

Taste Trek - An Online Food Delivery System

BY

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This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project is titled “**Taste Trek- An Online Food Delivery System**”, submitted by **Anchal Deb Nath** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfilment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 14.07.2024.

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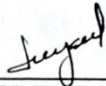
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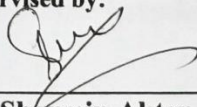
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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Ms. Sharmin Akter, Senior Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

The Food Sharing Platform is a cutting-edge online resource designed to foster a vibrant culinary community, enabling individuals to easily share their favorite dishes. In today's interconnected world, food enthusiasts and home cooks are continually seeking inspiration and connections through the love of cooking and sharing. This platform provides a user-friendly interface where individuals can upload, organize, and showcase their unique culinary creations. It offers access to a diverse array of foods, from traditional family recipes to innovative culinary experiments, making it valuable for both experienced chefs and novice cooks alike. Key features of the Food Sharing Platform include a comprehensive food database, interactive forums, and the ability to follow favorite chefs for personalized food recommendations. Emphasizing user engagement and interaction, this platform encourages the exchange of culinary knowledge and the celebration of food culture from around the globe. By joining our culinary community and utilizing the Food Sharing Platform, users embark on a delightful journey of discovery, creativity, and connection.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The "Taste Trek" app is a game-changer in the food scene, designed specifically to change the way people eat around. This project is more than just a technological fix; it's a culinary companion that's been carefully crafted to become a seamless part of university life, changing the way professors and students interact with the variety of flavors at their disposal. It was inspired by the enormous success of industry pioneers like Food Panda.

In this era of technological progress, when convenience and creativity coexist, "Taste Trek" is a creative answer to the unique requirements of the community. It captures the idea that every meal becomes a journey beyond the traditional food delivery norms. time, each order a distinct taste experiment, and each dining encounter a complement to the lively university lifestyle. This project aims to blend in smoothly with the busy academic environment by embodying the dynamic interplay between culinary arts and technology. It is more than just an app. "Taste Trek" imagines a day when placing a meal order goes beyond a simple transactional function and transforms into an immersive exploration of the diverse array of cuisines found in the campus region. The app is ready to not just satisfy the everyone's culinary demands as we set out on our culinary adventure, but also to enhance and revolutionize eating in its purest form. "Taste Trek" is a friend, a guide, and more than just a tool, and a curator of special dining moments in the intellectual haven.

1.2 Motivation

An intricate an intricate awareness of the throbbing rhythms of life is fundamental to our inspiration. "Taste Trek" is an adaptable solution tailored to meet the multifaceted needs of the academic community. From the intellectually stimulating environments of lecture halls to the spontaneous gatherings of personal events, it captures the essence of campus life. Recognizing the diverse array of activities, the relentless time constraints, and the innate desire for a rich variety of

culinary experiences, "Taste Trek" stands as a testament to convenience, flavor, and community. Our objective is to offer a gastronomic journey that resonates with the intricate dynamics of daily life on campus, seamlessly blending ease of access with a tapestry of tastes. We aim to transform everyday dining into an experience that not only nourishes but also fosters connection and enhances the vibrant tapestry of academic life.

1.3 Objectives

Within the confines of the campus, "Taste Trek" outlines specific goals that are all designed to improve the dining experience for consumer:

1. **Smooth User Interface** Provide an easy-to-use interface that makes ordering food easier, enabling consumers to explore a variety of culinary options and navigate with ease.
2. **Increase Local Restaurants' Visibility:** By forming strategic alliances, raise awareness of local restaurants in the university's immediate neighborhood, and offer a forum for the encouragement and advancement of these enterprises.
3. **Campus Culinary Diversity** Provides a wide variety of options for dining, ranging from international cuisines to traditional local specialties, to accommodate the different tastes of the academic community.
4. **Improved Eating Experience** Go above and beyond just delivering food to improve the entire eating experience inside the university. Incorporate cutting-edge features, tailored suggestions, and a dedication to fine dining.
5. **Community Engagement** Encourage a feeling of camaraderie among users by setting up an online forum where academics and students may interact over their mutual love of food, trade advice, and discuss culinary adventures.

To achieve these goals, "Taste Trek" wants to be a force that unites people via their shared love of food and turns the campus region into a center of varied gastronomic experiences.

1.4 Expected Outcome

Transformational and multifaceted outcomes are the intended outcomes of "Taste Trek" in a area. With more users, the app hopes to raise campus dining culture by encouraging a more sophisticated and adventurous dining experience by encouraging teachers and students to enjoy a wide range of flavors. In addition to the purely transactional, the desired result is a vibrant community of neighborhood restaurants that will be bolstered both financially and culturally by greater exposure and assistance.

Not only user happiness but also active engagement is anticipated, where the app turns into a source of happiness for a community that finds delight in the breadth of culinary options, the simplicity of ordering, and the opportunities for shared experiences that the platform provides. As a stimulant for gastronomic inquiry, "Taste Trek" is meant to have transformative and diverse effects on the community. With more users, the app aims to improve the food culture on campus by promoting a more upscale and daring dining experience and encouraging instructors and students to try a variety of cuisines. Beyond the simple transactional, the goal is to create a thriving local restaurant community that will benefit from increased visibility and support on a financial and cultural level.

In addition to user satisfaction, active engagement is expected, where the app becomes a source of joy for a community that enjoys the variety of food selections, the ease of ordering, and the chances for shared experiences that the platform offers.

1.5 Project management and finance

Embarking on the "Taste Trek" project necessitates a strategic approach encompassing various phases to ensure effective project management and financial sustainability.

Project strategy:

The project has a methodical and staged strategy that includes extensive market research, requirement collecting, system design, development and testing, deployment, documentation, user training, marketing, upkeep, and project conclusion.

Project Start-up:

Putting together the project team, assigning responsibilities, and laying the framework for project implementation are all part of starting a project. At this point, establishing project goals, laying out schedules, and figuring out resource needs are important factors to take into account.

Market investigation and evaluation:

To inform strategic decisions throughout the project's lifetime, a thorough market analysis serves as the cornerstone. This includes determining target demographics, comprehending competition landscapes, and assessing user preferences.

Requirements gathering:

To ensure that the final app closely satisfies the needs and expectations of the university community, a methodical collection of project requirements entails engaging stakeholders to define critical functionalities.

System Design:

After requirements are obtained, the project proceeds to the design stage, where the architecture and features of the application are conceived, guaranteeing an intuitive user interface and maximum functionality.

Developing and Testing:

To provide a flawless user experience, implementation and testing follow the design, making sure the app is produced to specifications and thoroughly testing its security, functionality, and performance.

Deployment:

After testing is completed successfully, the software is made available to the university community officially. A smooth transition from development to active usage is ensured by a well-thought-out deployment strategy.

Documentation and User Training:

Extensive documentation is created to assist users and support teams. Training sessions are held concurrently to familiarize users with the app's features and operation.

Promoting and Marketing:

To maximize user involvement, focused promotional and marketing initiatives are used, using numerous channels to raise awareness and drive adoption across the university community.

Maintenance and Support:

Ongoing maintenance and support ensure the app's continuing functionality. To fix any concerns and ensure a great customer experience, prompt and effective assistance is offered.

Project completion:

The project closes with a thorough evaluation of outcomes, lessons learned, and prospective future development or expansion avenues.

Budget Prediction:

A detailed budget prediction details estimated costs for development, marketing, maintenance, and operations.

Financial Support:

Identifying and securing financial support mechanisms, such as potential partnerships or investments, ensures the financial viability of the project.

Cost Control:

Effective cost control strategies are used to keep expenses within the project's budget, ensuring financial sustainability throughout.

Income Generation:

Exploring income generation avenues such as transaction fees or partnership agreements with local eateries contributes to the project's financial stability.

ROI: Return on Investment:

Evaluating the return on investment provides insights into the financial performance of the project, guiding future financial decisions.

Accounting reporting:

Ensures transparency and accountability, allowing for informed financial decisions and facilitating compliance with financial regulations.

1.6 Goals:

1. **Facilitate Convenient Food Ordering:** Simplify the food ordering process to make it more intuitive and efficient for university users.
2. **Support Local Businesses:** Actively promote and support local eateries, thereby increasing their visibility and economic growth.
3. **Enhance Dining Experience:** Go beyond transactional interactions to improve the overall dining experience, giving users a delightful and memorable journey.
4. **Encourage Culinary Exploration:** Encourage users to explore diverse cuisines, discover new flavors, and embark on a culinary adventure on campus.

5. Create a virtual space that fosters a sense of community among users, encouraging interaction, shared recommendations, and connections based on a shared love of food.
 6. Contribute to Campus Lifestyle: Make dining an integral and enjoyable part of daily life, bringing vibrancy, cultural diversity, and a sense of community to the university area.
- These objectives define the overarching mission of "Taste Trek" within the university community, intending to create a transformative and engaging dining experience.

1.7 Project Schedule

The release plan and milestones are given below:

Activities	Duration in week Total week
Research	W1, W2
Specifications	W2, W3, W4
Planning	W3, W4 2
Design	W4, W5 2
Development	W4, W5, W6, W7
Testing	W7, W8
Assessment	W9
Documentation	W10, W11, W12
Software release	W12

Table 1.1: Release Plan and Milestone

CHAPTER 2

BACKGROUND

2.1 Related work

The online food delivery industry has seen substantial growth, with leading platforms setting high standards in user experience, service efficiency, and market reach. Companies like Food Panda, Uber Eats, and Grubhub have not only transformed urban dining but have also greatly impacted consumer behavior and preferences. These platforms have become symbols of modern dining convenience by offering a wide range of restaurant options, user-friendly interfaces, and reliable delivery services.

In the university setting, localized food delivery systems have developed to meet the unique needs of students and faculty, characterized by time constraints and a diverse population. These systems focus on quick service and a varied menu to accommodate the specific demands of the academic environment.

"Taste Trek" aims to take inspiration from these successful models while addressing the unique challenges and limitations identified in the current market. Instead of merely replicating existing solutions, the goal is to innovate, creating a platform that seamlessly fits into the university context, enhancing the dining experience for its users. By analyzing these related works, we gain valuable insights into user expectations, technological needs, and market trends, providing a solid foundation for "Taste Trek" to develop a distinctive and impactful service within the academic community.

2.2 Scope

"Taste Trek" goes beyond the traditional boundaries of online food delivery, carving a niche tailored to the dynamic environment of a social setting. Geographically, the platform only operates within the vibrant confines of a area, cultivating a localized ecosystem that resonates with the

distinct rhythms of academic life. This deliberate localization not only simplifies delivery logistics but also contributes to the development of a close-knit culinary community on campus.

Culinary diversity is at the heart of the scope, with "Taste Trek" aiming to offer a rich tapestry of flavors to cater to the academic community's diverse tastes and preferences. The platform envisions a menu that includes everything from traditional local delicacies to international cuisines, ensuring that every user finds something they enjoy.

Furthermore, the scope goes beyond the transactional aspects of placing an order for food. "Taste Trek" envisions potential collaborations with local eateries, meal plan integration, and exclusive partnerships to elevate the overall dining experience. This multifaceted scope is intended not only to meet users' immediate needs but also to anticipate and adapt to the academic community's evolving dining habits.

"Taste Trek" aims to focus its resources, innovate within defined parameters, and deliver a service that aligns seamlessly with the expectations and nuances of the university environment by clearly delineating the scope. This strategic approach ensures that every aspect of the platform is specifically designed to improve the culinary journey of the academic community.

