



**An Undergraduate Internship/Project on
Food Delivery Website and Management System**
Using MVC Framework

By

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Dissertation submitted in partial fulfillment for the degree of Bachelor of
Science in Computer Science

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Attestation

This is to certify that the report titled “Food Delivery Website and Management System using MVC Framework” was completed by Mahir Al Kamal (1810659) submitted in partial fulfillment of the requirement for the Degree of Computer Science Engineering from Independent University, Bangladesh (IUB). Mr. Sheikh Abujar (Internal Supervisor) and Mr. Touhid Alam (External Supervisor) guided the work. I further certify that all of my work is original and has not previously been submitted to this or any other organization. In this Report, all of the sources of information used have been properly recognized.

Signature

Date

Mahir Al Kamal

Name

Acknowledgement

I would like to use this time to thank everyone who has helped me throughout the course. Throughout the internship, I am grateful for their aspiring guiding, invaluable constructive criticism, and pleasant advise. I am grateful to them for giving their honest and enlightening perspectives on a variety of topics linked to the course. I am grateful to **Independent University, Bangladesh (IUB)** for offering me this course and I express my thanks to my faculty and internship supervisor, **Mr. Sheikh Abujar**. I am very much grateful towards my external supervisor, **Mr. Touhid Alam** for his guidance and support that I needed for the fulfillment of my internship. I also want to offer my extraordinary thanks and gratitude to my colleagues at **Devenport** for giving me such consideration and time and directing me through the internship. I also want to thank my parents for who have not only supported me financially but have always believed in me and always motivated me to accomplish the things that I achieved.

Letter of Transmittal

Date:

Sheikh Abujar
Lecturer
School of Engineering, Technology & Sciences
Independent University Bangladesh.

Subject: Submission of Internship Report, Summer 2021.

Dear Sir,

It gives me great pleasure to present my report on my Devenport Internship. In this report, I have attempted to describe my internship's efforts, accomplishments, and experiences. All of the pieces on display have been created with the utmost sincerity and honesty.

During my internship, I spent three months in Devenport, where I not only received real-world job experience but also gained a better understanding of the department's processes and numerous elements. This report provides a thorough examination of the office as well as the department's functions. As a document of my effort during the internship periods I have documented all the project works that I have done during my internship periods.

I pray and hope that you will find this report fascinating and that it will meet your expectations. I have done my best to prevent any flaws, and I hope that my report will meet your expectations. I would also like to express my gratitude for allowing me to submit this report.

Sincerely,
Mahir Al Kamal
ID: 1810659

Evaluation Committee

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Supervisor

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Internal Examiner

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Convener

Abstract

Several industry patterns have shifted dramatically as a result of Covid-19-related restrictions and lockdown. The restaurant industry has evolved from serving in-house clients to operating online via various channels. As a result, online food delivery businesses have exploded.

“Devenport” opted to go into the food sector as a bespoke software development farm, creating a “Food Delivery Website and Management System utilizing MVC Framework.” Clients will be able to order food directly from the website, which will feature menus from various eateries. Restaurants can use the website to make changes to their menus and to advertise special offers. Restaurant administrators can see the client list, restaurant list, and any current orders in the restaurants. Restaurants can also use the management panel to build and generate a variety of reports to help them stay on top of current customer trends.

A Progressive Web App is ”Food Delivery Website and Management System using MVC Framework” (PWA). We employed server-side rendering for our project (SSR). It is a three-tiered structure. Each tier can be constructed concurrently by a separate development team and upgraded or scaled as needed without affecting the other tiers because each runs on its own infrastructure.

We have also covered a lot about the engineering problem analysis and the issues that came up during the development process in this report. One of our key future goals for our system is the development and implementation of a mobile app. As a result, the general public will be able to access our system more readily.

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Chapter 1

Introduction

1.1 Overview/Background of the Work

We are living in an unprecedented time. With Covid-19 related restrictions and lock-down becoming the norm several industry trends have taken sharp turns. Restaurant business has shifted from serving in house guests to operating online through different platforms. This has led to a boom in online food delivery services. As a result, Bangladesh's food sector is slowly but steadily growing, and the popularity of food delivery websites is growing by the day. Consumers can obtain a quick and easy order process with online delivery sites because every option is available on the website, and businesses can serve customers beyond their in-house capacity. "Devenport" decided to enter the food business as a bespoke software development farm and developed a "Food Delivery Website and Management System utilizing MVC Framework."

Different restaurants will post their menus to this website, and clients will be able to order food directly from the website. Customers will only view eateries in their specific areas. Restaurants can use the website to update their menus and add special deals. The client list, restaurant list, and any on-going orders in the restaurants are all visible to restaurant administrators. Admins can use the management panel to manage all parts of the website, including sending user-targeted notifications. The management panel also allows restaurants to create and generate several types of reports to aid in the knowledge of current consumer trends. This website has all of the necessary features to deliver a fantastic user experience.

1.2 Objectives

Every business, including the food industry, is heading toward automation as a result of the advent of automation. The major goal of this project is to give customers a pleasant experience while ordering meals and to make it easier for restaurants to manage

and execute online orders.

Customers are unable to visit restaurants as a result of the spreading pandemic, and restaurants are losing money. For both parties, an online meal delivery website addresses problems. Customers can order food from the comfort of their own homes, while eateries can receive and serve orders without having to engage physically. An online website can also be used for marketing and promotion. They can entice users with discounts and unique offers. They may manage orders through the internet, making it easy to keep track of sales and market share.

1.3 Scopes

- **Manage User:** Admins can add user, edit user information, deactivate user through the management panel.
- **Place Order:** Customers can view restaurants that are available in their respective areas. The customers can view the restaurant menu without signing up but to place order customers need to sign up and login to their account on the website. The customers can only order from one restaurant in one order.
- **Search Restaurants:** Customers can search for specific restaurants in their area and the restaurant will show up if it is located near his area.
- **Add Address:** Customers can add multiple addresses in their profile at the same time.
- **Register Restaurants:** Admins can register restaurants on the website through the management panel.
- **Upload Menu:** Restaurants can upload and edit their menus.
- **Show Featured Item:** Restaurants can show their best-selling items through the featured item feature.
- **Add offer:** Restaurants can add different offers and also set the duration for which the offers will be active. The offers will get deactivated automatically after the set time.
- **Send Notification:** Restaurants can send user centric notifications.

- **Setup Zonal Area:** Admins can setup different zones for specific restaurants. Through this, only those specific restaurants will be visible for customers.
- **Set Delivery Charge:** Admins can setup different delivery charges for different zone.
- **Generate Report:** Restaurants and admins can generate “User acquisition Report”, “Rider Report”, “Order Report” (customer wise), “Order Report” (restaurant wise) etc for doing analysis.

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

Web Application and Internet, CSE 309: This is the course where web application development is taught. HTML, CSS, JavaScript, jQuery, PHP, MySQL, Apache Server, Xampp, and other vital technologies that are in great demand in the market were covered.

Database Management, CSE 303 : I learned how to develop and plan a project in this class. Six Element Analysis, Problem Analysis, System Development Life Cycle, Rich Picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model, Normalization, and many more planning and strategy approaches were covered.

Object-Oriented Programming, CSE 213: The majority of data in the emerging business is represented as an object. It also taught students how to construct modular programs, which reduced code repetition and increased reuse.

Data Structures, CSE 203: This is the most fundamental course that introduced us to the concepts of many data structures and their applications, such as the Stack, Queue, Linked List, Array, and Pointer.

System Analysis and Design, CSE 307: This is a course in computer science that teaches students how to analyze and design systems. This course provides an overview of the Used Case Diagram, Used Case Scenario, and SDLCs, as well as how to apply them to a project.

2.2 Related works

In Bangladesh the renowned companies or organizations that are providing the similar type of services are **FoodPanda**, **HungryNaki** and **FoodFex**. They are providing the users with web based portals through which the users can order and receive food.

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

A deliverable-oriented breakdown of a project into smaller components is known as a work-breakdown structure (WBS). It may also be described as a hierarchical deconstruction of the overall scope of work that the project team must complete in order to meet the project's objectives and establish the project. For our project we have created a WBS usng the top down approach.

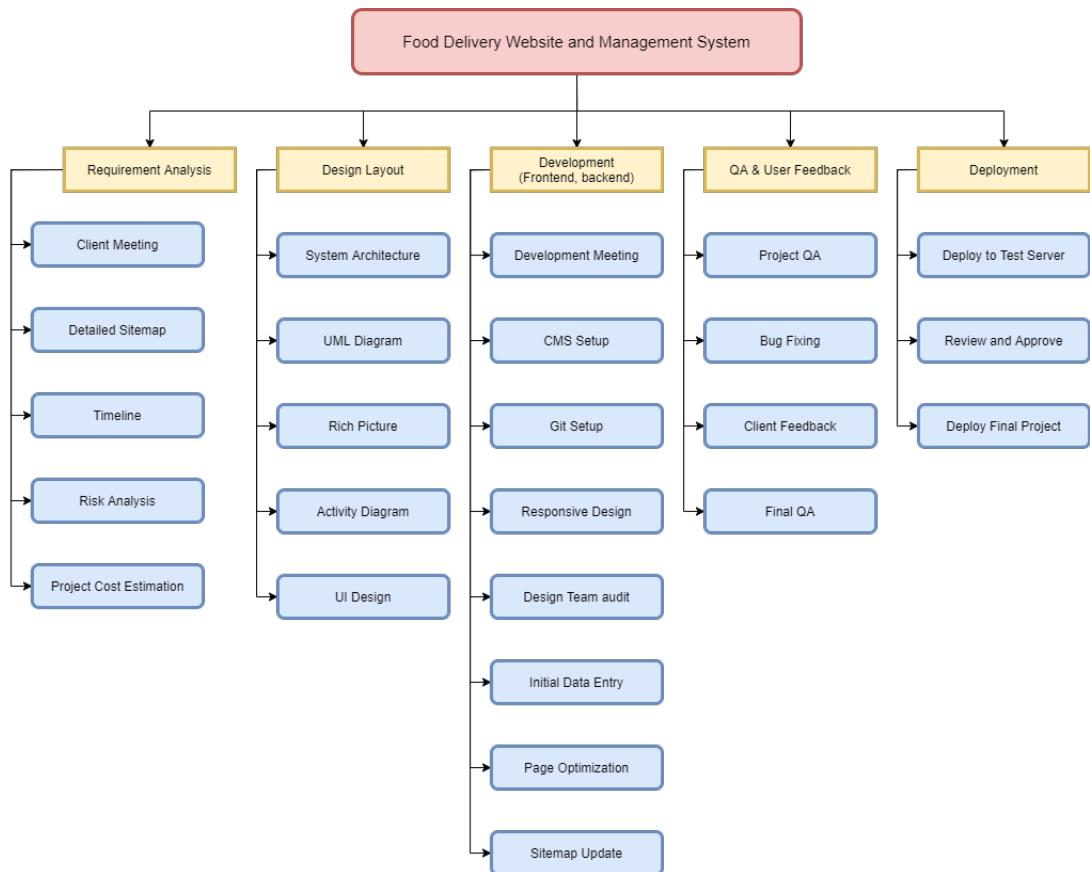


Figure 3.1: WBS of Food Delivery Website and Management System

3.2 Process/Activity wise Time Distribution

For all the sections in the WBS Diagram above we have allocated the approximate time required to complete the tasks.

