RESTAURANT WEBSITE

TABLE BOOKING - FOOD ORDERING

SRS DOCUMENT

SOFTWARE ENGINEERING LAB

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INSTRUCTOR: DR. SANTOSH SINGH RATHORE

GROUP - 37:

VIJAY LOKITH R R	2019IMT-114
CHINTHALA ASHISH	2019IMT-030
AVO ELVIS THEYO	2019IMT-026

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1.0. Purpose

1.1. Introduction

This Software Requirements Specification (SRS) report puts on a complete, consistent, and detailed explanation of the functions and their specification which Mr. Ritesh Agarwal (Customer) expects from his restaurant's website.

1.2. Scope

The restaurant website is designed to run on a server and allow the registered customer to view and order the offered food item of their choice, track the delivery of their order and enable them to reserve a table at the restaurant at a specified time in accordance to its availability. The website also allows the admin to initialize a table for the customer, control table functions remotely to assist the customer, confirm and send orders to the food preparation staff, and finalize the customer's bill. The website will also enable the delivery person to update the delivery status and confirm when the order has been delivered successfully to the customer. The website contains full accountability and logging systems and supports supervisor actions to account for exceptional circumstances, such as a meal being refunded or walked out on. The data of the website will be held in a database that the admin will be able to access to view or make any necessary changes.

1.3. Glossary

Admin	The administrator of the restaurant's website.
Customer	The individual utilizing the restaurant's online services.
Database	Organized collection of data stored.
Delivery Person	The individual delivering the Customer's orders.
GPS	Global Positioning System.
Menu	The webpage displaying the food items offered.
MySQL	A relational database management system.
Order ID	Unique number generated when an order is placed.

OTP	One Time Password.
SRS	Software Requirements Specification.
User	The individual utilizing the website.
Web Page	Hypertext document displayed to a user.
Website	Collection of webpages.

1.4. References

- The applicable IEEE standards are published in "IEEE Standards Collection," 2001 edition**.**
- The principal source of textbook material is "Fundamentals of Software Engineering" (4th Edition) by Rajib Mall.
- The other referred textbook material is "Software Engineering: A Practitioner's Approach" (7th Edition) by Pressman.
- The approaches taken by successful online food ordering and table booking applications.

1.5. Document Overview

The remaining sections of this document will provide general information about the user characteristics, functional requirements, non-functional requirements, and external interface specifications about the project. An overall description of the project is discussed in section 2 of this document. Also, use case diagrams for all the possible interactions between the users and the system are examined in section 2. Section 3 provides a detailed explanation of functional requirements, non-functional requirements, external specifications, and constraints used during the design of the restaurant website.

2.0. Overall Description

The following section presents an overall description of the restaurant website. The restaurant website encompasses information about the offered food items as well as information about the available tables at a specified time in the restaurant. The website is accessible through a standard web browser with the assistance of an internet connection. The website has been put into perspective through an assessment of the system, user, hardware, software, and communication interfaces, memory considerations, operational modes, and site adaptation requirements.

2.1. System environment

The restaurant website will be operated from a local server and its data will be stored in a MySQL database. The website's users' information is stored in the database. When a customer orders a particular food item available or reserves a table at a specified time, the website retains the information and stores it in the database. Successful/unsuccessful deliveries are also retained by the website and stored in the database.

2.2. Functional requirements definitions

Functional requirements are a detailed description of a list of high-level functionalities that the restaurant website will provide to the users. Here "user"" refers to Customer, Admin, Delivery Person.

2.3. Use Cases

The website will consist of eight use cases.

The first use case is the registration of a Customer on the website. The website will present a form that the customer will fill in. The form consists of appropriate questions such as Name, Email address/Phone no., Address, Password, Confirm Password, etc. This information will be retained on the website's database.

The second use case is the Customer logging in on the website. This use case is only valid if the customer is registered on the website. The website will present a form that the customer will fill in. The form consists of the customer's registered Email address/Phone no. and the password of the account.

The third use case is the Customer forgetting their account's password. The customer will receive an OTP on their device which will be used to fill in on the OTP

form presented by the website. The website then presents a form to update the password which the customer will fill in.

The fourth use case is the Customer reserving a table on the website. The customer selects the available table of their choice at a specified time. This information will be retained on the website's database and the website is updated accordingly.

The fifth use case is the Customer ordering food on the website. The customer selects the offered food item of their choice, places the order, and is provided with an Order ID. This information will be retained on the website's database.