2.3 Challenges:

Key Conditions

- Even with a sluggish internet connection, the site should load in under two seconds.
- Implement a search function that, regardless of the quantity of items in the database, provides results in just milliseconds.
- Users should be able to contribute items and accompanying images in under 30 seconds.

One of the most difficult challenges is persuading users to switch from traditional dining habits to an online food delivery platform. Overcoming resistance necessitates a comprehensive onboarding strategy, clear communication of the platform's value proposition, and incentives that align with the lifestyle of the academic community.

Creating a seamless and intuitive platform necessitates addressing a plethora of technical complexities. Integration with various payment gateways, restaurant management systems, and data security necessitates careful planning and execution. The technical architecture must be able to withstand varying loads during peak usage periods.

Judging Standards:

- Application speed: The quicker the better.
- Make sure the user interface is responsive and fluid.

Efficiency: Make code, database queries, and other resources as quick as possible.

Scalability: Show that the application is capable of handling more traffic.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modelling (BPM)

A helpful method for visualizing and recording the operations and activities within a company or application is business process modelling (BPM). You may use BPM to identify the main procedures in a "Food Sharing Platform" online application for exchanging custom foods. The BPM for such a platform is as follows:

Sharing foods on a "Taste Trek" is the process.

Authentication of Users and User Registration

- Users log in and register on the platform.
 - Sub-processes:
 - User Authentication
 - User Sign-Up

Management of profiles:

- Users can create, edit, and manage their profiles.
 - Sub-processes:
 - Make a Profile
 - Change Profile
 - Eliminate Profile

Food Development:

- Users can create and upload their foods.
 - Sub-processes:
 - Make an Item
 - Product Editing

- Discard Product
 - Searching for and Finding Products
- Users can look for foods that have been posted by others.
 - Sub-processes:
 - Keyword Lookup
 - Using Categories to Search
 - Viewing and interacting with food.
- Users may read foods, rate them, and leave comments, and/or save them.
 - Sub-processes:
 - Watch Food
 - Food review
 - Save Food
 - Social Dialogue
- Users may create networks, follow other users, and get updates.
 - Sub-processes:
 - Observe User
 - User unfollowed
 - Notifications

Food Exchange:

- Users can post foods on other social media sites.
 - Sub-processes:
 - Post to social media
 - Send to Email

Food Administration:

- Users can edit the foods they've shared.
 - Sub-processes:
 - Edit a Food Shared
 - Substitute Shared Food
 - Updated Food information

Feedback and assistance:

- Users may give feedback and ask for assistance.
 - Sub-processes:
 - provide suggestions
 - Request assistance

Management and Control:

- Administrators can control users, material
 - Sub-processes:
 - Content Control
 - User Administration
 - Resolution of Conflict

Reporting and Analytics:

- Producing reports and analyzing user activity and food popularity.
 - Sub-processes:
 - Data Gathering
 - Analysis of Data
 - Create Reports

Data privacy and security:

- Ensuring the safety of the platform and adherence to data privacy laws.
 - Sub-processes:

- Protection of User Data
 - Audits of security
 - Compliance Examines
 - Updating and maintaining the platform
- Maintenance, bug repairs, and feature upgrades are ongoing activities.
 - Sub-processes:
 - Fixing bugs
 - Feature Creation
 - Maintenance of servers

The main operations of a web application for a food-sharing platform are high-level summarised in this BPM. These procedures can each be described in more depth with particular actions and judgment calls. To provide a seamless and interesting user experience on the platform, it's also critical to take into account the user experience and interaction flow inside each procedure.

3.2 Development model:

The Food Delivery Platform is a web application created to make it easier for people to share their favorite foods. The fundamental elements and procedures to build a reliable and approachable platform for food aficionados are outlined in this development model.

User Sign-Up and Profiles:

- Add login and user registration capabilities.
- Permit users to make profiles.
- Enable the bio descriptions and profile photographs.

Inquiry and Discovery

- Create a robust search engine that enables users to locate foods using keywords, ingredients, or cuisine.
- Make a section that features trendy foods.
- Include a method for recommending customized food ideas.

Social Qualities

- Users should be able to follow other users and view their most recent foods.
- Create a food rating and commenting system.
- Ensure that users may store their preferred foods.

Community Engagement:

- Create a forum or message board where people may post queries and culinary advice.
- Create food contests and challenges.
- Mobile Adaptivity
- Make sure the platform is usable on a range of gadgets, such as smartphones and tablets.

Privacy and security

- Put data protection safeguards for users in place.
- Verify and control material to stop foods that are unsuitable or hazardous.
- Reporting and Reaction
- Include a method for user feedback so they may report problems or make suggestions.
- keep an eye on the platform and change it as needed depending on user input.

Scalability and Effectiveness

- Plan the platform's scalability with a rising user base in mind.
- To guarantee quick loading times and responsiveness, and optimize performance.

Tests and Quality Control

- Do extensive testing to find and repair issues.
- Conduct security audits to safeguard user information.

Promotion and Marketing

- Create a smart launch campaign to draw in new consumers.
- Make use of influencers, social media, and food bloggers for promotion.

Continual Development

- Update the platform often with new features and improvements depending on consumer demand and market developments.

In conclusion, the development approach for the Food Sharing Platform sets the groundwork for producing an interesting and user-focused online service. The website wants to become the go-to location for sharing and finding distinctive foods by emphasizing user experience, security, and community participation.

3.2.1 Functional Requirements

- Functional Requirements for a Platform for Food Delivery.

Authentication and User Registration

- Users must be able to register using their email addresses or social media accounts.
- Security calls for the implementation of authentication techniques like email verification and password reset.

Profile Control

- The ability for users to establish and manage their profiles, including the addition of a profile photo and personal data, is essential.

Creating and Editing Items

- Users ought to be able to create new foods by including information like the title, the materials, the procedures of preparation, and the cooking time.
- Existing foods should also be supported for editing and upgrading.

Categorization of Items

- Foods have to be divided into different food groups (such as appetizers, entrées, and desserts) and dietary requirements (such as vegetarian, vegan, and gluten-free).

Inquiry and Discovery

- The ability for users to search for foods using keywords, ingredients, or categories is required.
- Based on user preferences and surfing history, a recommendation system needs to offer food suggestions.

Reviews and Ratings

- Reviews and ratings from users should be allowed for foods.

- The food platform needs to provide average ratings.

Comments and Dialogue

- Users ought to be able to debate topics with other users and provide comments on foods.
- Implementing moderation tools to control improper content is a good idea.

Social Networking

- On social media networks, users should have the ability to contribute food.
- A benefit is integration with well-known social networks for simple sharing.

Notifications to Users

- Users ought to be informed of actions involving their foods, comments, and followers.

Security Settings

- Users ought to be able to choose whether to make their foods public or private by controlling the privacy settings for those foods.
- It should be possible to control follower requests and follow other users.
- Users should have the option to bookmark their preferred foods for easy access.

Admin Dashboard

- A user's activity feed, together with updates from persons they have followed and suggested foods, should be visible on a person's dashboard.

Food Export

- The ability to export foods in various forms, such as PDF or printer-friendly copies, should be available to users.

Monitoring and Control

- Create a procedure for reporting offensive content or conduct.
- There should be admin tools for controlling user-generated material.

Reaction Mechanism

- Create a feedback system that would enable users to offer recommendations and report problems with the platform.

Mobile Friendliness

- Make that the platform is user-friendly and available on a variety of gadgets, such as smartphones and tablets.

Scalability and performance

- The platform has to have the capacity to handle a sizable quantity of foods and a developing user base.

Data Protection and Recovery

- backup user data regularly and offer ways to restore it in case of system outages.

Security and Compliance

- Implement security measures to safeguard user information and guarantee compliance with data privacy laws.

Information and Analytics

- Users should be provided with metrics and insights, such as data on user involvement and the most popular foods.
- These functional requirements will serve as the framework for a powerful and user-friendly food delivery platform, boosting user experience and encouraging community interaction.
-

3.2.2 Non-functional Requirement

- **Performance:** The platform must be snappy, load rapidly, and support many concurrent users without noticeably degrading performance.

- **Security:** To safeguard user data and stop unwanted access, strong security measures should be in place. Data encryption and safe authentication are included.
- **Scalability:** The system must be capable of expanding horizontally to meet the needs of growing user traffic and data storage.
- **User Experience:** A pleasant and effective user experience may be achieved by having an intuitive and user-friendly user interface.
- **Compatibility:** To provide accessibility for a large user base, the platform should be compatible with a range of web browsers and mobile devices.
- **Data Backup and Recovery:** To prevent data loss in the event of system failures or other emergencies, regular data backups and a disaster recovery strategy should be in place.
- **Compliance:** The platform shall abide by pertinent data protection laws and copyright laws, protecting the producers of foods' intellectual property.
- **Reliability:** The system should operate continuously with little downtime for repairs or upgrades.
- Hosting infrastructure should be scalable to handle traffic surges and the expansion of users and data.
- **Analytics and Reporting:** To enhance platform performance and user experience, implement analytics tools to measure user interaction, popular foods, and user activity.

These functional and non-functional criteria offer a thorough foundation for creating a Food Sharing Platform that assures system performance and user happiness.

3.2.3 Hardware specification:

Processor	2.6 GHz or faster process
RAM	4 GB
Disk space	4 GB of available hard disk

3.2.4 Software specification:

Operation System	Linux (preferable), Windows 10
Frontend	HTML, Tailwind CSS, ReactJS
Frontend JavaScript library/framework	React.js
Backend	Node.js, REST API
Backend JavaScript library/framework	Express.js
Code Editor	Visual studio code
Database	MongoDB
Web Browser	Google Chrome
Web Server	Node server
Drawing tools	Draw.io

