Coffee Shop Management System

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This project report has been submitted in fulfilment of the requirements for the degree of
Bachelor of Science in Software Engineering

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APPROVAL

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This thesis titled on "**Coffee Shop Management System**", submitted by **Iftekhar Mohammad Saimum (ID: 202-35-3117)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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I must begin by giving thanks to the Almighty Allah. I put a lot of effort into this project. It would not have been possible without the kind help and encouragement of many people. I would like to thank each and every one of them.

I am grateful that I completed my project within the deadline established by the thesis/project committee. Additionally, I would like to thank our esteemed supervisor, Mr. Khalid Been Badruzzaman Biplob Sir, for his guidance and assistance in seeing this project through to its successful conclusion. I am grateful for his support in pushing me to work more and get better.

Lastly, I would like to express my gratitude to my parents for continuously praying for me. I could never succeed without their blessing and support.

Declaration

I therefore declare that I have done this project under the oversight of **Mr. Khalid Been Badruzzaman Biplob**, **Lecturer (Senior Scale)**, Department of Software Engineering, Daffodil International University. Also declare that neither entire record nor any portion of this record has been submitted somewhere else for my degree.

Abstract

This project focuses on developing a coffee shop website that simplifies customer interactions and enhances the overall experience. The platform enables users to view menus, order items, book tables, read blogs, and subscribe to newsletters, making their engagement convenient and efficient. Administrators benefit from features that allow them to manage menus, process orders, oversee table reservations, and communicate with customers via email. By integrating intuitive design with practical functionality, the website improves operational processes and elevates customer satisfaction, addressing the growing demand for digital solutions in the hospitality sector.

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Chapter 1: Introduction

1.1 Project Overview

This project aims to create a web-based platform for a coffee shop to enhance customer convenience and streamline operations. Customers can browse menus, place orders, book tables, interact with blogs, and subscribe to newsletters through an intuitive interface.
For administrators, the platform provides tools to manage menus, process orders, handle table bookings, and maintain email subscriptions, ensuring smooth operations. This solution bridges the gap between traditional services and digital tools, offering an efficient and engaging experience for both customers and the business.

1.2 Project Purpose

This project is all about creating a modern, user-friendly platform for a coffee shop that makes life easier for both customers and the business. It's designed to let customers quickly browse menus, place orders, book tables, and even interact with blogs, all in one place. For the coffee shop staff, it offers simple tools to manage menus, handle orders, and stay connected with customers through email. The goal is to blend the charm of a traditional coffee shop with the convenience of digital tools, making the experience smoother and more enjoyable for everyone.

1.3 Motivation

The idea for this project comes from a desire to make coffee shop experiences easier and more enjoyable for everyone. Coffee shops are more than just places to grab a drink—they're spaces where people work, connect, and relax. But traditional ways of managing orders, reservations, and updates can sometimes feel outdated and inefficient.

This project is driven by the goal of bringing coffee shops into the digital age, creating a platform that makes it simple for customers to order, book tables, and stay connected. At the same time, it gives coffee shop owners the tools they need to run their business more smoothly and engage with their customers in new and meaningful ways.

1.4 Objectives

The objective of this project is to create a user-friendly online platform for a coffee shop that enhances the overall customer experience while simplifying day-to-day operations. It aims to provide customers with easy access to features like browsing the menu, placing orders, booking tables, and engaging with blogs or newsletters. For the coffee shop staff, the platform will offer tools to manage menus, process orders, handle table bookings, and communicate effectively with customers. Ultimately, the goal is to blend convenience and efficiency, creating a modern and enjoyable coffee shop experience for everyone involved.

Chapter 2: Software Requirement Specification (SRS)

2.1 Feasibility Analysis

The system's development always depends on inputs, which are saved for processing and later usage. In addition to gathering the majority of the data required for its operations, the system will function dependent on the user's inputs. The primary fusers directing the input stages are: • Regulating the quantity of inputs Preventing excessive delays and managing faults. The purpose of a feasibility analysis (FA, also known as a feasibility study) is to evaluate the advantages and disadvantages of a suggested design and suggest conditioning strategies that will improve the design and provide the desired outcomes. The areas where anatomized systems are enforced largely determine the nature and components of feasibility assessments. As the name suggests, An idea's viability is assessed through a feasibility study. The goal of such a study is to guarantee that a design is equitable, technically feasible, and financially sustainable. It indicates if a design is financially worthwhile.

Technical Feasibility: An analysis of resource vacuity that could impact the ability to build a system that is regarded with respect. At the first stage, specialized feasibility is the most sensitive area to guarantee. Everything appears possible, provided the appropriate hypotheses are put forth, because the objects, functions, and performance cannot be fully predicted. The analysis and description procedure must be able to be carried out similarly to a specialized feasibility study. In order to build and implement the design, specialized feasibility also entails assessing the tackle, software, and other specific requirements of the suggested system.

Operational Feasibility: It addresses the issue of how the system functions after installation or browsing. Users would benefit from the declared system since all of their needs would be met. This project is advantageous operationally since it meets all user needs. Here, every operational fuser is carefully taken into account.

The benefits of proposed system are-

- Ability to handle donation more securely
- Fast and accurate performance
- 24/7 availability
- Fault tolerant and matured
- XSS attack guard
- DDOS attack protection

Thus, considering the above facts management felts that the project is feasible.

Scheduling Feasibility: This evaluation is the most important one for the project's success. After all, a project will fail if it is not completed on time. An organization determines the project's scheduling feasibility by analyzing and processing its duration. The quantity of time can be estimated using a Gantt chart.

Figure 2.1.1: Gantt Chart

2.2 User Classes and Characteristics

Customers:

- General users seeking services like ordering, table booking, and blog engagement.
- Require a simple, fast, and user-friendly interface.

Administrators:

- Staff managing menus, orders, and bookings.
- Need secure access and efficient tools for platform management.

Subscribers:

- Users interested in blogs and newsletters.
- Prefer easy subscription options and access to updates.

2.3 Functional Requirements

FR001	User Registration
Description	Users have to provide necessary information like email, phone number, password etc to create an account.
Stakeholder	Guest

FR002	User Login
Description	Using all the information given in the registration section the user will enter username and password. After validation, users will be allowed or not allowed to log in to the system.
Stakeholder	Registered User, Admin

FR003	Create Profile
Description	User can create their profile by providing their personal information.
Stakeholder	Registered User

FR004	Update Profile
Description	Users can update their profile information, including name, contact details, and password.
Stakeholder	Registered User, Admin

FR005	View Menu
Description	Users and admin can browse the available menu items, including prices and descriptions.
Stakeholder	Registered User, Guest, Admin

FR006	Order
Description	Users can select items from the menu and place an order.
Stakeholder	Registered User

FR007	Book a Table
Description	Users can select a date, time, and number of people to book a table at the coffee shop.
Stakeholder	Registered User

FR008	Search Menu
Description	Users can search for specific items on the menu based on keywords.
Stakeholder	Registered User, Guest, Admin

FR009	Create Blog
Description	Users can create a blog post to share experiences or thoughts.
Stakeholder	Registered User, Admin

FR010	Update Blog
Description	Users can edit their blog posts after submission.
Stakeholder	Registered User, Admin

FR011	Create Blog
Description	Users can create a blog post to share experiences or thoughts.
Stakeholder	Registered User, Admin

FR012	Update Blog
Description	Users can edit their blog posts after submission.
Stakeholder	Registered User, Admin

FR013	Bookmark Blog
Description	Users can bookmark blogs they find interesting for easy access later.
Stakeholder	Registered User, Guest, Admin

FR014	View Blogs
Description	Users can browse all blog posts created by other users.
Stakeholder	Registered User, Guest, Admin

FR015	Add Email Subscription
Description	Users can subscribe to receive email newsletters from the coffee shop.
Stakeholder	Registered User

FR016	Add Menu
Description	Admin can add items to the menu.
Stakeholder	Admin

FR017	Edit Menu
Description	Admin can edit existing menus.
Stakeholder	Admin

FR018	Delete Menu
Description	Admin can delete existing menus.
Stakeholder	Admin

FR019	Deliver Order
Description	Admin can mark orders as delivered.
Stakeholder	Admin

FR020	Delete Order
Description	Admin can delete order that are no longer needed.
Stakeholder	Admin

FR021	See Order List
Description	Admin can see all order list from the customers.
Stakeholder	Admin

FR022	Accept Table Booking
Description	Admin can accept table booking
Stakeholder	Admin

FR023	Reject Table Booking
Description	Admin can reject table booking
Stakeholder	Admin

FR024	See Table Booking Requests
Description	Admin can see all table booking requests.
Stakeholder	Admin

FR025	Compose Subscribed Emails
Description	Admin can compose subscribed emails.
Stakeholder	Admin

FR026	Delete Subscribed Emails
Description	Admin can delete subscribed emails
Stakeholder	Admin

FR027	Accept Table Booking
Description	Admin can accept table booking
Stakeholder	Admin

FR022	Accept Table Booking
Description	Admin can accept table booking
Stakeholder	Admin

FR022	Accept Table Booking
Description	Admin can accept table booking
Stakeholder	Admin

2.4 Non-Functional Requirements

Usability

The system must be easy to use for both customers and administrators with an intuitive and user-friendly interface.

Reliability

The system should be reliable and available at all times, with minimal downtime.

Performance

Pages should load within 3 seconds to ensure a smooth user experience.

Security

User data, including login credentials and payment details, should be securely stored and encrypted.

Only authorized users (admins) should have access to sensitive operations like managing orders and menus.

Scalability

The system should be able to handle increased traffic and additional features as the business grows.

Compatibility

The system should be compatible with all modern web browsers (e.g., Chrome, Firefox, Safari) and mobile devices.

2.5 System Requirements

Hardware: Pc's and mobile's which are compatible with Chrome 64+, Edge 79+, Firefox 67+, Opera 51+, Safari 12+, and for progressive web app support (PWA) android mobile should have android version above Android 5.0 (Lollipop).

Software: Modern browsers.

System: Windows, Linux, chromeOS, Android, iOS and macOS

2.6 Performance

• All features will be provided without interruption by the system

• The platform is based on every platform user.

• The product shall take initial loading time for the first time to open the application and then it will not take any full page reload and act like a single page application.

• The performance shall depend upon the hardware, network and the software c components of the user.

Chapter 3: Design And Implementation

3.1 Use Case Diagram

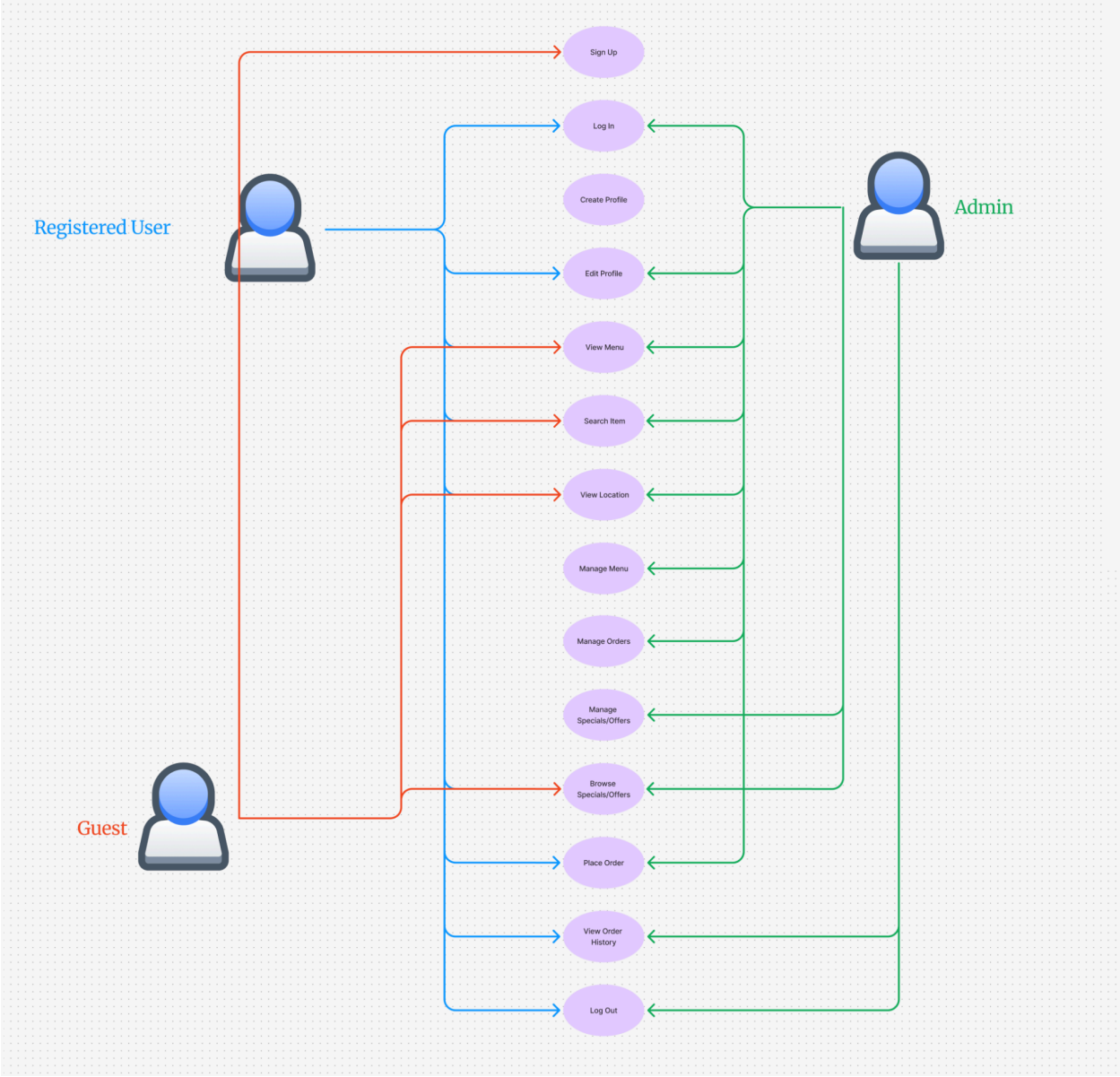


Figure 3.1.1: Use Case Diagram

3.2 Use Case Descriptions

3.2.1 Sign up

Use Case	Sign Up
Goal	By providing the valid information, users will be able to register into the system.
Preconditions	None
Success End Condition	The user registered into the system. User-related information is saved into the database.
Failed End Condition	User already registered into the system or same email in use.
Primary users: **Secondary users:**	User None
Trigger	A signup request comes in.