The sixth use case is the Customer tracking the delivery of their order. The customer enters the Order ID in the appropriate form presented by the website and begins tracking the delivery. The website notifies the customer when any updates are made.

The seventh use case is the Delivery Person updating the delivery status of the customer's order. The delivery person updates the changes made with time such as when the order is received, the order is on the way, and when the order is successfully delivered. The information of the successful delivery is retained in the website's database.

The eighth use case is the Admin updating an entry in the website's database. The admin accesses the website's database to add a new entry or update an existing entry. The updates made are saved and the website is updated accordingly.

2.3.1. Use Case: Registration

Figure 1: Registration.

Brief Description:
If the Customer does not already have an account, the Customer registers on the website to access the restaurant's online services.

Initial step-by-step description:
For this use case to be initiated, the Customer must be connected to the internet, have access to a standard web browser on their device and on the website's home page.

1. The Customer accesses the website's home page.
2. The Customer selects the "Sign Up" button.
3. The website returns the "Sign Up" form.
4. The Customer fills in the form.
5. The Customer clicks the "Create Account" button.
6. The website inspects if all the required fields contain data.
7. If a required field is empty, the website displays an error message.
8. If all the required fields contain data, the website cross-checks the database to verify if the data is pre-existing.
9. If the Customer is already registered, the website displays an error message.
10. If the Customer is not registered, the website retains the information in the database.
11. On successful registration, the website returns the Customer to the website's home page.

Reference SRS 3.2.1

2.3.2. Use Case: Login

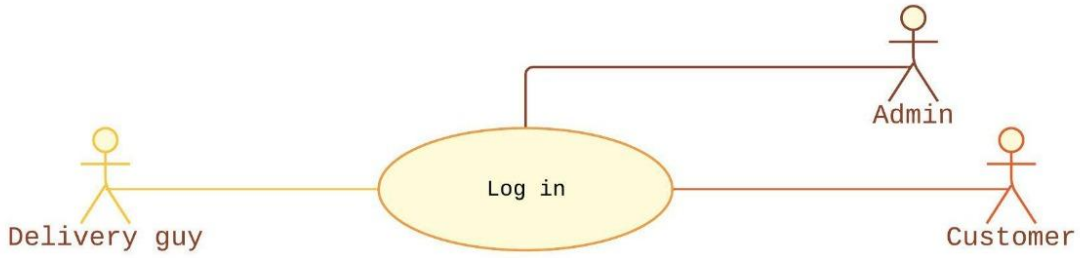


Figure 2: Login

Brief Description:
If the Customer is registered, the Customer logs in to the website to access the restaurant's online services.

Initial step-by-step description:
For this use case to be initiated, the Customer must be connected to the Internet, on the website's home page, and be registered on the website.

1. The Customer accesses the website's home page.
2. The Customer selects the "Log in" button.
3. The website returns the "Log in" form.
4. The Customer fills in the form.
5. The Customer clicks the "Log in" button.
6. The website cross-checks the database to verify the Customer's account.
7. If the Customer is not registered, the website displays an error message.
8. If the Customer is registered, the website returns the restaurant's online services webpage.

Reference SRS 3.2.2

2.3.3. Use Case: Forgot Password

Figure 3: Forgot Password.

Brief Description:
The Customer forgets the password of their registered account on the website.

Initial step-by-step description:
For this use case to be initiated, the Customer must be connected to the Internet and be registered on the website.

1. The Customer selects the “Forgot password” button.
2. The website returns the user information form.
3. The Customer fills in the form and clicks on the “Next” button.
4. The website cross-checks the database to verify if the Customer is registered.
5. If the Customer is not registered, the website displays an error message.
6. If the Customer is registered, the website forwards an OTP to the Customer’s registered email address/phone number.
7. The website displays an OTP form.
8. The Customer fills in the form and clicks on the “Next” button.
9. The website returns a form to update the password.
10. The Customer fills in the form and clicks on the “Next” button.
11. The website returns the Customer to the website’s home page.

Reference SRS 3.2.3

2.3.4. Use Case: Table Reservation

Figure 4: Table Reservation.

Brief Description:
The Customer accesses the table reservation service on the website.

Initial step-by-step description:
For this use case to be initiated, the Customer must be connected to the internet, logged in, and on the restaurant’s online services webpage.

1. The Customer selects the “Table Reservation” button.
2. The website returns the webpage containing the available tables information.
3. The Customer selects an available table at the restaurant at a specified time.