Task	Days	Work Percentage(%)
Requirement Analysis	15	14%
Design Layout	10	9%
Development	45	41%
QA and User Feedback	30	27%
Deployment	10	9%
Total	110	100%

Table 3.1: Time Distribution for Food Delivery Website and Management System

3.3 Gantt Chart

We have planned and scheduled all the different tasks that are needed to be done through the use of Gantt chart. The Gantt Chart for our project is provided below.

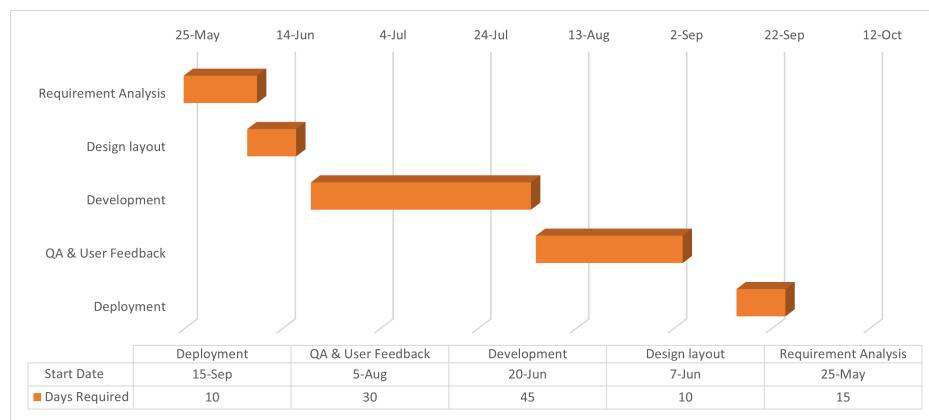


Figure 3.2: Gantt Chart for Food Delivery Website and Management System

3.4 Process/Activity wise Resource Allocation

The general public will utilize the Food Delivery Website to order and receive food from the comfort of their own homes. As a result, all of the necessary resources were assigned to the project's development and implementation. The developers are the project's most important resource. Then there are the resources, such as computers, servers, and even furniture, which are all considered resources.

Requirement Analysis: This is the first step in a project's development. The requirement analysis team met with the clients to figure out what they needed. Consider the things that customers want on their website.

Design Layout: Using Figma Software, the UI/UX designers create mock designs for the website in this step. This served as a roadmap for the front end developers while they built the website.

Development: The developers working on the project are assigned in this step. The senior developer is in charge of delegating tasks to their subordinates. A weekly goal has been set for the developers. The development process was expected to be sluggish due to a rigorous lockdown imposed due to the COVID-19 outbreak, which would obstruct communication because the developers would be working from home. The project was put in a test server for testing purposes while it was in development.

QA and User Feedback: The project is given to the QA team for testing after it has been developed. The QA team looks for bugs and communicates them to the developers so they may be fixed. The project is given to the client for feedback once the QA team is pleased with it. It is resolved if the client has any feedback.

Deployment: The project is finally made live and deployed into the live server once the client is satisfied with the final result.

Even though the development phase is complete, the website may experience bugs on the live server after launch. These flaws and issues will be addressed as soon as they are discovered. This is a iterative process.

3.5 Estimated Costing

The cost for the project has been determined as per the requirements by the client. The cost included all the separate components such as Sample UI Design, Logo design etc.

Work Distribution	Costing(BDT)
Development	60000
Server Cost (Yearly)	40000
Maintenance (Monthly)	7000

Table 3.2: Estimated Cost for Food Delivery Website and Management System

Chapter 4

Methodology

It is critical to follow the correct processes when constructing any website. Because there is a possibility of failure, which can be quite costly. It is impossible to complete a huge project without risking failure. As a result, breaking a major project workflow into tiny components and simplifying the design process is highly convenient. A web application can be developed in a similar fashion using the "Iterative" process. [1]

Iterative technique is a cyclic process that involves prototyping, designing, testing, evaluating, and refining a website. Iterative approach is divided into five steps.

- **Stage 1: Planning:** The project begins with meticulous planning in compliance with the specifications. User feedback must be collected and analyzed in order to create the requirements.
- **Stage 2: Analysis and Design:** After planning, the business logic needs to be determined. Business logic allows the database and the end-users to communicate. The job list and task assignment are implemented at this level. It is also crucial to set time limits for each task.
- **Stage 3: Implementation:** Begin the development process based on the requirements and input from users. The development team and the client discuss the jobs' priority and details prior to the start of each iteration. Normally, all code changes are submitted to the test server first.
- **Stage 4: Testing:** Testing is essential once the development team has done coding to discover and correct any faults or weaknesses. Testing a product is not enough; quality assurance engineers offer feedback on the product and its documentation.
- **Stage 5: Evaluation:** In the iterative design process, evaluation is the last step. The client and the development team assess the prototype to see if it meets all of the requirements.

If anything is missing, the whole process will be repeated.

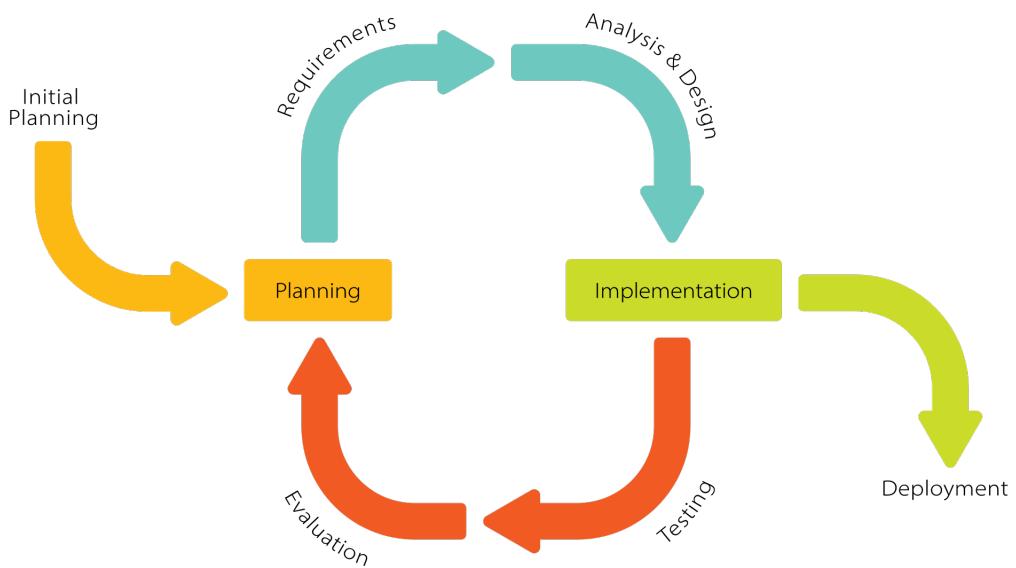


Figure 4.1: Pictorial representation of Iterative Methodology

Chapter 5

Body of the Project

5.1 Work Description

Food Delivery Website and Management System is a Devenport-developed online platform that allows users to browse for restaurants in their neighborhood and place orders. Restaurants can register on the platform and handle all areas of their businesses, from menu management to offering special deals to the general public. Users can add numerous addresses to their profile to make receiving deliveries more convenient. The website administrators have access to all of the restaurant's functions and can manage them. Restaurant orders can also be handled by the website operating team if the eateries themselves are unable to do so. Website administrators can send out user-centric notifications using the management platform. There's also the option to generate several sorts of reports, which may be downloaded as an Excel or PDF file directly from the website. They can also print the document if there is a printer connected to the computer beforehand. It is essentially a customizable platform that allows clients or anyone buying the product to add as many features as they like.

As an intern, I was responsible for designing features such as the website's user profile, the management panel's manage user feature, and the management panel's manage restaurant function. Apart from that, I was tasked with addressing a number of bugs, including one that occurred during a rapid search and another that occurred during Google Sign-up.

5.2 System Analysis

5.2.1 Six Element Analysis

Process Name	System Roles					
	Human	Non-Computing Hardware	Computing Hardware	Software	Database	Communication and Networking
Order Food	General User	N/A	Mobile/computer	Browser	MySQL	Wifi/LAN
Manage Order	Restaurant Admin	N/A	Computer	Browser/Whatsapp	MySQL	Wifi/LAN
Manage Restaurant	Restaurant Admin	N/A	Computer	Browser	MySQL	Wifi/LAN
Setup Zone	Web Admin	N/A	Computer	Browser/Google Map	MySQL	Wifi/LAN

Table 5.1: Six Element Analysis of Food Delivery Website and Management System

5.2.2 Feasibility Analysis

The preliminary investigation determined that the required system is possible, which is a significant outcome. A feasibility study is conducted to determine the optimal system for meeting the performance requirements.

A feasibility study is both important and sensible for determining the project's feasibility as soon as possible. It entails conducting preliminary research into the project and determining whether the developed system will be beneficial to the organization. If an ill-conceived system is identified early in the definition process, months or years of labor, thousands of dollars, and immense professional disgrace can be avoided.

Technical feasibility, operational feasibility, and economic feasibility are the three categories of feasibility.

- **Technical Feasibility:** The term "technical feasibility" refers to both the hardware and software requirements. To carry out this technical feasibility, we must determine whether the necessary technology and suggested equipment have the ability to keep the data that is utilized in the project. This technical feasibility analysis determines whether the appropriate resources and technology are available for project development. In addition, a feasibility study examines the technical skills and capabilities of the technical team, whether existing technology can be used or not, whether maintenance and customization of the chosen technology is simple or not, and so on. The project was developed keeping the technical feasibility in line.
- **Operational Feasibility:** The product is operationally feasible. It delivers great user experience and satisfaction. The UI is also user-friendly. The user can access the website using a mobile device or a PC having a stable internet connection. The users can easily setup their profile. Then search for restaurant and order their

desired food item. The proposed product produces great result and gives high performance.

- **Economic Feasibility:** The economic feasibility is the financial impact on the organization who are purchasing the product. The financial benefit of the product must equal or exceed the financial cost in developing and implementing the product. With complete analysis of the requirements we can come to the conclusion if the product can be developed in such a financial binding that benefits both the parties. The product we are working on is economically feasible as it benefits both the parties.

5.2.3 Problem Solution Analysis

Many problems emerged during the project's development, and they were addressed appropriately. A few of the problems are listed below.