Description / Main Success Scenario	**Step**	**Action**
	1	The system requests that the user enter his/her user name, email, and password.
	2	The user enters his/her username, email, and password.
	3	The system validates the entered username, email, and password and registers the user into the system.
Alternative Flows	**Step**	**Branching Action**
	4	If in the Basic Flow the user enters an invalid username or used email, the system displays an error message.
	5	The user can choose to either return

		to the beginning of the Basic Flow or cancel the sign-up.
	6	The user can directly login using google or other social media platforms without manually registering first
Quality Requirements	**Step**	**Requirement**
	7	After registered to the system, the user can login any time
	8	The user should get an error message.

3.2.2 Log In

Use Case	Log In
Goal	By providing the valid information, users will be able to register into the system.
Preconditions	Sing up / Registration
Success End Condition	The user signed in to the system. Access token and refresh token will be saved into the browser cookies through the clerk.
Failed End Condition	User already logged in into the system or don't registered yet.
Primary users: **Secondary users:**	User Admin
Trigger	Sign in request comes in.

Description / Main Success Scenario	**Step**	**Action**

	1	The system requests that the user enter his/her user name, email and password.
	2	The user enters his/her username, email, and password.
	3	The system validates the entered username, email, and password and logged in the user into the system.
Alternative Flows	**Step**	**Branching Action**
	4	If in the Basic Flow the user enters an invalid username or used email, the system displays an error message.
	5	The user can choose to either return to the beginning of the Basic Flow or cancel the sign-in.
	6	The user can directly login using google or other social media platforms without manually log in.
Quality Requirements	**Step**	**Requirement**
	7	User should get an error message.

3.2.3 Update Profile

Use Case	Update Profile
Goal	By providing the valid information users will be able to update their profile.
Preconditions	Signed In
Success End Condition	User successfully updated his/her information. User related information updated into the database.
Failed End Condition	Provided invalid data or omitted the required field.

Primary users: **Secondary users:**	User Admin
Trigger	Profile updating request comes in.

Description / Main Success Scenario	**Step**	**Action**
	1	The system requests that the user provide his/her necessary information, which he wants to update
	2	The user provides the information.
	3	The system validates the entered information and update in the database.
Alternative Flows	**Step**	**Branching Action**
	4	If the user enters an invalid detail the system displays an error message.
	5	The user can choose to either keep the previous data or try again providing the information again.
Quality Requirements	**Step**	**Requirement**
	6	User will be able to update his information anytime
	7	User should get an error message if anything goes wrong

3.2.4 Edit Profile

Use Case	Edit Profile
Goal	Allow users to update their personal details, such as name, email, password, or other profile information.
Preconditions	Signed In
Success End Condition	The system successfully updates the user's profile information and confirms the changes.
Failed End Condition	The profile is not updated due to incomplete or invalid input.
Primary users: **Secondary users:**	User Admin
Trigger	The user initiates the edit process by selecting the Edit Profile option.

Description / Main Success Scenario	**Step**	**Action**
	1	The user navigates to their profile page and selects Edit Profile.
	2	The system displays the user's current profile details in an editable format. The user makes the necessary changes
	3	The system validates the entered information and update in the database.
Alternative Flows	**Step**	**Branching Action**
	4	If any required fields are left blank or contain invalid data, the system highlights the errors and prompts the user to correct them before proceeding.

	5	If the session expires while editing, the system logs the user out and redirects them to the login page.
Quality Requirements	**Step**	**Requirement**
	6	User will be able to update his information anytime
	7	User should get an error message if anything goes wrong

3.2.5 View Menu

Use Case	View Menu
Goal	Allow users to browse the coffee shop's menu and explore available items with details like prices and descriptions.
Preconditions	Signed In / Signed Out
Success End Condition	The user successfully views the menu with all relevant details displayed accurately.
Failed End Condition	The menu fails to load due to server or network issues.
Primary users: **Secondary users:**	User None
Trigger	The user selects the Menu option from the website.

Description / Main Success Scenario	**Step**	**Action**
	1	The user clicks on the Menu section.
	2	The system retrieves the menu data from the database.

	3	The system displays the menu, including item names, descriptions, prices, and any applicable images.
	4	The user browses through the menu for desired items.
Alternative Flows	**Step**	**Branching Action**
	4	If the system cannot retrieve the menu due to network failure, it displays an error message and suggests the user try again later.
	5	If some menu items fail to load, the system displays the available items with a message indicating the missing data.
Quality Requirements	**Step**	**Requirement**
	6	The layout must be clear and easy to navigate, with filters for item categories
	7	The system must handle a large number of menu items without performance degradation.

3.2.6 Search Item

Use Case	Search Item
Goal	Allow users to search for specific items on the coffee shop menu using keywords or filters
Preconditions	Signed In / Signed Out
Success End Condition	The system displays relevant menu items matching the user's search query.
Failed End Condition	No items match the search query, and the

	system provides a "No Results Found" message.
Primary users: **Secondary users:**	User None
Trigger	The user initiates a search by entering keywords or applying filters in the search bar.

Description / Main Success Scenario	**Step**	**Action**
	1	The user enters a keyword.
	2	The system processes the search query by comparing it with the menu database.
	3	The system displays a list of items matching the query, including names, descriptions, prices, and images.
	4	The user selects an item from the results for more details or adds it to their cart.
Alternative Flows	**Step**	**Branching Action**
	4	If no items match the search query, the system displays a message like No items found. Please try another search term.
	5	If the search input is empty or invalid, the system prompts the user to enter a valid query.
Quality Requirements	**Step**	**Requirement**
	6	The search bar and filters should be easy to locate and use.

3.2.7 View Location

Use Case	View Location
Goal	Allow users to view the physical location of the coffee shop, including address details and a map for navigation.
Preconditions	Signed In / Signed Out
Success End Condition	The user successfully views the coffee shop's location details and navigates via the map if required.
Failed End Condition	The map integration does not function or display properly.
Primary users: **Secondary users:**	User None
Trigger	The user selects the Location option on the website.

Description / Main Success Scenario	**Step**	**Action**
	1	The system retrieves the coffee shop’s address and map data from the database or map provider.
	2	The system displays the address, contact details, and an interactive map.
	3	The user views the location details and uses the map to navigate if needed.
Alternative Flows	**Step**	**Branching Action**
	4	If the location details or map fail to load due to connectivity issues, the system displays a message like "Unable to load location. Please try

		again later."
	5	If the map integration is unavailable, the system displays the address details without the map and notifies the user.
Quality Requirements	**Step**	**Requirement**
	6	The map must be interactive and intuitive, with features like zoom and directions.

3.2.8 Manage Menu

Use Case	Manage Menu
Goal	Allow the admin to add, edit, and delete menu items to keep the coffee shop menu updated.
Preconditions	Admin Signed In
Success End Condition	The admin successfully adds, edits, or deletes menu items, and the changes are reflected in the menu displayed to users.
Failed End Condition	The admin inputs invalid data, and the system rejects the update.
Primary users: **Secondary users:**	Admin None
Trigger	The admin selects the Manage Menu option from the admin dashboard.

Description / Main Success Scenario	**Step**	**Action**
	1	The admin navigates to the Manage Menu section.

	2	The system displays the current menu items.
	3	The system validates the input and updates the menu database accordingly.
Alternative Flows	**Step**	**Branching Action**
	4	If the admin inputs invalid data the system prompts them to correct the errors before saving.
	5	If the system encounters a technical issue, it displays an error message and prevents changes from being saved.
Quality Requirements	**Step**	**Requirement**
	6	The menu management interface must be intuitive and user-friendly for admins.

3.2.9 Manage Order

Use Case	Manage Order
Goal	Allow the admin to process, deliver, and delete customer orders effectively.
Preconditions	Admin Signed In
Success End Condition	The admin successfully processes, delivers, or deletes orders, and the order status is updated in the system.
Failed End Condition	The admin action fails due to system errors.
Primary users: **Secondary users:**	Admin None
Trigger	The admin selects the Manage Order option.

Description / Main Success Scenario	Step	Action
	1	The admin navigates to the Manage Order section.
	2	The system displays a list of all pending, delivered, and canceled orders.
	3	Admin marks the pending orders as delivering or delivered. Or it can be deleted by the admin.
Alternative Flows	**Step**	**Branching Action**
	4	If the admin attempts an invalid action, the system rejects the request and displays a warning message.
	5	If the system encounters a technical issue, it displays an error message and prevents the action.
Quality Requirements	**Step**	**Requirement**
	6	The system must maintain accurate records of order statuses and changes.

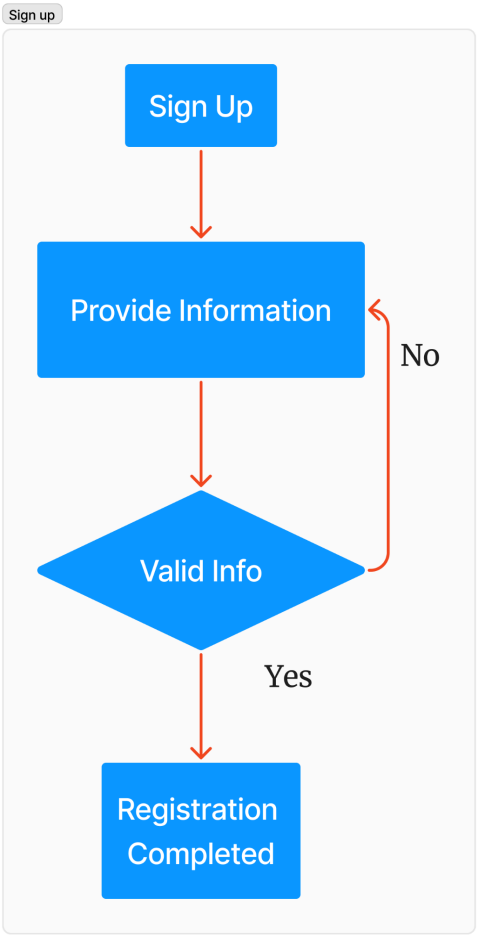
3.2.10 Place Order

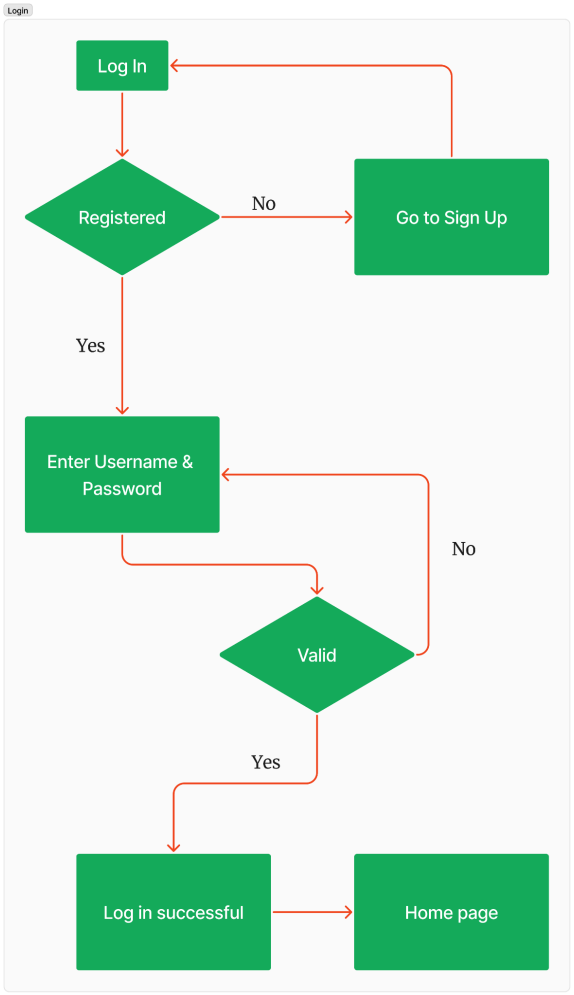
Use Case	Place Order
Goal	Allow customers to browse the menu, select items, and place an order online.
Preconditions	Signed In
Success End Condition	The user successfully places an order, and the system confirms it.

Failed End Condition	The order fails due to system.
Primary users: **Secondary users:**	User None
Trigger	The user selects items from the menu and proceeds to checkout.

Description / Main Success Scenario	**Step**	**Action**
	1	The user browses the menu and selects items to add to the cart.
	2	The user reviews the cart, modifies quantities if needed, and proceeds to checkout.
	3	The system validates the inputs and confirms the order.
Alternative Flows	**Step**	**Branching Action**
	4	If the user enters invalid details, the system prompts for corrections.
	5	If the payment fails, the system notifies the user and allows them to retry or choose an alternate payment method.
	6	If a selected item becomes unavailable, the system notifies the user and suggests alternatives before proceeding.
Quality Requirements	**Step**	**Requirement**
	7	The system must ensure the cart and order details are accurate before confirmation.