4. The website displays a popup to confirm the Customer's selection.
5. The Customer clicks on the "Confirm" button.
6. The website retains the information in the database.
7. The website displays a message to the Customer for a successful table reservation.
8. The website notifies the Admin that a table has been reserved.
9. The website updates the available tables information.

Reference SRS 3.2.4

2.3.5. Use Case: Food Order

Figure 5: Food Order.

Brief Description:
The Customer accesses the online food ordering service on the website.

Initial step-by-step description:
For this use case to be initiated, the Customer must be connected to the internet, logged in, and on the restaurant's online services webpage.

1. The Customer selects the "Food Order" button.
2. The website returns the webpage containing the restaurant's menu.
3. The Customer navigates through the offered food items and selects the food item of their choice.
4. The website retains the Customer's selected food items in the cart.
5. The Customer clicks on the "Place order" button.
6. The website retains the information in the database.
7. The website notifies the Admin that an order has been placed.
8. The Admin inspects the order content and accepts the order.
9. The website displays a message to the Customer for the successful order placed along with the Order ID.

Reference SRS 3.2.5

2.3.6. Use Case: Delivery Tracking

Figure 6: Delivery Tracking.

Brief Description:
The Customer tracks the delivery of their order on the website.

Initial step-by-step description:
For this use case to be initiated, the Customer must be connected to the internet, logged in, and order must have been placed.

1. The Customer enters their Order ID.
2. The website cross-checks the database to verify the Order ID.
3. If the Order ID is not verified, the website displays an error message.
4. If the Order ID is verified, the website returns the delivery tracking webpage.
5. The website notifies the Customer when the order has left the restaurant.
6. The website displays the current location of the order and the estimated time left for the delivery along with the delivery person's appropriate information.
7. The website updates the location and estimated time every few seconds.

Reference SRS 3.2.6

2.3.7. Use Case: Update Delivery Status

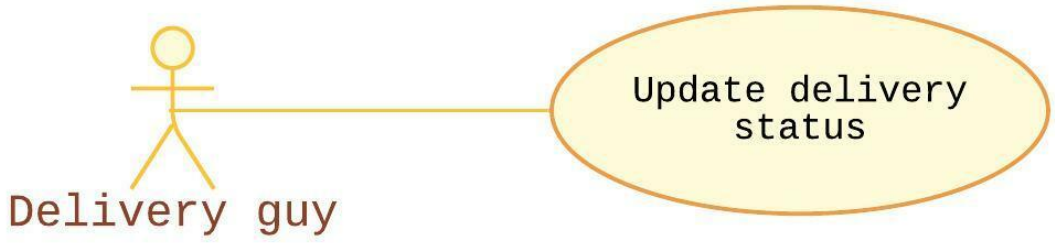


Figure 7: Update Delivery Status.

Brief Description:
The Delivery Person updates the delivery status of the order on the website.

Initial step-by-step description:
For this use case to be initiated, the delivery person must be connected to the internet, logged in, and have access to GPS on their device.

1. The delivery person receives the order from the restaurant and updates the delivery status.
2. The delivery person updates when they are on the way.
3. In case of some unforeseen event, the delivery person updates that the order will be delayed.
4. The delivery person successfully delivers the order to the Customer and updates the delivery status.
5. On successful delivery, the website displays a message to the Customer.
6. The website retains the information in the database.
7. The website notifies the Admin of the successful delivery.

Reference SRS 3.2.7

2.3.8. Use Case: Update An Entry (Admin Access)

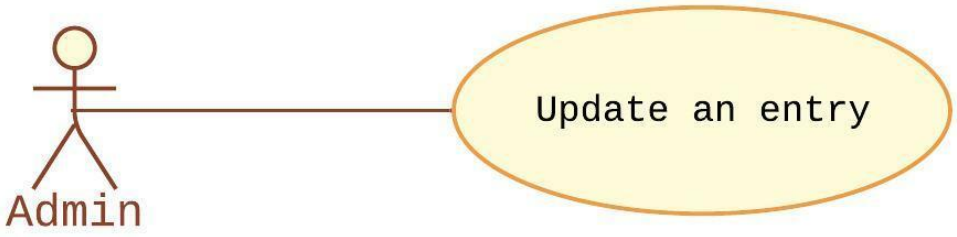


Figure 8: Update An Entry (Admin Access).