Figure 3.1: Specifications

3.3 Use Case Diagram

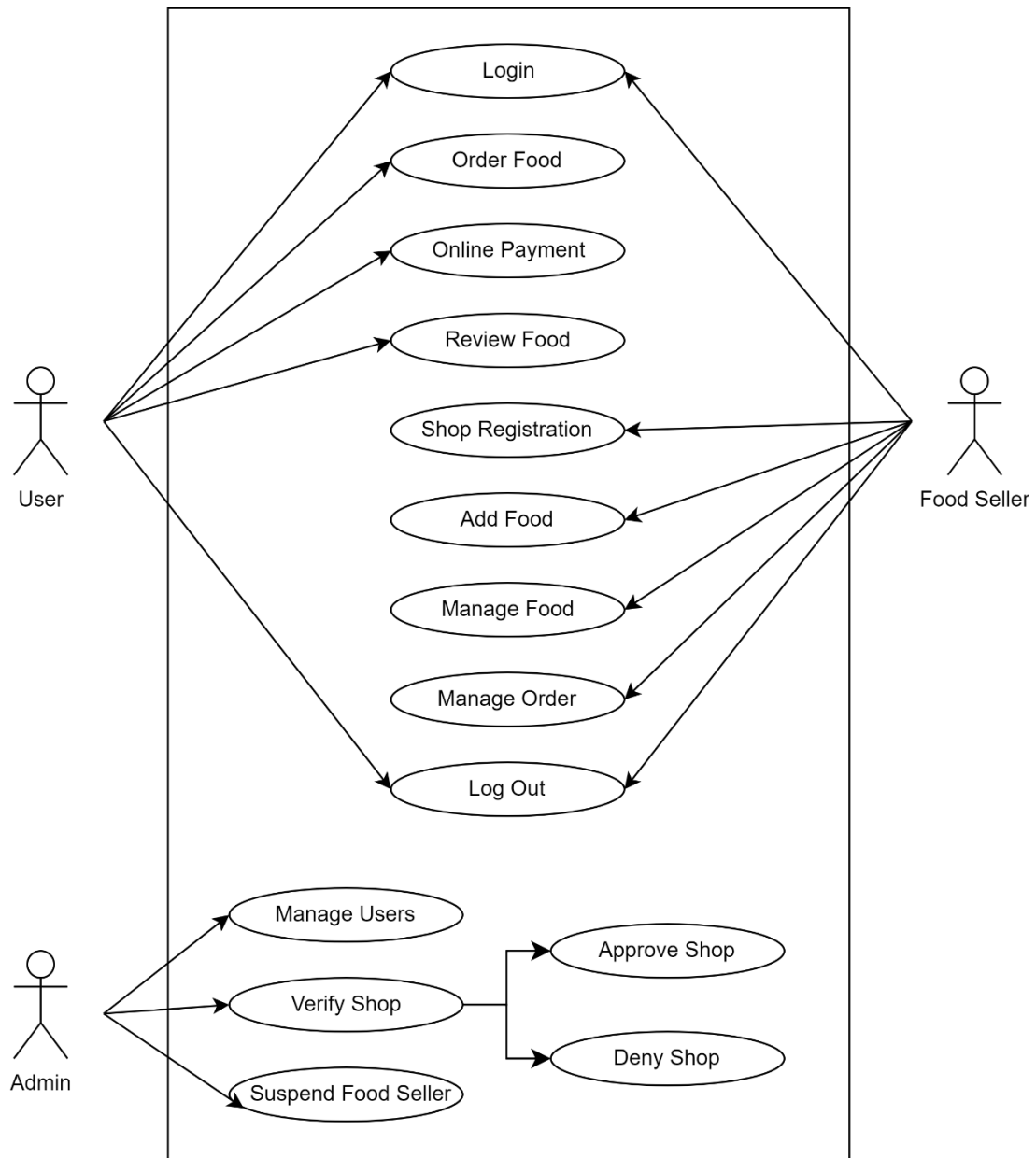


Figure 3.2: Use case diagram.

3.3.1 Use Case Description

Actors:

User: Represents a member of the Food Sharing Platform who has signed up.

Admin: Denotes a moderator or administrator in charge of controlling the platform's users and content.

Use Cases

- Create a new account on the platform by clicking "Register Account."
- Log in: Permits a user to access their account.
- Users can log out of their accounts using the logout feature.
- Food Search: This feature enables users to look for foods based on a variety of parameters (such as a keyword, category, or ingredient list).
- View Food Details: This enables a user to see a single food's details.
- Users may add their food to the site using the upload food function.
- Edit Food: Permits a user to change or improve a food that has already been posted.
- Item Delete: This feature enables users to delete one of their posted foods from the platform.
- Food Rating: This feature enables users to comment and rate Food.
- remark on Food: Permits users to remark on food.
- Report Food: This feature enables a user to report food for offensive material.
- Manage Profile: This feature enables users to edit their profile details, such as their profile photo and bio.
- Manage Favourites: This feature enables users to edit or add foods to their list of favorites.
- To follow or unfollow other people and get updates on their foods, go to Manage Subscriptions.
- Administrate Users: This function enables an admin to control user accounts, including the ability to prohibit or suspend users.
- Administrate Foods: This feature enables an admin to control the platform's foods.

Associations:

- Users may participate in a variety of use cases, such as signing up, looking for food, and managing their accounts.
- For managing users and foods, admins have access to use cases that are special to them.
- Foods can be uploaded, edited, deleted, rated, commented on, and reported by users.
- Additionally, users may control how they engage with foods by adding them to their favorites or subscribing to other users.
- The admin actor is the only one who may utilize the "Administrate Users" and "Administrate Foods" use cases.

The interactions between the system and the actors for a food-sharing platform are high-leveled in this use case diagram. It can act as a springboard for the creation and design of more intricate systems.