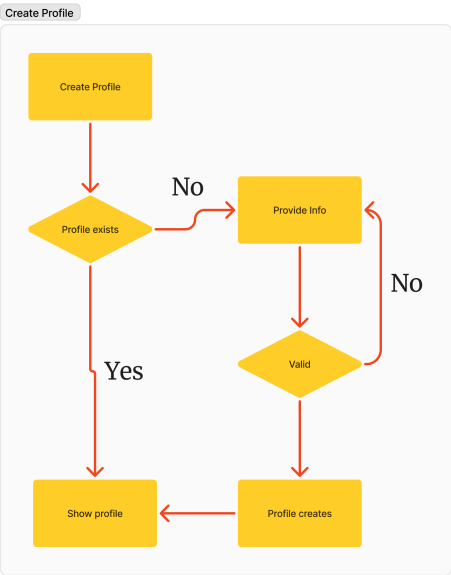
3.3 Activity Diagram



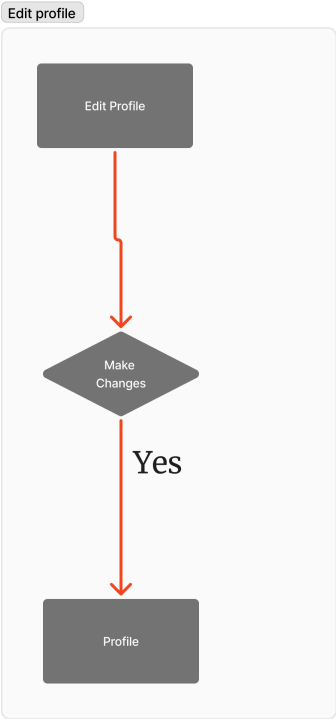


3.3.1 Registration/Sign Up

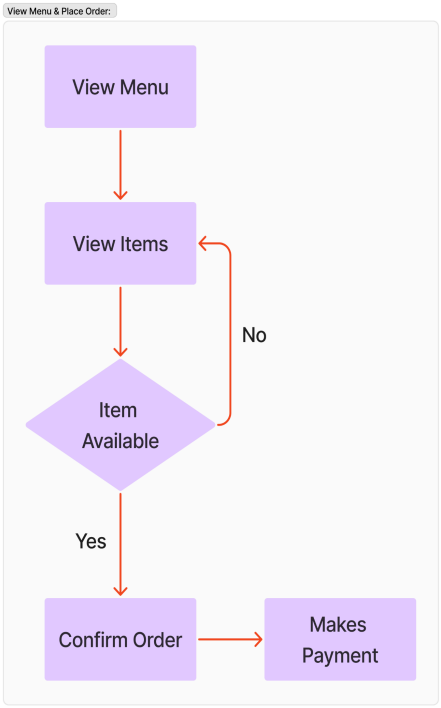
3.3.2 Login



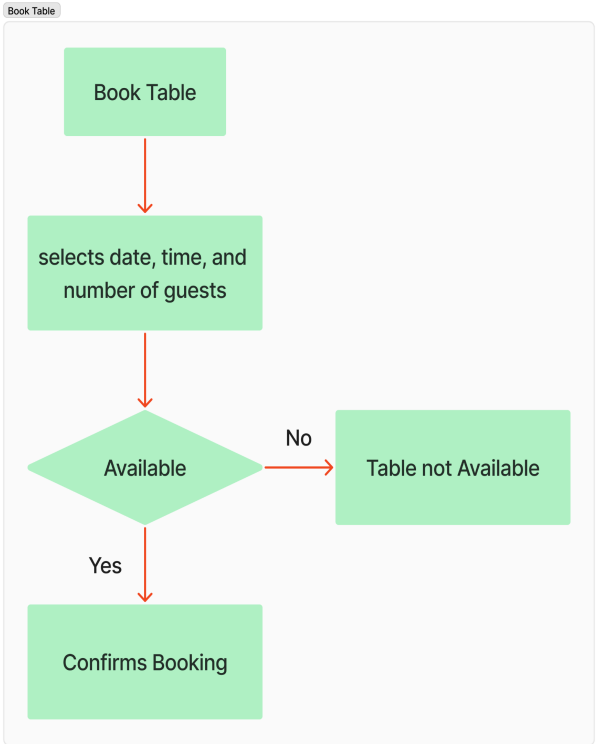
3.3.3 Create Profile



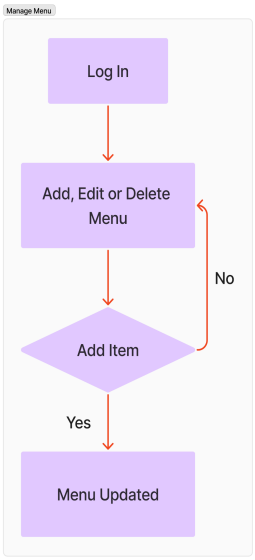
3.3.4 Edit Profile



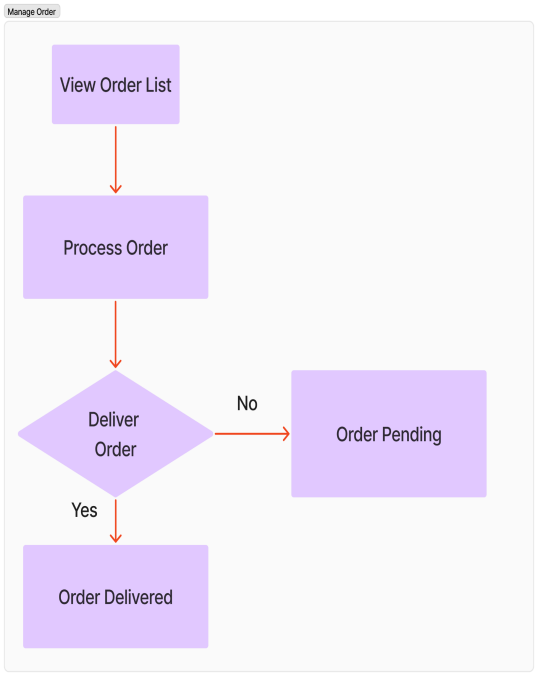
3.3.5 View Menu & Place Order



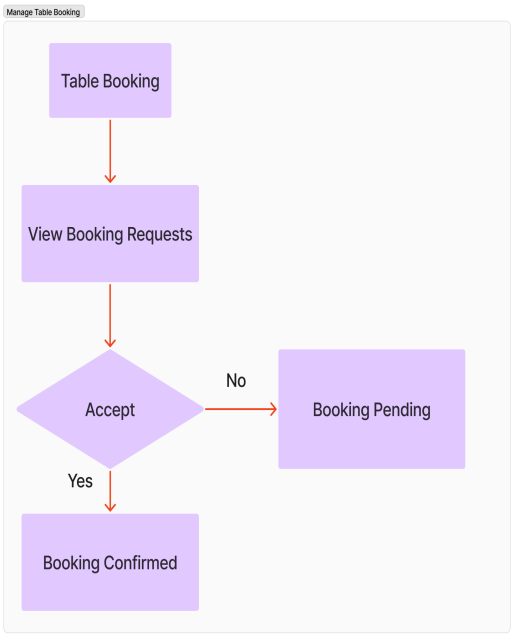
3.3.6 Book Table



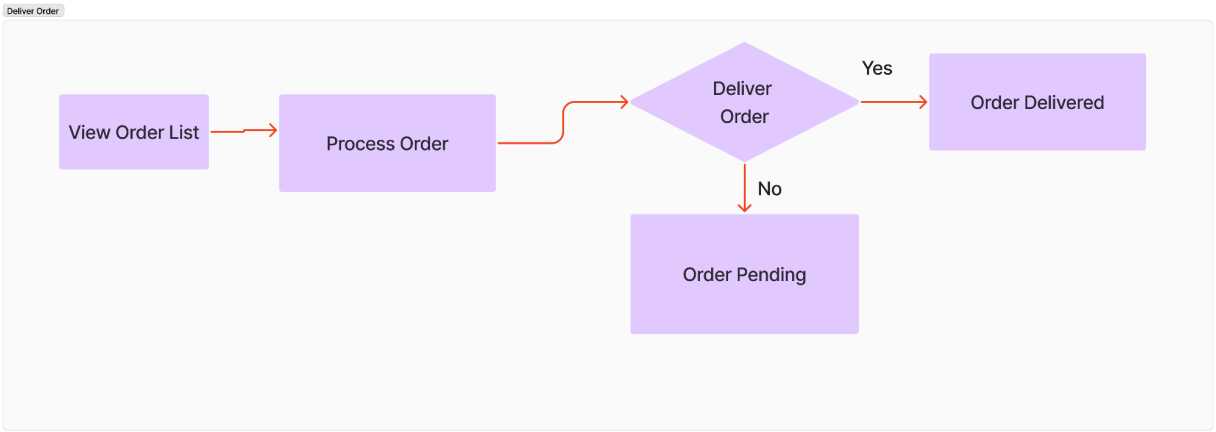
3.3.7 Manage Menu



3.3.8 Manage Order



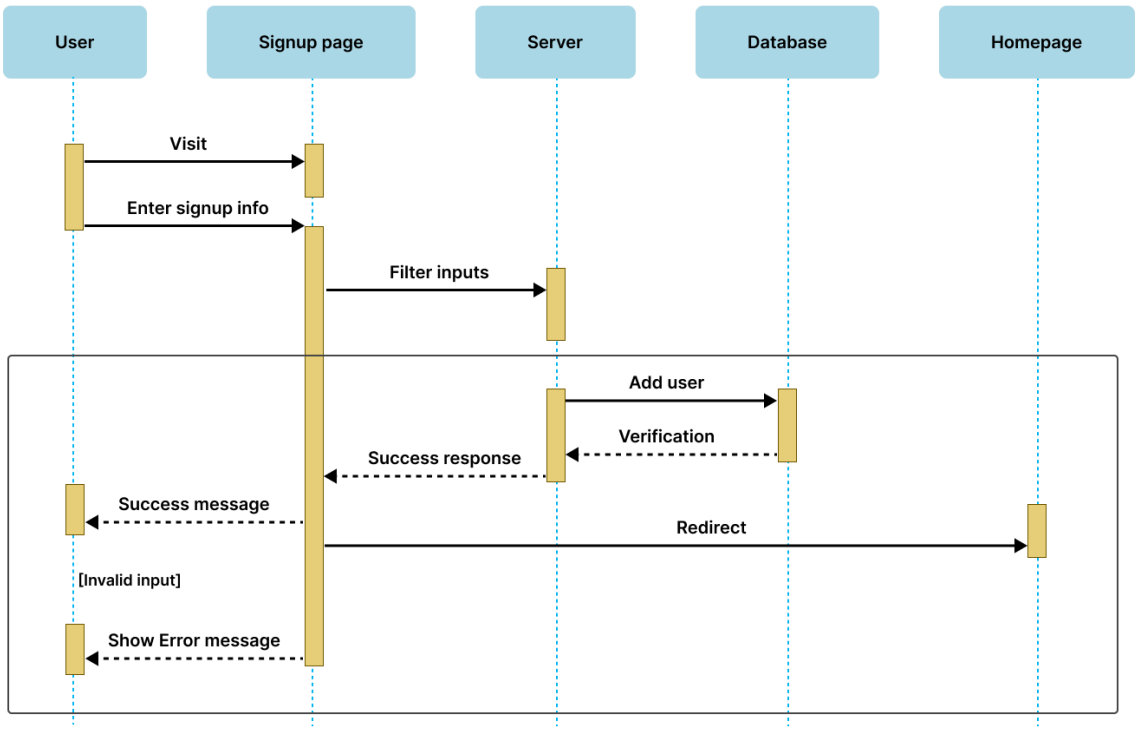
3.3.9 Manage Table Booking



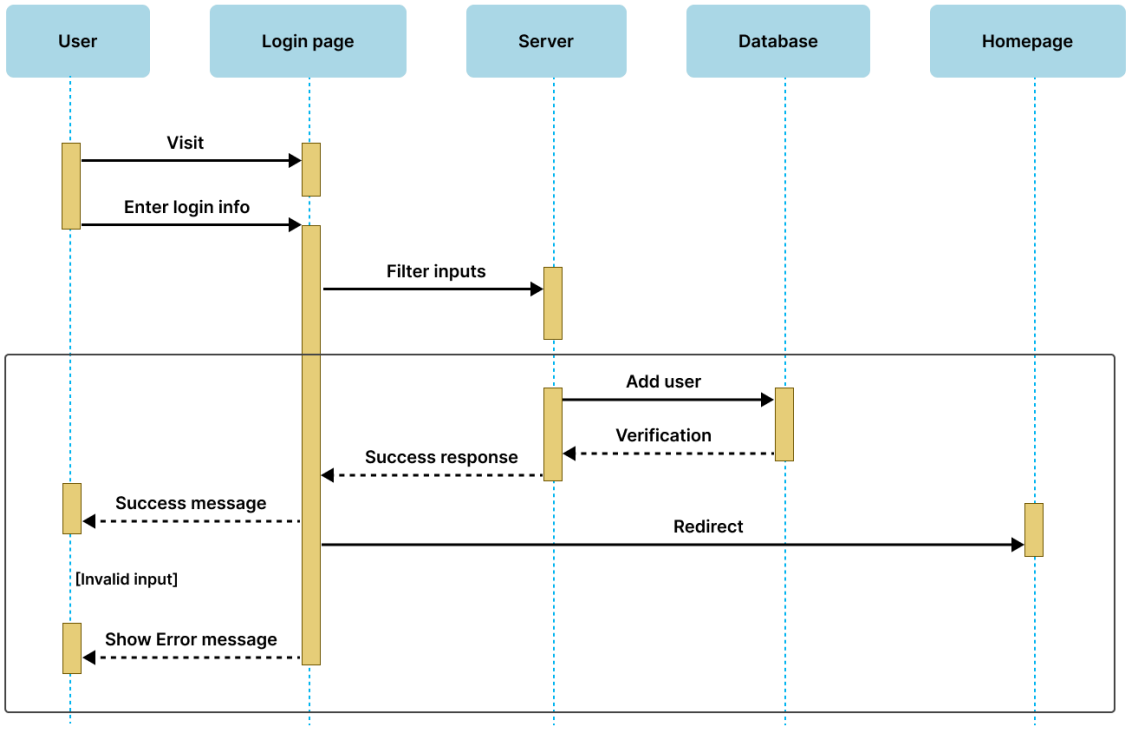
3.3.10 Deliver Order

3.4 Sequence Diagram

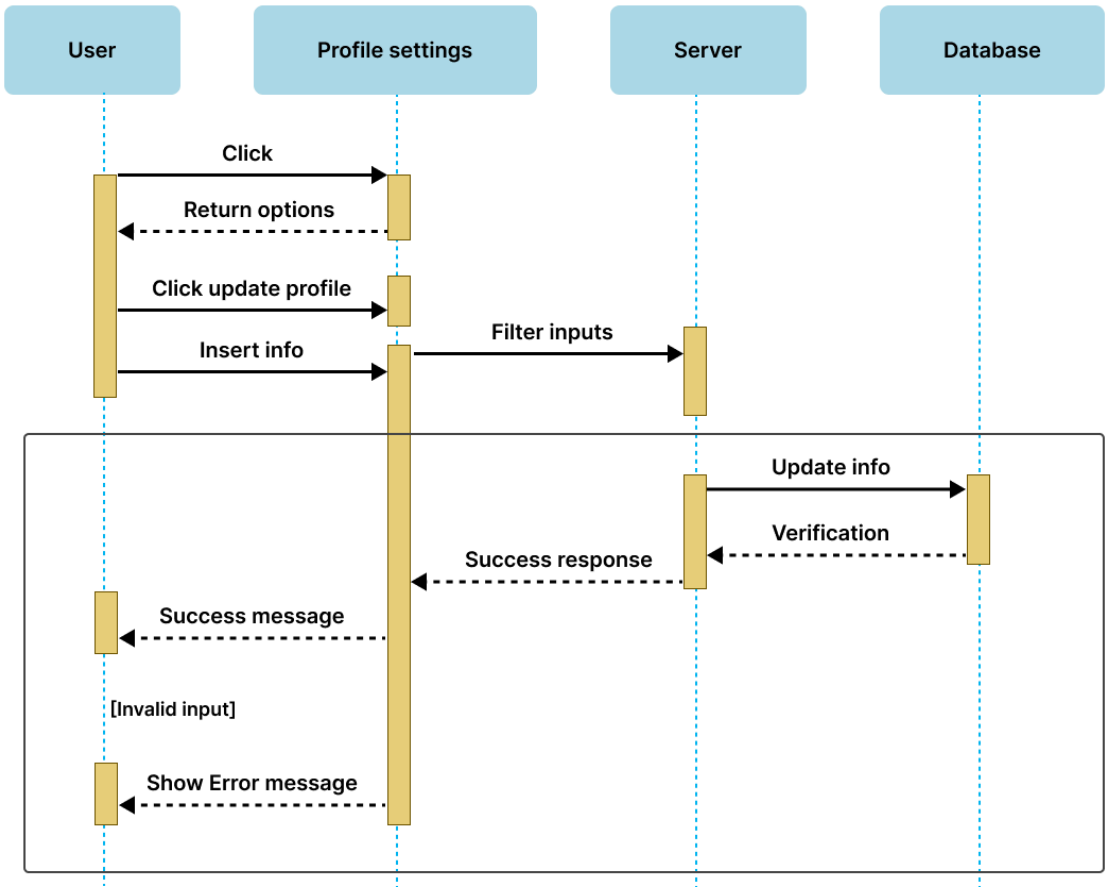
3.4.1 Registration



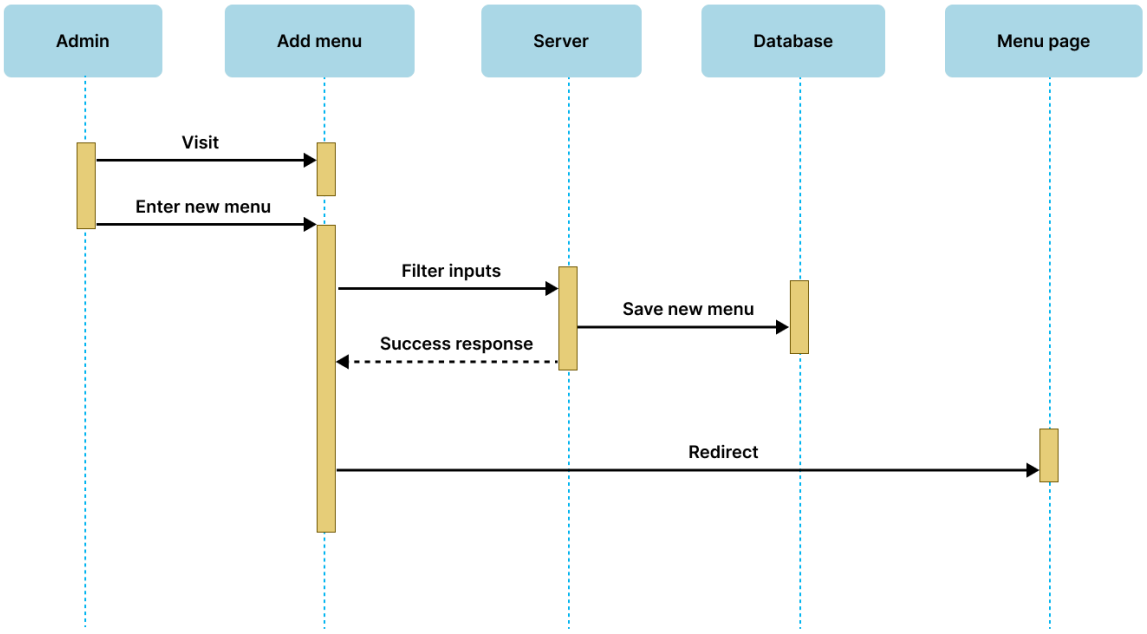
3.4.2 Log In



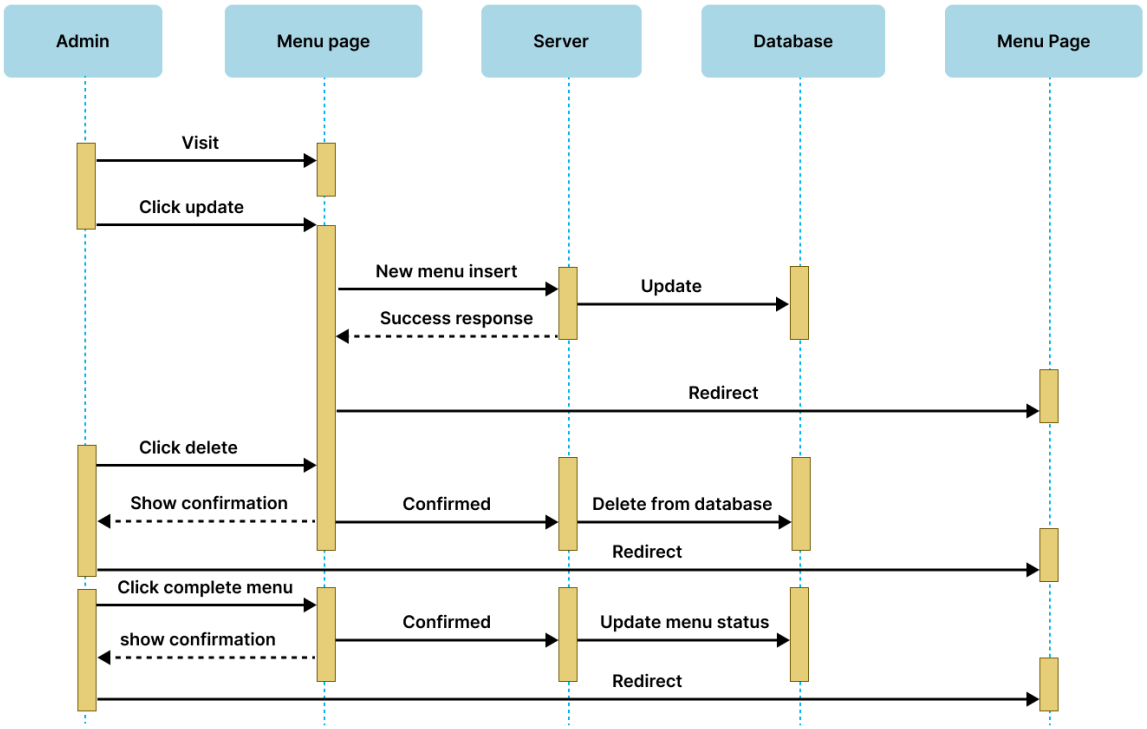
3.4.3 Manage Profile



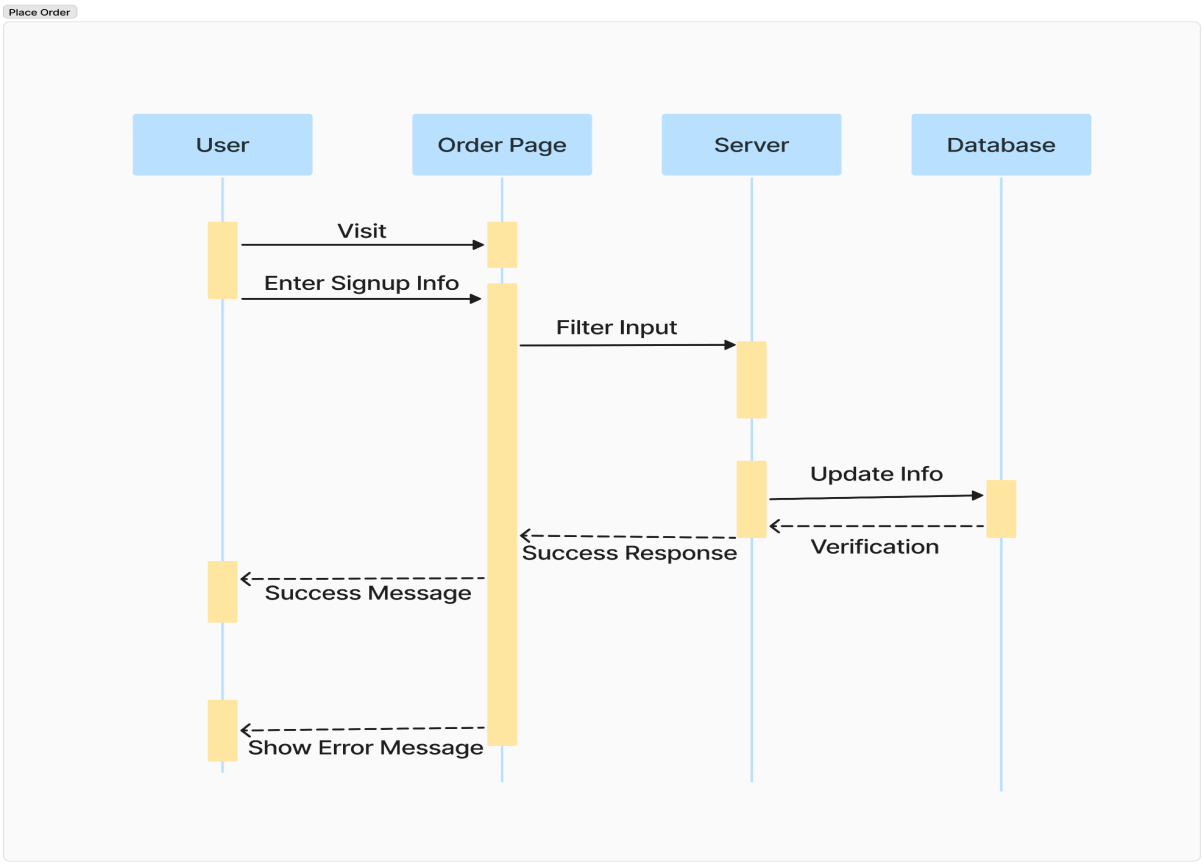
3.4.4 Add Menu



3.4.5 Update Menu



3.4.6 Place Order



3.5 ER Diagram

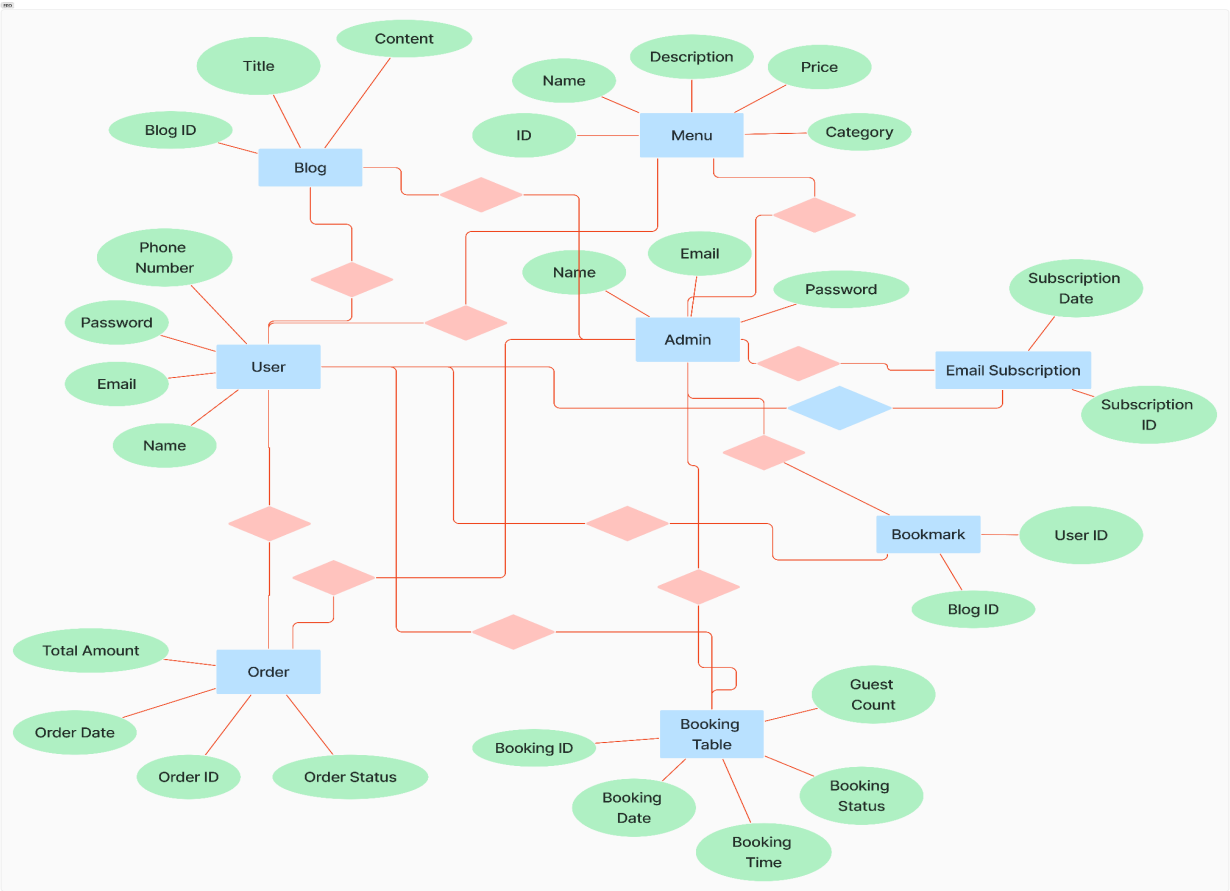


Figure 3.5.1: ER diagram

3.6 Class Diagram

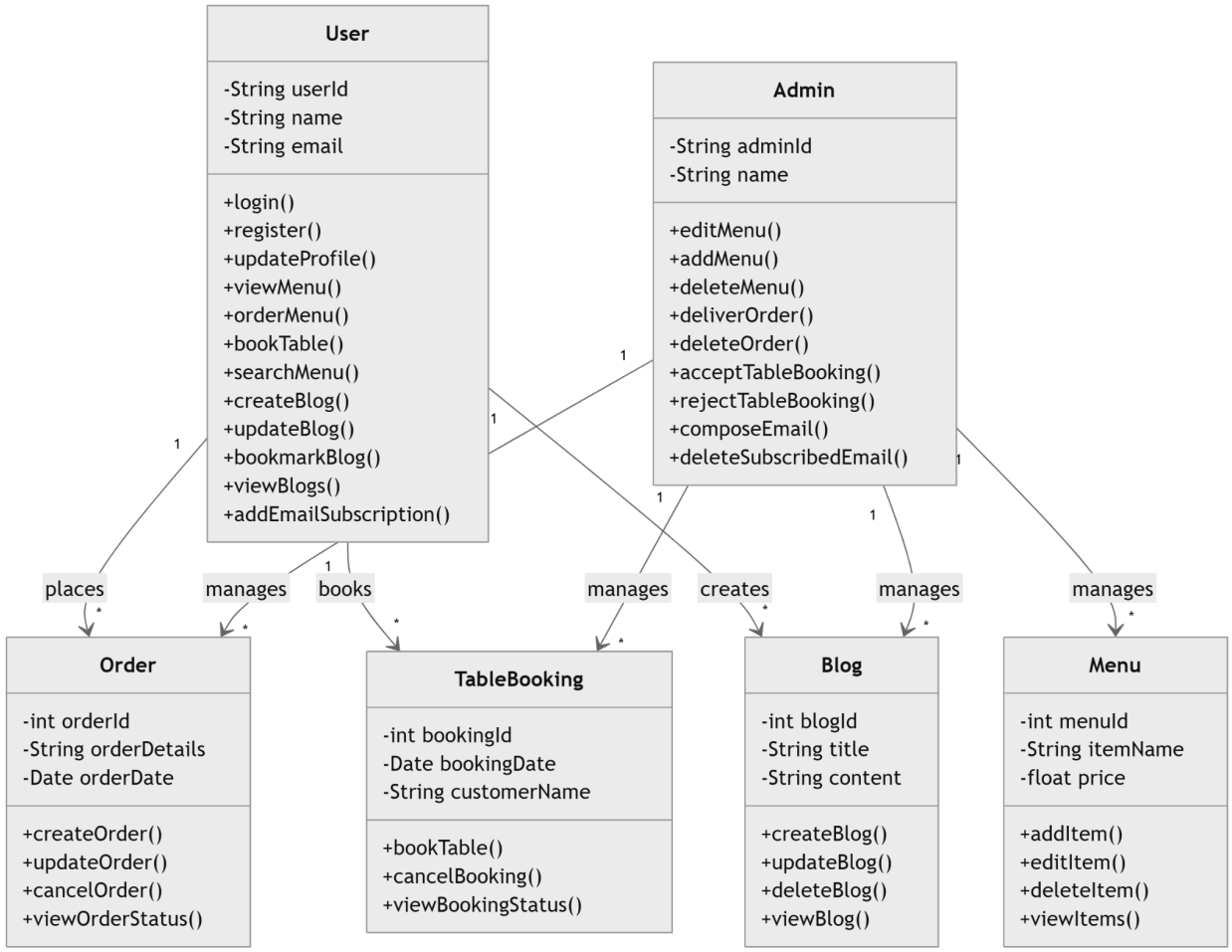


Figure 3.6.1: Class Diagram

Chapter 4: Development Tools and Technologies

4.1 Integrated Development Environment (IDE) / Code Editors

Integrated Development Environments (IDEs) and code editors play a vital role in making development efficient and manageable. They come equipped with debugging tools, build systems, and support for various extensions that enhance productivity. For the development of Cafe Vista, I primarily used Visual Studio Code (VS Code) as my code editor. VS Code is lightweight yet powerful, offering support for extensions like Prettier, ESLint, and Git, which streamline coding and debugging tasks. Its flexibility and ease of use make it an ideal choice for developing modern web applications.

4.2 Programming Language

The backend of Cafe Vista is developed using JavaScript through Node.js, which is a runtime environment for executing server-side JavaScript code. For templating and rendering dynamic web pages, I utilized EJS (Embedded JavaScript). EJS simplifies the generation of HTML by embedding JavaScript directly into templates. This approach ensures seamless integration between backend logic and frontend presentation.

4.3 User Interface Design

The user interface for Cafe Vista is crafted using EJS templates, which enable dynamic server-side rendering of HTML. The static assets such as SCSS and JavaScript files are stored in the public directory.

For styling, I used:

- SCSS: To maintain control over specific styles.
- Bootstrap: A CSS framework for responsive and aesthetically pleasing design.

This combination of tools ensures the user interface is clean, responsive, and consistent with modern design standards.

4.4 Database

Data is the backbone of any application. In Cafe Vista, data is categorized into two types:

Static Data: Data that remains unchanged (menu items, default configurations).

Dynamic Data: Data that changes over time (orders, user profiles).

