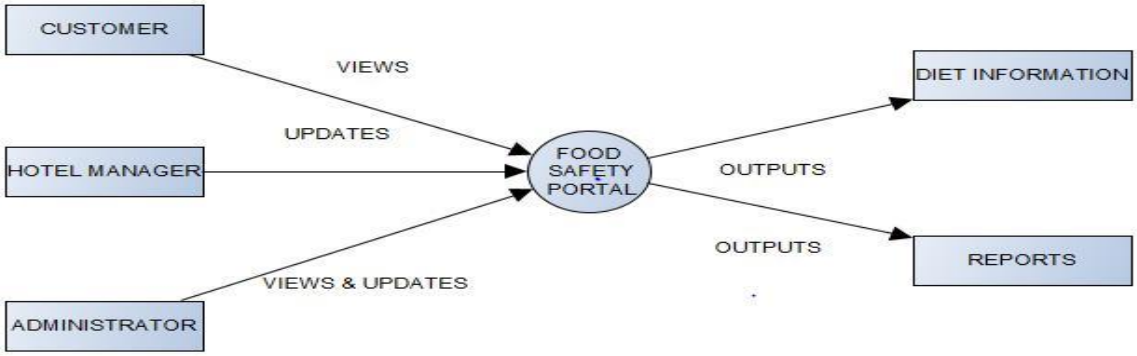
Serial no	Field name	Data type	Constraint
1	Name	Varchar	Primary key
2	Type	Varchar	
3	Size	Varchar	
4	Location	Varchar	

ENTITY RELATIONSHIP DIAGRAM

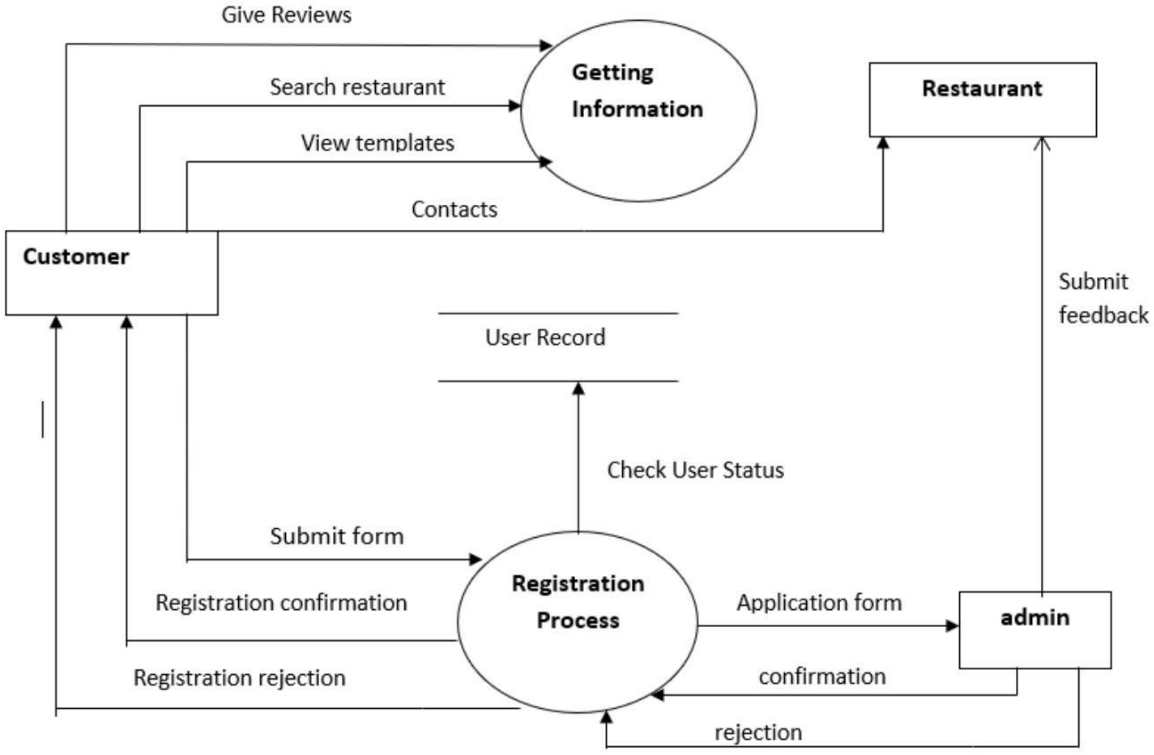


2.7 DATA FLOW DIAGRAM

LEVEL ZERO DATA FLOW DIAGRAM



LEVEL 1 DATA FLOW DIAGRAM



ASSUMPTIONS

The following table lists the assumptions made by the requirements that define the FOOD SAFETY PORTAL software.

Assumption	Description
Correct Information updated by Hotel Managers	The defined requirements assume that the details updated by Restaurant Managers about their Restaurants is genuine and correct.
Correct Reports given by Customers	The defined requirements assume that the reviews and ratings given by the customers is genuine without any bias.

SPECIFIC REQUIREMENTS

SYSTEM FEATURES

3.1.1 Logging in to the Software

3.1.1.1 Introduction

Food Safety Portal allows users to login to the software in order to enter/update the details of own or Restaurant and also it allows customers to give ratings and reviews to the Restaurants.

3.1.1.2Functional Requirements

Purpose: To enter into the software to use the software.

Input: User ID and Password

Processing: After receiving the User ID and Password, the software checks for the type of User based on User ID and it checks up the database for the user ID and password.

Output: If entered details matches, it displays the details of the user, else if User Id or Password does not match, it shows an error.

3.1.1.3 Stimulus Response

USER ACTIONS	SYSTEM ACTIONS
(1) Enters the User ID	
	(2)Checks upthe database for UserID
	(3) Determines the type of User based on the User ID
(4) Enters the Password	
	(5) Checks up the database in order to find if the User ID and Password matches
	(6)If the details match, it displays the details of the User.
	(7)It prompts the User type with Welcome symbol
	(8) If the details does not match, it displays an error message

3.1.2**Inserting/Updating Outer details of the Restaurant into Software**

3.1.2.1 Introduction

Food Safety Portal allows all the users to enter/update their details. In order to enter the details, the user should first create an account if he/she doesn't have one or login into the account. The software allows users to give details if the user is a Restaurant Manager. If the user is Administrator, he can view, correct and update the details of the Restaurants if necessary

Purpose: To add the Restaurant details to the database.

Input: Manager ID, Restaurant ID, Restaurant Name, Receptionist Contact number and location of the Restaurant, types of dishes and costs.

Processing: Software takes the input and stores it in the database.

Output: Software displays a message that the details are successfully added into the database.

3.1.2.2 Stimulus Response

USER ACTIONS	SYSTEM ACTIONS
(1) Enters the details	
	(2)Stores the entered details in the database.
	(3) Displays a message that the details are successfully added.

3.1.3 Search by option

3.1.3.1 Introduction

This software provides user with the search by option. This allows user to search for a restaurant according to his mood, his cuisine, ratings and cost of the products.

3.1.3.2 Functional Requirements

Purpose: To help user in searching a Restaurant that best suits him./her.
Input: The customer selects a search by option.

Processing: After taking the search by method as input, the software sorts the Restaurants according to the search option.
Output: Software displays the Restaurants and items available in them in a sorted manner.

3.1.3.3 Stimulus Response

USER ACTIONS	SYSTEM ACTIONS
	(1) The software asks the user to select a search by option.
(2) The user selects a search by option according to his need.	
	(3) The software then sorts the details available in the database by search method.
	(4) The software displays the details of Restaurants in the sorted order.
(5) The user selects a Restaurant from available ones.	

3.1.4 Reviews And Ratings

3.1.4.1 Introduction

The software allows the customers to give Ratings and Reviews to the Restaurants which help the Restaurant Managers to change and manage their dishes and menu according to customer's requirements.

3.1.4.2 Functional Requirements

Purpose: To help Restaurants to design their Menu according to likes of the customers.

Input: The software takes the Reviews and Ratings of Restaurants from customers.

Processing: The software then matches the Reviews and Ratings with the Restaurants available in the database and sends them this information.

Output: The software displays a Thank you message to the uses for giving their Reviews and Ratings to the Restaurants.

3.1.4.3 Stimulus Response

USER ACTIONS	**SYSTEM ACTIONS**
(1) Users gives the Ratings and Reviews to the Restaurant based on Restaurant ID	
	(2) The software matches the Restaurant ID with available Restaurants.
	(3) The software then sends the Reviews and Ratings to the corresponding Restaurant.
	(4) The software displays a Thank you message to the user.

3.3Design Constraints

Constraint	Description
Python	The source code written to implement the Food Safety Portal will be in Python Language
MySQL	The queries written to execute the user's actions will be in MySQL.
HTML and CSS	HTML stands for Hyper Text Markup Language.CSS stands for Cascading Style Sheets. The user interface i.e; front end of the software will be HTML with CSS styling

3.4 Standard Compliance

Standard	Description
HTTPS	Hyper Text Transfer Protocol Secure (**HTTPS**) is the secure version of HTTP, the protocol over which data is sent between user's browser and the software. The 'S' at the end of **HTTPS** stands for 'Secure'. It means all communications between the user and software is encrypted.

3.5 Software System Attributes

3.5.1 Reliability

All the transactions that take place in the database are taken care by trustful protocols and the system is maintained to be running for a long time. Regular need preventive and corrective maintained is provided. It will be ensured through thorough unit, milestone and release testing.

3.5.2 Security

Food Safety Portal will secure all the details of users and customers by allowing only trusted protocols and queries.

3.5.3 Usability

The main advantage of this software project is that it is engineered by taking user experience requirements into consideration. It also saves a lot of time for users as the interface is user friendly. There won't be any misunderstandings of the functionalities by the users.

3.5.4Concurrency and Capability

This software is designed such that it is able to handle multiple computations executing simultaneously and potentially interacting with each other. All the data violation constraints are validated.

3.5.5Portability

This software works on all the systems and platforms independent of type of Operating System as it is highly portable.

Decomposition Description

Module Decomposition

The Food Safety Portal Software has been decomposed into the following modules.

(2) Customer Details Interface Module: This module collects data from the user to be used for gathering knowledge about customer needs for further usage.
(3) Customer Communication Module: This module communicates with the customer for gathering information to present the Dashboard Performance.
(4) Customer Credentials Module: This module mainly identifies a particular customer individually and displays the optimum details.
(5) Customer Selection Module: Provides information about the further details to be displayed when a restaurant is chosen.