- **Changing Client Requirements:** One of the biggest challenges encountered while working on the project was the clients' changing requirements from time to time. They were coming up with different approaches to implement the features, which was generating issues with the project's development.
- **Ajax Issue:** While developing the manage restaurant feature, it was required that data was stored into the database from the form through a ajax post call but it was causing an unusual bug where some porting of the data was being stored. After much deliberation the issue was resolved.
- **Understanding Previous Code Base:** During bug fixing, one of the issues was that it was really difficult and time consuming to understand the coding convention of the person who coded the feature previously. It was difficult to understand the existing code and find out where the issue was and resolve the issue.
- **Form Consensus:** There is a significant probability that your company is still not on the same page when it comes to a new feature. Starting a project with a splintered company is a recipe for disaster. As a result, reaching a shared understanding is critical.
- **Communication Issue:** With the lockdown in place and all developers working from home, it was often challenging to keep everyone in the loop. As a result, work progress was slow. It was tough to reach out to any experienced developers when I was stuck with a problem, especially as an intern with so many new things to learn.

5.2.4 Effect and Constraints Analysis

The level of freedom an organization has in producing a solution is referred to as a constraint. Fiscal constraints, physical constraints, time constraints, or any other limitation that influences the process of reaching a goal are all examples of constraints. Limited development resources or a decision by high management that restricts the way the development team develops a system during the development cycle. Below are some of the limitations and their impacts.

Constraint 1: Budget

Effect: One of an organization's most important constraints is its budget. Several high-paid personnel were laid off and replaced by fresh inexperienced developers throughout the development of our product due to financial constraints imposed by COVID-19. The development process was hampered as a result of this.

Constraint 2: Time

Effect: Another significant restraint on an organization's ability to provide a product is time. Time and budget are linked. As previously mentioned, budget constraints hampered the development process; as a result, every part of the development process had to be completed in a hurry in order to deliver a product to the client.

5.3 System Design

5.3.1 Rich Picture

A Rich Picture is a mental image that is created through exploring, acknowledging, and defining a scenario. Through the use of photographs, text boxes, symbols, and icons, a rich picture can help to stimulate dialogue and come to a broad, common understanding of a situation.

In the rich picture below there are three types of users, General User, Restaurant Admin and Website Admin. There are also three other entities, Website, Database and Report. All these are used to show the basic work flow of few of the main activities performed using the website. Such as Order food, manage restaurant, manage user, manage order, generate report etc.

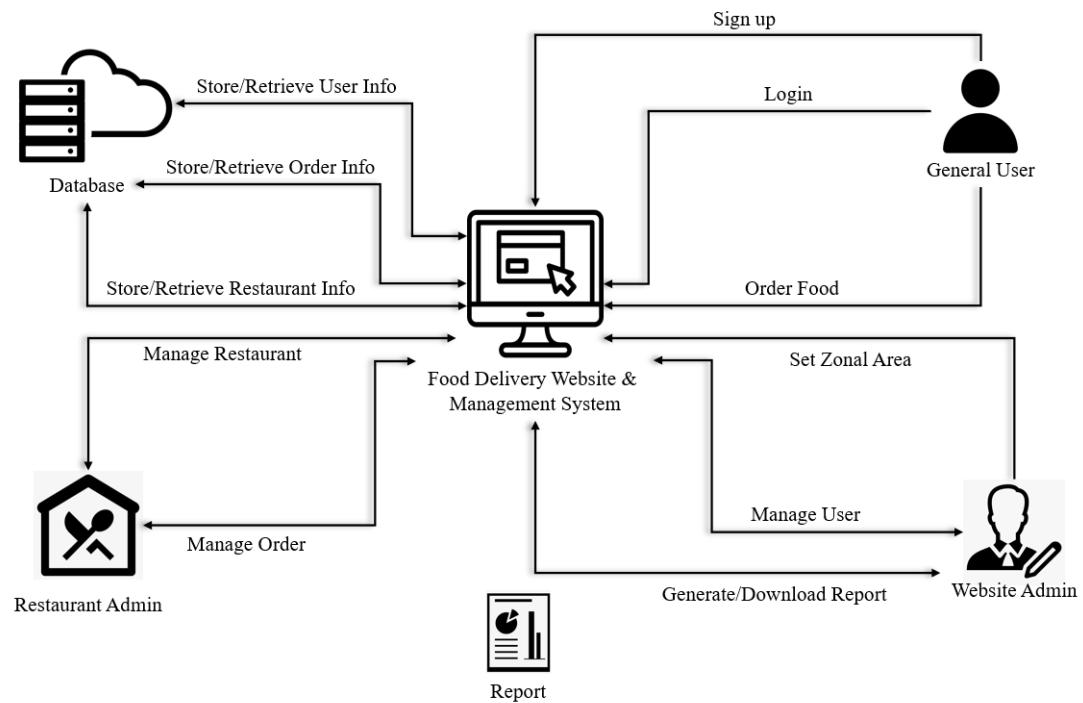


Figure 5.1: Rich Picture of Food Delivery Website and Management System

5.3.2 UML Diagrams

The activity diagram is a behavioral diagram used in UML diagrams to explain the system's dynamic features. An activity diagram is a more complex version of a flow chart that depicts the flow of information from one activity to the next. Below I have shown two activity that can be performed using our system. They are Ordering food by the general user and Adding Restaurant by the website admins. [2]

Activity Diagram (Order Food):

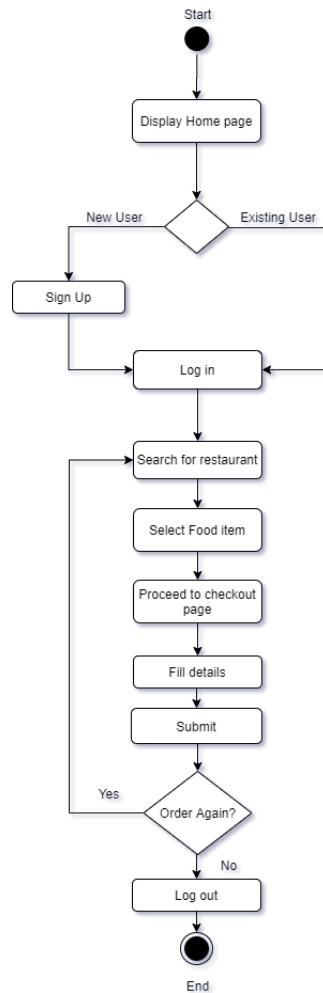


Figure 5.2: Activity Diagram (Order Food)

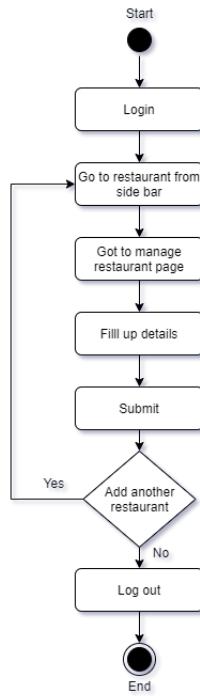
Activity Diagram (Add Restaurant):

Figure 5.3: Activity Diagram (Add Restaurant)

Below I have also included an Use Case Diagram of the whole system. The primary form of system requirements for an undeveloped software program is a Use Case Diagram. The intended behavior is specified in use cases, not the actual means of achieving it. Our Use Case Diagram is drawn using a few of the prime functions concerning General Users and the Restaurant Admins. [3]

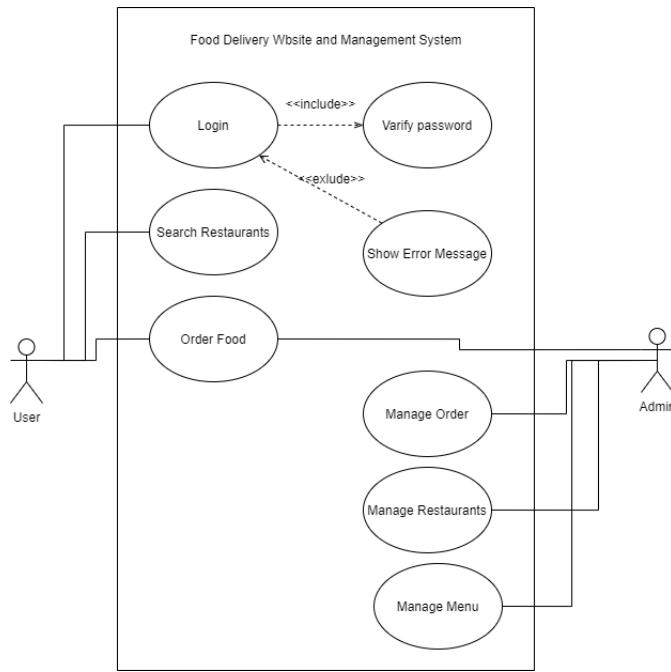
Use Case Diagram:

Figure 5.4: Use Case Diagram

5.3.3 Functional and Non-Functional Requirements**Functional Requirement:**

1. The authentication system validates the mobile number entered by the users when they want to sign-up. Without verification the user cannot sign-up into the system.
2. The verification is done by sending OTP to the user mobile number. After verification the user can login.
3. Users can reset password using the forget password feature if they forgot their password during login.
4. Users can register several address to their account for receiving orders.
5. All available coupons of a restaurant will be present in the have a promo code feature while completing the order screen.
6. Restaurant admins can add their own coupons and offers from the management panel.
7. Website admins can manage all the riders.
8. Website admins can manage general users.

9. Website admins can manage all the restaurants.
10. Website admins can set up Zonal Areas where they will set which restaurants will deliver to which zone.
11. Website admins can determine delivery charge of different zonal area.
12. Website admins can send notifications to all the users or specific users.
13. Website admins can generate and download customized reports based on parameters such as order type wise, customer wise, rider wise, restaurant wise, date wise etc. They can get the report in PDF format or EXCEL format.
14. Admin accounts with filtered restrictions can be created.

Non-Functional Requirement:

1. **Maintenance:** After the project is completed, the client will receive one year of free maintenance. During this time period, all problems and issues with the website will be addressed. If the client want, they can additionally purchase website maintenance for a specific period of time. If the client has a technical team, free basic maintenance training will be provided.
2. **Accessibility:** Any device having a browser and a reliable internet connection, such as a computer, laptop, tablet, or smartphone, can be used to access the system. As a result, the system is incredibly simple to access.
3. **Scalability:** As the system is designed on a robust architecture and structure, it is well-suited to scaling.
4. **Reliability:** All of the data on the website will be backed up as soon as it is uploaded. As a result, there will be no hiccups in the system's operation.