To store and manage this data, I used MongoDB, a NoSQL database. MongoDB's flexible schema design and scalability make it ideal for handling dynamic and evolving data models. Data is stored in BSON (Binary JSON) format, enabling seamless integration with JavaScript.

To interact with MongoDB, I used Mongoose, an Object Document Model (ODM) library. Mongoose simplifies database operations by providing a schema-based solution for modeling application data.

4.5 Deploy and hosting

For the deployment of Cafe Vista, the project uses Vercel for hosting the web application, leveraging its seamless integration with GitHub to automate the deployment process. Vercel builds a continuous integration/continuous delivery (CI/CD) pipeline, handling all underlying configurations such as server setup, so the development team can focus on coding. Additionally, the database is hosted on MongoDB Atlas, which provides a reliable and scalable cloud-based solution for managing the data storage needs of the project. These platforms collectively ensure robust, efficient, and highly accessible deployment and hosting.

Chapter 5: System Testing

5.1 Test Approach

5.1.1 Feature to be tested

- User Registration
- User Login
- Profile Update
- Menu Viewing and Searching
- Order Place
- Table Booking

5.2 Testing Strategies

5.2.1 Test Approach

1. The system will be tested manually

2. System testing will be based on user acceptance criteria

5.2.2 Pass/Fail Criteria

- Component Pass/Fail Criteria – The test will pass if the case meets the object design requirements; otherwise, it will fail.
- Integration Pass/Fail Criteria – The test will pass if the case meets the object design architecture requirements; otherwise, it will fail.
- System Pass/Fail Criteria – The test will pass if the case meets the functional and non-functional requirements; otherwise, it will fail.

5.2.3 Suspension and Redemption

- Build Acceptance Test – The system will pass the test if every build is successful; otherwise, it will be retried.
- System Design Changes – The application should function correctly after each design change.

5.2.4 Testing Schedule

Test Phase	**Time**	**Tester**
Test Plan Creation	1 week	Iftekhar Mohammad Saimum
Test Specification Creation	2 weeks	Iftekhar Mohammad Saimum
Test Specification Team Review	2 weeks	Iftekhar Mohammad Saimum
Component Testing	2 weeks	Iftekhar Mohammad Saimum
Integration Testing	1 week	Iftekhar Mohammad Saimum
System Testing	1 week	Iftekhar Mohammad Saimum

5.3 Test Cases

5.3.1 Test Case 01: User registration

Test Case: 5.3.1	**Test Case Name: User Registration**
System: Cafe Vista	**Subsystem:** N/A
Designed by: Iftekhar Mohammad Saimum	**Design Date: 20-10-2024**
Executed by: Iftekhar Mohammad Saimum	**Execution Date: 02-11-2024**

Description: Enter the required details such as username, email address, and password. Then, proceed by clicking the "Continue" button or choose any registration option, such as Facebook, Google, or Microsoft. Finally, provide your username to complete the process.
Prerequisites: N/A

Test case number	**Test Data**	**Expected output**	**Actual output**	**Test Status**	**Comment**
TC1	Press continue without inputs	Showing error message that inputs are required	Showing error message that inputs are required	Pass	