Brief Description:
The Admin chooses to update an entry in the website's database.

Initial step-by-step description:
For this use case to be initiated, the Admin must be connected to the internet, logged in, and have access to the website's database.

1. The Admin accesses the website's database.
2. The Admin adds a new entry or updates an existing entry.
3. The Admin saves the changes made.
4. The website is updated according to the updates in the database.

Reference SRS 3.2.8

2.4. Complete Use Case Diagram

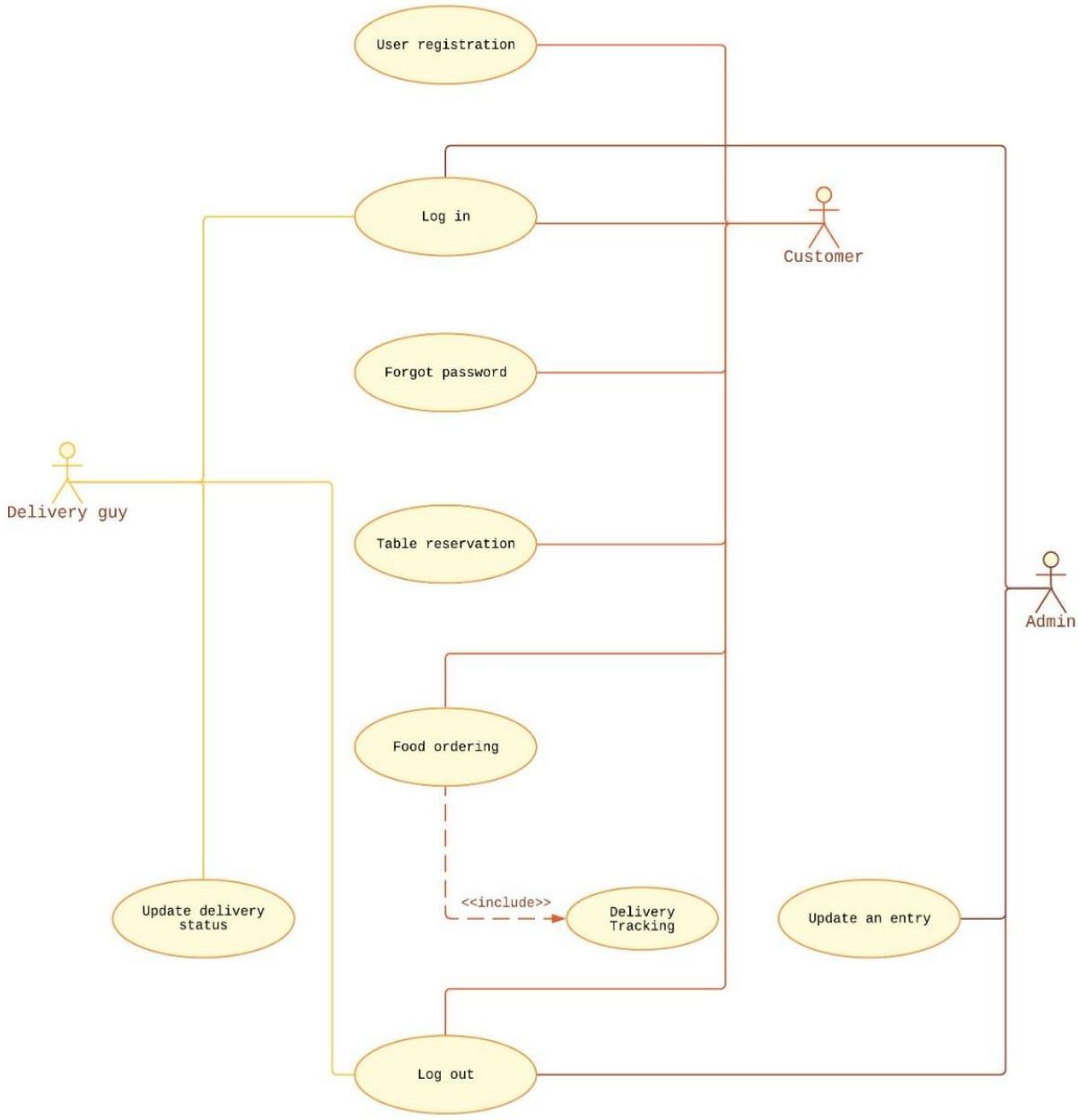
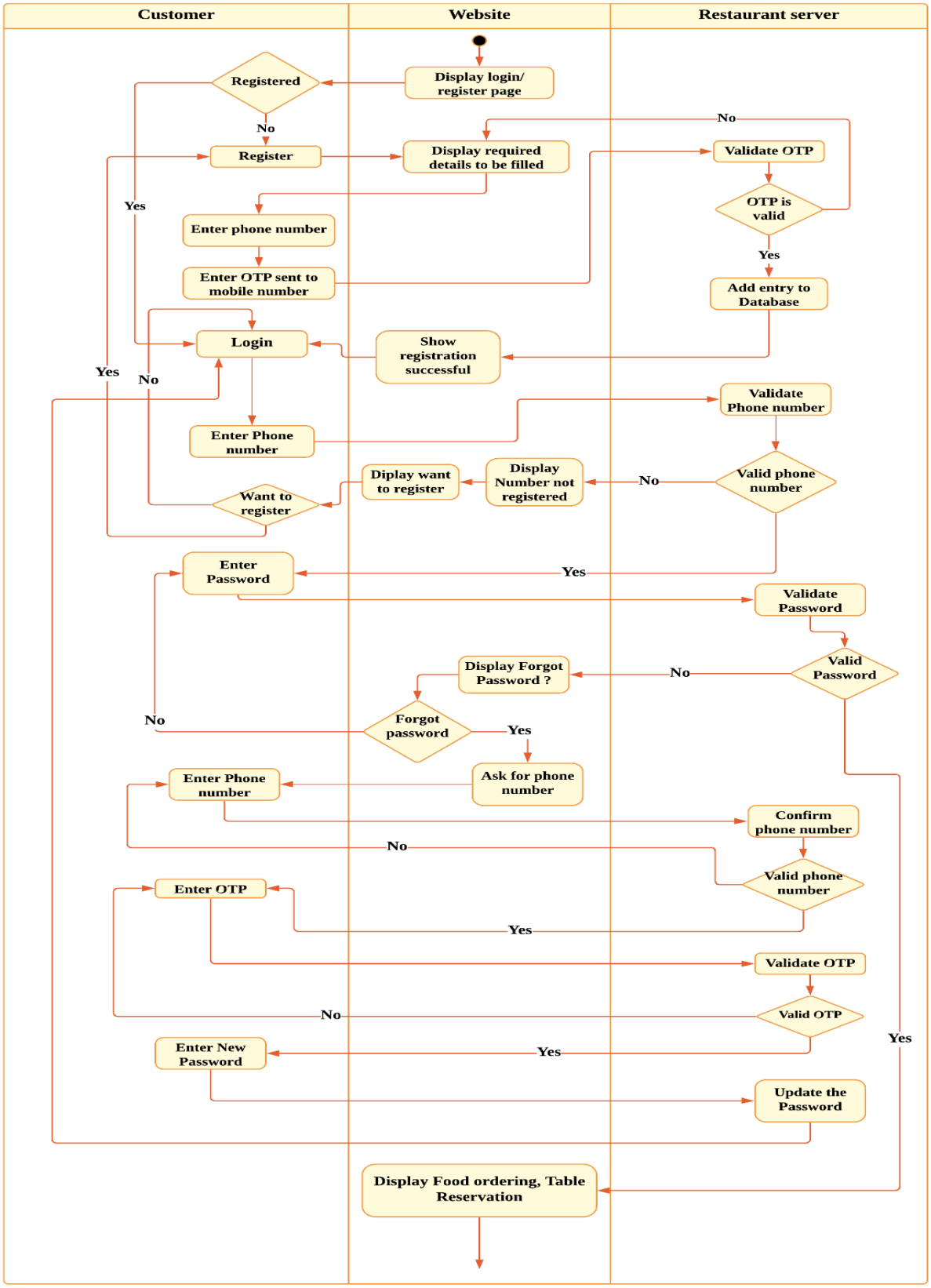