5.4 Product Features

5.4.1 Input

General User Sign-up Page:



The image shows the Takeway user sign-up page. At the top is the Takeway logo, which features a blue scooter carrying a basket of food items, all enclosed within a circular rope-like border. Below the logo is the text "Welcome to Takeway!". Underneath this, there are two blue rectangular buttons: "Sign Up with Facebook" and "Sign Up with Google +". A horizontal line with the word "OR" in the center separates these from three input fields: "Name", "Mobile Number", and "Password". Below these fields is a reCAPTCHA interface with a checkbox labeled "I'm not a robot" and the reCAPTCHA logo. At the bottom of the form are two red rectangular buttons: "Login" on the left and "Sign Up" on the right.

Figure 5.5: User Sign-up

General User Login Page:



The image shows the Takeway user login page. It features the same Takeway logo at the top. Below it is the text "Lets Get Started". Underneath this, there are two blue rectangular buttons: "Login with Facebook" and "Login with Google +". A horizontal line with the word "OR" in the center separates these from two input fields: "Mobile Number" and "Password". To the left of the "Mobile Number" field is a checkbox labeled "Remember Me". To the right of the "Password" field is a link "Forgot your password?". At the bottom of the form are two red rectangular buttons: "Login" on the left and "Sign Up" on the right.

Figure 5.6: User Login

Management Panel (Login Page):

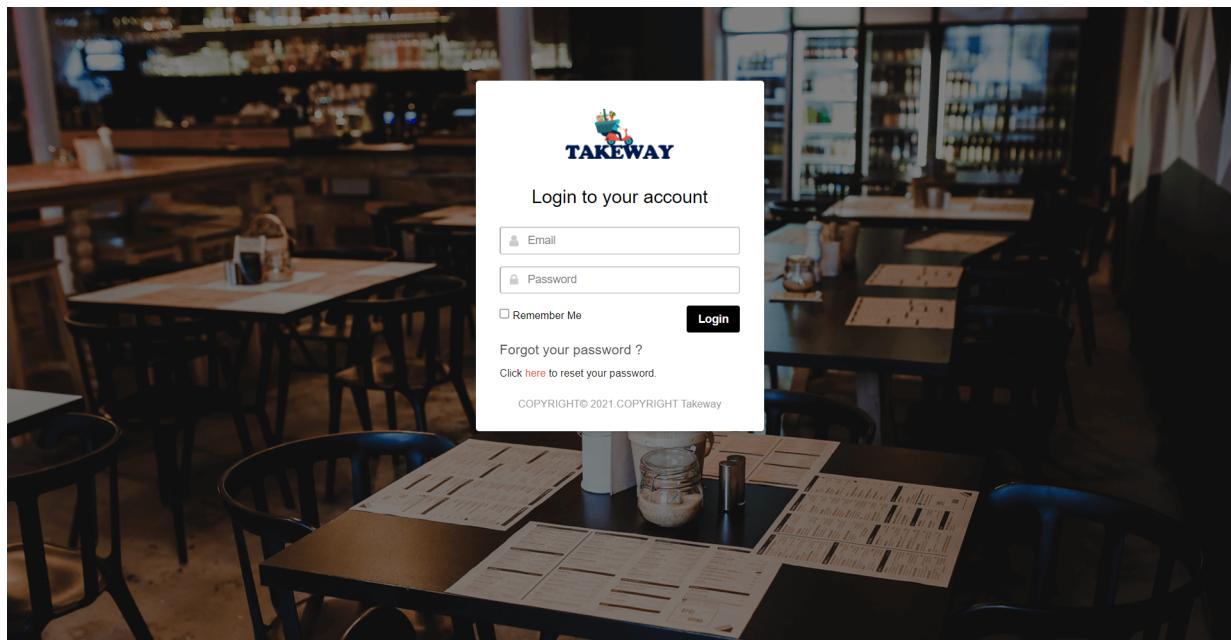


Figure 5.7: Management Panel (Login)

Management Panel (Add Menu):

Figure 5.8: Management Panel (Add Menu 1)

The screenshot shows a management panel interface for adding a new menu item. On the left is a vertical sidebar with a red header 'TAKEAWAY' containing various menu items like 'Grocery', 'Zones', 'Campaigns', etc. The main area has a red header 'Add New' with tabs 'Basic Info' (selected), 'Order Details', and 'Promotions'. The 'Basic Info' tab contains fields for 'SD(%)', 'Detail', 'Image' (with a note about file type and size), 'Recipe Time*', 'Popular Item' (checkbox), 'Availability*' (dropdown with options: Select..., Morning, Lunch, Dinner), and 'End Date*'. At the bottom are 'Submit' and 'Cancel' buttons, and a red 'Add' button.

Figure 5.9: Management Panel (Add Menu 2)

Management Panel (Add Restaurant):

The screenshot shows a management panel interface for adding a new restaurant. On the left is a vertical sidebar with a red header 'TAKEAWAY' containing various menu items like 'Restaurant', 'Zones', 'Campaigns', etc. The main area has a red header 'Add Restaurant' with tabs 'Basic Info' (selected), 'Location', 'Business Details', and 'Contact'. The 'Basic Info' tab contains fields for 'Restaurant Name*', 'Mobile Number*', 'Email*', 'Admin User' (dropdown), 'Zone Area' (dropdown), 'Image' (with notes about file type and size), 'Cover Image' (with notes about file type and size), 'Capacity(People)*', 'No Of Table*', 'No Of Hall', 'Hall Capacity', and 'Address*'. At the bottom are 'Submit' and 'Cancel' buttons, and a red 'Add' button.

Figure 5.10: Management Panel (Add Restaurant 1)

ZipCode*

Country*

State*

City*

Currency* Select...

Commission(%)*

Food Type* Veg Non veg Both

Price Range* \$ \$\$ \$\$\$

Enable Restaurant Hours* Yes No

Restaurant Timings

Assign Monday Timings for all days

Monday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours
Tuesday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours
Wednesday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours
Thursday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours
Friday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours
Saturday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours
Sunday	<input type="text"/> Select Opening Hours	<input type="text"/> Select Closing Hours

Mark to show close on Monday
 Mark to show close on Tuesday
 Mark to show close on Wednesday
 Mark to show close on Thursday
 Mark to show close on Friday
 Mark to show close on Saturday
 Mark to show close on Sunday

Submit **Cancel**

Figure 5.11: Management Panel (Add Restaurant 2)

5.4.2 Output

Home Page:

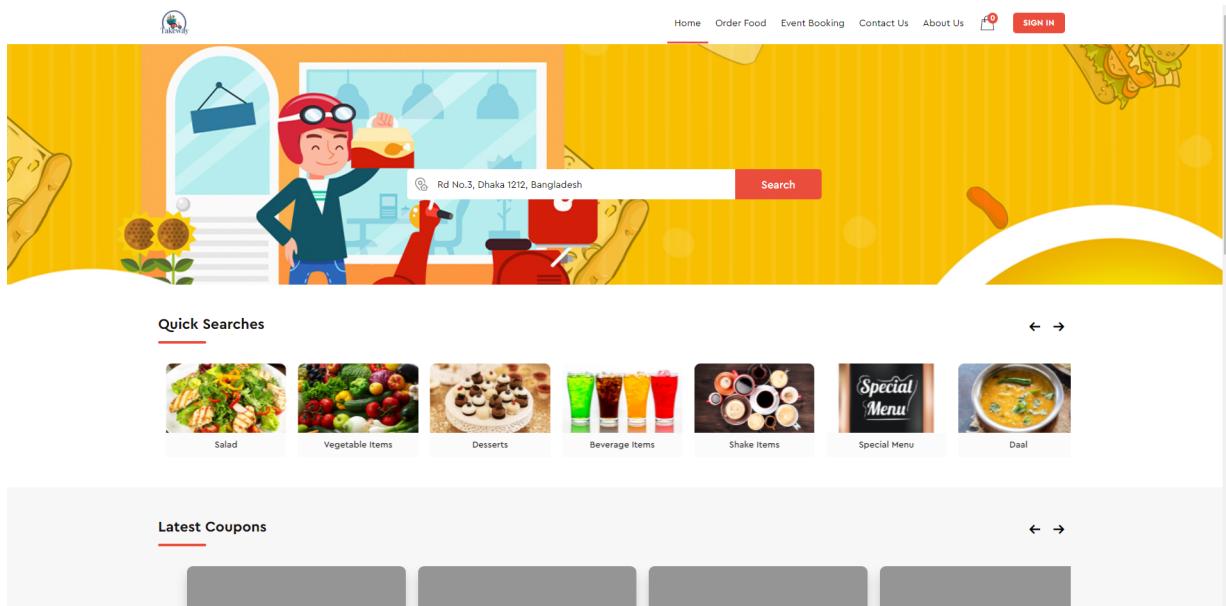


Figure 5.12: Home Page

Restaurant View:

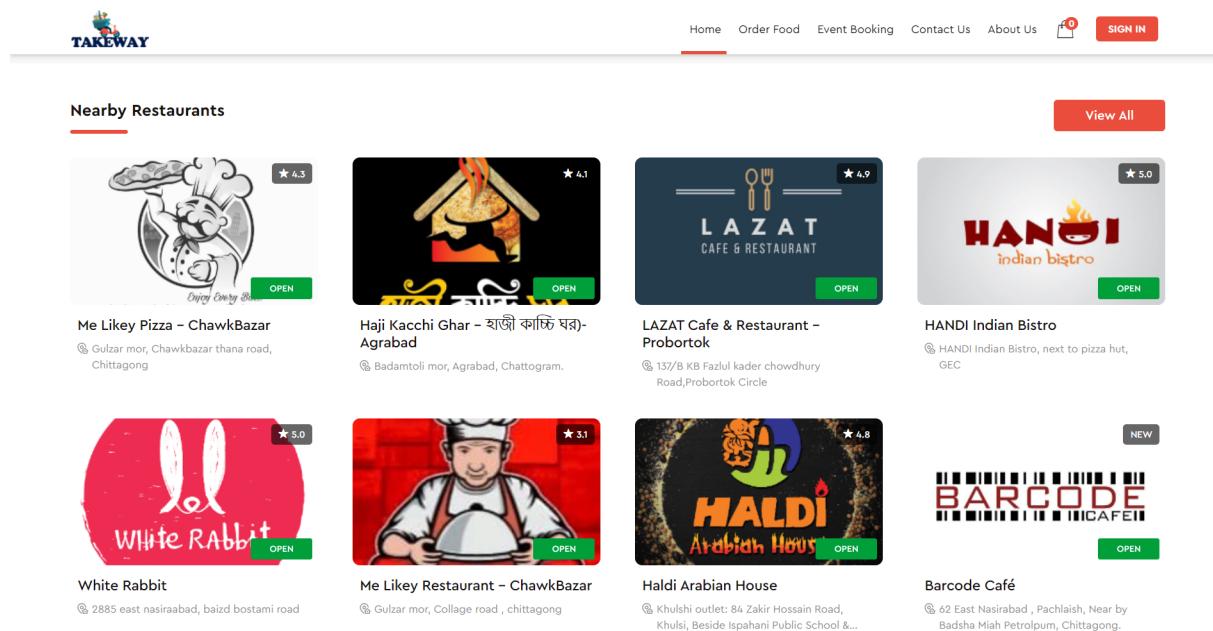


Figure 5.13: Restaurant View

Single Restaurant View:

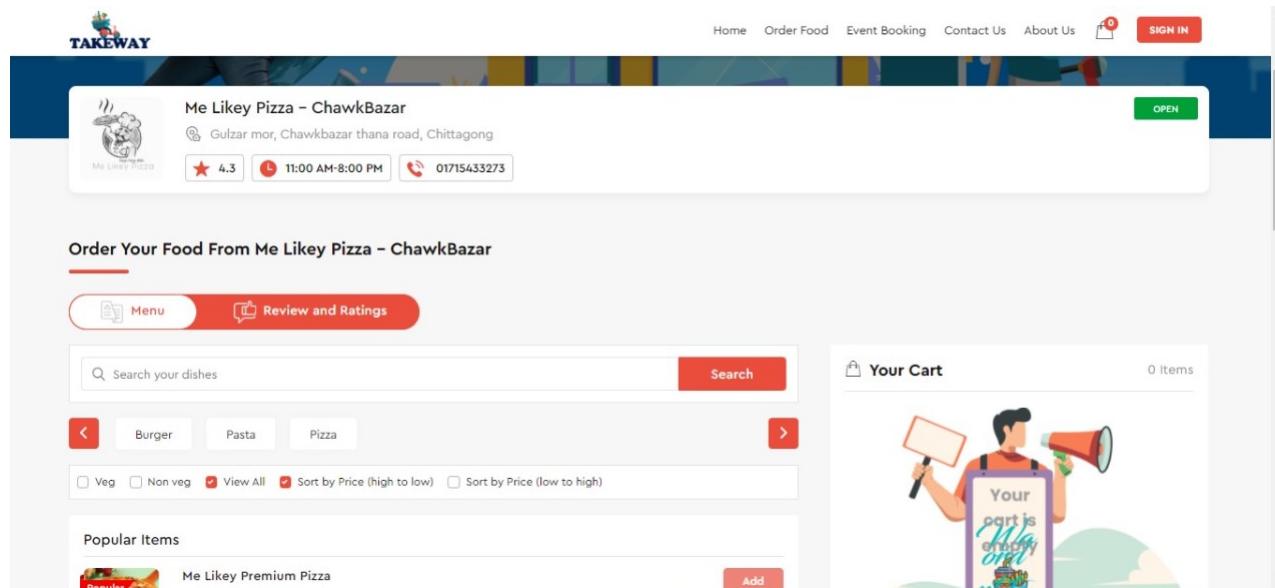


Figure 5.14: Single Restaurant View(1)

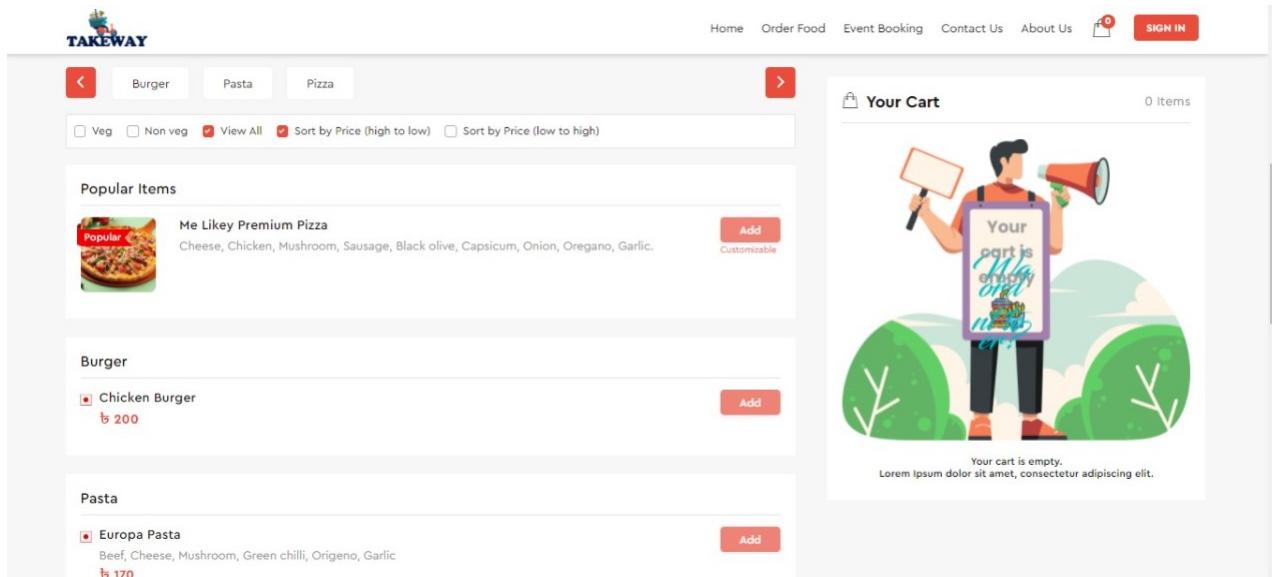


Figure 5.15: Single Restaurant View(2)

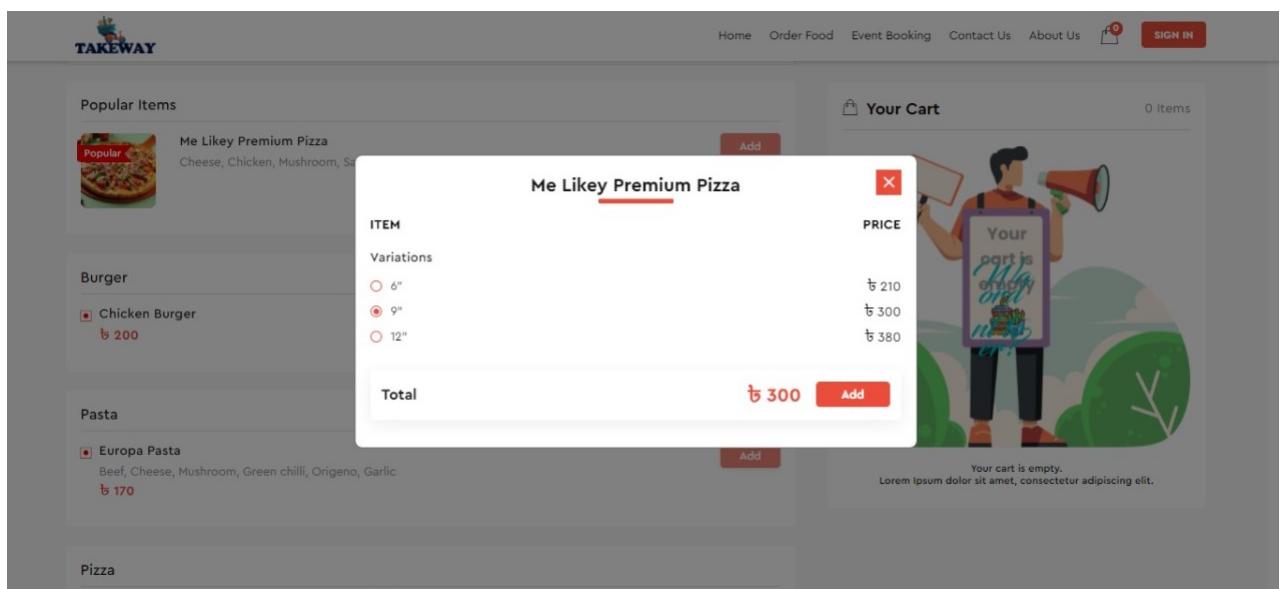


Figure 5.16: Single Restaurant View(3)

Management Panel (Manage Restaurant):

The screenshot shows the 'Restaurant' section of the management panel. The left sidebar has a 'Manage Restaurant' section under 'Restaurant'. The main area displays a table of 10 records with columns: #, Title, en, Status, and Action. The table lists various restaurants like 'The Sky Lounge & Restaurant', 'Barcode Café', etc. Each row has a 'Delete', 'Deactive', and 'Suspend' button in the Action column.

#	Title	en	Status	Action
1	The Sky Lounge & Restaurant	(The Sky Lounge & Restaurant)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>
2	Barcode Café	(Barcode Café)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>
3	Haldi Arabian House	(Haldi Arabian House)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>
4	Me Likey Restaurant - ChawkBazar	(Me Likey Restaurant - ChawkBazar)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>
5	White Rabbit	(White Rabbit)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>
6	HANDI Indian Bistro	(HANDI Indian Bistro)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>
7	Kutumbari Restora - কুটুম্বারি রেস্টোরা - Chawkbazar	(Kutumbari Restora - কুটুম্বারি রেস্টোরা - Chawkbazar)	Active	<input type="button" value="Delete"/> <input type="button" value="Deactive"/> <input type="button" value="Suspend"/>

Figure 5.17: Management Panel (Manage Restaurant)

Management Panel (Manage Order):

The screenshot shows the 'Order List' section of the management panel. The left sidebar has a 'Orders' section under 'Restaurant'. The main area displays a table of 50 records with columns: Order#, Business Type, User, Receiver's Details, Order Total, Order Assign To, Order Status, Order Date, Order Type, Status, and Action. The table lists two orders, each with detailed address and contact information. Each row has a set of buttons for actions like Accept, Reject, Delete, Invoice, Rider's Invoice, Status History, Assign Driver, Change Status, Rider's Invoice, Status History, Assign Driver, and Track Driver.