TC2	Provide all information	User registered successfully	User registered successfully	Pass	

5.3.2 Test Case 02: User Login

Test Case: 5.3.2	**Test Case Name: User Login**
System: Cafe Vista	**Subsystem:** N/A
Designed by: Iftekhar Mohammad Saimum	**Design Date: 20-10-2024**
Executed by: Iftekhar Mohammad Saimum	**Execution Date: 02-11-2024**

Description: Put the necessary information like email address and password then hit login or click on login option like Facebook, google or Microsoft
Prerequisites: Already registered into the system

Test case number	**Test Data**	**Expected output**	**Actual output**	**Test Status**	**Comment**
TC1	Press continue without email	Showing error message that email is required	Showing error message that email is required	Pass	
TC2	Provide all information	User logged in successfully	User logged in successfully	Pass	

5.3.3 Test Case 03: Profile Update

Test Case: 5.3.3	**Test Case Name: Profile Update**
System: Cafe Vista	**Subsystem:** N/A
Designed by: Iftekhar Mohammad Saimum	**Design Date: 20-10-2024**
Executed by: Iftekhar Mohammad Saimum	**Execution Date: 02-11-2024**

Description: User can update his information like profile image, username, add email or update the password and finally delete the account
Prerequisites: Logged into the system

Test case number	**Test Data**	**Expected output**	**Actual output**	**Test Status**	**Comment**
TC1	User provide new username and hit continue	New username added	New username added	Pass	
TC2	User upload a new image	Previous image has removed & and new one added	Previous image has removed & and new one added	Pass	
TC3	User add new email address	User get confirmation email on that email	Previous image has removed & and new one added	Pass	

5.3.4 Test Case 04: Menu Viewing and Searching

Test Case: 5.3.4	**Test Case Name: Menu Viewing and Searching**
System: Cafe Vista	**Subsystem:** N/A
Designed by: Iftekhar Mohammad Saimum	**Design Date: 20-10-2024**
Executed by: Iftekhar Mohammad Saimum	**Execution Date: 02-11-2024**

Description: User can view menu and search item
Prerequisites: N/A

Test case number	**Test Data**	**Expected output**	**Actual output**	**Test Status**	**Comment**
TC1	User views menu	Menu items	Menu items	Pass	
TC2	Searches a product	Product displayed	Product displayed	Pass	

5.3.5 Test Case 05: Order Place

Test Case: 5.3.5	**Test Case Name: Order Place**
System: Cafe Vista	**Subsystem:** N/A
Designed by: Iftekhar Mohammad Saimum	**Design Date: 20-10-2024**
Executed by: Iftekhar Mohammad Saimum	**Execution Date: 02-11-2024**

Description: User can order any product from the menu
Prerequisites: Logged In

Test case number	**Test Data**	**Expected output**	**Actual output**	**Test Status**	**Comment**
TC1	Order a product from menu	Order Placed	Order Placed	Pass	
TC2	Order a product from search	Order placed	Order placed	Pass	

5.3.6 Test Case 06: Table Booking

Test Case: 5.3.6	**Test Case Name: Table Booking**
System: Cafe Vista	**Subsystem:** N/A
Designed by: Iftekhar Mohammad Saimum	**Design Date: 20-10-2024**
Executed by: Iftekhar Mohammad Saimum	**Execution Date: 02-11-2024**