3.4 Activity Diagram

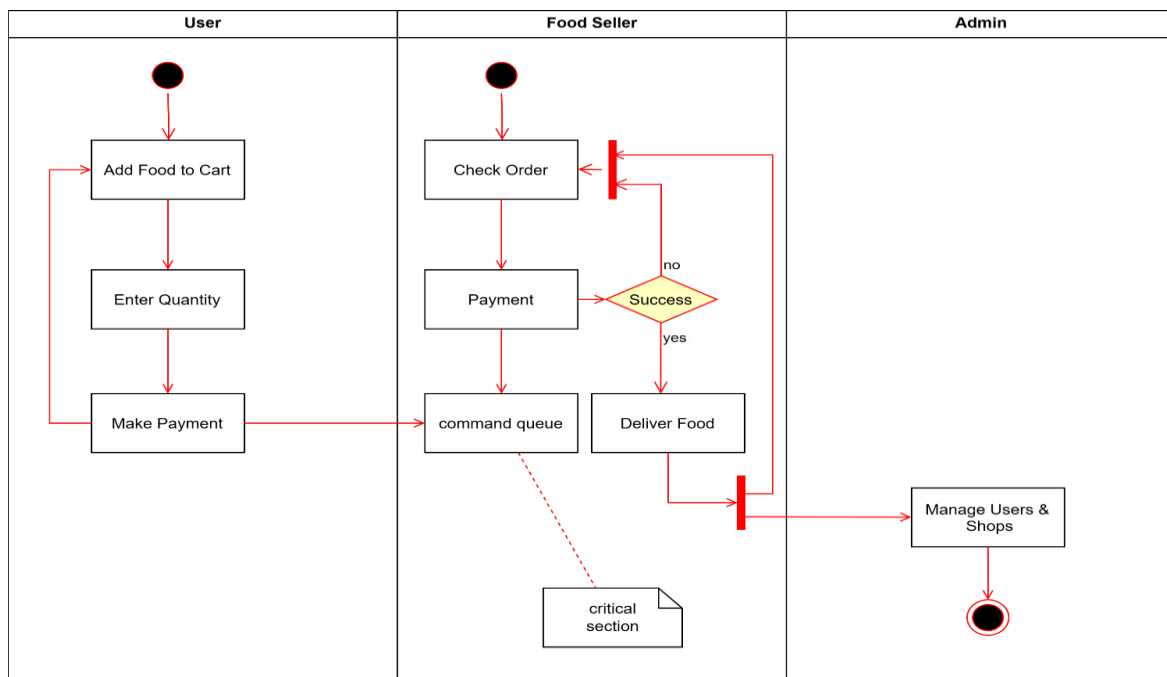


Figure 3.3 Activity Diagram

3.5 Sequence Diagram (For Login):

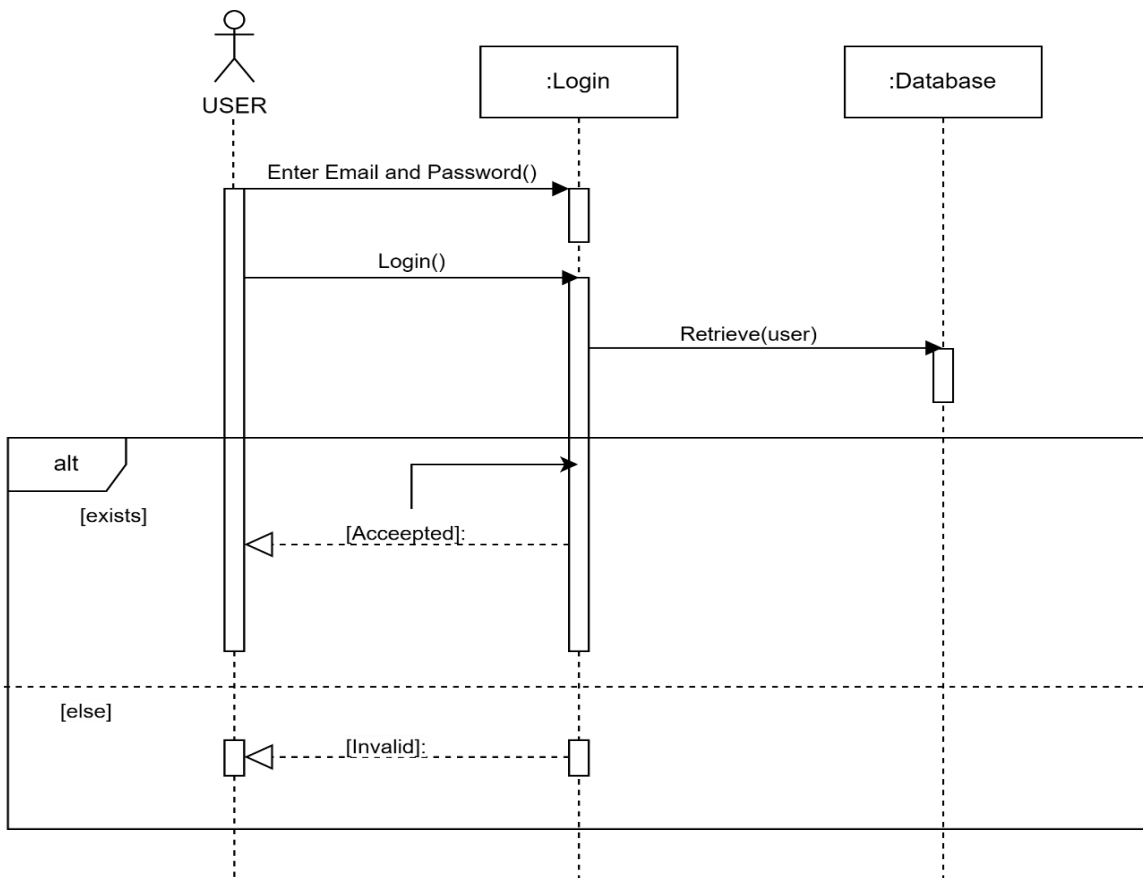


Figure 3.4 Sequence Diagram

3.6 Sequence Diagram (For Order Food):

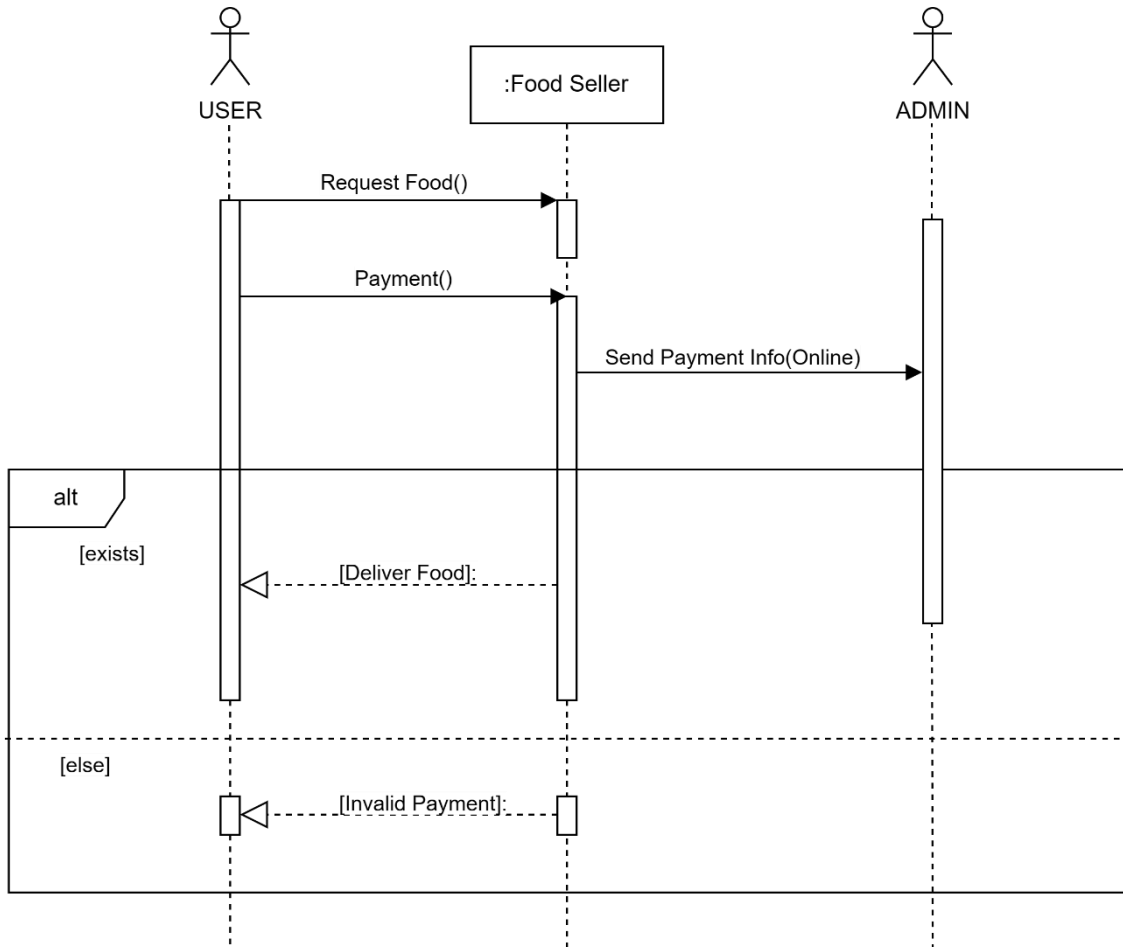


Figure 3.5 Sequence Diagram

3.7 Class Diagram

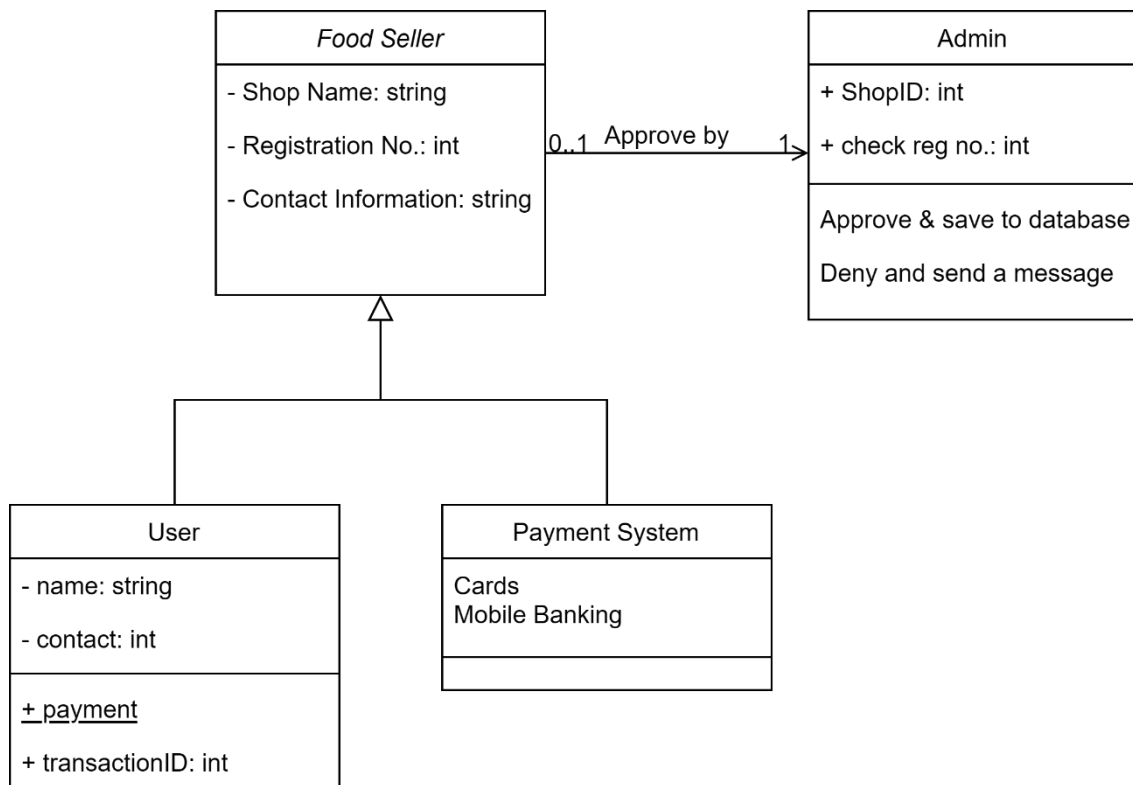


Figure 3.6: Class Diagram

3.8 Entity Relationship Diagram

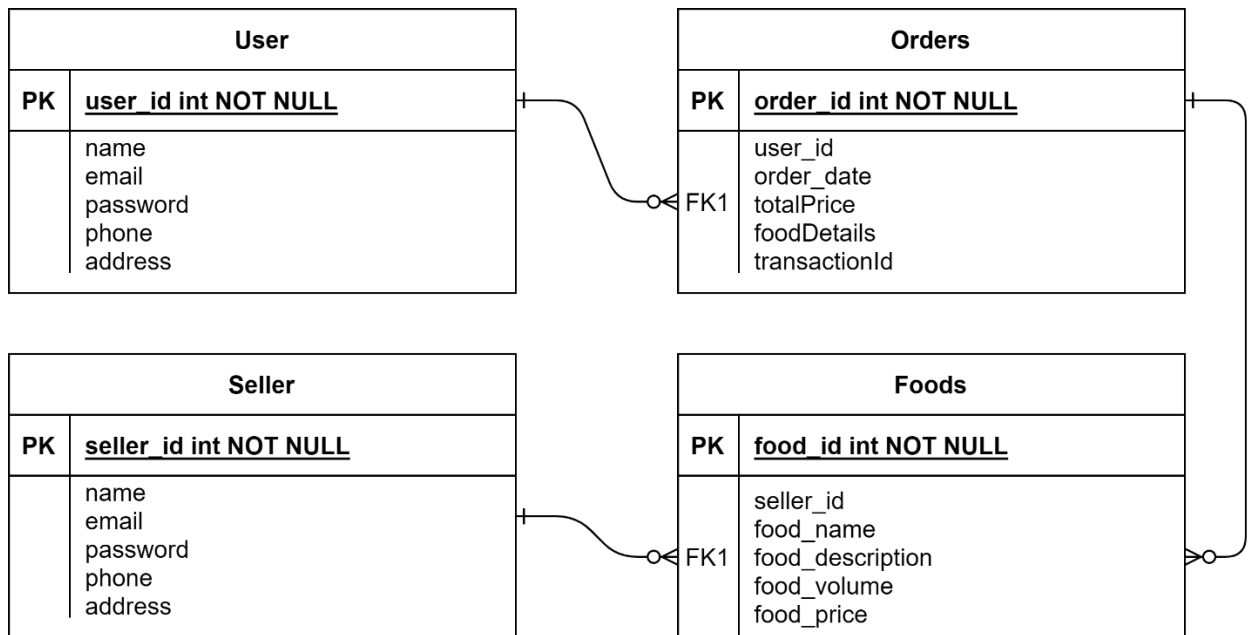


Figure 3.7: Entity Relationship Diagram

CHAPTER 4

DESIGN SPECIFICATION

4.1 FRONT END DESIGN

A user-friendly online application called the Taste Trek Platform was created to support a community of foodies and make it simple for them to order their favorite foods. This platform's interface has been carefully designed to offer a seamless and interesting user experience.

1. An easy-to-use interface

- Users are welcomed by the homepage's aesthetically appealing design, which includes tantalizing culinary images and an easy-to-use navigation menu.
- Users may easily discover foods, ingredients, or other users thanks to the top search bar.

2. Users' profiles

- Each user gets a unique profile page where they may display their personal information, favorite foods, and culinary accomplishments.
- Users can follow other users to create a network of like-minded foodies.

3. Food Cards:

- Dish cards entice viewers to click and continue exploring by featuring appetizing food imagery, dish names, and a succinct description.
- Users may save their favorite foods using the "Save" button.

Food Detail Page: 4.

- A complete food page with explicit step-by-step directions, ingredients, and preparation time is opened by clicking on a food card.
- Users have the option to rate foods, provide comments, and pose queries.

5. Easy Item Development:

- Users may easily share their favorite foods thanks to an uncomplicated food creation tool that supports text and image upload.
- Users may contribute nutritional details, item swaps, and culinary advice.

6. Tags and Categories:

For effective searching, foods are categorized (e.g., appetizers, desserts) and tagged with pertinent keywords.

7. Flexible Design:

- For a smooth experience on desktop, tablet, and mobile devices, the platform is entirely responsive.

8. Notifications

- Users are kept involved in the community by receiving alerts for new followers, comments, and restaurant updates.

9. User-Interaction Features

- Users may host interactive culinary demonstrations using the amazing features.
- It is encouraged to use user-generated material, such as culinary videos.

10. Security and Privacy:

- User's data is protected by strong security measures.
- Users can change their privacy preferences.

In conclusion, the front end of the Taste Trek Platform is created to be a warm and user-centered environment for foodies to express their passion for food. It promotes a feeling of community while giving chefs of all skill levels a smooth and delightful experience.

4.2 BACK-END DESIGN

The backend development of a “Food Sharing Platform” entails developing the fundamental features that let users share and access special foods. The main elements are briefly summarized as follows:

User authentication: Use user registration and login features to make sure that access is safe. Protect user data by using encryption techniques.

Database Design: Construct a dependable database design to keep user profiles, foods, comments, and other pertinent information. Use a NoSQL database, such as MongoDB, or a relational database, such as MySQL.

Food management: Create APIs that allow users to add, and amend their foods. Include fields for the food's name, components, stages of preparation, and cooking time. Data integrity must be maintained by ensuring data validation.

Implement search and filtering features so that consumers may explore foods based on keywords, ingredients, cuisine, or dietary requirements.

Create user profiles for each user that show their follows, likes, and foods they have posted. Permit users to follow and communicate with one another.

Users should be given the option to comment and rate foods. Create a ranking system to assist customers in finding well-liked foods.

Implement a notification system to inform users when a food has been updated, a remark has been made, or a new follower has joined.

Protection against typical web application vulnerabilities like SQL injection and cross-site scripting (XSS) should be ensured by using strong security measures.

Design crystal-clear, thoroughly defined API endpoints for front-end integration as well as potential future mobile apps.

Performance Improvement: Improve

Performance optimization: Make database queries as efficient as possible, employ caching where appropriate, and make sure the program can manage several concurrent users.

Scalability: Create a scalable backend to support an expanding user base. For scalability, think about utilizing load balancing and cloud-based infrastructure.

Testing and debugging: To find and address any problems, thoroughly test the program using unit tests, integration tests, and security audits.

Application deployment: Place the application on a trustworthy hosting platform like AWS, Google Cloud, or Azure.

Implement monitoring tools to keep tabs on the effectiveness of your applications and user interaction. Utilize analytics to learn about user behavior.

Compliance: If necessary, make sure that data protection laws, including the CCPA or GDPR, are followed.