Figure 9: Complete Use Case Diagram.

2.5. Activity Diagram


Customer
Website
Restaurant server
Display login/ register page
Registered
No
Register
Display required details to be filled
Yes
Enter phone number
Enter OTP sent to mobile number
Validate OTP
No
OTP is valid
Yes
Add entry to Database
Login
Show registration successful
Yes
No
Validate Phone number
Enter Phone number
Valid phone number
No
Display Number not registered
Diplay want to register
Want to register
Enter Password
Yes
Validate Password
Valid Password
No
Display Forgot Password ?
No
Forgot password
Yes
Ask for phone number
Enter Phone number
Confirm phone number
No
Valid phone number
Enter OTP
Yes
Validate OTP
Valid OTP
No
Yes
Enter New Password
Yes
Update the Password
Display Food ordering, Table Reservation

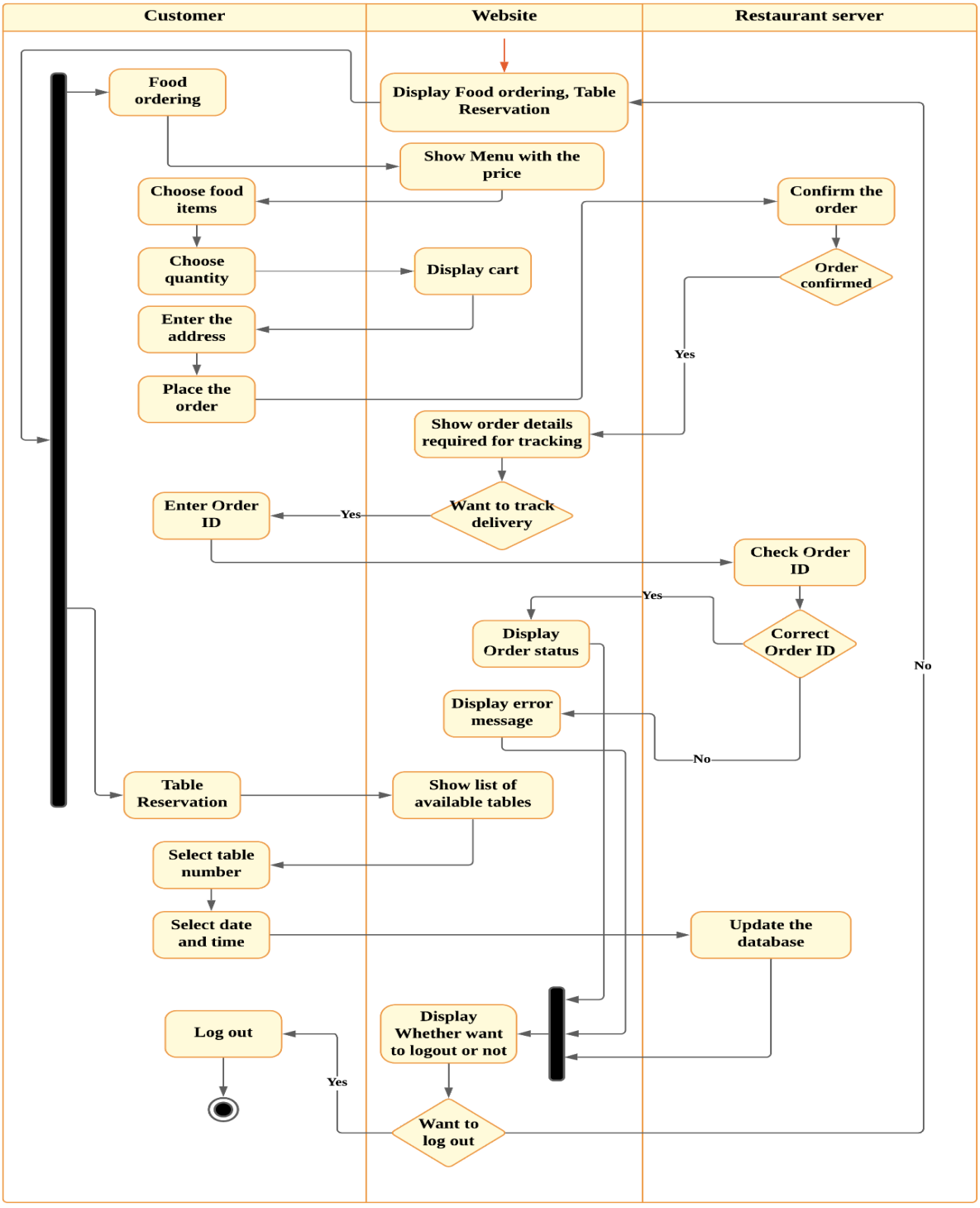


Figure 10: Activity Diagram.

2.6. Non-functional requirements definition

Non-functional requirements are a set of directions through which the functional requirements will be implemented to the restaurant website.

3.0. Requirement specifications

3.1. External interface specifications

None.