Concurrent Process Decomposition

The Food Safety Portal Project consists of two major components, the Design of the user interface module with concurrent hotel rankings and Ranking System for best Hoteling Performance. This team shall design the User Interface. The design of the ranking system is out of the scope of the current team's task.

A complete view of the project suggests that there are two processes, the Restaurant Rating and the Ranking System process. The first process communicates with the Ranking System process to obtain a final statistics. These two processes run concurrently and only exchange information when the E-Mail client process requires a stamp.

Data Decomposition

The following are the two major data components, the Customer Selection of restaurants Information Preference and the diet Categories and Rating Structure.

Customer Selection of restaurants Information Preference:

- Restaurants Name
- Restaurants ID
- Locations (in general)
- Number of Branches in a particular city
- Diet Categories
- Special offers and discounts(dynamic).

The Ranking Structure:

- Number of customers getting though Restaurants Portfolio
- Number of ratings a Restaurant Receives per day.
- Customer Visit Count
-

- Feedback forms
- Review and report Structure.

Dependency Description

Inter-module Dependencies

Independent Modules

The following modules are independent and do not rely on any other modules to initiate them or to provide data.

- Customer Data Interface Module
- Ranking System of Restaurants

Dependent Modules

The following modules are dependent on one another for their functioning.

- Customer Feed Back Module: Takes feedback from the customers as input for the restaurants visited with remarks to be mentioned for improvements to take around betterment. Depends on Ranking System Module.
- Diet Category Specifications Module: This module takes the tasks to be executed as classification of Food Menu into specified categories based on user's perspective convenience. Depends on Selection of Restaurants Selection Module.
- Ranking System Module: This module Displays the Top-Rated Restaurants in a town. Depends on Customer Feed-back template.

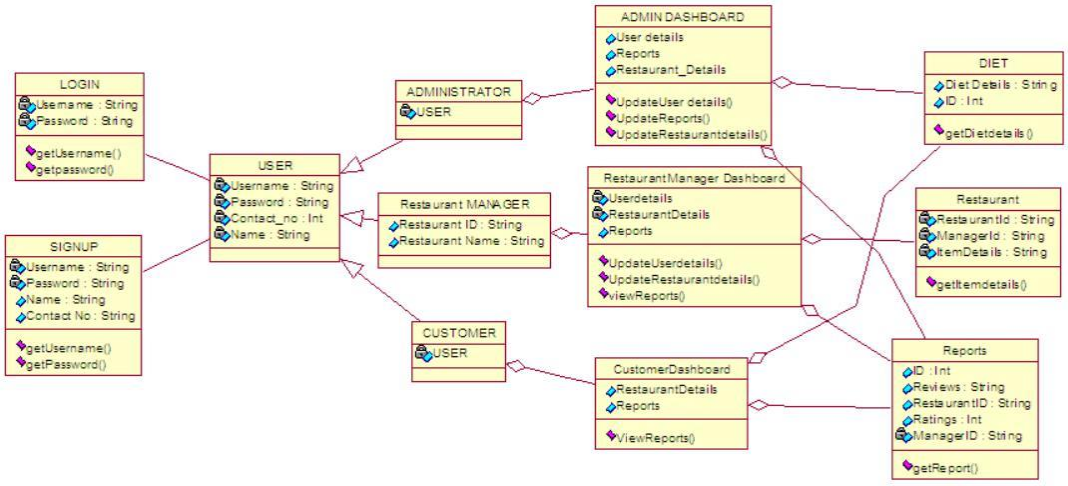
Inter-process Dependencies

As described earlier the two main processes are Design of User Interface Module and Concurrent Hotel Ranking. The Ranking System process depends on the customer feedback Templates for listing out the top rated Restaurants. This is the only dependency between the two processes. Please reference the document further for a full class diagram of the Food Safety classes.