These instructions will help you build a strong backend for your "Food Sharing Platform" that enables users to post their favorite foods and interact with one another in a safe and convenient setting.

CHAPTER 5

IMPLEMENTATION & TESTING

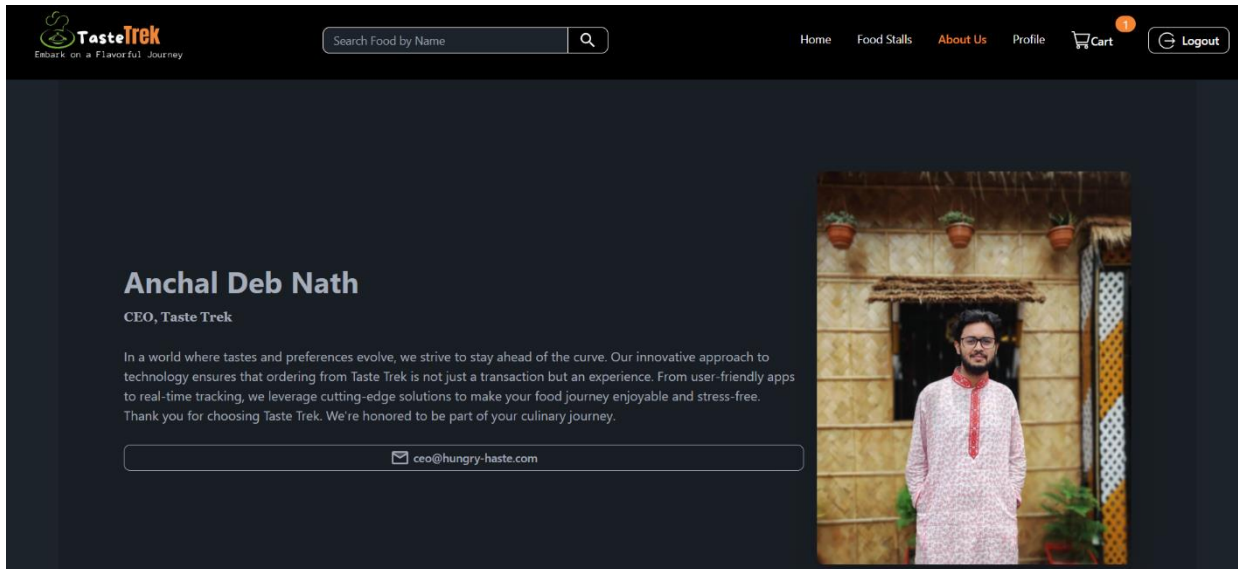


Figure 5.1 About Pages

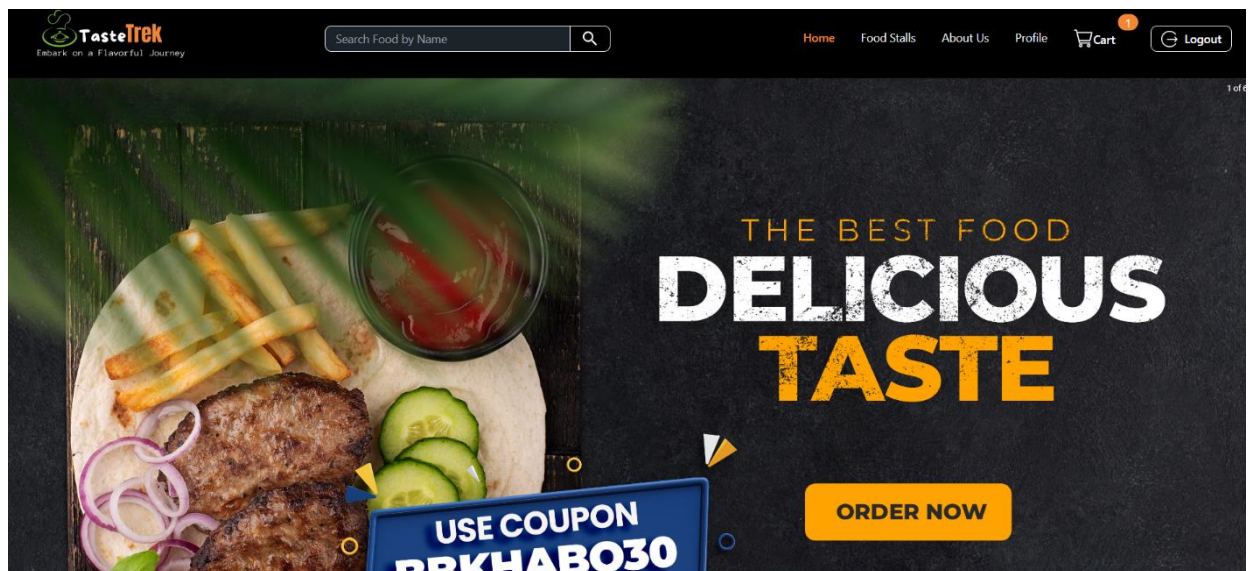
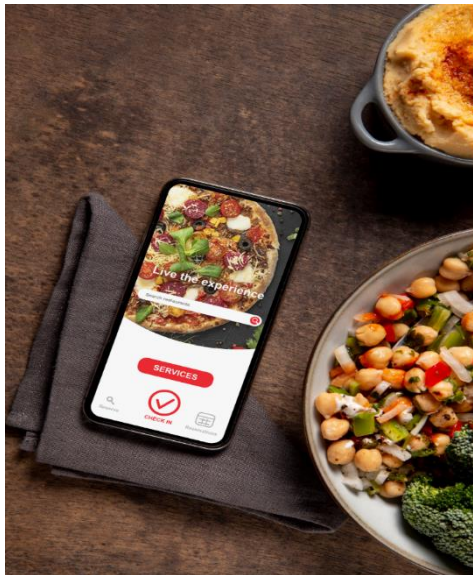


Figure 5.2 Home Page



Sign Up

Name	Telephone
Name	Your Contact Number
Upload Your Photo	
CHOOSE FILE No file chosen	
Email	Password
admin@hungry-haste.com	
Choose Your Account Type	
Sign Up	
Already have an account? Login	

Figure 5.3 Sign up Page

Login Here

Email*
admin@hungry-haste.com
Password*
.....
Login
New here? Create a New Account
 Sign in with Google