3.2. Functional Requirements

3.2.1. Registration

Use Case Name:	Registration.
Priority	Essential.
Trigger	The Customer selects the “Sign Up” button.
Precondition	The Customer is connected to the internet on a standard web browser and is on the website’s home page.
Basic Path	1. The website presents the Customer with a form. 2. The Customer fills in the form and clicks the “Create Account” button. 3. The website inspects if all the required fields contain data. 4. If a required field is empty, the website displays an error message.

	5. If all the required fields contain data, the website cross-checks the database to verify if the data is pre-existing. 6. If the Customer is already registered, the website displays an error message. 7. If the Customer is not registered, the website retains the information in the database. 8. On successful registration, the website returns the Customer to the website's home page.
Alternate Path	N/A
Post Condition	The account information is retained in the website's database.
Exception Path	If the connection terminates during the registration process, the web browser displays an error message.
Reference	SRS 2.3.1

3.2.2. Login

Use Case Name:	Login.
Priority	Essential.
Trigger	The Customer selects the "Login" button.
Precondition	The Customer is connected to the Internet and is registered on the website.

Basic Path	1. The website presents the Customer with a form. 2. The Customer fills in the form and clicks on the "Log in" button. 3. The website cross-checks the database to verify the Customer's account. 4. If the Customer is not registered, the website displays an error message. 5. If the Customer is registered, the website returns the restaurant's online services webpage.
Alternate Path	N/A
Post Condition	The website returns the Customer to the restaurant's online services webpage.
Exception Path	If the connection terminates during the login process, the web browser displays an error message.
Reference	SRS 2.3.2

3.2.3. Forgot Password

Use Case Name:	Forgot Password.
Priority	Essential.
Trigger	The Customer selects the "Forgot Password" button.
Precondition	The Customer is connected to the Internet and is registered on the website.

Basic Path	1. The website presents the Customer with a form. 2. The Customer fills in the form and clicks the "Next" button. 3. The website cross-checks the database to verify if the Customer is registered. 4. If the Customer is not registered, the website displays an error message. 5. If the Customer is registered, the website forwards an OTP to the Customer's registered email address/phone number. 6. The website displays an OTP form. 7. The Customer fills in the form and clicks on the "Next" button. 8. The website returns a form to update the password. 9. The Customer fills in the form and clicks on the "Next" button. 10. The website returns the Customer to the website's home page.
Alternate Path	N/A
Post Condition	The new password is updated in the website's database and the website returns the Customer to the website's home page.
Exception Path	1. If the Customer's updated password matches the previously forgotten password, the website returns an error message. 2. If the connection terminates during the forgot password

	process, the web browser displays an error message.
Reference	SRS 2.3.3

3.2.4. Table Reservation

Use Case Name:	Table Reservation.
Priority	Essential.
Trigger	The Customer selects the “Table Reservation” button.
Precondition	The Customer is connected to the Internet, logged in, and is on the restaurant’s online services webpage.
Basic Path	1. The website presents the Customer with the available tables information. 2. The Customer selects an available table at the restaurant at a specified time. 3. The website displays a popup to confirm the Customer’s selection. 4. The Customer clicks on the “Confirm” button. 5. The website retains the information in the database. 6. The website displays a message to the Customer for a successful table reservation. 7. The website notifies the Admin that a table has been reserved.

	8. The website updates the available tables information.
Alternate Path	N/A
Post Condition	The reserved table information is updated in the website's database.
Exception Path	If the connection is terminated during the table reservation process, the web browser displays an error message.
Reference	SRS 2.3.4

3.2.5. Food Order

Use Case Name:	Food Order.
Priority	Essential.
Trigger	The Customer selects the "Food Order" button.
Precondition	The Customer is connected to the Internet, logged in, and is on the restaurant's online services webpage.
Basic Path	1. The website presents the Customer with the restaurant's menu. 2. The Customer navigates through the offered food items and selects the food item of their choice which is retained in the cart. 3. The Customer clicks on the "Place order" button.

	4. The website retains the information in the database. 5. The website notifies the Admin that an order has been placed. 6. The Admin inspects the order content and accepts the order. 7. The website displays a message to the Customer for the successful order placed along with the Order ID.
Alternate Path	N/A
Post Condition	The Customer's order is placed and the website retains the information in the database.
Exception Path	1. If the connection terminates before the website retains the information in the database, the order is not processed. 2. In case of a sudden unforeseen shortage of the order content, the Admin rejects the order.
Reference	SRS 2.3.5

3.2.6. Delivery Tracking

Use Case Name:	Delivery Tracking.
Priority	Essential.
Trigger	The Customer enters their Order ID.
Precondition	The Customer is connected to the Internet, logged in, and has placed an order.