Description: User can book a table
Prerequisites: Logged In

Test case number	**Test Data**	**Expected output**	**Actual output**	**Test Status**	**Comment**
TC1	Book Table for 1 Person	Booking Done	Booking Done	Pass	
TC2	Book Table for 1 Person	Booking Done	Booking Done	Pass	

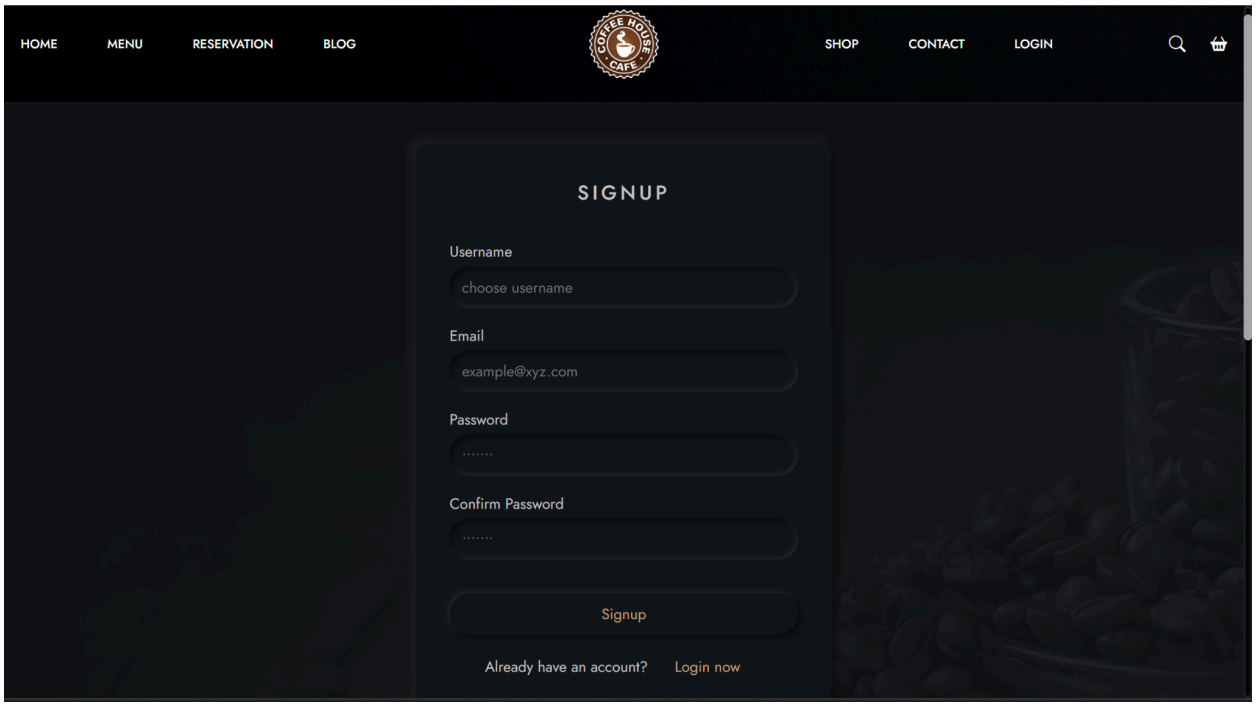
Chapter 6: User Manual

Admin Email: batman@gmail.com

Admin Password: batman

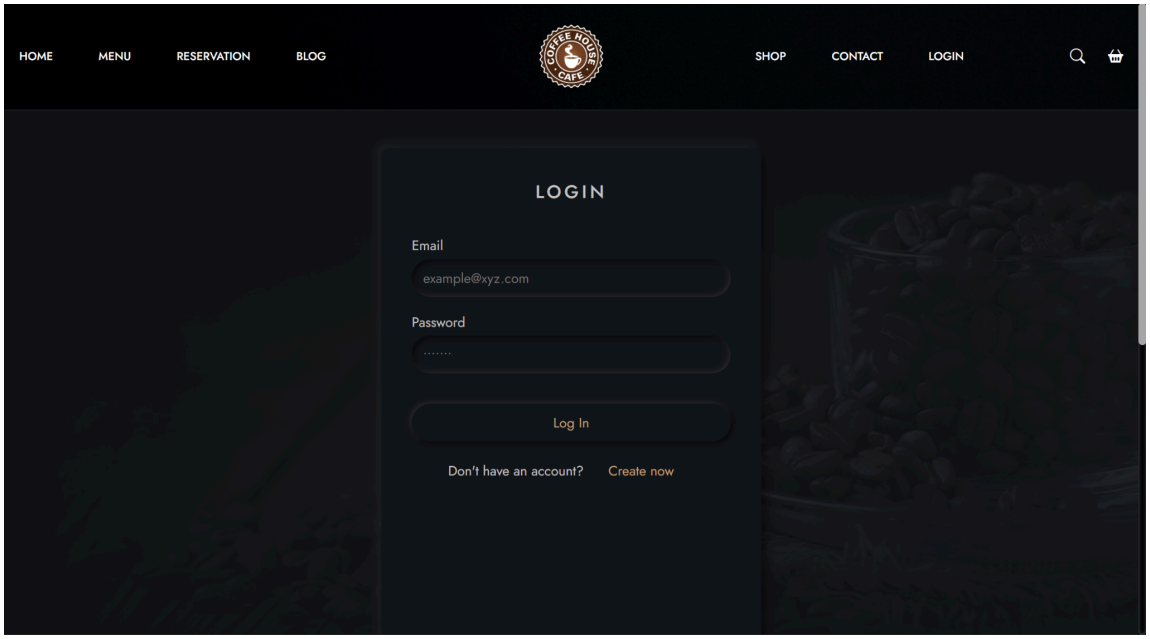
6.1 Registration page

User can register by providing User name, Email and Password



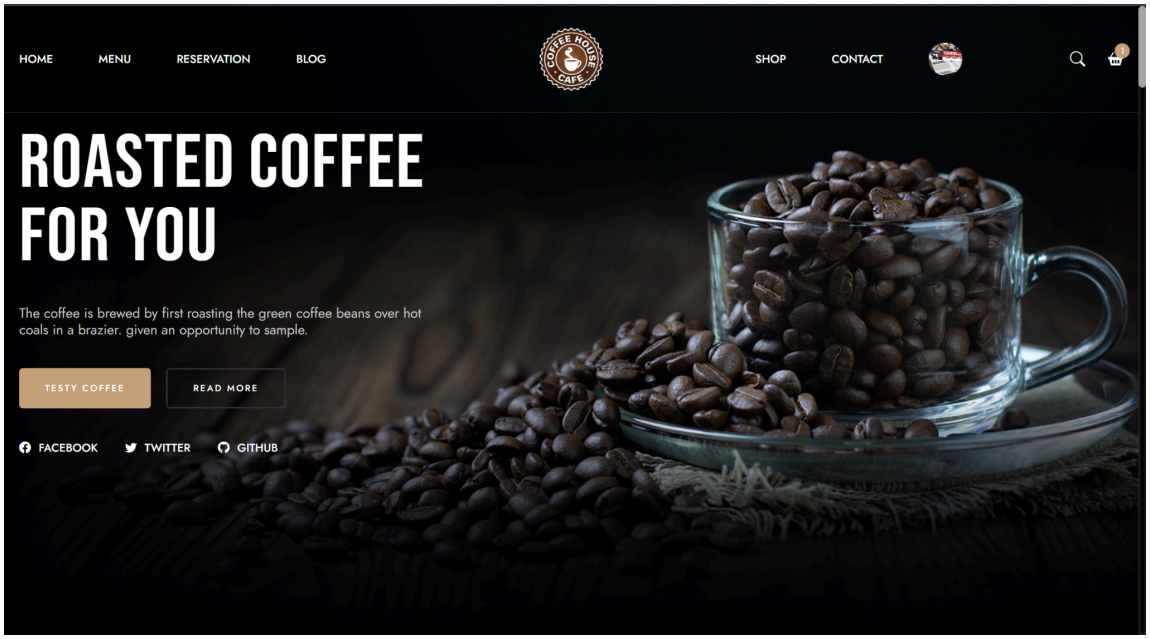
6.2 Log In page

User can login by providing Email and Password.



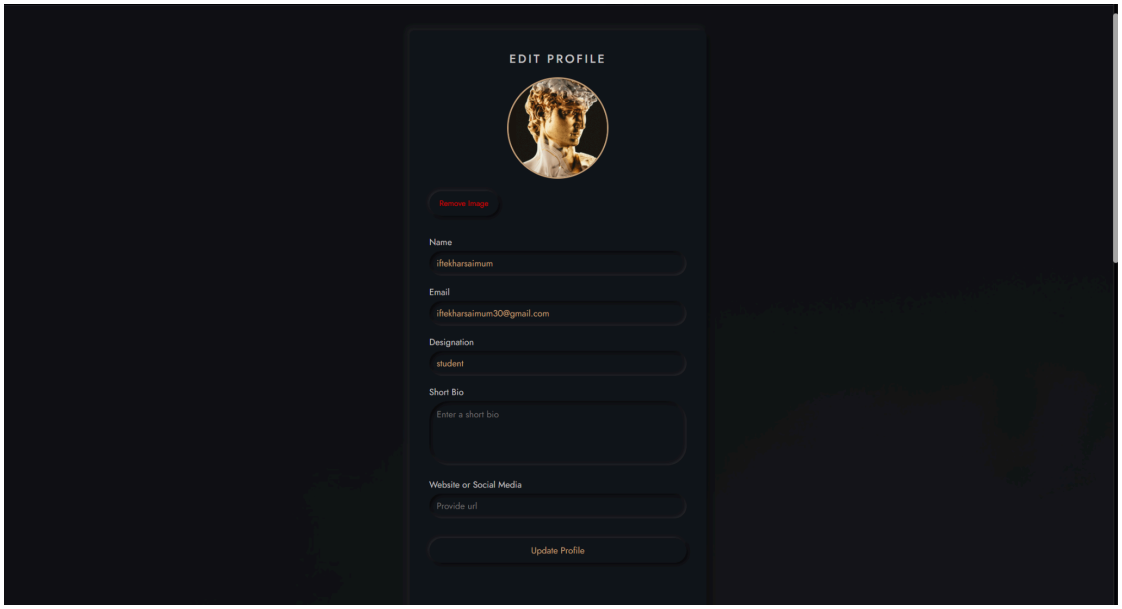
6.3 Home/Landing page

After login user will redirect to the home/Landing page.



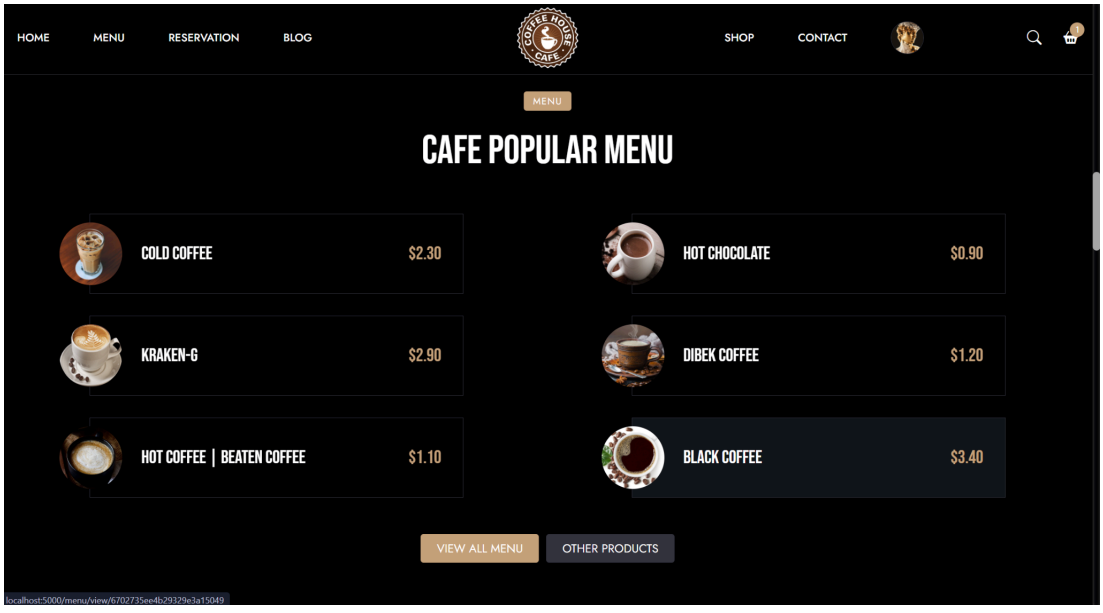
6.4 Update Profile

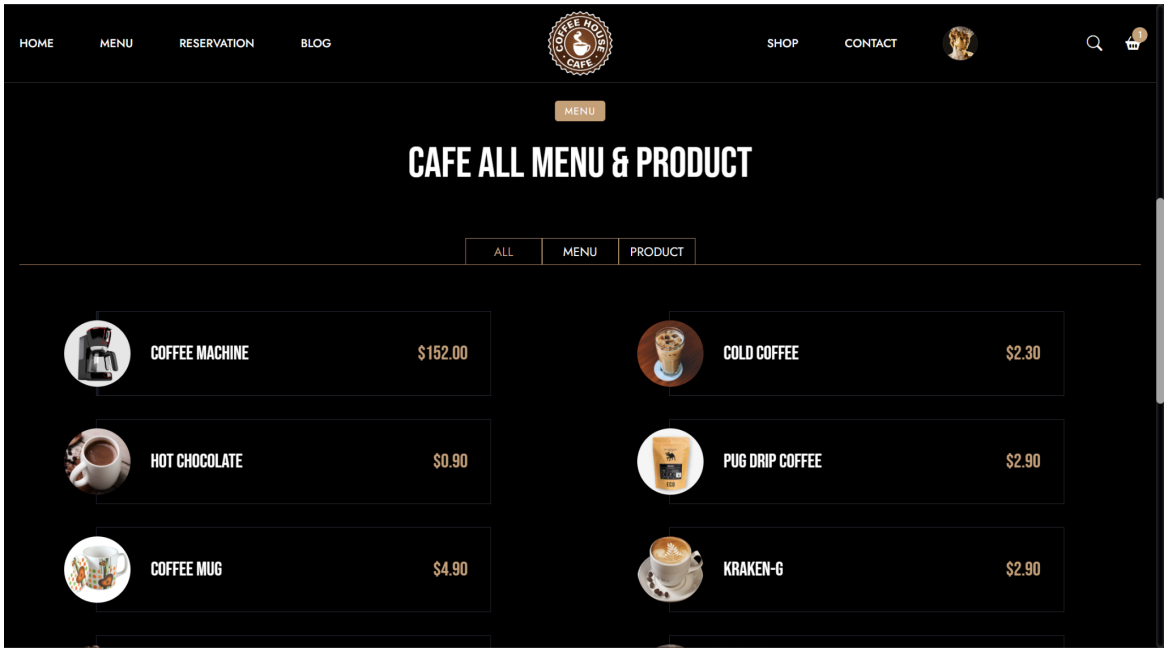
User can also edit the username, email, designation, bio and website or social links.