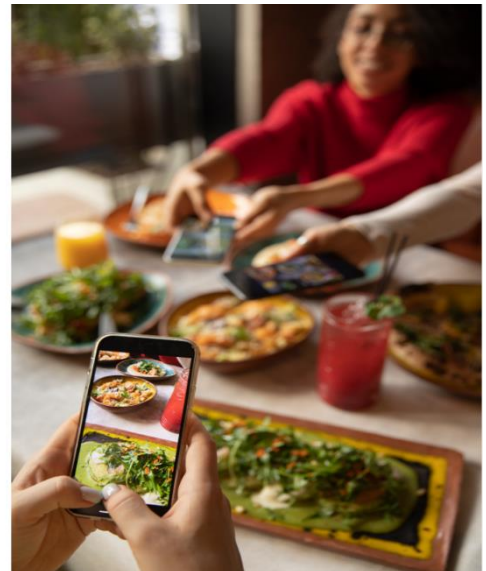


Figure 5.4 Login Page

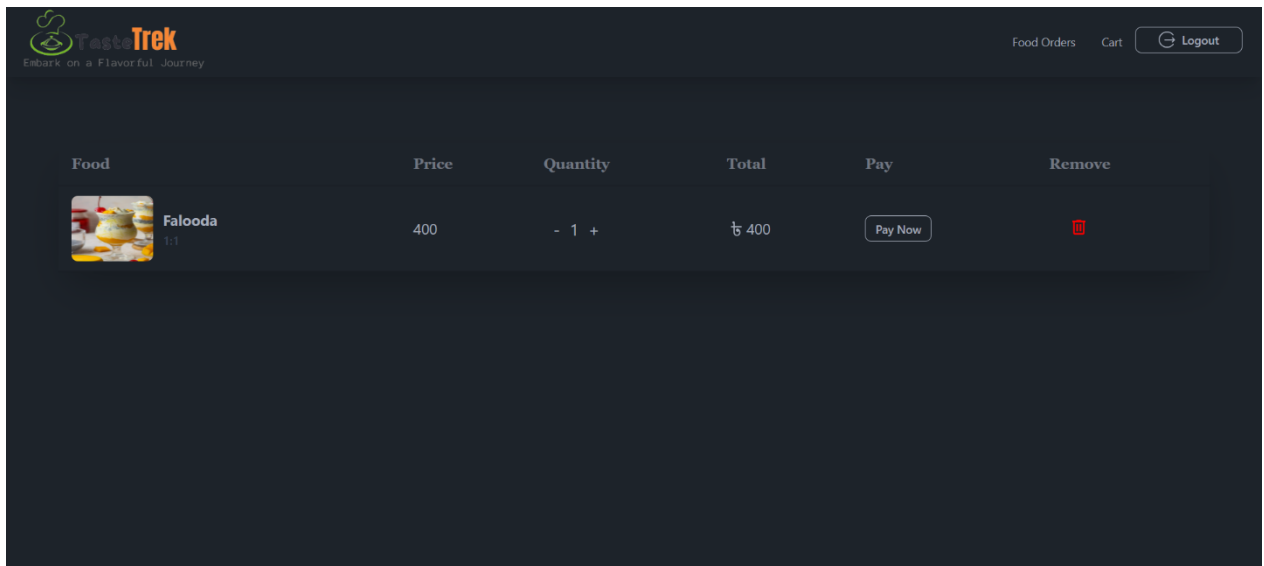


Figure 5.5 User Profile

Dashboard
Add Food

Food Name

Food Category

Upload Food Photo

CHOOSE FILE
No file chosen

Price

Food Volume

Food Description

Add Food

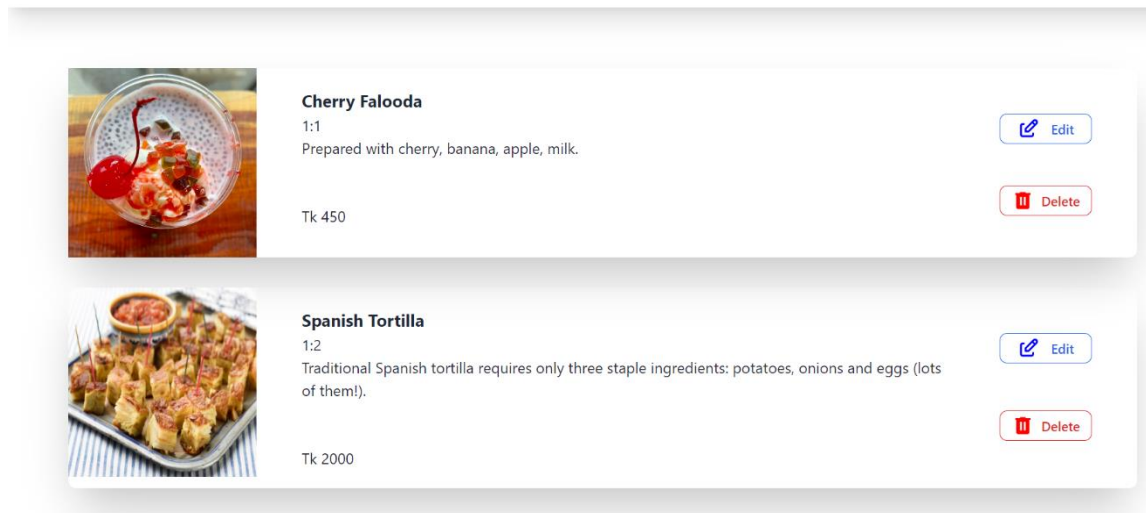


Figure 5.6 Add Food Page

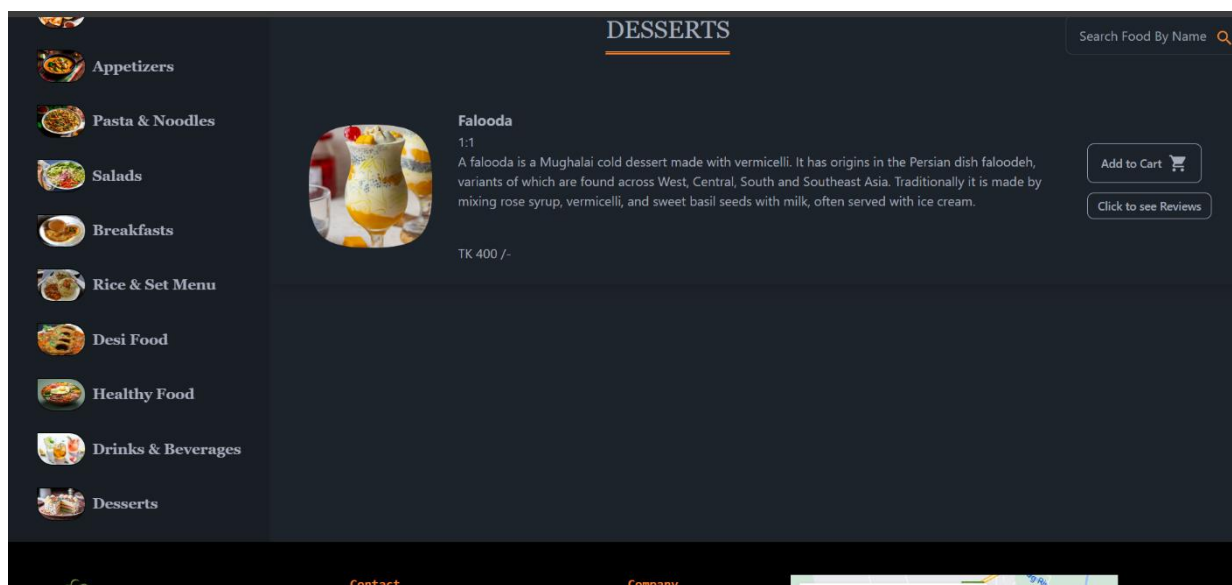


Figure 5.7 All Items Page

Dashboard
Add Food

Food Name

Food Category

Select Food Category

Upload Food Photo

CHOOSE FILE
No file chosen

Price

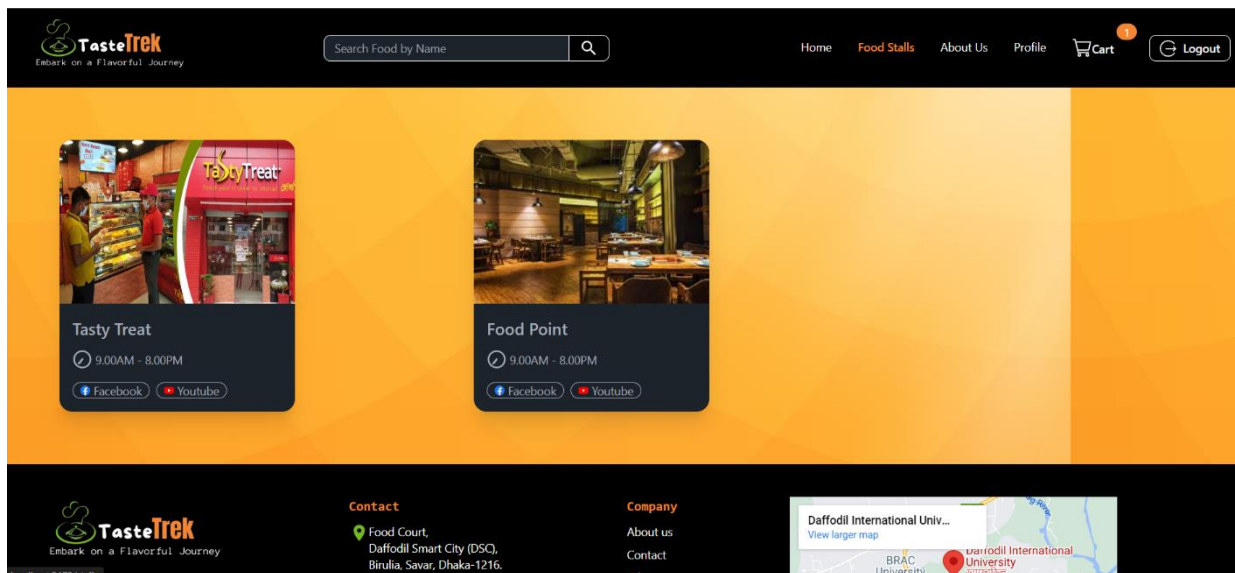
₹

Food Volume

Food Description

Add Food

Figure 5.8 Seller Dashboard Page



	Food	Seller	Payment Completed	
1	 Pea Pesto Crostini 1:1	abir@gmail.com	Tk 1100/-	Review Food
2	 Cherry Falooda 1:1	tahsan@gmail.com	Tk 1800/-	Review Food
3	 Thai Soup 1:4	tahsan@gmail.com	Tk 1200/-	Review Food

Figure 5.9 Seller details and Service list Page

 Manage Users
 Manage Food Stalls

[Logout](#)



Foddie Zone
Registration Number : 8951500045
support@foddie-zone.com
+01200000000

Approved 
[Remove](#)



Tasty Treat
Registration Number : 7500008556
support@tasty-treat.com
+0987654321

Approved 
[Remove](#)

Figure 5.10 Manage Food Stalls Page

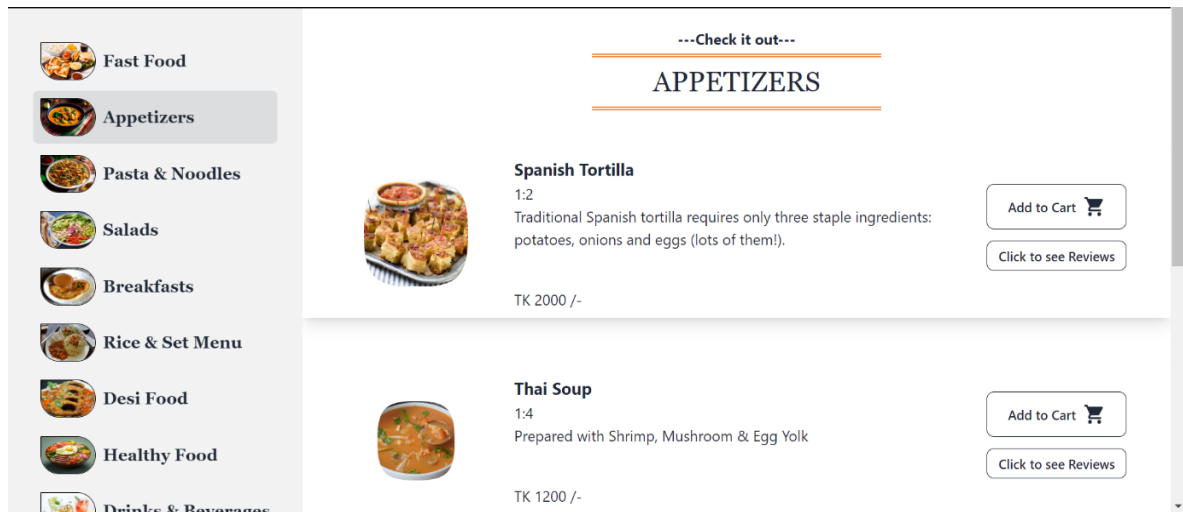


Figure 5.11 All Categories Page

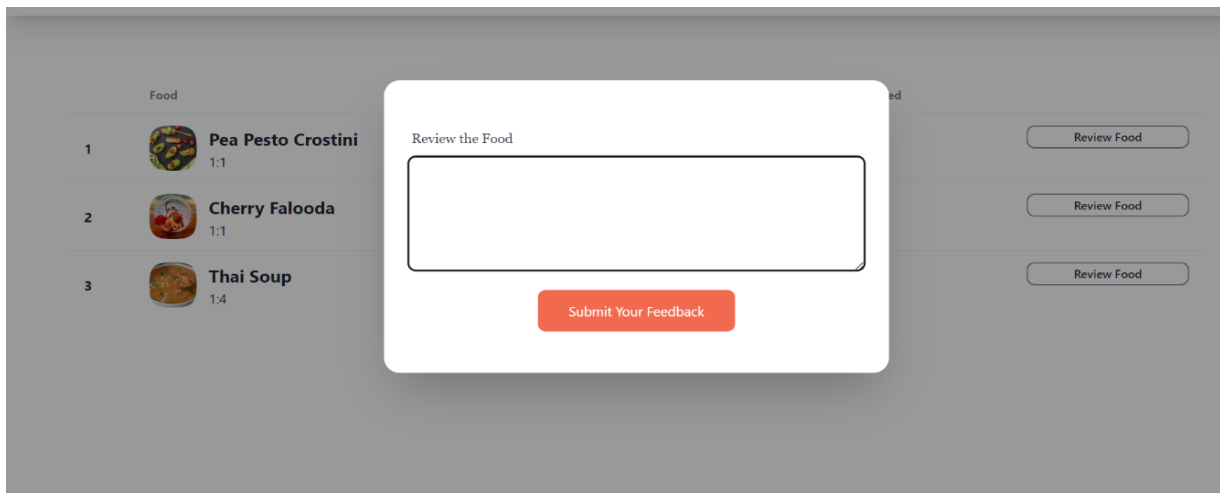


Figure 5.12 Review Page



Figure 3.7 Contact Us Page

5.14 Feature Testing

The Taste Trek Platform is a website application created to connect foodies by enabling them to order their favorite foods. Thorough feature testing is necessary to guarantee a seamless user experience and the effective operation of this platform. Here are some crucial feature tests to take into account:

- **User Sign-Up and Log-In:**
 - Verify that new users may create accounts by testing the user registration process.
 - Check that users can access the system using their login information.
- **Food Development:**
 - To check that users can add ingredients, directions, and media (photos/videos), and test the development of new items.
 - Verify that users can classify items by type (for example, appetizers or desserts) and cooking time.
- **Searching for and Finding Foods**
 - Check to see whether visitors can look for foods using keywords.

- Try out the filtering options for popularity, date, or user ratings when ordering foods.
- **A user's profile**
 - Create and update user profiles for testing.
 - Verify that users have access to their items, biographies, and profile pictures.
- **Interaction:**
 - Make certain that people may rate, discuss, and share foods.
 - Check whether users may follow or unfollow other users to view their foods on their feed.
- **Notifications:**
 - Test the alerts for new likes, comments, and follows.
 - Verify that emails are sent out as necessary as notifications.
- **Privacy and security:**
 - Conduct a vulnerability assessment to look for cross-site scripting or SQL injection.
 - Check to see if user information and passwords are encrypted and stored securely.
- **Adaptivity:**
 - Check the usability of the platform on various hardware and screen sizes.
 - Make sure the user interface adjusts properly for tablet and mobile devices.
- **Performance evaluation**
 - Check the application's response time under various loads to make sure it can support several users at once.
 - Search for sites that take a long time to load and improve them as needed.
- **Accessibility:**
 - Conduct accessibility testing to confirm that the platform complies with WCAG standards and can be used by people with impairments.
- **Web Browser Support:**
 - To guarantee consistent functioning, test the application on different web browsers (such as Chrome, Firefox, Safari, and Edge).