Order#	Business Type	User	Receiver's Details	Order Total	Order Assign To	Order Status	Order Date	Order Type	Status	Action
5852	Me Likey Pizza - ChawkBazar	Sarwar	Name Sarwar Address Bag, 38 Chatteswari Road, Chittagong, Bangladesh, Chittagong Division, Contact Number 0164610434	₹171.00	No response from riders	Placed	01-07-2021 10:09 PM	Delivery order	Deactive	<input type="button" value="Accept"/> <input type="button" value="Reject"/> <input type="button" value="Delete"/> <input type="button" value="Invoice"/> <input type="button" value="Rider's Invoice"/> <input type="button" value="Status History"/> <input type="button" value="Assign Driver"/>
5851	Sadia's Kitchen-Chawkbazar	Md Saiful Kabir	Name Md Saiful Kabir Address 01864812194, মাঝিল সর্পিলপুর চকবাজার, Omar Ali Mataabbar Rd, Chittagong, Bangladesh, Chittagong Division, Contact Number	₹274.00	Abdur Rahman 01314303413	Delivered	01-07-2021 7:50 PM	Delivery order	Active	<input type="button" value="Delete"/> <input type="button" value="Invoice"/> <input type="button" value="Change Status"/> <input type="button" value="Rider's Invoice"/> <input type="button" value="Status History"/> <input type="button" value="Assign Driver"/> <input type="button" value="Track Driver"/>

Figure 5.18: Management Panel (Manage Order)

Management Panel (Generate Report):

SL	Date & Time	Rider Name	Order ID	Restaurant	Food Amount	VAT Amount	Amount of SD	Food Bill (Incl. VAT, SD, SC)	Company Percentage	Commission Amount	Restaurant Paid	% of Discount	Discount Amount	Delivery Charge	Customer Paid	Rider Hand
1	07-01-2021 19:48:00	Joy Paul-IN	5850	ME LIKEY PIZZA - Hallshahar	310.00	0	0	310	15%	47	263	20.00%	62.00	25.00	273	10
2	07-01-2021 19:50:00	Abdur Rahman	5851	Sadia's Kitchen-Chawkbazar	287.00	0	0	287	10%	29	258	15.00%	43.05	30.00	274	16
3	07-01-2021 19:41:00	Saiful Islam -42	5849	Me Likey Pizza - Chawkbazar	310.00	0	0	310	15%	47	263	50.00%	100.00	25.00	235	-28
4	07-01-2021 19:41:00	Md. Jahir Uddin Baber-IN	5848	Haji Kochhi Ghor - হাজি কোচ্ছি ঘর AgraBabu	390.00	0	0	390	10%	39	351	0.00%	0.00	25.00	415	64
5	07-01-2021 19:36:00	Joy Paul-IN	5847	ME LIKEY PIZZA - Hallshahar	130.00	0	0	130	15%	20	110	20.00%	26.00	35.00	139	29
6	07-01-2021 19:41:00	Sultan	5845	Sadia's	218.00	0	0	218	10%	22	196	50.00%	100.00	30.00	148	-48

Figure 5.19: Management Panel (Generate Report)

5.4.3 Architecture

The product we have developed is a Progressive Web App(PWA). When designing a PWA, two architecture styles, server-side rendering (SSR) and client-side rendering (CSR), are used to describe how pages are loaded and how much communication between the client and the server is required for the PWA to function. [4]

For our project we have used server-side rendering (SSR). It is a three-tier architecture. A three-tier architecture divides software programs into three logical and physical computer levels. The presentation tier, or user interface, the application tier, where data is processed, and the data tier, where the program's data is stored and managed, are the three tiers. [5]

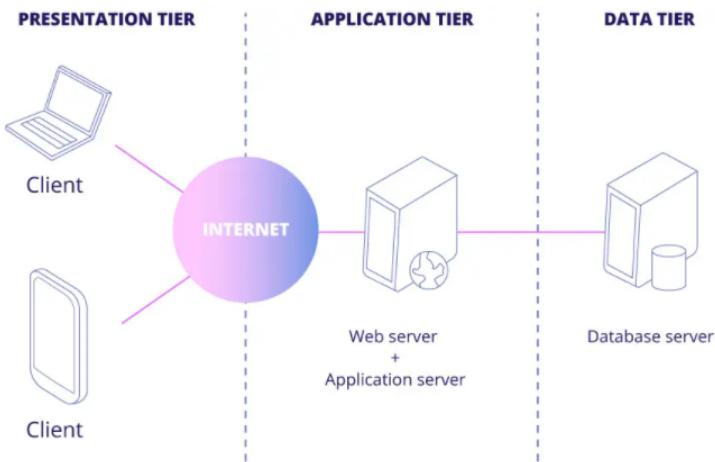


Figure 5.20: Three - Tier Architecture

As each tier runs on its own infrastructure, each tier may be built concurrently by a distinct development team and upgraded or scaled as needed without affecting the other tiers.

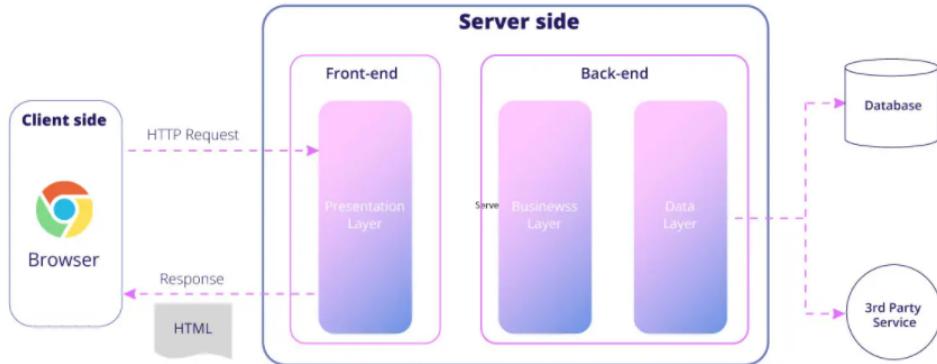


Figure 5.21: Server - Side Rendering (SSR)

Chapter 6

Results & Analysis

The restaurant industry was thriving prior to the lockdown. The dine-in business was the main source of revenue. The Corona Virus, on the other hand, put the entire world on lockdown. At the time, eating in was practically mandatory. The food delivery sector began to pick up steam about this period. The whole restaurant business was scrambling to adjust to the new environment in a few of months. The food delivery industry experienced unprecedented growth. Our organization focuses in delivering food industry web solutions.

A food delivery website was the project on which I was working. It is an internet service that allows people to get their favorite foods from the comfort of their own homes. The Food Delivery Website and Management System provides a user-friendly, simple, and dependable platform for restaurants and general users to conduct their business.

I will show the procedure a General User will go through to place an order through our system using UI images. I also demonstrated the UI that the Restaurant Admin will view while managing orders placed by the General User.

When a visitor first visits our website, they will be directed to the home page, where they can enter their location to view restaurants in their immediate vicinity. Under the quick search tab, they will also see the many food categories. They will also be able to examine the available coupons from various restaurants as well as an overview of all restaurants.

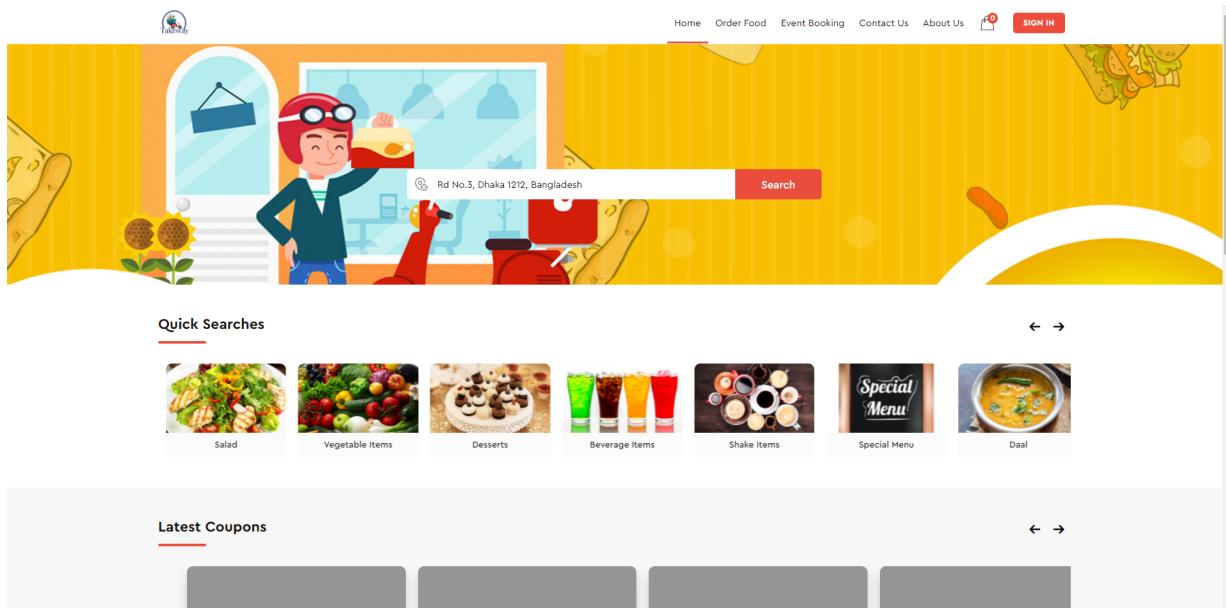


Figure 6.1: Home Page

They will use the sign in button on the upper right of the home page to access their account. They will be directed to the login page. They can also create an account from the page if they do not already have one. The user can explore our website without logging in, but they must log in to place an order.

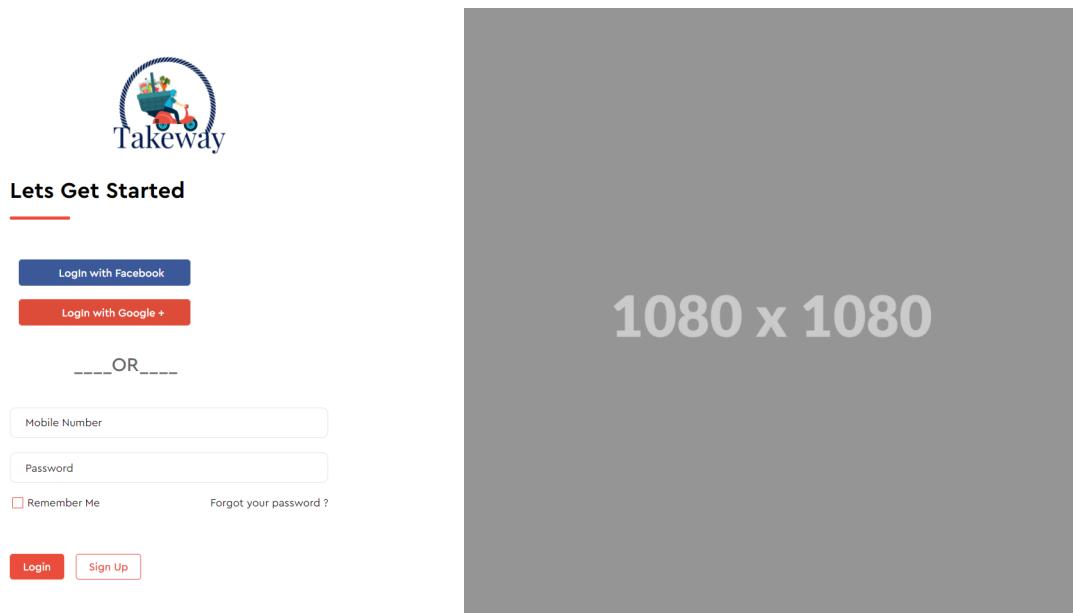


Figure 6.2: User Login

Then they will go to the entire restaurant section and look for the restaurant from which they wish to place an order. They will then click on the restaurant and be taken

to the restaurant's detailed information as well as the menu.