Interface Description

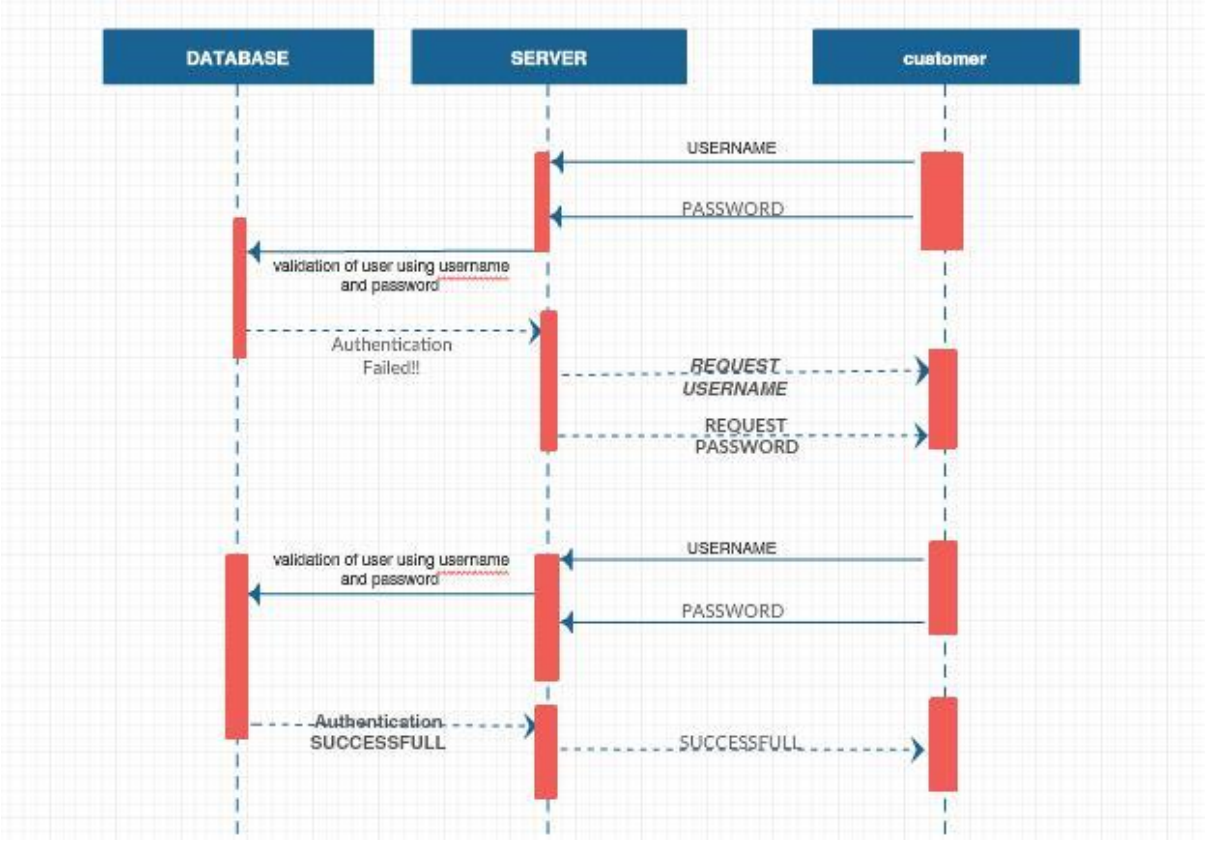
4.1 Module Interface

4.1.1 Class Diagram

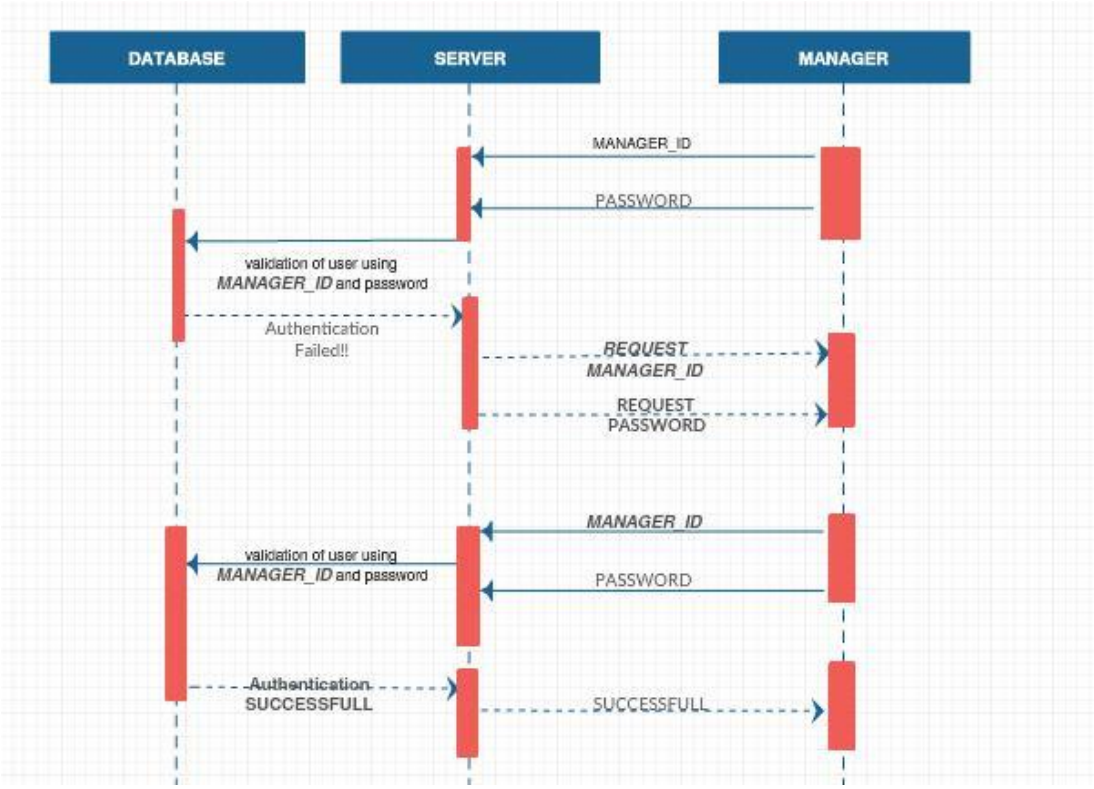


4.1.2 Sequence Diagram

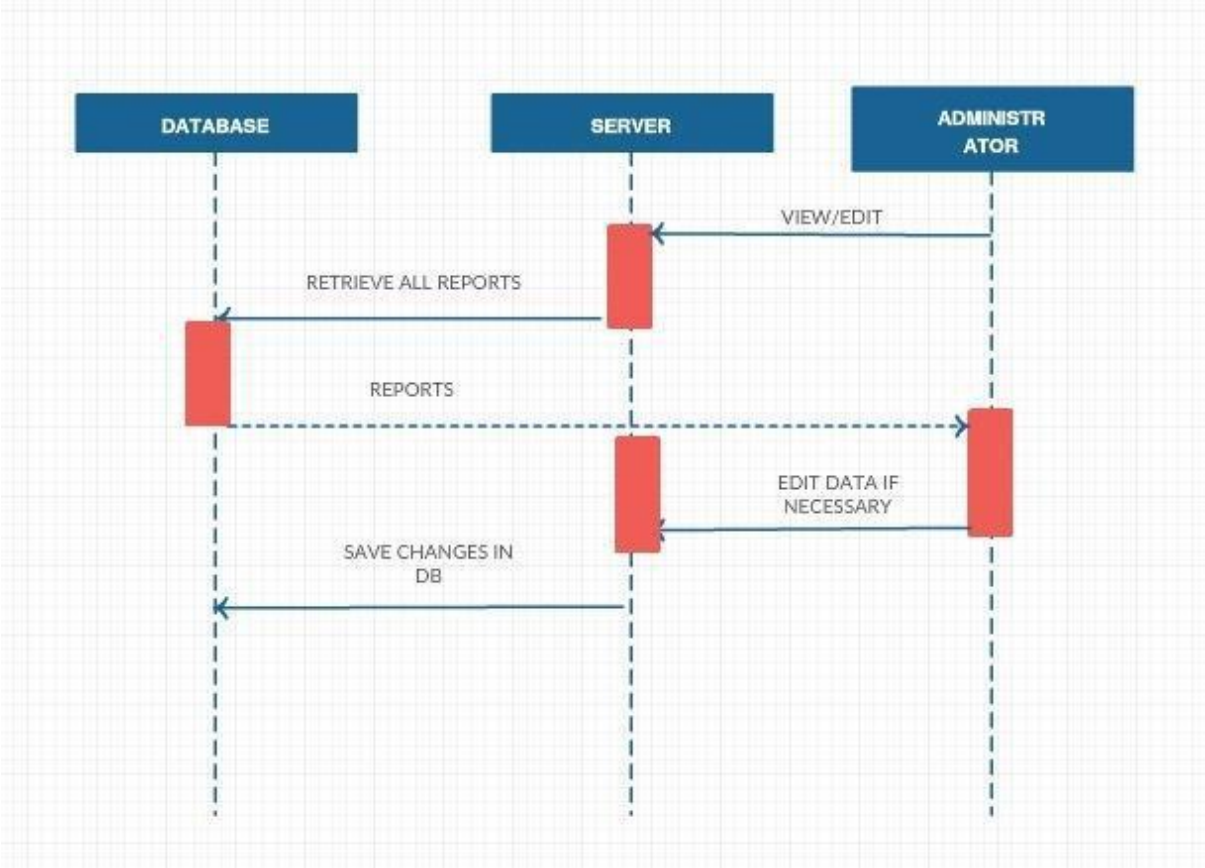
1. Customer Login



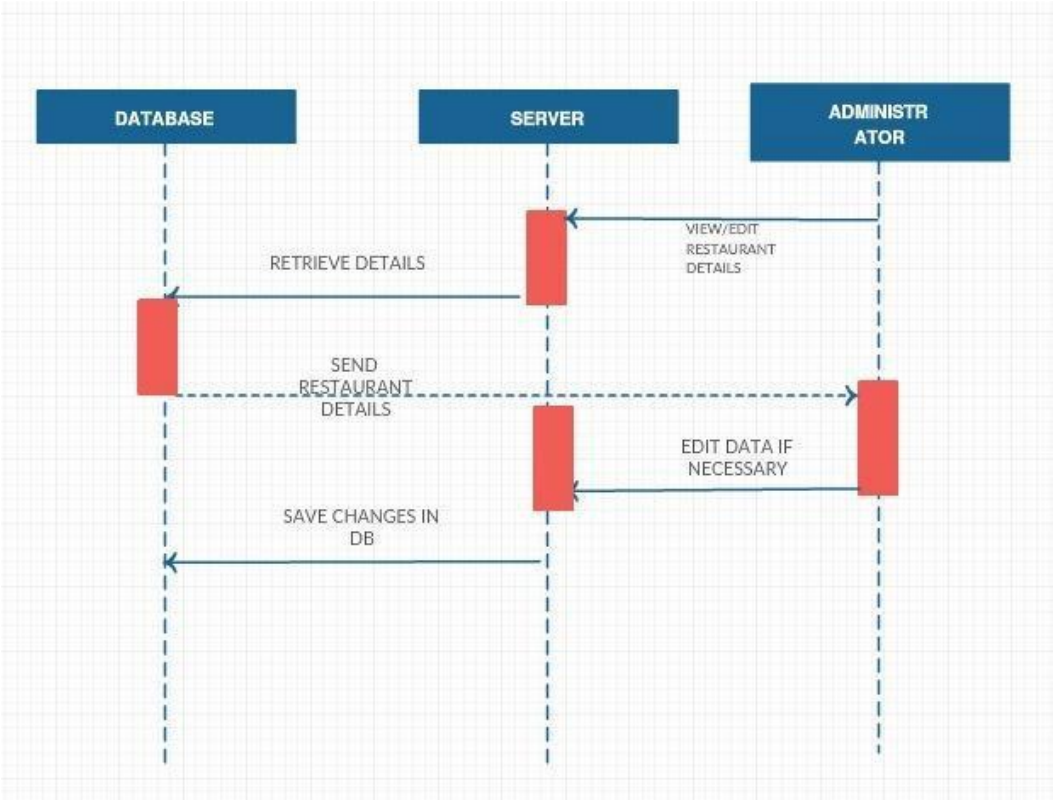
2. Manager Login:



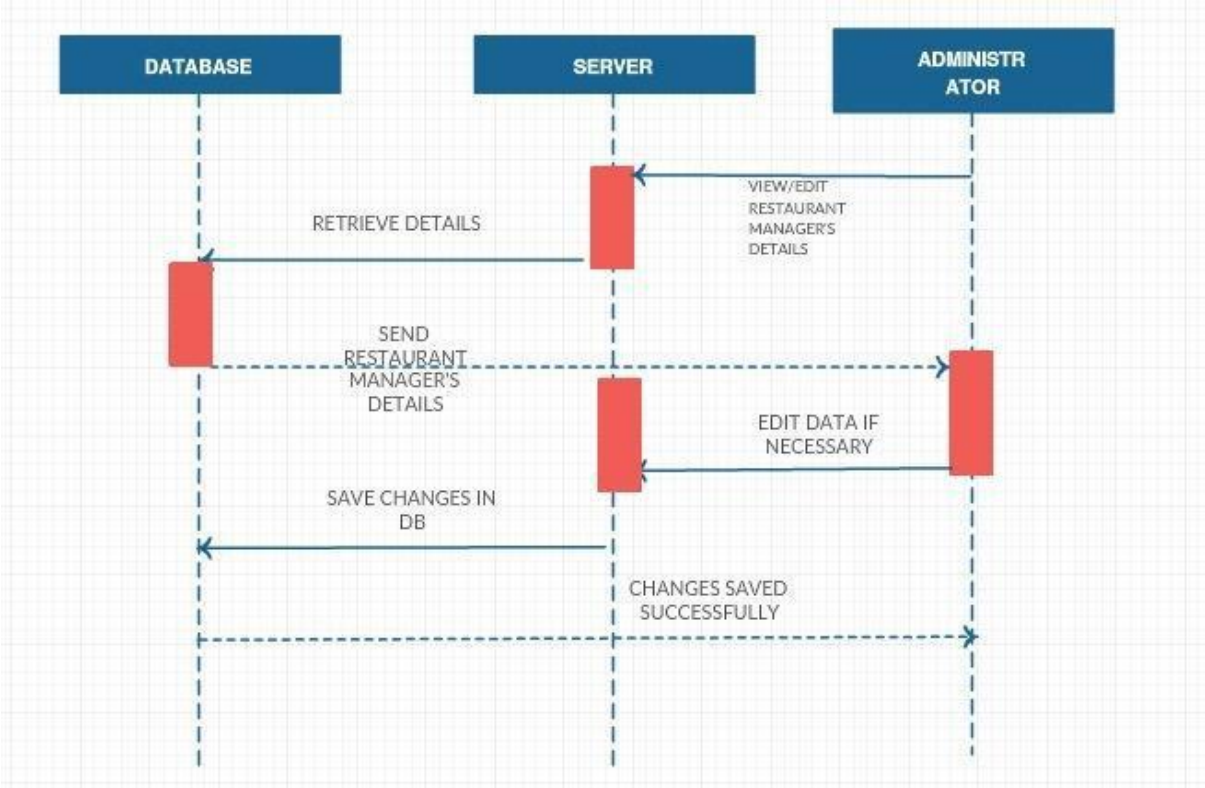
Admin Viewing Reports and Editing



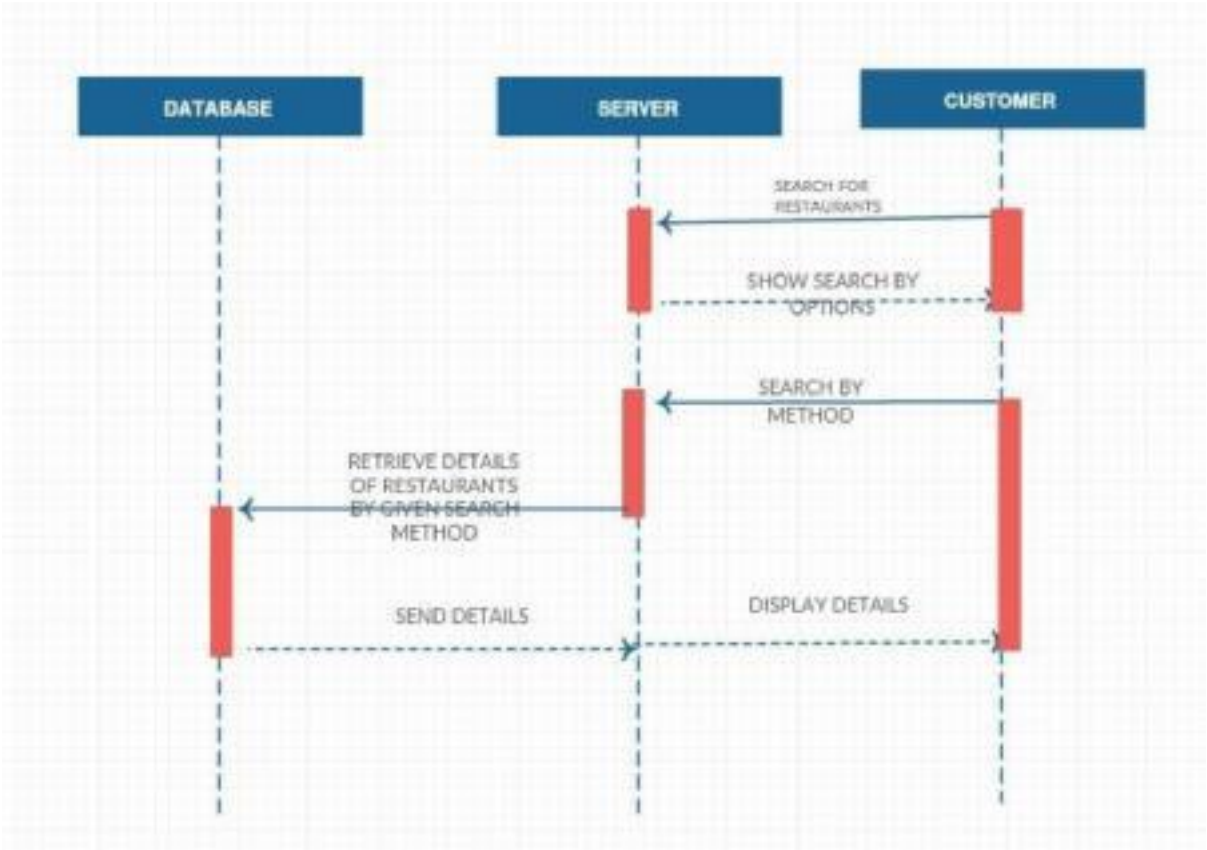
Admin Viewing Restaurants and Editing



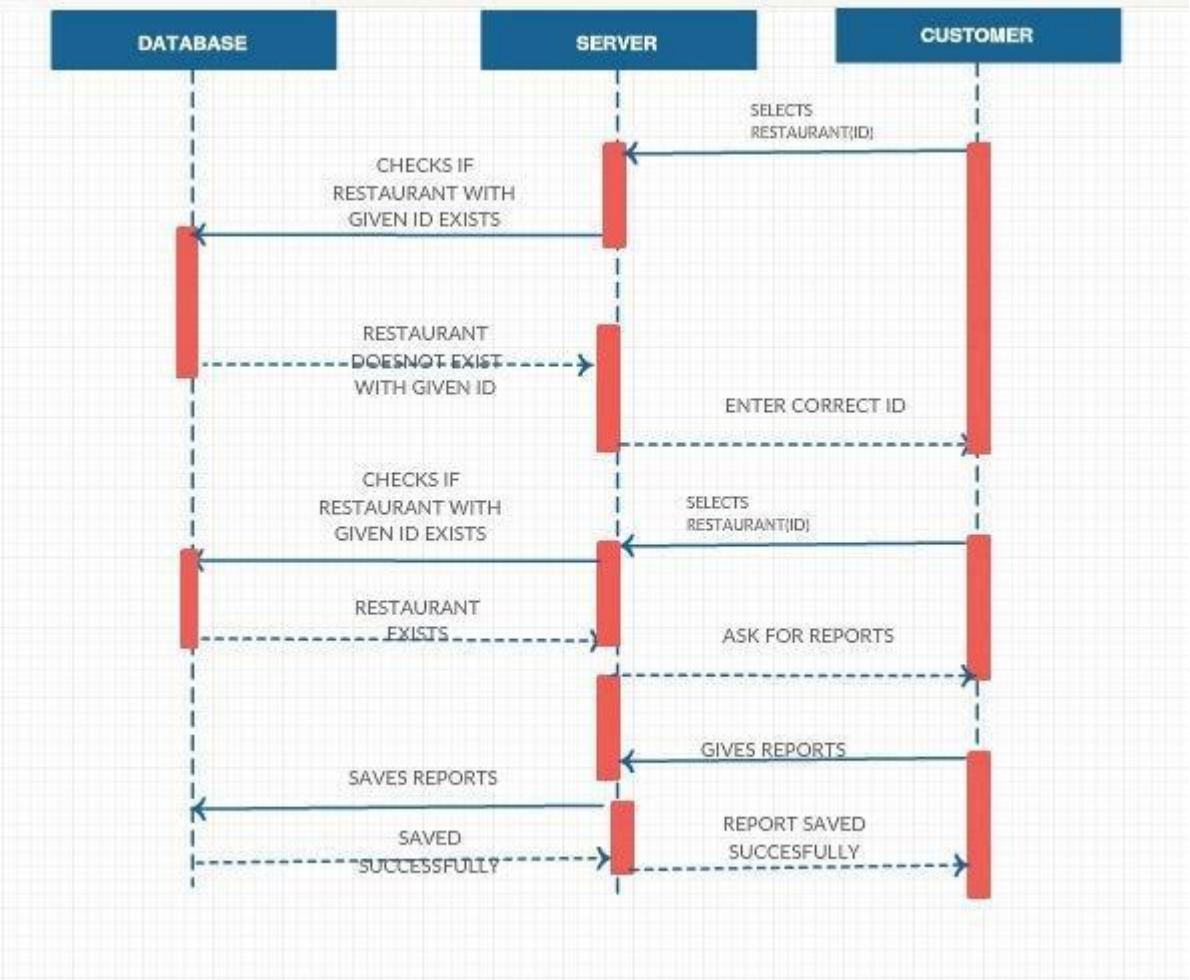
ADMIN VIEWING/EDITING MANAGER DETAILS:



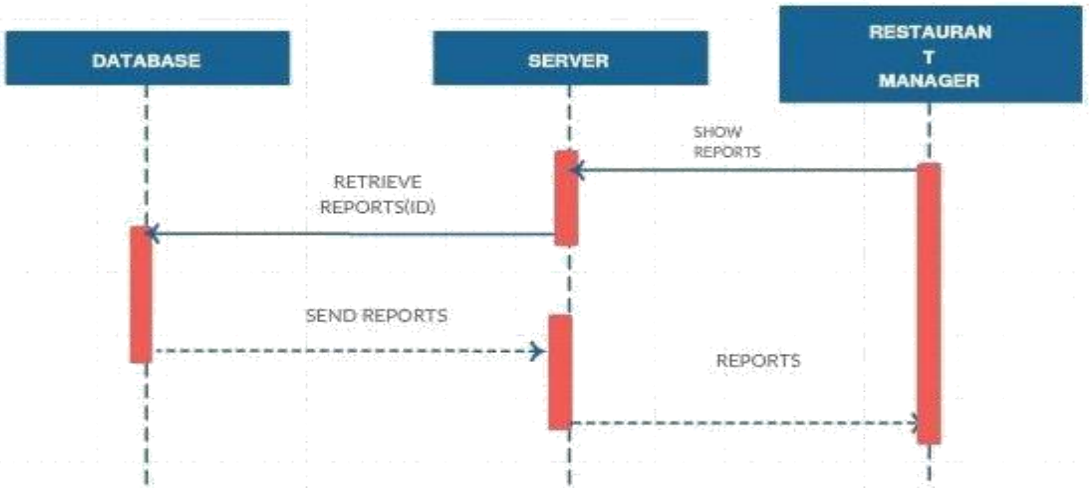
CUSTOMER SEARCH FOR RESTAURANTS:



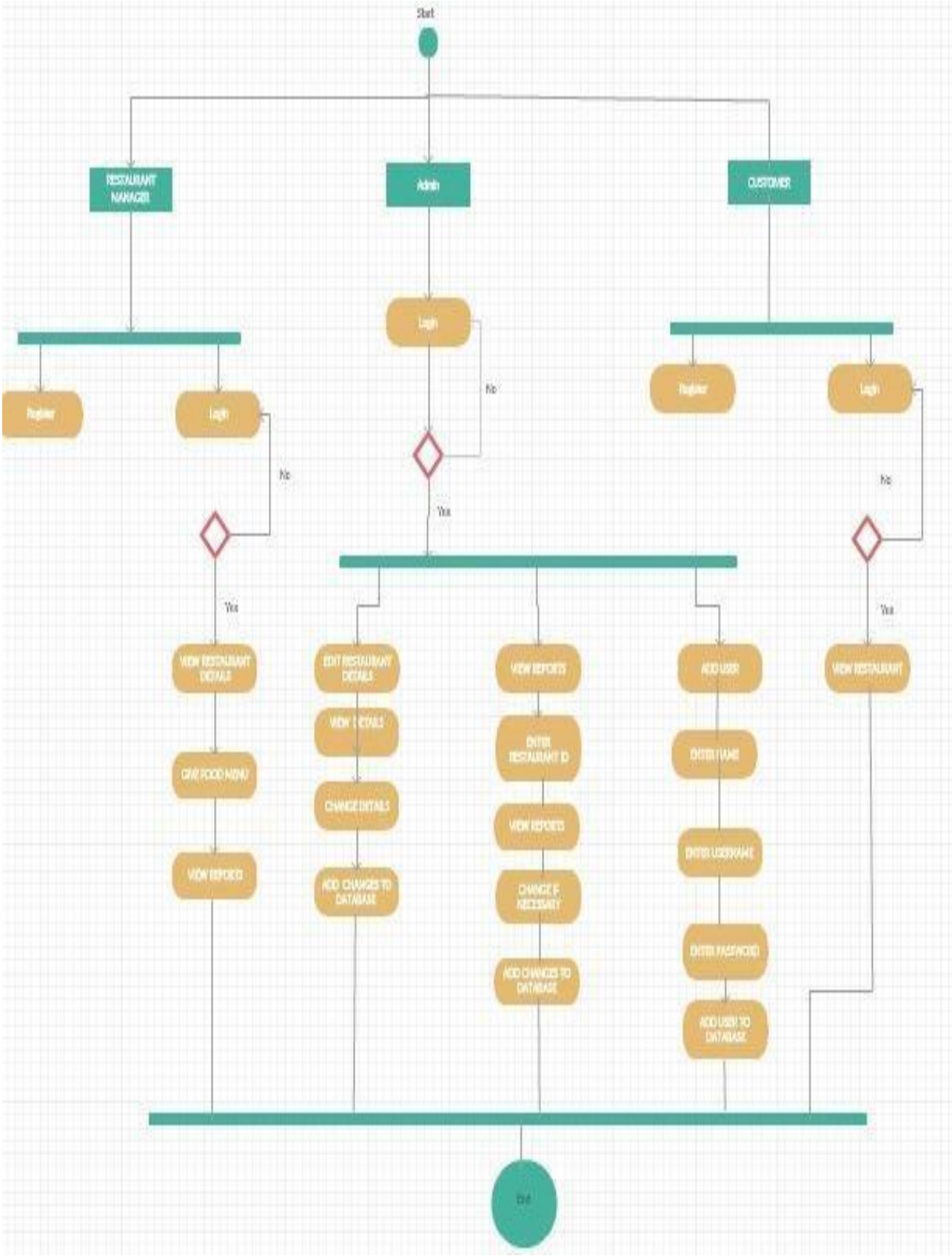
CUSTOMER REPORTING A PROBLEM:



RESTAURANT MANAGER VIEWING REPORTS SEND BY CUSTOMER:

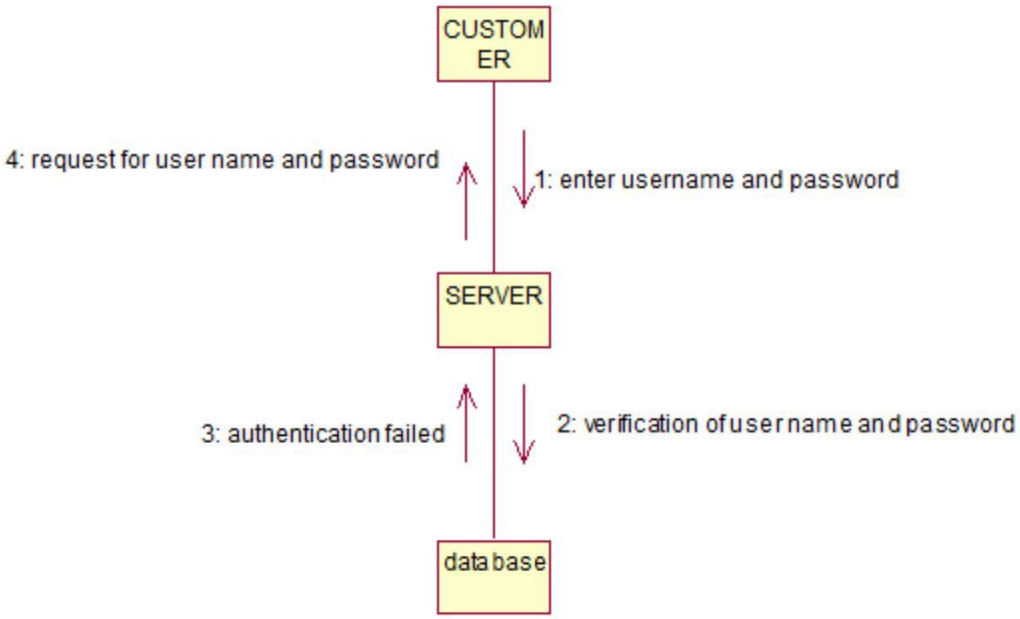


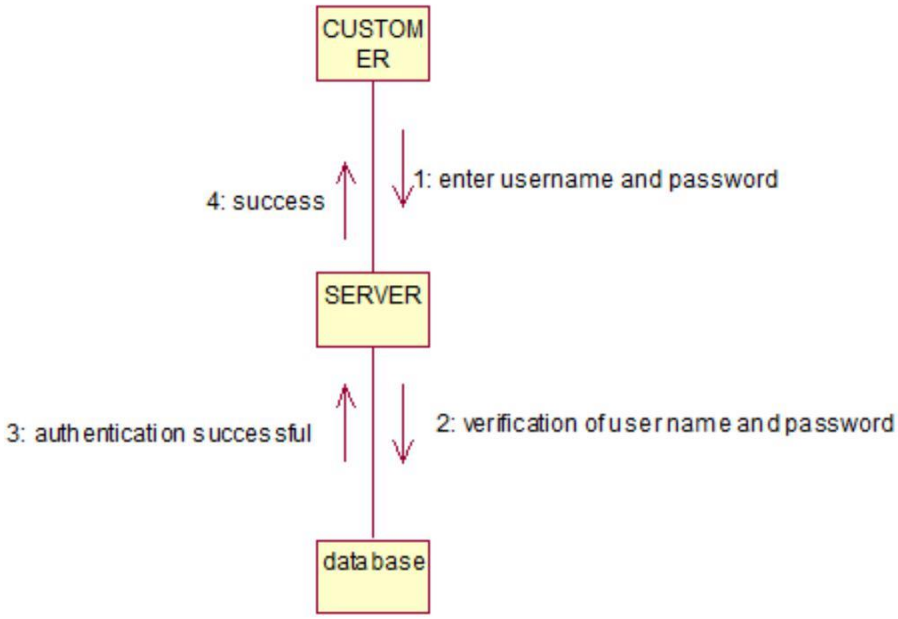
ACTIVITY DIAGRAM:



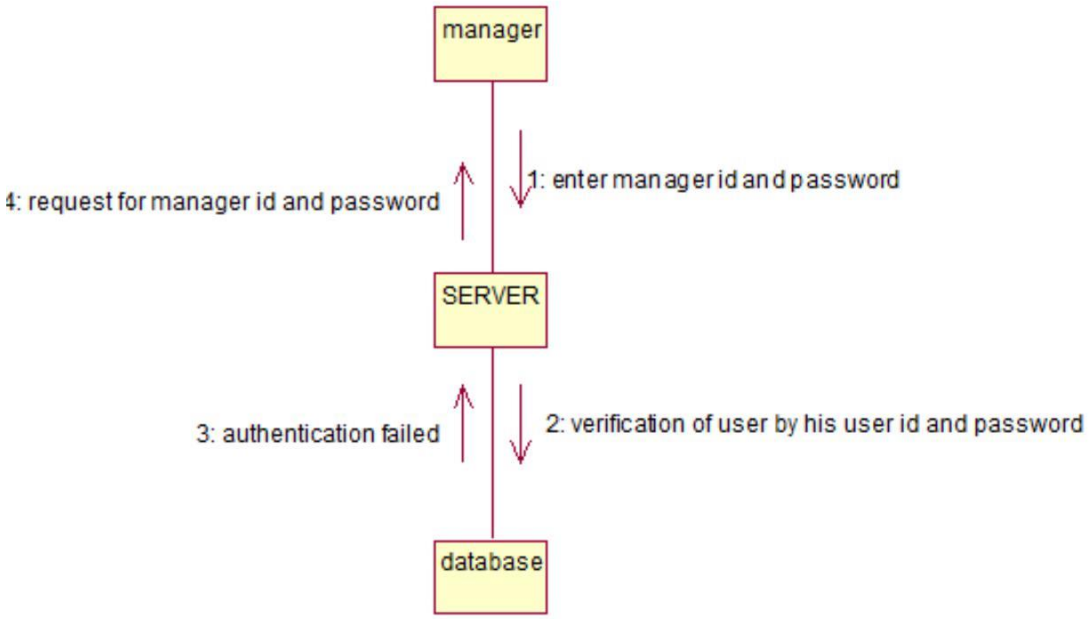
Collaboration Diagrams:

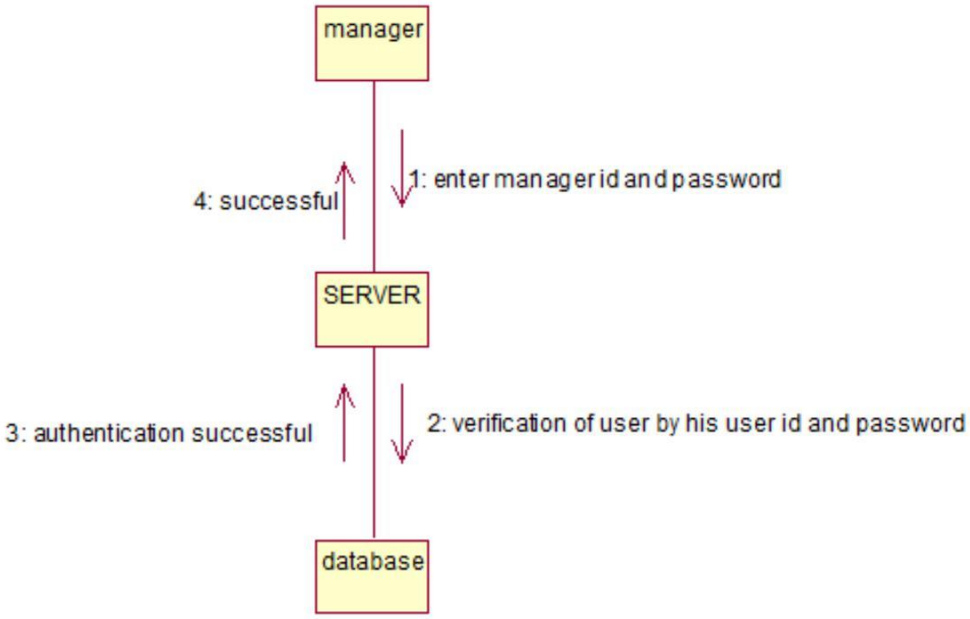
Username and Password Verification



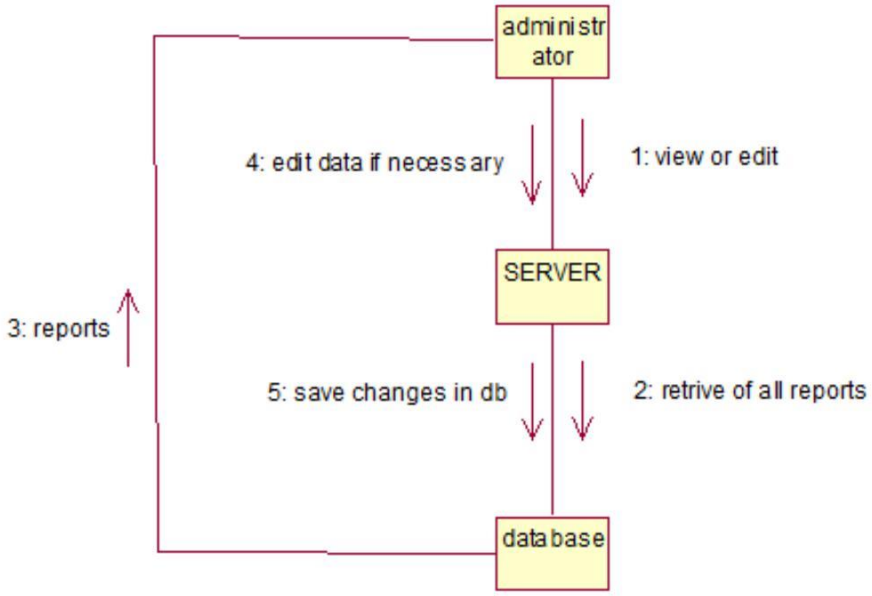


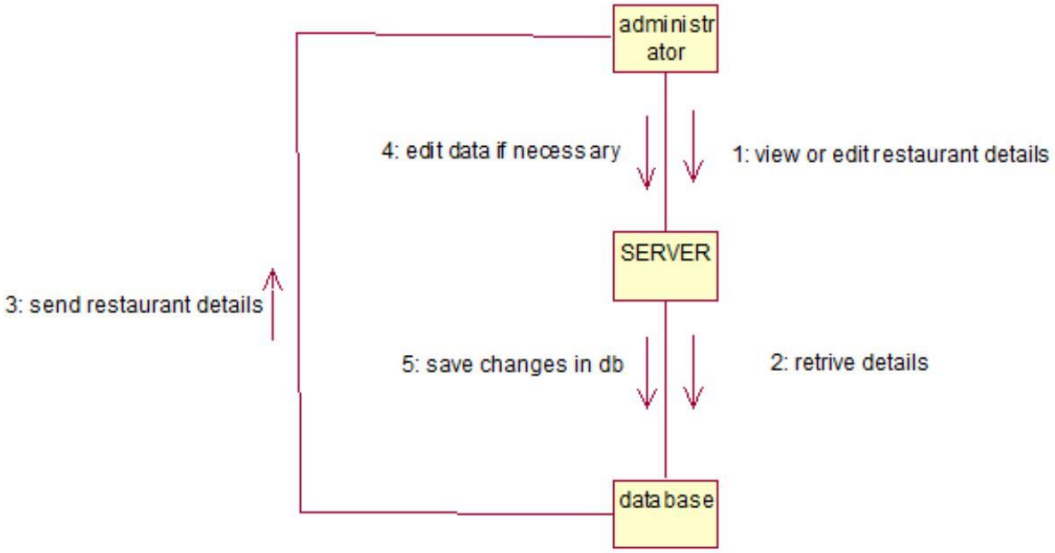
Manager ID and Password:

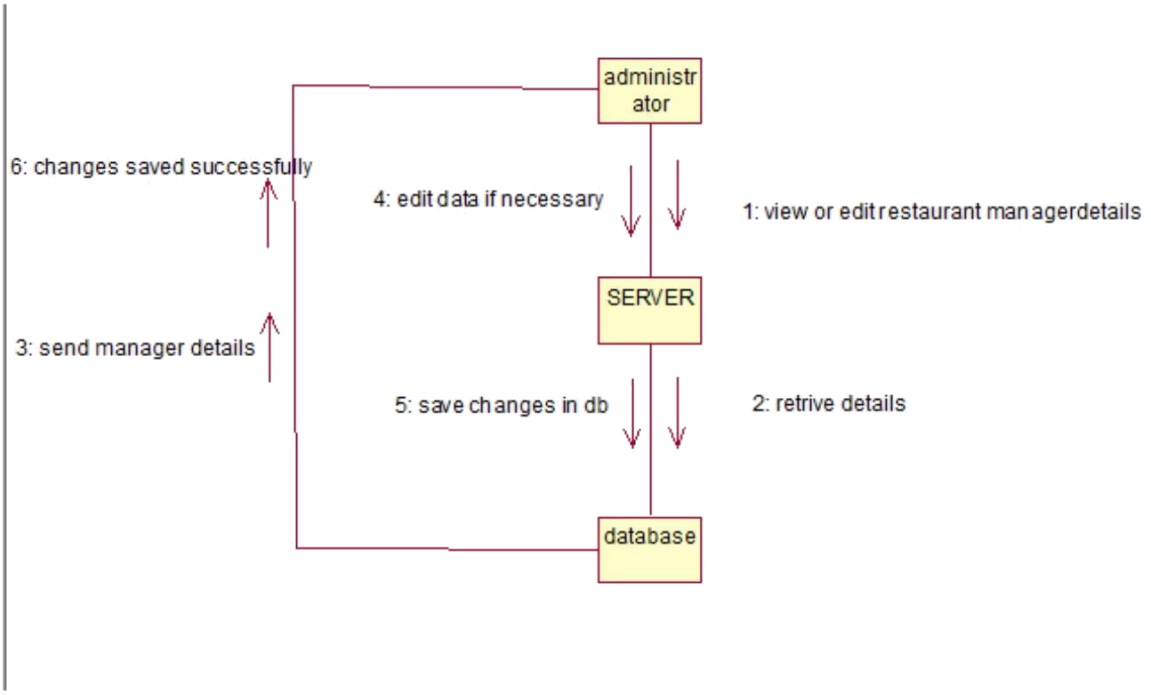


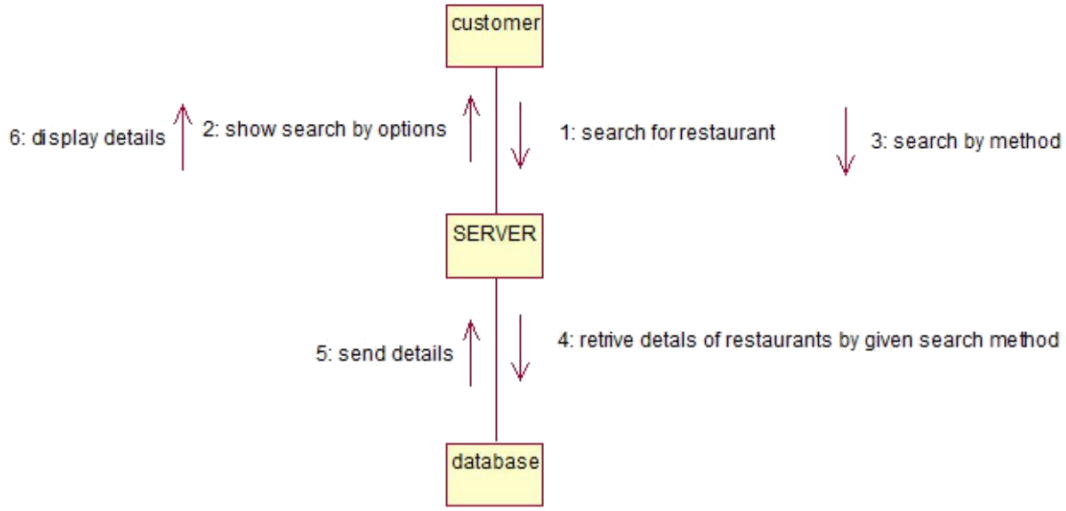


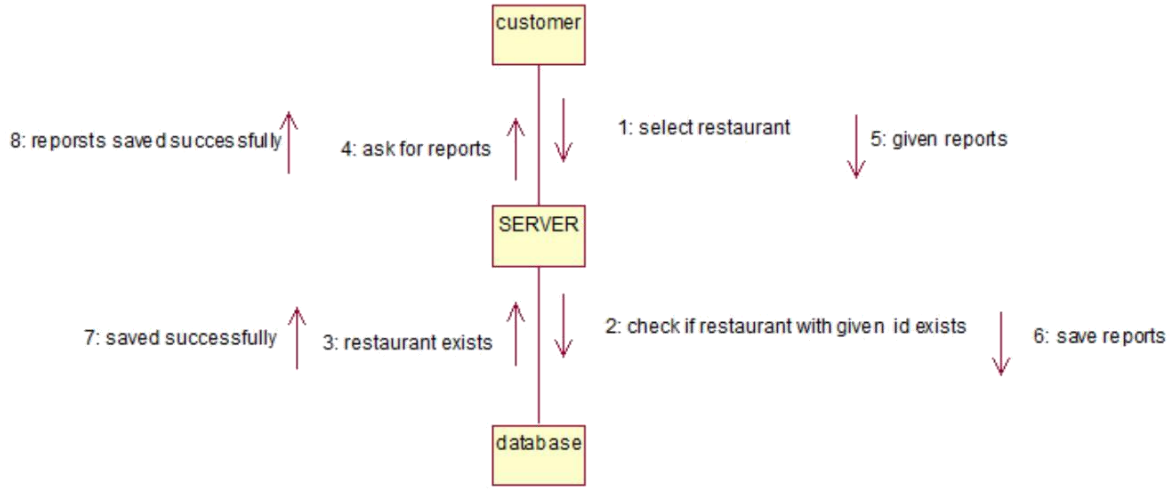
Editorial Process:

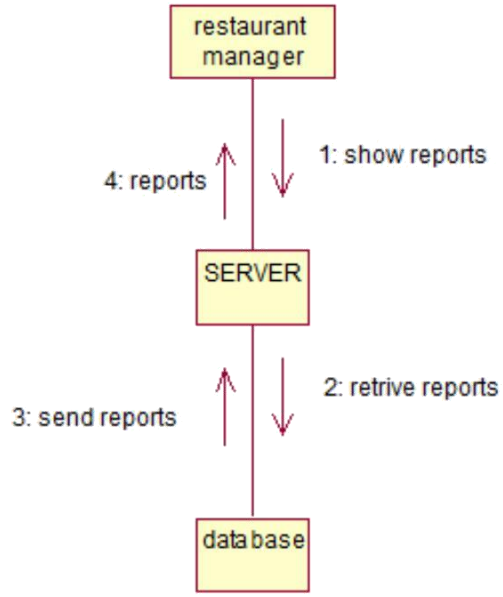





administr
ator
6: changes saved successfully
4: edit data if necessary
1: view or edit restaurant managerdetails
SERVER
3: send manager details
5: save changes in db
2: retrive details
database


customer
6: display details
2: show search by options
1: search for restaurant
3: search by method
SERVER
5: send details
4: retrive detals of restaurants by given search method
database


customer
8: reporsts saved successfully
4: ask for reports
1: select restaurant
5: given reports
SERVER
7: saved successfully
3: restaurant exists
2: check if restaurant with given id exists
6: save reports
database