- **Backup and recovery of data:**
 - Check to see that user-generated data, such as user profiles and foods, is frequently backed up and is recoverable in the event of data loss.
 - Make sure people may comment, and report offensive content.
- **Localization:**
 - If the application is designed for a worldwide audience, make sure it works with diverse languages and locations.
- **Reporting and Reaction:**
 - Make sure people may comment, report offensive content or contact support.
- **Payment (if appropriate):**
 - Any subscription-based business should undergo testing for premium features and payment processing.

The Food Sharing Platform may be improved to create a pleasurable user experience and develop a thriving community of food aficionados who can easily share their distinctive foods by undertaking rigorous feature testing.

5.15 Test Cases for Taste Trek:

1. User Registration

Test Case ID: TC-001

Test Case Description: Verify user registration with valid details.

Preconditions: User is on the registration page.

Test Steps:

1. Enter valid username.
2. Enter valid email address.
3. Enter valid password.

4. Confirm password.
5. Click the "Register" button. **Expected Result:** User should be registered successfully and redirected to the home page.

Status: Users can register their accounts successfully.

2. User Login

Test Case ID: TC-002

Test Case Description: Verify user login with valid credentials.

Preconditions: User is on the login page.

Test Steps:

1. Enter valid email address.
2. Enter valid password.
3. Click the "Login" button. **Expected Result:** User should be logged in successfully and redirected to the dashboard.

Status: Users can log in to their accounts successfully.

3. Search for Restaurants

Test Case ID: TC-003

Test Case Description: Verify the functionality of searching for restaurants.

Preconditions: User is logged in and on the home page.

Test Steps:

1. Enter the name of a restaurant or type of cuisine in the search bar.
2. Click the "Search" button. **Expected Result:** Relevant restaurants should be displayed based on the search criteria.

Status: Users can search for restaurants successfully.

4. Place an Order

Test Case ID: TC-004

Test Case Description: Verify the process of placing an order.

Preconditions: User is logged in and has selected a restaurant.

Test Steps:

1. Select items from the restaurant menu.
2. Click the "Add to Cart" button for each item.
3. Review the cart and click "Checkout."
4. Enter delivery address and payment details.
5. Confirm the order. **Expected Result:** Order should be placed successfully, and a confirmation message should be displayed.

Status: Users can place an order successfully.

5. Order History

Test Case ID: TC-005

Test Case Description: Verify the order history functionality.

Preconditions: User is logged in and has previously placed orders.

Test Steps:

1. Navigate to the "Order History" section from the user profile. **Expected Result:** List of past orders should be displayed with details like order ID, items, total amount, and status.

Status: Order history functionality verified successfully.

6. Add to Favorites

Test Case ID: TC-006

Test Case Description: Verify the functionality of adding a restaurant to favorites.

Preconditions: User is logged in and has searched for restaurants.

Test Steps:

1. Click the "Favorite" icon next to a restaurant. **Expected Result:** The restaurant should be added to the user's favorites list.

Status: User can add a restaurant to favorites successfully.

7. Profile Update

Test Case ID: TC-007

Test Case Description: Verify updating user profile information.

Preconditions: User is logged in.

Test Steps:

1. Navigate to the "Profile" section.
2. Update details like name, email, or address.
3. Click the "Save" button. **Expected Result:** Profile information should be updated successfully.

Status: User can update profile information successfully.

8. Password Reset

Test Case ID: TC-008

Test Case Description: Verify the password reset functionality.

Preconditions: User is on the login page.

Test Steps:

1. Click the "Forgot Password" link.

2. Enter registered email address.
3. Click the "Submit" button.
4. Follow instructions sent to the email to reset the password. **Expected Result:** User should be able to reset the password successfully and log in with the new password.

Status: Password reset functionality verified successfully.

9. Payment Gateway

Test Case ID: TC-009

Test Case Description: Verify the payment gateway integration.

Preconditions: User has items in the cart and is on the checkout page.

Test Steps:

1. Enter valid payment details.
2. Click the "Pay" button. **Expected Result:** Payment should be processed successfully, and an order confirmation message should be displayed.

Status: Payment gateway integration verified successfully.

10. Logout

Test Case ID: TC-010

Test Case Description: Verify the logout functionality.

Preconditions: User is logged in.

Test Steps:

1. Click the "Logout" button. **Expected Result:** User should be logged out and redirected to the login page.

Status: Logout functionality verified successfully.

5.16 Test Schedule:

Test Phase Time
Testing plan create 1 Week
Unit testing During development time.
Component test During development time.
Testing user interfaces 1 Week
Performance testing 1 Week
Accessibility testing 1 Week

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Society

An online program called Taste Trek Platform has had a significant influence on society, changing how people interact with food, culture, and technology. This ground-breaking platform has improved our daily lives in several ways, including:

Culinary Experimentation: By offering a broad and varied selection of foods from all over the world, Taste Trek websites promote culinary experimentation. Users' culinary horizons are broadened and a deeper appreciation for other cuisines is fostered by the ease with which they may get and test out different meals.

Preservation of Culinary Heritage: Specialty foods are frequently passed down through generations. Using this platform, people may share and preserve the culinary customs of their families. It acts as a digital archive for cultural heritage, making sure that special foods don't disappear over time.

Community Building: Websites that share foods foster active online communities of foodies. Users may connect with people who share their love of cooking, offer advice, and develop deep relationships based on their shared enthusiasm for food. This promotes a feeling of unity and belonging.

Healthy Eating: To assist people in making educated eating decisions, several food delivery websites provide filters and nutritional data. Encouraging balanced and nourishing meals helps to promote health and well-being.

Reduced Food Waste: Having access to a variety of foods enables consumers to make the most of the ingredients at hand and thus reduces food waste. Promoting thoughtful consumption and lowering the environmental effect of food production, is in line with sustainability objectives.

Entrepreneurship and Income Generation: For some people, posting their favorite foods online might open up new business prospects. By teaching cooking lessons, selling food e-books, or even founding food-related enterprises, they may make money off of their culinary abilities.

Platforms for sharing foods: are instructional resources that aid in the development of people's cooking abilities. Beginners can pick up tips from seasoned chefs and eventually advance in the kitchen.

Time and Convenience: By providing easy-to-follow foods with detailed ingredient lists and directions, these platforms make meal planning simpler. Users benefit from time savings
Energy Use: Power is used to run the data centers and web servers that host the platform. These processes can have a sizable carbon footprint, particularly if the platform is subjected to heavy traffic and data storage needs.

Delivery Services: Some food-sharing websites include integrations with meal delivery services, which might result in more packaging waste and transportation-related carbon emissions.

Use of Digital Devices: If not properly disposed of or utilized, the growing use of digital devices to access foods and instructions can increase electronic waste and energy consumption.

In conclusion, a food-sharing platform has transformed society by promoting healthy eating, conserving cultural traditions, forming communities, minimizing food waste, increasing convenience in our everyday lives, fostering skill development, and offering economic possibilities. The common language of food has expanded our gastronomic experiences and brought people closer.

6.2 Impact on Environment

Optimistic Effects

- **Reduced Food Waste:** Users may make the most of their ingredients by using food-sharing networks, which helps to reduce food waste. Foods may be found that make use of goods that people already own, decreasing the need for further shopping runs and the possibility that expired food would wind up in landfills.
- **Promotion of Sustainable Ingredients:** Numerous food-sharing websites advocate the use of organic, sustainably produced, or locally obtained ingredients. This may inspire customers to choose ecologically responsible options when they buy food.
- **Less Paper Consumption:** Printing cookbooks and food cards traditionally use a lot of paper and ink. By removing the need for tangible resources, a digital platform lowers its environmental impact.

Adverse effects

- **Energy Use:** Power is used to run the data centers and web servers that host the platform. These processes can have a sizable carbon footprint, particularly if the platform is subjected to heavy traffic and data storage needs.
- **Delivery Services:** Some food-sharing websites include integrations with meal delivery services, which might result in more packaging waste and transportation-related carbon emissions.
- **Use of Digital Devices:** If not properly disposed of or utilized, the growing use of digital devices to access foods and instructions can increase electronic waste and energy consumption.

Developers may emphasize energy-efficient server architecture, encourage users to use sustainable cooking methods and ingredients, and limit the detrimental environmental effects of a food-sharing platform. Users can also practice eco-friendly behaviors.

6.3 Ethical Aspects

User Privacy: It is crucial to respect users' privacy. Only essential user data should be collected by the platform, and opt-in options for sharing personal data should be provided. Building trust requires protecting user data from illegal access and maintaining safe transactions.

Ownership of Content: The food creators' intellectual property rights must be respected by the site. Promote the upload of creative foods from users and make the conditions of usage explicit. To preserve the integrity of the platform and the rights of artists, discourage plagiarism and copyright violation.

Ensure that the platform is inclusive and accessible to a wide range of users. Create it with accessibility for those with impairments and with content moderation to stop inappropriate language or hate speech. Encourage a diverse and hospitable community.

Transparency: Be open and honest about the platform's workings, including the algorithms used for advertising, user reviews, and content suggestions. Avoid deceptive tactics that put user welfare last and profit first.

Promote ethical cooking and eating practices to encourage healthy eating and safety. Avoid endorsing unhealthy eating regimens, excessively decadent dishes, or risky cooking techniques. Users should be encouraged to offer safety and dietary advice.

Establish unambiguous community rules that prohibit bullying, harassment, and the spread of false information. Spend money on content moderation that works to create a courteous and secure environment for all users.

Encourage environmentally friendly ingredients and cooking techniques. Encourage eco-friendly cooking techniques and decrease food waste. Encourage ethical ingredient sourcing.

Prioritise data security to safeguard user information. Update security measures often to stop data breaches, and notify users right once if any do occur.

Advertising and Sponsored material: To promote openness, clearly identify adverts and sponsored material. Avoid using dishonest or misleading advertising tactics.

Accountability and User Feedback: Create systems for user feedback and accountability. Respond quickly to user complaints and exhibit a dedication to raising the ethical standards of the platform. In conclusion, a "Food Sharing Platform" online application should put user privacy, content ownership, inclusivity, transparency, healthy habits, community standards, sustainability, data security, responsible advertising, and accountability at the top of the list. The platform may promote a good and responsible culinary community and win the users' confidence and loyalty by resolving these ethical issues.

6.4 Sustainability Plan

The functioning of our food-sharing platform and its effects on the environment and society are both devoted to sustainability. Here is our strategy:

- **Energy Efficiency:** To lessen our carbon footprint, we will invest in servers and data centers that use less energy. The platform's functioning will consume less energy unnecessarily if a code optimization method is implemented.
- **Green Hosting:** By collaborating with environmentally conscious hosting companies, we'll make sure that our web application operates on servers that are fuelled by renewable energy sources like solar or wind energy.