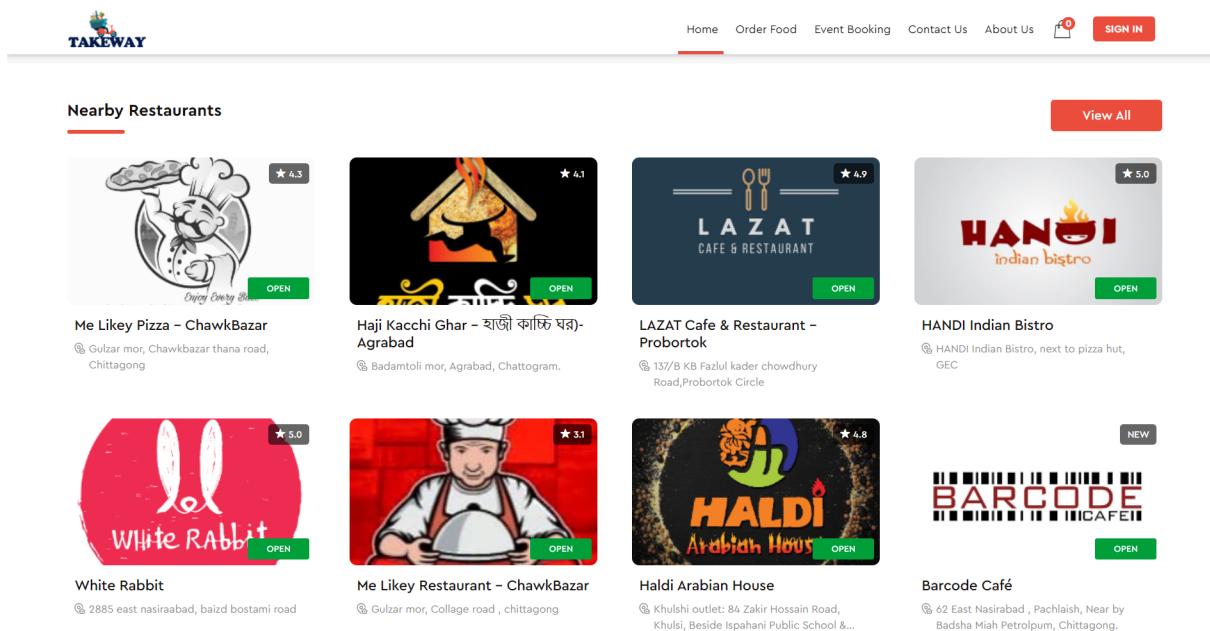


Figure 6.3: Restaurant View

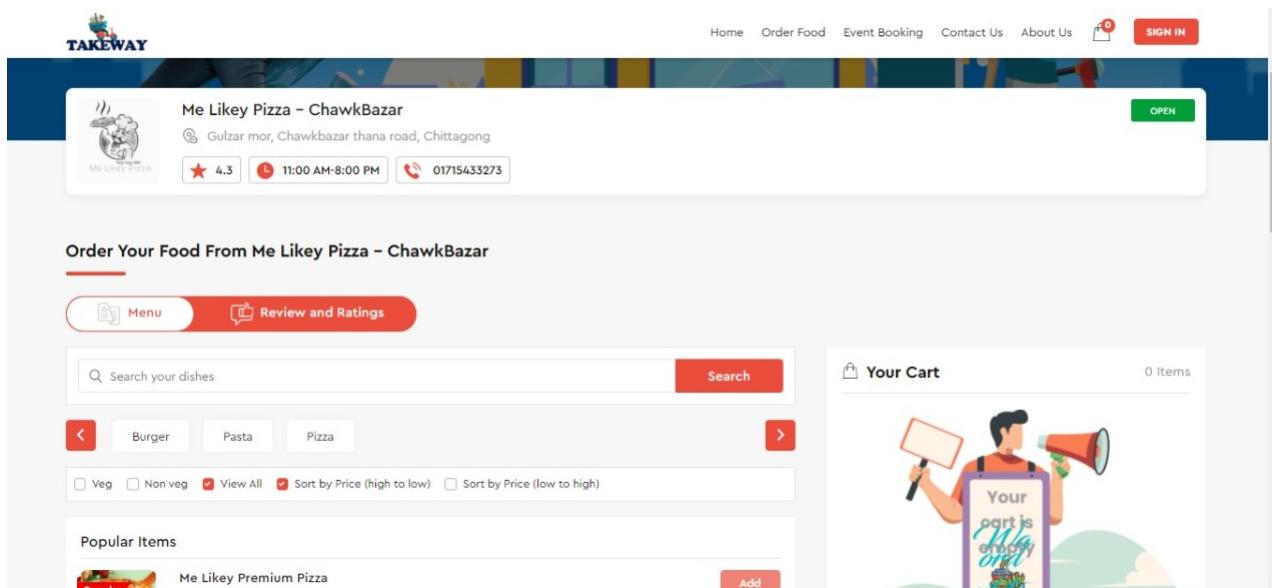


Figure 6.4: Single Restaurant View(1)

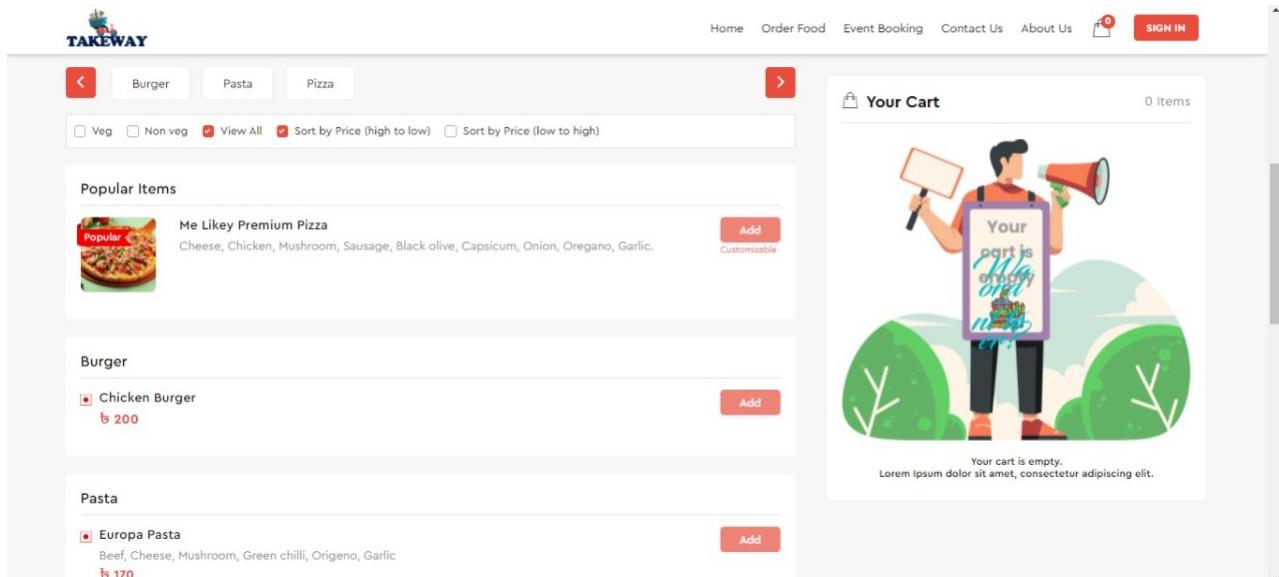


Figure 6.5: Single Restaurant View(2)

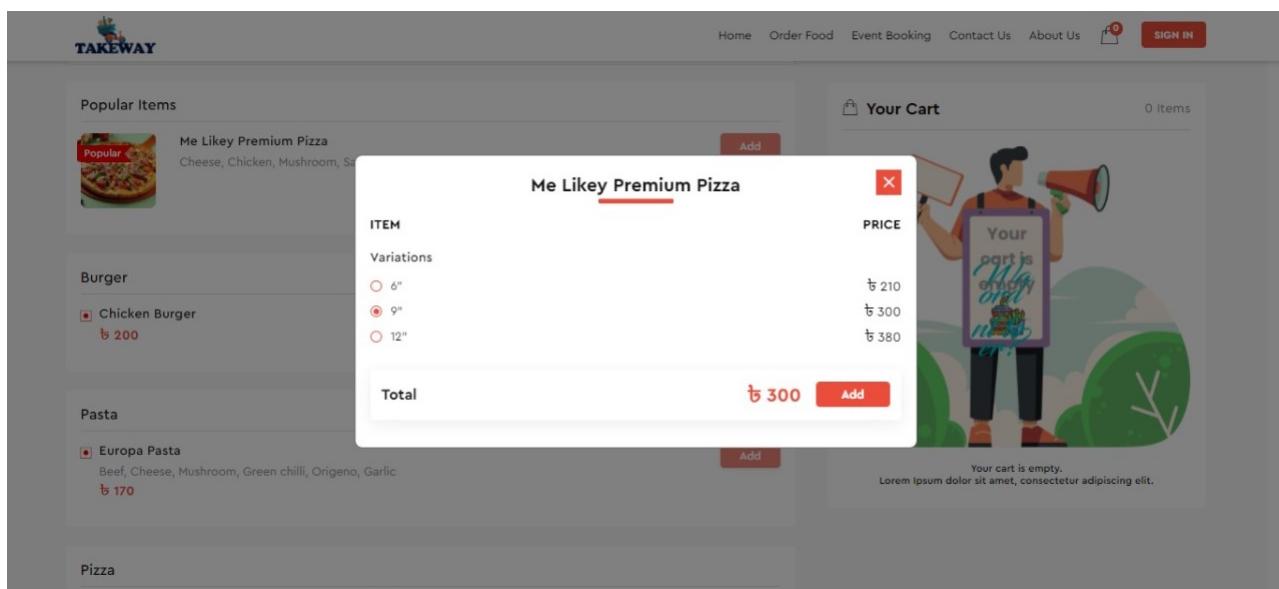


Figure 6.6: Single Restaurant View(3)

They will click the add button to add all of the items they want to order to their cart. They can alter the quantity of the same item in their cart. Finally, when they are ready to place their order, they can click the proceed button.

Me Likey Pizza - ChawkBazar

Gulzar mor, Chawkbazar thana road, Chittagong

4.3 11:00 AM-8:00 PM 01715433273

Your Cart 1 Items

Sub Total ₹ 600

Continue

Figure 6.7: Cart View(1)

Your Cart 2 Items

Sub Total ₹ 800

Continue

Figure 6.8: Cart View(2)

They will then be directed to the checkout page. They can double-check the items they have selected from the checkout page. Then they will set where the food will be delivered and go through the checkout process. Their order will be placed as a result of this.