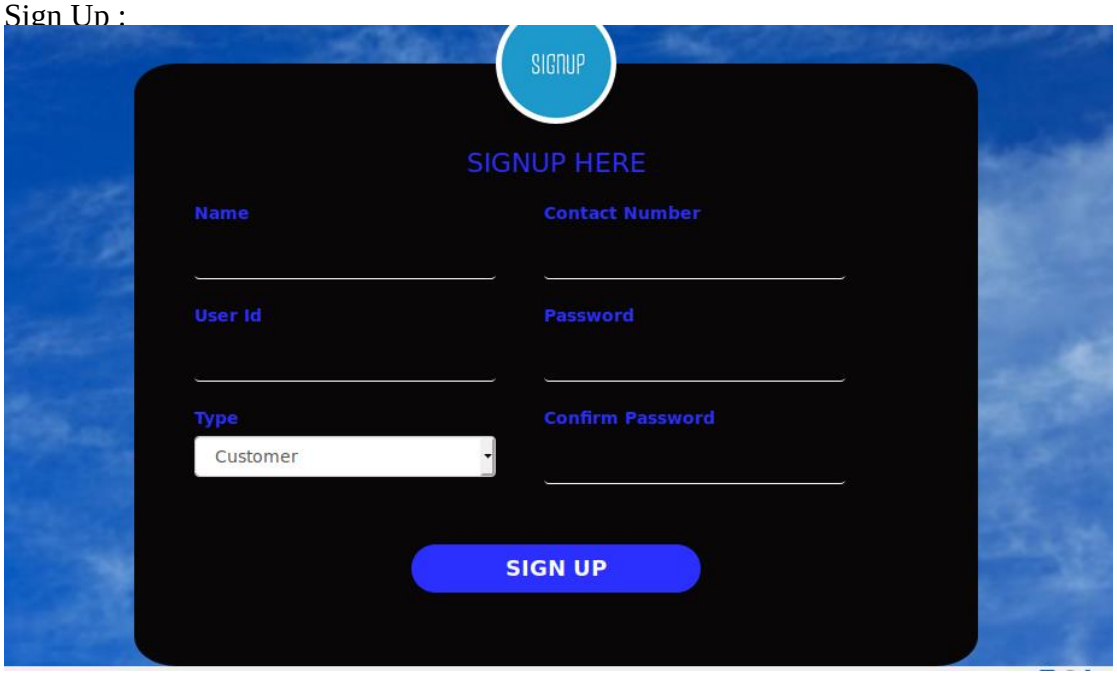

restaurant manager
4: reports
1: show reports
SERVER
3: send reports
2: retrive reports
database

GRAPHICAL USER INTERFACE:

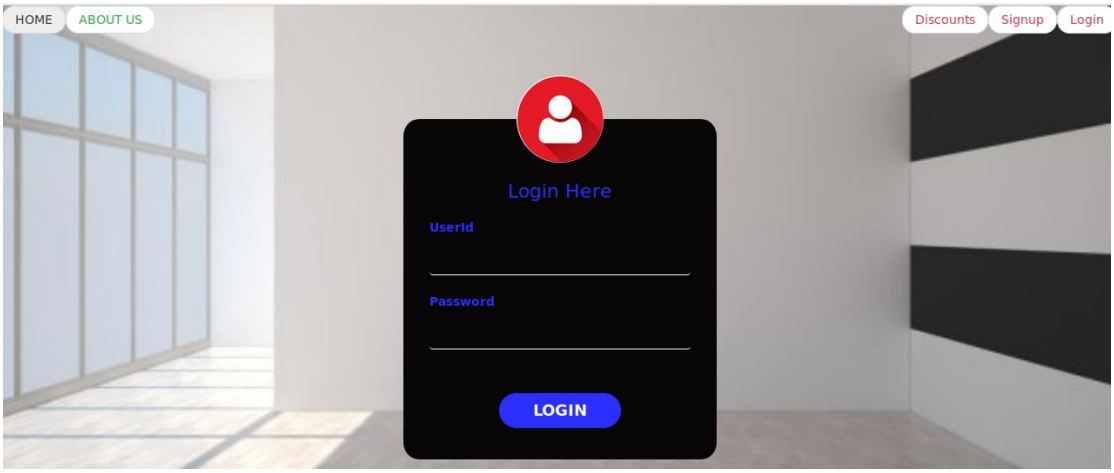
Home Page:

About Us:

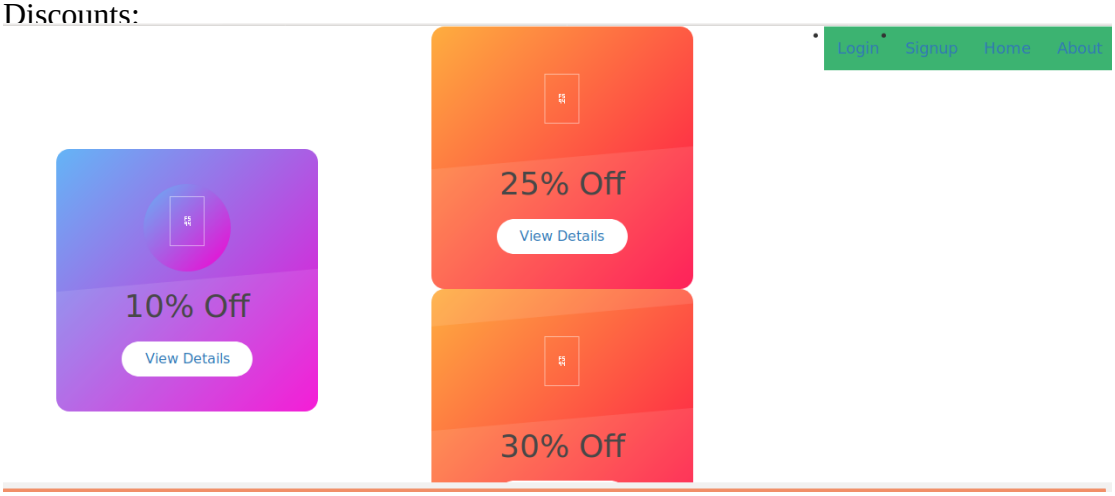
Sign Up :



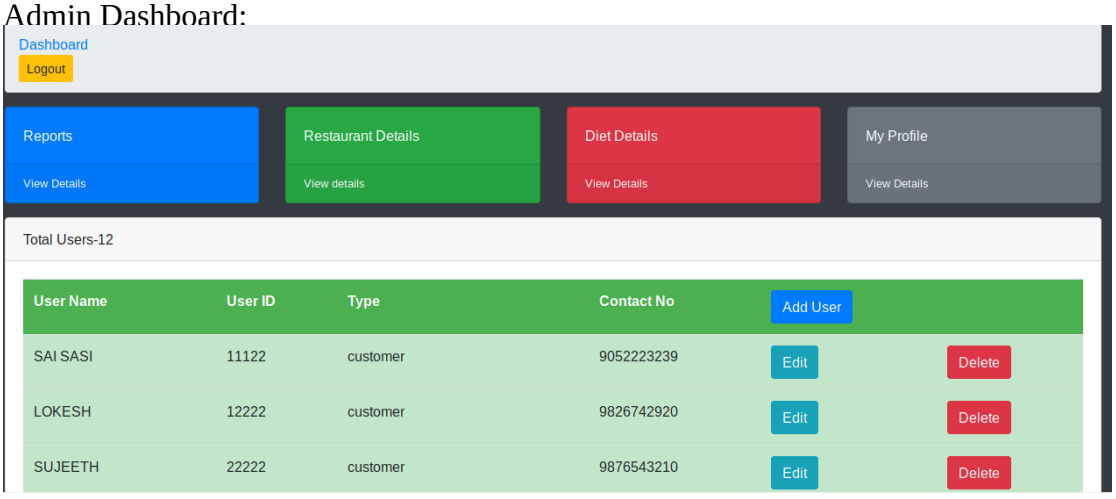
Login:



Discounts:



Admin Dashboard:



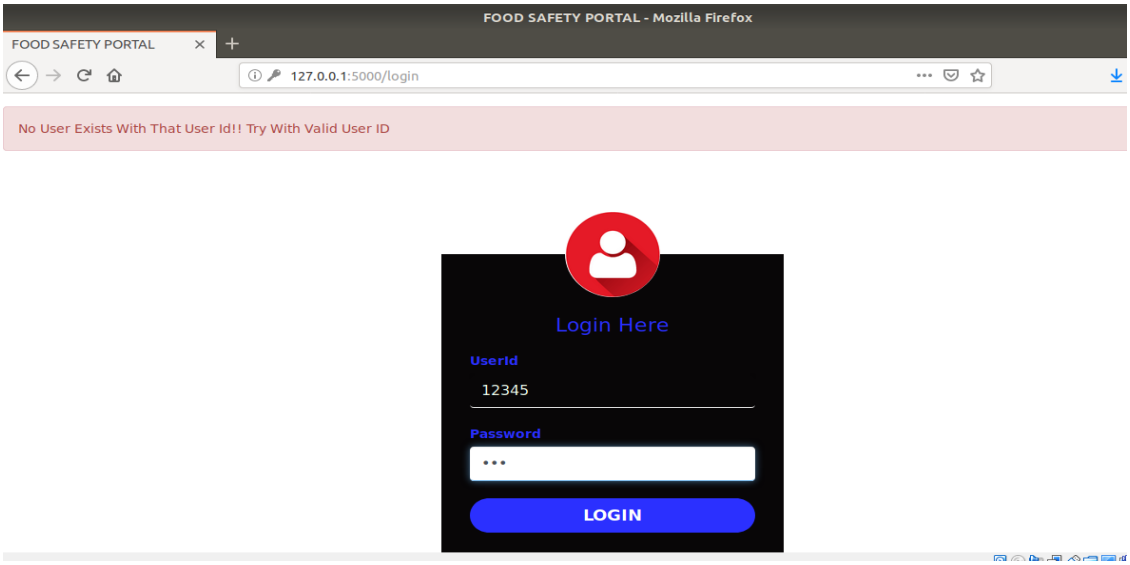
User Dashboard:

All random test cases generations in the project.