6.5 View Menu

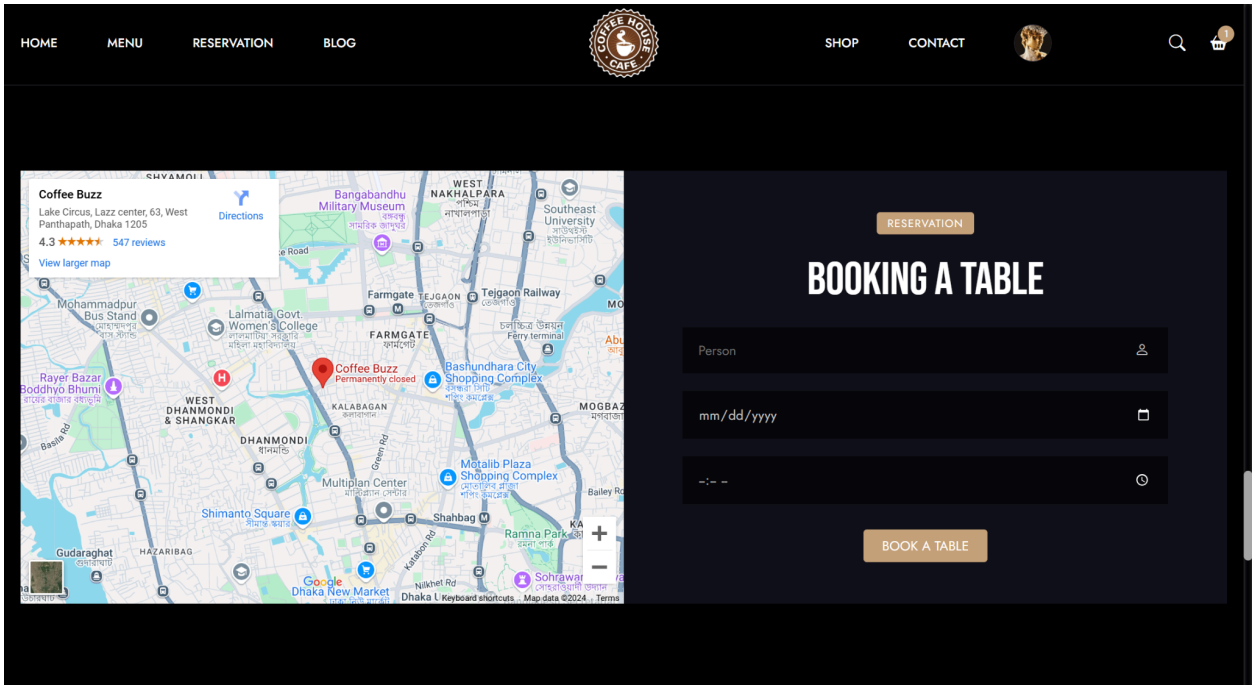
User can view menu from the menu section.





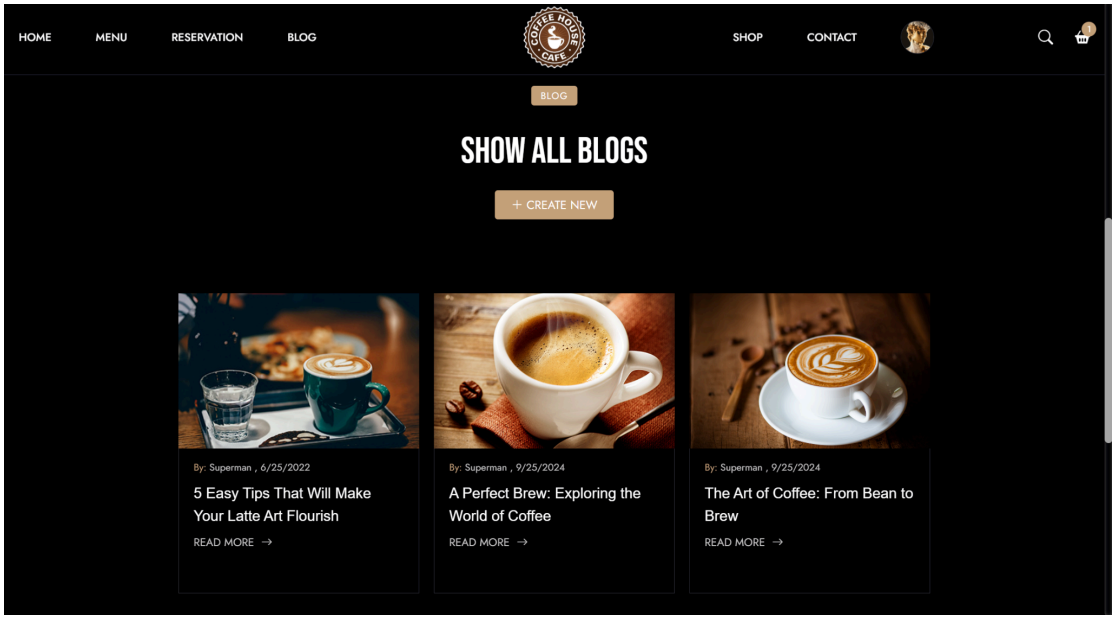
6.6 Table Booking

User can book table by providing number of persons, date and time.



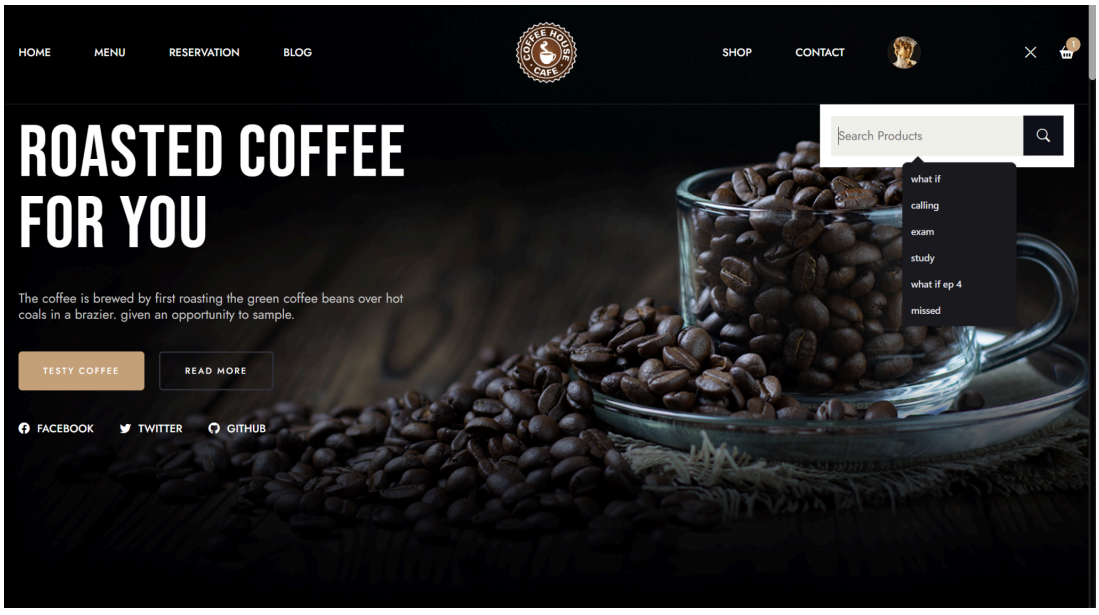
6.7 Blogs

User can write, read and edit their own blog posts.



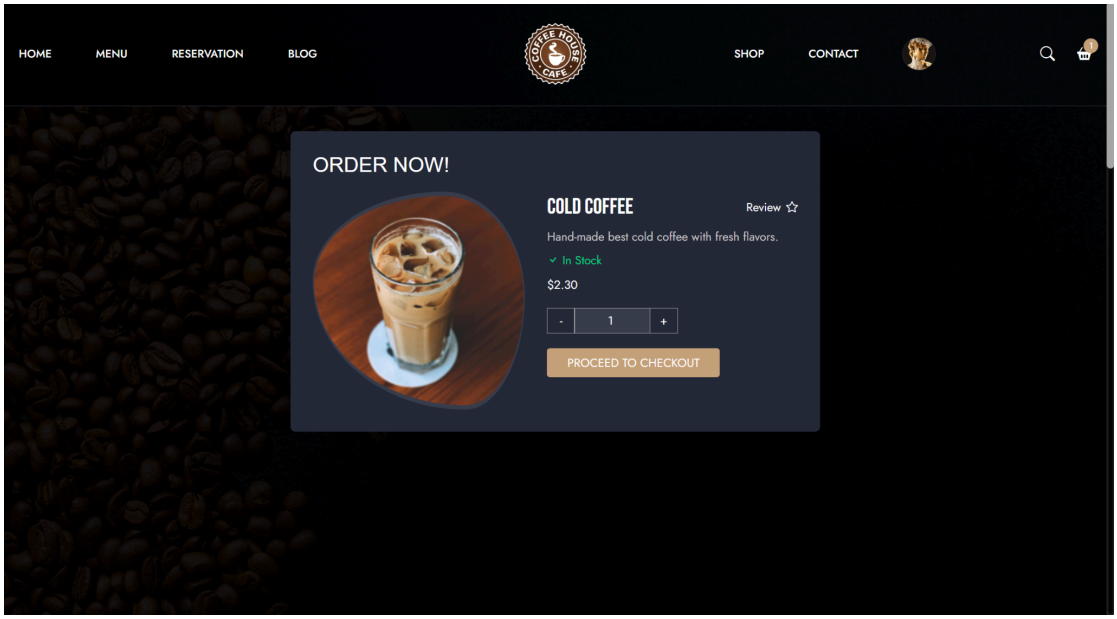
6.8 Search

User can search coffees and products.

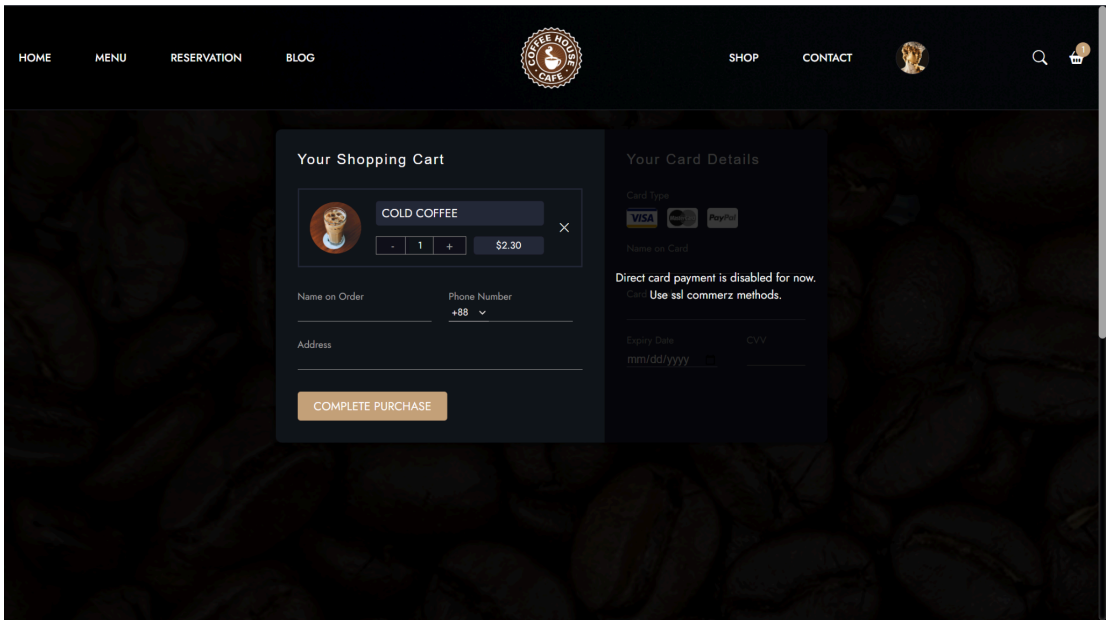


6.9 Order

User can choose and order it.