Basic Path	1. The website cross-checks the database to verify the Order ID. 2. If the Order ID is not verified, the website displays an error message. 3. If the Order ID is verified, the website returns the delivery tracking webpage. 4. The website notifies the Customer when the order has left the restaurant. 5. The website displays the current location of the order and the estimated time left for the delivery along with the delivery person's appropriate information. 6. The website updates the location and estimated time every few seconds.
Alternate Path	N/A
Post Condition	The delivery tracking is initialized.
Exception Path	If the connection terminates during the delivery tracking process, the web browser displays an error message.
Reference	SRS 2.3.6

3.2.7. Update Delivery Status

Use Case Name:	Update Delivery Status.
Priority	Essential.

Trigger	The Delivery Person receives the order from the restaurant.
Precondition	The Delivery Person is connected to the Internet, logged in, and has access to GPS on their device.
Basic Path	1. The delivery person updates when they are on the way. 2. In case of some unforeseen event, the delivery person updates that the order will be delayed. 3. The delivery person successfully delivers the order to the Customer and updates the delivery status. 4. On successful delivery, the website displays a message to the Customer. 5. The website retains the information in the database. 6. The website notifies the Admin of the successful delivery.
Alternate Path	N/A
Post Condition	The Customer's order is delivered and the website updates the database.
Exception Path	1. If the connection is terminated during the delivery, the website is not updated until the connection resumes. 2. If the connection does not resume further, the website displays an error message.
Reference	SRS 2.3.7

3.2.8. Update An Entry (Admin Access)

Use Case Name:	Update An Entry (Admin Access).
Priority	Essential.
Trigger	The Admin accesses the website's database.
Precondition	The Admin is connected to the internet, logged in, and has access to the website's database.
Basic Path	1. The Admin adds a new entry or updates an existing entry. 2. The Admin saves the changes made. 3. The website is updated according to the updates in the database.
Alternate Path	N/A
Post Condition	The database records the changes made and the website is updated accordingly.
Exception Path	If the connection terminated during the saved changes made, the website is not updated until the connection resumes.
Reference	SRS 2.3.8

3.3 Detailed non-functional requirements

3.3.1 Performance requirements

Serial No	Description	Priority
NF1	All table booking submissions & revision of the available tables should be reflected in the restaurant's database within 10 seconds after each submission.	**High**
NF2	All the edits made by the admin should be reflected in the restaurant's database within 10 seconds after each edit.	**High**
NF3	Results for checking the availability of table/food of the customer's choice from the restaurant's database should be done in 5 seconds.	**High**
NF4	Web page loading time should be less than 2 seconds.	**High**
NF5	A confirmation SMS shall be sent to the customer's registered mobile number within 10 seconds after their confirmation.	**Low**

3.3.2 Safety requirements:

Serial No	Description	Priority
NF6	The system should be constantly saving the changes made within 5 seconds.	**High**
NF7	The system should restore to its previous state if it faces any failure.	**High**
NF8	The website will automatically be logged out once the tab/website is closed.	**High**

3.3.3 Security requirements:

Serial No	Description	Priority
NF9	Customer data will be stored in the database in an encrypted form.	**High**
NF10	Customer data will be safely stored in the database and only authorized personnel will be able to view/edit it.	**High**
NF11	The length of the password must be at least 8 characters.	**Low**

3.3.4 Software quality attributes:

Serial No	Description	Priority
NF12	The website should be scalable and should manage the data load.	**High**
NF13	The software should be error-free (i.e correct Table/Food which was ordered should be made available to the customer)	**High**
NF14	The software should maintain a proper schedule (i.e it should not show a table that is already reserved at that particular time.).	**High**

3.4. System Evolution.

In the future, the website will be updated with a recommendation system to allow customers to receive food item recommendations based on the popularity of an item or the customer's previous orders. Customers will be able to rate a particular food item to improve the recommendation system further. The website will also be updated to support a transactional chatbot to solve a customer's problem in case of an unforeseen event. If necessary, the website design will be improved upon with time to make the website more visually appealing. A report generated by the feedback of the customers can be used to improve the user experience further.

4.0. Index