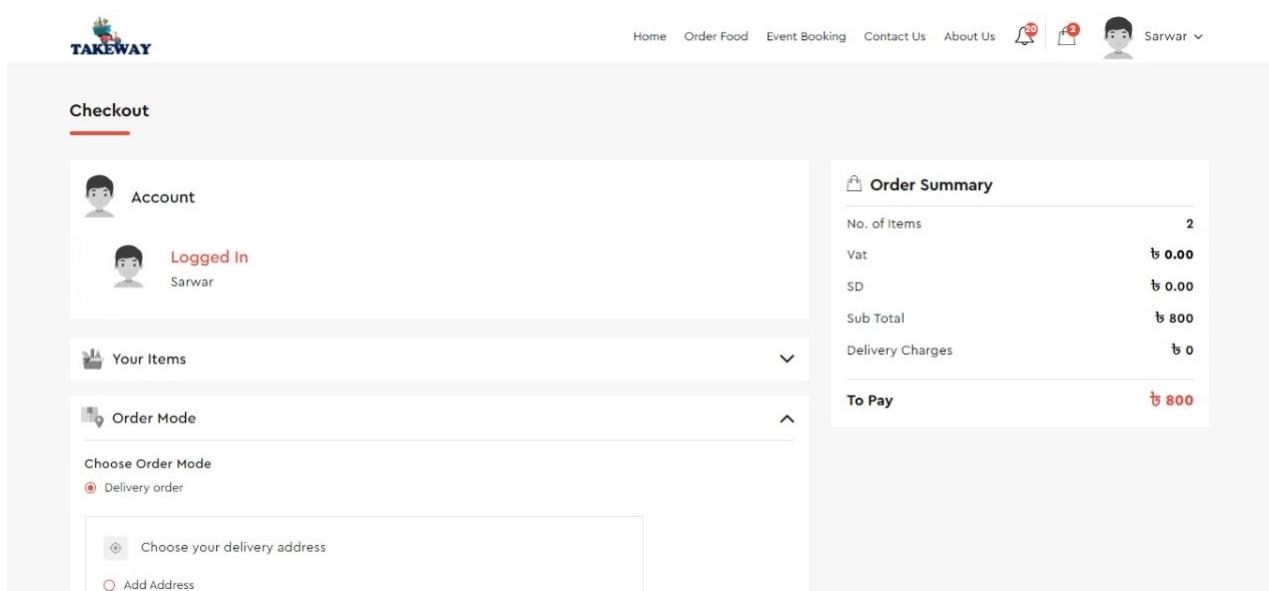


Figure 6.9: Checkout Page View

It is the responsibility of the Restaurant Admin to manage the order once it has been placed by the general user. The admin will log in to the restaurant's admin panel. They will use the credentials provided by the website admin during the registration process of the restaurant to log in.

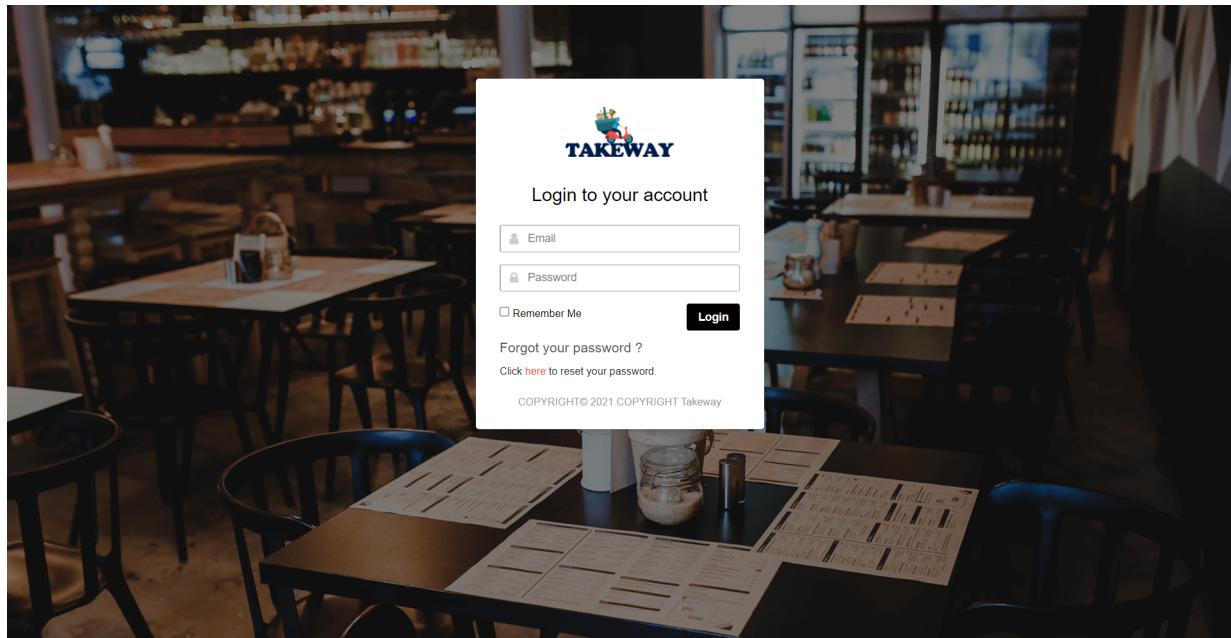


Figure 6.10: Management Panel (Login)

The admin will go to the order part of the restaurant admin panel after logging in. They will be able to examine all of the orders as well as their complete information. They

can accept, reject, delete, view the order's invoice, assign a rider to deliver the order, view the rider invoice, and view the moment when the order's status was changed.

Order#	Business Type	User	Receiver's Details	Order Total	Order Assign To	Order Status	Order Date	Order Type	Status	Action
5852	Me Likey Pizza - ChawkBazar	Sarwar	Name Sarwar Address Bag. 38 Chatteswari Road, Chittagong, Bangladesh, Chittagong Division, Contact Number 01644610434	৳171.00	No response from riders	Placed	01-07-2021 10:09 PM	Delivery order	Deactive	<input checked="" type="checkbox"/> Accept <input type="checkbox"/> Reject <input type="checkbox"/> Delete <input checked="" type="checkbox"/> Invoice <input type="checkbox"/> Rider's Invoice <input type="checkbox"/> Status History <input type="checkbox"/> Assign Driver <input type="checkbox"/> Track Driver
5851	Sadia's Kitchen - ChawkBazar	Md Saiful Kabir	Name Md Saiful Kabir Address 01864812194, মিলিয়ন সপ্রিমের জাহান, Omar Ali Mataabbar Rd, Chittagong, Bangladesh, Chittagong Division, Contact Number	৳274.00	Abdur Rahman	Delivered	01-07-2021 7:50 PM	Delivery order	Active	<input type="checkbox"/> Delete <input checked="" type="checkbox"/> Invoice <input type="checkbox"/> Change Status <input type="checkbox"/> Rider's Invoice <input type="checkbox"/> Status History <input type="checkbox"/> Assign Driver <input type="checkbox"/> Track Driver

Figure 6.11: Management Panel (Manage Order)

As a result, the entire ordering and managing order processes are finished.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

In the project profession, sustainability is a core concept that balances the environmental, social, and economic components of project-based work to meet present stakeholder needs without jeopardizing or overburdening future generations. [6]

For the duration of the maintenance contract, the Food Delivery Website and Management System will be monitored. During his tenure, our company will instantly resolve any flaws discovered or reported by the client. The maintenance staff will continue to analyze the system on a regular basis in order to maintain it running smoothly and efficiently for the users.

Furthermore, the system will be upgraded twice a year to meet the needs of the clients, and any defects and problems will be addressed on a regular basis. As a result, the system is highly sustainable.

7.2 Social and Environmental Effects and Analysis

Social Effect:

People are trapped in their homes as a result of the lockdown. People's social lives have all but vanished. Many people's loved ones are infected with the virus and are forced to live alone. People can show their love for their loved ones by purchasing their favorite cuisine and having it delivered straight to their door. That is the chance that our system offers.

Environmental Effects:

In the global Covid 19 pandemic, our system plays a critical role. People in general can stay at home, protected from the virus that has infected the rest of the world. They

can eat their favorite foods from their favorite restaurants in the safety of their own homes. The spread of the illness is also slowed because people aren't eating at eateries. Even the restaurant owners can supervise their establishments while remaining safe in their own homes.

7.3 Addressing Ethics and Ethical Issues

In today's world, technology is ubiquitous. One of the most crucial aspects of any business or organization is data. With the growth of technology, there has been a significant increase in hacking, cyber-crime, and data theft. When working on the creation and release of a website or system, there are several unsaid conventions and ethics guidelines that must be observed. Our programmers made certain that all of the points were taken into account.

Data stored on offshore servers and databases is more secure than data stored on-site. There's a lower likelihood of data corruption. A master account is also created for site administrators to manage other accounts and grant server access. The backend server and database are only accessible to the principal developer. They are hosted in the cloud and can only be accessed with the login credentials of the lead developer. The information stored is safe and secure.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

When we try to do something for the first time, we are bound to run into problems. During my internship, I, too, was confronted with numerous challenges for the first time. To begin with, balancing six days of office work with two additional courses was quite challenging. There were often times when I had to balance between university and office work while also being away from my family. I usually try to give it my all in everything I do, and my internship was no exception. The communication gap between the various teams was one of the most significant issues I encountered during my internship. Working from home and being on lockdown did not improve matters. A difficulty arose when the QA team discovered a bug but was unable to reproduce the same scenario. This posed a significant challenge for the development team in terms of finding a solution.

8.2 Solution of those Problems

This internship has allowed me to reflect on myself and identify my own strengths and limitations. Throughout my internship, I worked with a wide range of people with various mindsets and mentalities. I have learned how to express my thoughts and opinions to my peers. Despite the fact that working from home made it difficult to communicate with my superiors, I had the backing of my management and authorities. They offered me the time and space to learn from my mistakes and gain expertise. I had the privilege to learn from different groups. I was able to speak with multiple clients face to face to gather requirements, which was a thrilling experience for me. I have witnessed firsthand how a production level system is created and the amount of effort that goes into it. At the end of the day, I have learned a lot through dealing with various types of problems and overcoming them.

Chapter 9

Future Work & Conclusion

9.1 Future Works

As this is a live project, new features may be added and changed in accordance with the client's wishes. Our organization wants to provide users with a simple and seamless experience when using our system, and we will work tirelessly to achieve this goal. The development and implementation of a mobile app for our system is one of the primary future goals for our system. The general public will be able to access our system more easily as a result of this.

9.2 Conclusion

Working as an intern at Devenport with such outstanding colleagues was an honor and a fantastic experience. During my internship, I studied and got important experience in a variety of professional software development domains. Despite their busy schedules, my bosses and coworkers were quite helpful in assisting me in acclimating to the new work environment. During my internship, I was able to collaborate with my senior colleagues to solve problems and conquer personal hurdles. I was lucky enough to be able to attend multiple meetings with clients where we discussed the client's requirements and determined the project's value and timeline. I also had the opportunity to work on the QA team, where I was able to test the products for flaws and issues. This internship has also provided me with the opportunity to research Company Business Management. I would like to thank everyone who helped make my time as an intern so enjoyable.

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