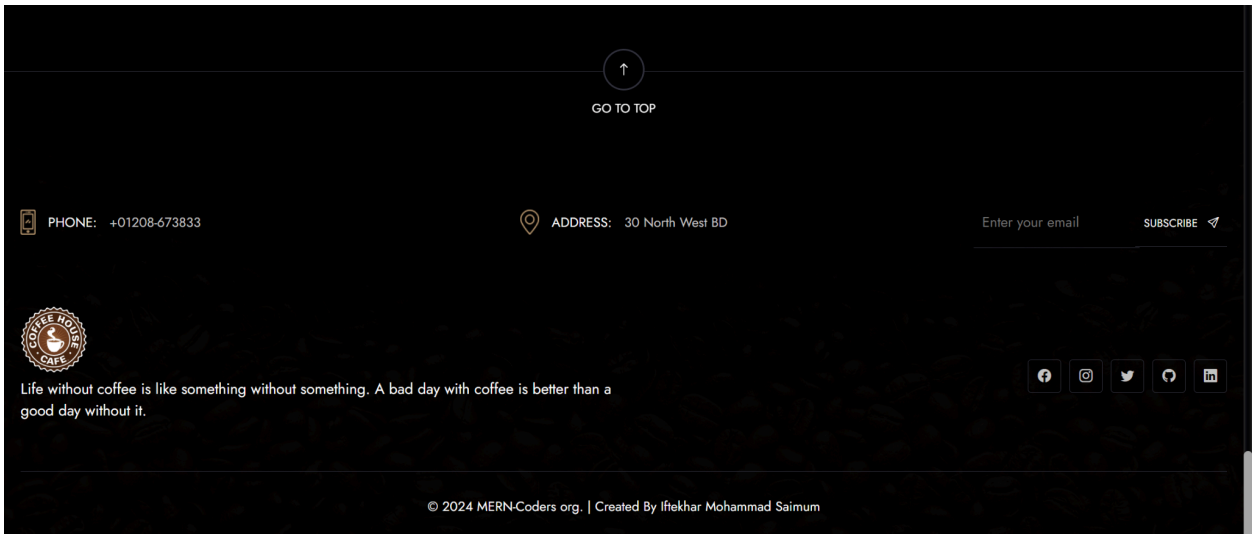


6.10 Check Out

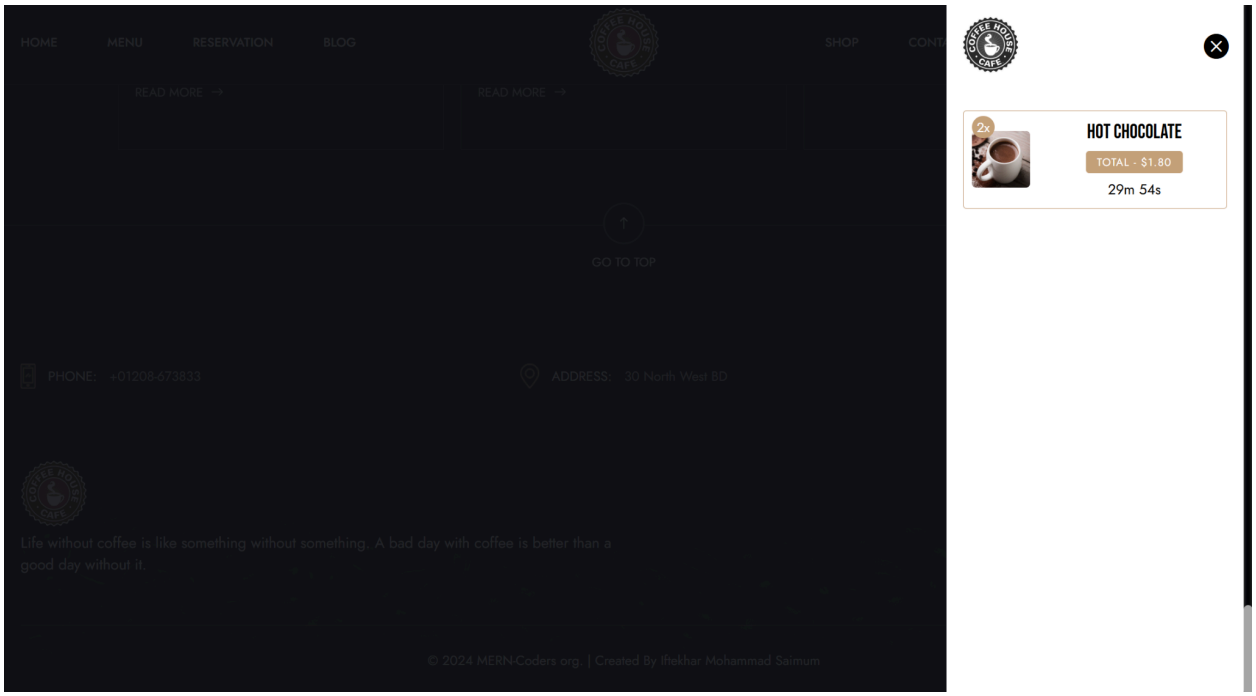


6.11 Contact

User can contact Cafe-Vista by call, email and other social media platforms.

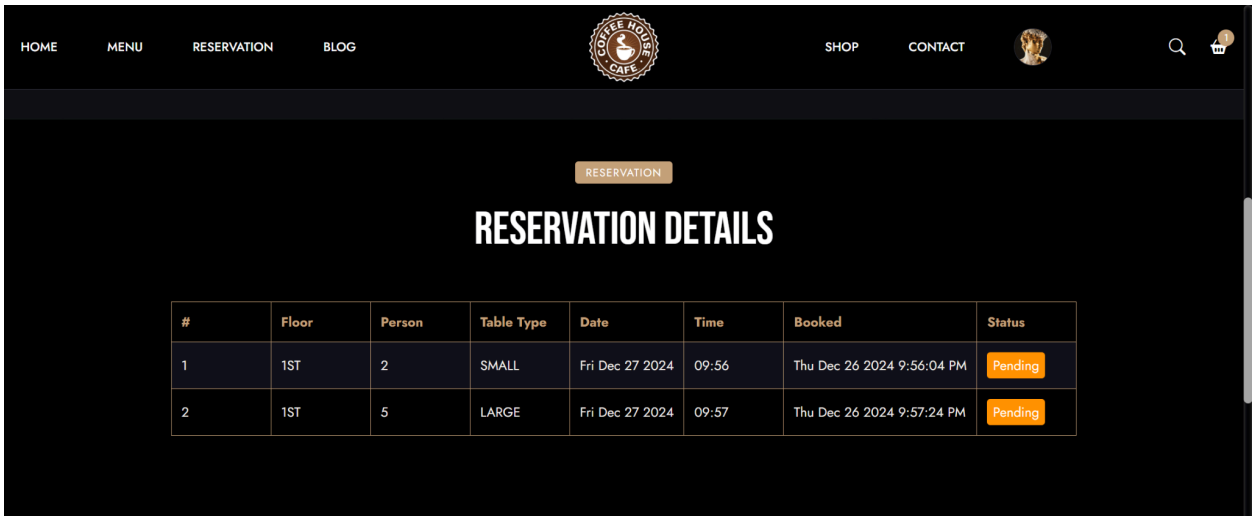


6.12 Cart



6.13 Reservation List

User can see their reservation list from the profile section.



Chapter 7: Project Summary

7.1 Introduction

Cafe Vista is a web-based application designed to simplify coffee shop operations and enhance the customer experience. It provides a wide range of features for both users and administrators. Customers can browse menus, reserve tables, update profiles, create blogs, and place orders, while administrators can manage the menu, handle orders, approve or reject table reservations, and manage email subscriptions. Built with technologies like Node.js, EJS, and MongoDB, the platform ensures flexibility, scalability, and security. With its dynamic content rendering, efficient database integration, and secure authentication system, Cafe Vista aims to create a seamless experience for users and administrators alike.

7.2 Project Limitations

Although Cafe Vista is a functional and efficient system, there are a few limitations:

1. Basic Frontend Implementation: The project relies on EJS for rendering web pages, which lacks the advanced features and interactivity offered by modern frontend libraries like React or Angular.
2. Internet Dependency: Since the platform is cloud-hosted, it requires a stable internet connection for users to access its features effectively.
3. Scalability Challenges: While MongoDB supports scaling, the application may require further optimization to handle extensive data loads or traffic spikes for large-scale coffee shop chains.
4. Limited AI Capabilities: Currently, the platform does not include advanced AI-driven features like predictive analytics or personalized recommendations.

7.3 Scope

The scope of Cafe Vista focuses on delivering a comprehensive management solution for coffee shops, with features such as:

- Customer-Focused Tools: Providing easy access to menus, table booking, profile management, blog creation, and order placement.
- Administrator Controls: Offering a robust system to manage menus, process orders, oversee table reservations, and handle email subscriptions.
- Scalability: Utilizing MongoDB and cloud-based hosting solutions to accommodate small to medium-sized businesses.
- Device Compatibility: Ensuring the platform functions smoothly across multiple browsers and devices.
- Secure Login Systems: Implementing authentication mechanisms to safeguard user and administrative data.

7.4 Future Work

To improve Cafe Vista, the following advancements can be made in future iterations:

1. Enhanced Frontend Framework: Transitioning to modern frontend technologies like React.js or Vue.js for a more dynamic user interface.
2. Mobile App Integration: Developing native or hybrid mobile applications to make the platform more accessible.
3. Artificial Intelligence Features: Adding personalized recommendations, predictive order analysis, and customer behavior insights.
4. Offline Functionality: Introducing offline access for core features using service workers and data caching.
5. Third-Party Services: Incorporating payment gateways, customer loyalty programs, and marketing tools to enhance usability and business management.

7.5 Conclusion

Cafe Vista provides an effective management system for coffee shops, addressing key needs for both customers and administrators. By leveraging modern technologies and cloud hosting, it offers a reliable and scalable solution tailored to small and medium-sized businesses. While there are areas for improvement, such as advanced interactivity and AI-powered features, the project lays a solid foundation for future enhancements. With continuous development, Cafe Vista can evolve into a highly innovative and user-friendly platform for managing coffee shops in the digital age.

Appendix A

Reference Links:

- https://www.w3schools.com/
- https://www.php.net/
- https://getbootstrap.com/
- https://dev.mysql.com/doc/
- https://laravel.com/docs
- https://developer.mozilla.org/
- https://nextjs.org/docs
- https://www.kaggle.com/

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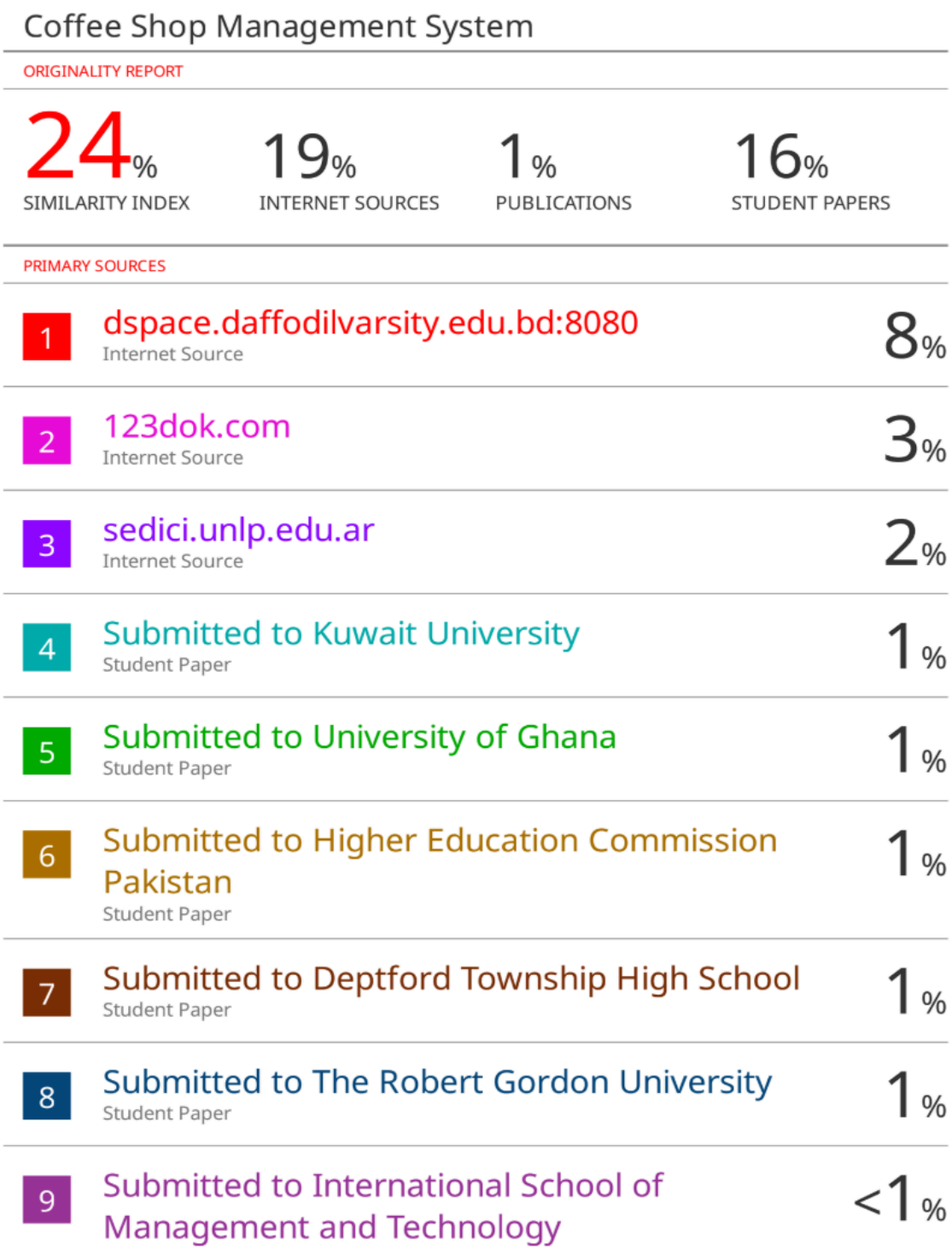

Coffee Shop Management System

ORIGINALITY REPORT

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