Test Case ID	Test Objective	Test Data	Expected Results	Actual Results	Test Pass/Fail
1	To check the log in	User id :12345 Password: chiru	No user exists with that user id	No user exists with that user id	PASS
2	To check the data type of user id	User id : qwerty	Type error	No error	fail
3	To check if any user can be admin	User id :12345 User type admin	This user cannot be admin	Registered successfully	fail
4	To verify the password during the sign up process	Password: chiru Confirm password :chiran	Both the password should match	Both the password should match	pass
5	To check if restaurant manager can delete reports	Delete report	Access denied	Access denied	pass
6	To check if the existing user can register again	User id: 12345 Password: qwerty	An user already exists with that user id	Registered successfully	Fail
7	To check whether an error is shown If a customer search for restaurant that is not present in the database	Restaurant Name : South Meals	No such Restaurant exists	No such Restaurant exists	Pass
8.	To search for a restaurant by diet	Select an option (click on the option)	List of restaurants' to be displayed according to diet	List of restaurants' to be displayed according to diet	Pass

Test Case-1:

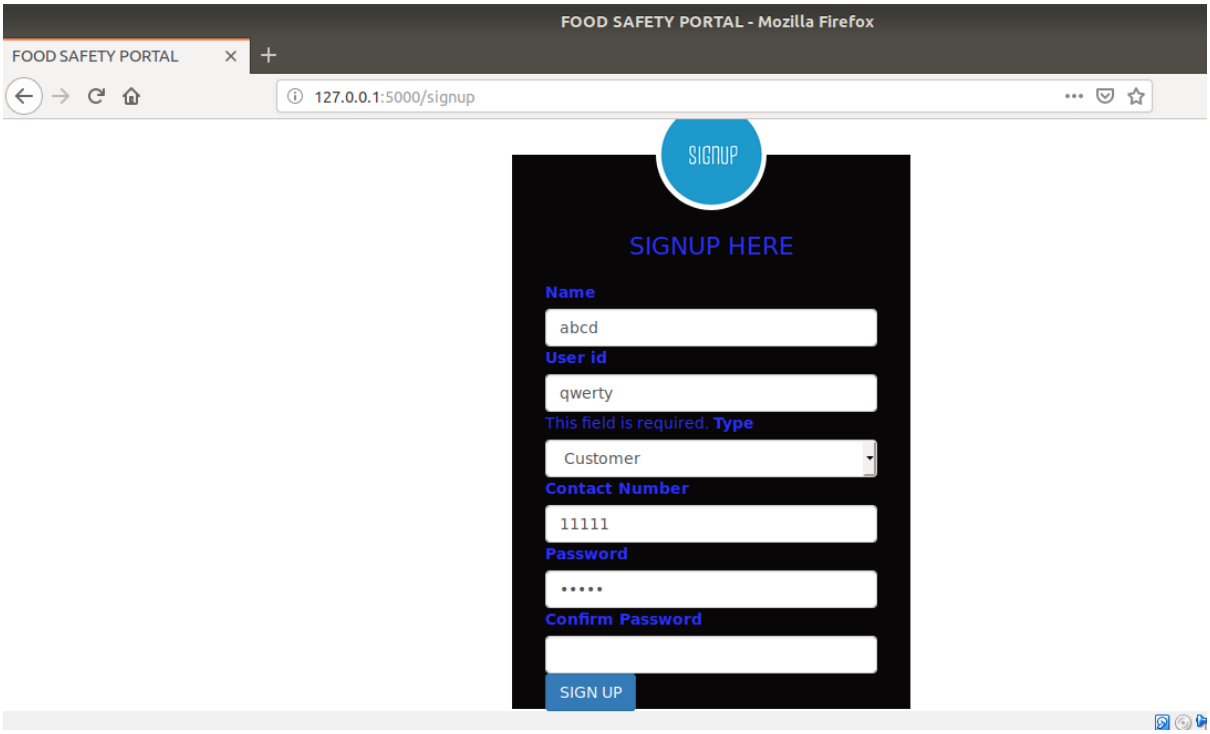
Status: Pass



Test Case-2:

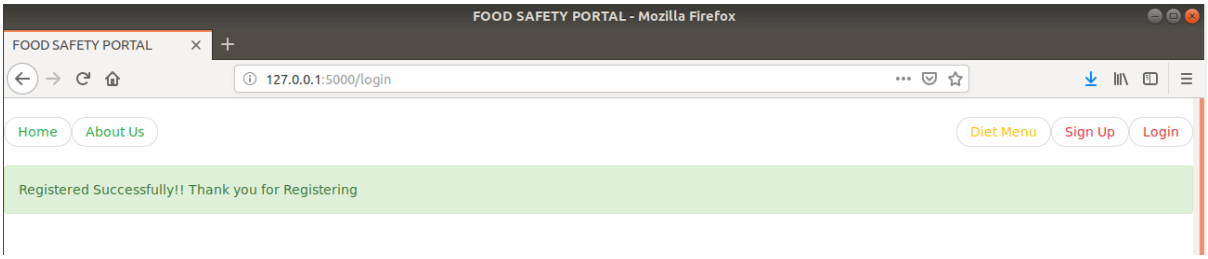
Status : Fail

Current Status: Pass

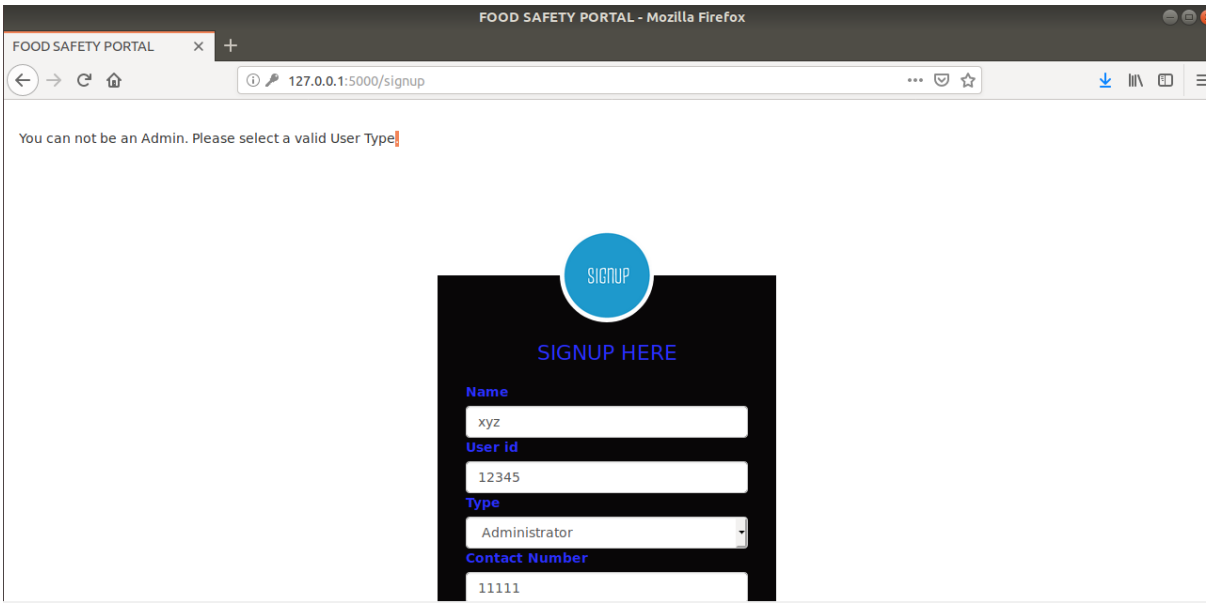


Test Case-3:

Status :Fail

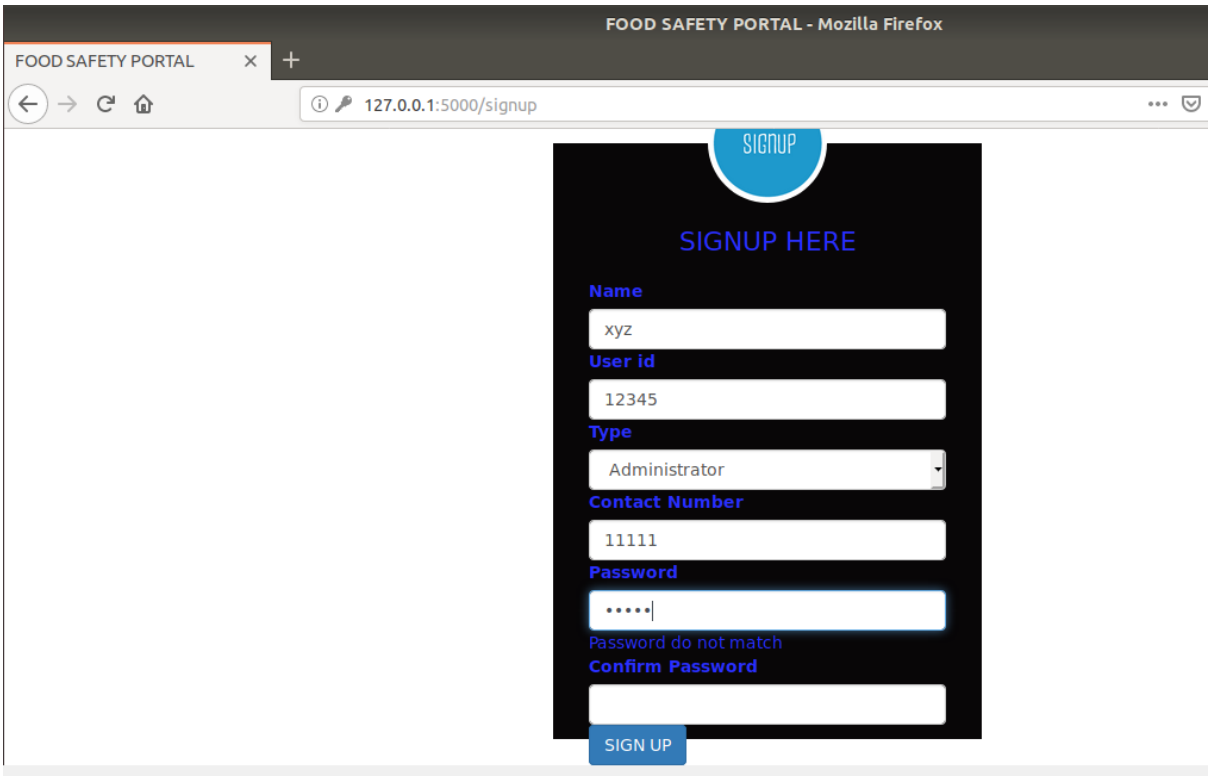


Current Status: Pass



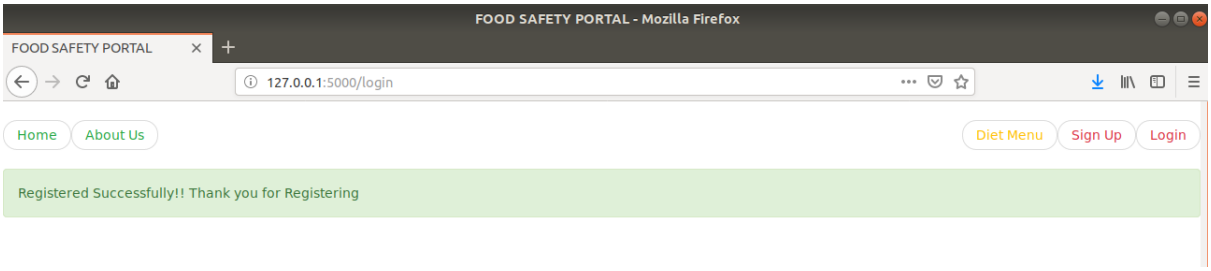
Test Case: 4

Status : Pass



Test Case : 6

Status : Fail



Current Status: Pass