- **Reducing Food Waste:** We'll encourage sane cooking and sharing techniques to address the sustainability of food. Users will be urged to advise on cutting down on food waste and finding inventive ways to use leftovers.
- **Locally Sourced Foods:** By encouraging people to contribute foods that employ regional foods, you may help out your community's farmers and lessen the environmental damage caused by transporting food across great distances.
- **Digital Cookbook:** We'll create a feature for a digital cookbook that will eliminate the need to print foods on paper and encourage our users to adopt a paperless kitchen culture.
- **Community Engagement:** We'll hold contests and activities on our platform that emphasize healthy eating and active lifestyles. To increase awareness, we'll work with sustainability groups.
- **User Education:** We'll provide materials and articles about environmentally friendly cooking methods and the effects of various components. Users will have simple access to these.
- **Feedback Loop:** Consistently seek input from our users and the larger community on how to strengthen our commitment to sustainability and make our platform more environmentally friendly.

- **Donations:** As part of our commitment to good corporate citizenship, a portion of our revenues will be donated to programs that support sustainable food systems and environmental projects.
- **Impact measurement:** We will track and report on our sustainability indicators regularly, such as the reduction of energy use, the decrease of food waste, and user participation in sustainable activities.

We acknowledge the significance of sustainability in the culinary industry in our food-sharing platform. We hope to promote good changes toward a more sustainable and responsible future for the culinary business by adhering to this sustainability plan, which we hope will both unite food fans and inspire positive change.

CHAPTER 7

CONCLUSION

7.1 Project Summary

The "**Taste Trek**" Online Food Delivery System is an innovative platform designed to revolutionize the dining experience within the university area. This user-centric application serves as a culinary companion, seamlessly connecting food enthusiasts, local eateries, and administrators within the academic community.

Key Features:

1. **Effortless Food Ordering:** Users can easily place orders for their favorite meals, complete with detailed menus, step-by-step instructions, and enticing images.
2. **Culinary Diversity:** A diverse array of cuisines is at users' fingertips, with sophisticated search criteria inspiring unique culinary journeys.
3. **Community Engagement:** The platform fosters social networking, allowing users to follow preferred eateries, comment on meals, and engage in lively discussions.
4. **Reviews:** Users can contribute to the community by providing ratings and reviews, enhancing the overall dining experience for everyone.
5. **Automated Shopping Lists:** The system simplifies grocery shopping by generating automated shopping lists based on selected meals.

Benefits:

1. **Community Building:** "Taste Trek" fosters a sense of community within the university area, bringing together individuals with diverse culinary backgrounds.
2. **Convenience:** Daily tasks like organizing meals, creating plans, and grocery shopping are streamlined for user convenience.
3. **Skill Development:** Culinary enthusiasts of all levels can enhance their skills through shared knowledge and exposure to new techniques.

The "Taste Trek" Online Food Delivery System seamlessly connects individuals through their shared love of food, contributing to a vibrant and connected campus experience. It promises to be the go-to resource for anyone looking to explore diverse culinary delights, share their gastronomic experiences, and delight in the joy of discovering new flavors. Join us on this exciting culinary journey!

7.2 Scope for Further Development

Looking ahead, "Taste Trek" envisions a transformative trajectory as it strives to redefine and elevate the university dining experience. Inspired by the industry prowess of food delivery behemoths like Food Panda and Hungry Naki, our app proposes an ambitious agenda that combines innovation, personalization, and community engagement.

The integration of cutting-edge technologies, specifically artificial intelligence (AI) and machine learning (ML), is central to our vision. Our goal is to create an intuitive platform that not only expedites food delivery but also curates personalized culinary experiences, drawing inspiration from the sophisticated algorithms of industry leaders. Consider a future in which the app not only

remembers your favorite orders but also anticipates your cravings, making each dining experience truly personalized. Geographic expansion emerges as a strategic initiative, mirroring our esteemed counterparts' successful trajectories. "Taste Trek" hopes to expand its reach beyond the university area by establishing a regional culinary network that crosses borders. This expansion is about connecting communities through a shared love of diverse and delightful dining experiences, not just delivering meals. In our future endeavors, environmental sustainability takes center stage. Following the eco-friendly practices established by industry leaders, we intend to introduce sustainable packaging options and cultivate collaborations with environmentally-conscious eateries. Furthermore, we are committed to forming partnerships with local farmers and producers to promote a farm-to-table ethos that promotes freshness and supports local economies. "Taste Trek" could become more than just a delivery app in the future. We envision the platform evolving into a comprehensive culinary hub within university communities, drawing inspiration from industry leaders. Live chef demonstrations, virtual dining experiences, and engaging community events are planned to enhance the overall campus lifestyle. User engagement remains a cornerstone of our approach, which we learned from successful platforms' best practices. We are committed to actively seeking user feedback, ensuring an ongoing dialogue that keeps "Taste Trek" in tune with the campus community's evolving preferences and needs.

In charting our future course, "Taste Trek" aspires to set new standards in campus dining rather than simply following industry trends. The app promises a future where every meal is an experience, every delivery is a connection, and every user is an integral part of a vibrant culinary community, with a focus on innovation, sustainability, and user satisfaction.

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Appendix A

Course Outcomes, Complex Engineering Problems (EP) and Complex Engineering Activities (EA) Addressing

Title: TASTE TREK - AN ONLINE FOOD DELIVERY SYSTEM

Student ID: 201-15-13611

CO Description for FYDP

CO	CO Descriptions	PO
Phase -I		
CO1	Integrate recently gained and previously acquired knowledge to identify a food delivery system problem for the Final Year Design Project (FYDP)	PO1
CO2	Analyze different aspects of the goals in designing a solution for this FYDP	PO2
CO3	Explore diverse problem domains through different food delivery system, delineate the issues, and establish this goals for the FYDP	PO4
CO4	Perform economic evaluation and cost estimation and employ suitable project management procedures throughout the development life cycle of the FYDP	PO11
Phase -II		
CO5	Design and develop technical solutions and system components or processes that meet specified requirements, ensuring compliance with public health and safety standards, as well as considering cultural, socioeconomic, and environmental factors in this FYDP	PO3
CO6	Choose and apply appropriate methodologies, resources, and contemporary engineering and IT technologies to address complex engineering processes, encompassing prediction and modeling, while adhering to relevant constraints in this FYDP	PO5
CO7	Analyze societal, health, safety, legal, and cultural considerations, along with associated responsibilities, in the context of professional engineering practice and the resolution of this problem, employing logical reasoning guided by contextual understanding.	PO6
CO8	Comprehend and evaluate the enduring sustainability and impact of professional engineering endeavors in addressing intricate engineering challenges within social and environmental frameworks.	PO7
CO9	Implement ethical principles and adhere to professional standards and norms in this FYDP	PO8
CO10	Capable of operating proficiently both individually and as a team member or leader across diverse teams and interdisciplinary settings in this FYDP.	PO9

CO11	Proficiently communicate with the engineering community and broader society regarding complex engineering endeavors, including the ability to comprehend and generate comprehensive reports and design documentation, as well as provide and receive clear instructions throughout this FYDP.	PO10
CO12	Acknowledge the importance of self-directed and life-long learning within the evolving landscape of technology, and possess the readiness and capability to engage in lifelong learning endeavors.	PO12

Addressing CO (1 to 8), Knowledge Profile (K), Attainment of Complex Engineering Problems (EP), and Attainment of Complex Engineering Activities (EA)

Addressing CO (1 to 8), Knowledge Profile (K), Attainment of Complex Engineering Problems (EP):

SN	EP Definition	Attainment	CO	Justification (with Knowledge Profile)	References
1.	EP1: Depth of Knowledge required	Yes	CO1, CO2, CO3, CO5, CO6, CO7 and CO8	This project demonstrates fundamental engineering (K3) principles by employing React.js, CSS, HTML, and Express.js to build a robust web-based food delivery system. It showcases specialist knowledge (K4) by designing an efficient backend architecture with Express.js, ensuring seamless user interactions and high performance. Real-time data processing and responsive design are integrated to enhance the user experience, making "Taste Trek" a reliable and user-friendly service for the university community.	Page no: [26-30] Section: [3.2] Page no: [1-7] Section: [1.1]
				This project applies engineering practice and design (K5) through the detailed process of developing and refining the web-based food delivery system. It addresses engineering practice and technology (K6) by employing modern web technologies like React.js, CSS, HTML, and Express.js. These tools ensure a responsive, efficient, and user-friendly experience, demonstrating the practical application of cutting-edge	Page no: [30] Section: [3.2(B)] Page no: [33]

				technology in creating "Taste Trek."	Section: [3.4]
				This project ensures adherence to K8 (Research Literature) by integrating insights from recent studies to develop the web-based food delivery system. It showcases a thorough understanding of current methodologies in web development, enhancing the user experience through modern techniques and technologies.	Page no: [5-7] Section: [2.2, 2.3]
2.	EP2: Range of Conflicting Requirements	Yes	CO2, and CO7	This This project addresses EP-2 by recognizing the challenges in creating a seamless food delivery system for university campuses, including user interface design, real-time data processing, and backend efficiency. By analyzing user needs and technical constraints, it tackles the complexities of integrating multiple technologies and ensuring a responsive, reliable service. This comparative approach provides insights for refining the overall user experience and system performance.	Page no: [23-24] Section: [2.4, 2.5]
3.	EP3: Depth of analysis required	Yes	CO2, and CO6	This project addresses EP-3 by meticulously comparing various web development frameworks and technologies. By evaluating the performance, scalability, and user experience of each option, it identifies React.js and Express.js as the most effective solutions for creating a seamless food delivery system.	Page no: [36-57] Section: [4.2]

4.	EP4: Familiarity of Issues	Yes	CO8	This project's interdisciplinary approach extends beyond web development, impacting campus dining experiences and logistical challenges. It enhances the efficiency and user experience of the "Taste Trek" food delivery system, meeting diverse university community needs and advancing standards in campus dining services.	Page no: [16-24] Section: [2.2, 2.4]
5.	EP5: Extends of application codes	No	CO5	N/A	N/A
6.	EP6: Extends of stakeholders involved and conflicting	No	CO8	N/A	N/A
7.	EP7: Interdependence	Yes	CO5	This project's comprehensive approach ensures EP-7 by integrating various components across web development, including data collection, statistical analysis. It addresses high-level challenges in creating the "Taste Trek" food delivery system, ensuring a robust solution that meets the diverse needs of the university community.	Page no: [26-34] Section: [3.2, 3.3, 3.4]

Addressing CO11 with Complex Engineering Activities (EA) [Some or all of the following]:

SN	EA Definition	Attainment	CO	Justification	References
1.	EA1: Range of resources	Yes	CO11	This project utilizes diverse resources such as a 2.6 GHz processor, 4GB RAM web server, Chrome browser, and drawing tools like Draw.io. These tools ensure systematic development and enhance the user experience of the "Taste Trek" food delivery system, addressing various technical challenges in web-based applications.	Page no: [33-35] Section: [3.5]
2.	EA2: Level of interaction	No		N/A	N/A
3.	EA3: Innovation	No		N/A	N/A
4.	EA4: Consequences for society and the environment	Yes		This project contributes to society by enhancing campus dining experiences through the "Taste Trek" food delivery system, while also promoting environmental sustainability by using efficient computational resources and adhering to ethical guidelines for user data privacy.	Page no: [58-61] Section: [5.1, 5.2, 5.4]

5.	EA-5: Familiarity	Yes		This project expands upon existing research by exploring novel approaches in web-based food delivery systems through React.js, CSS, HTML, and Express.js. It demonstrates this through initial prototypes and a thorough comparative analysis, providing fresh insights into enhancing campus dining experiences.	Page no: [7-10] Section: [2.1, 2.3]
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Addressing CO (4, 9, 10, and 12):

SN	COs	Attainment	Justification	References
1	CO4	Yes	This project addresses CO4 by integrating effective project management and financial oversight, ensuring meticulous planning, resource allocation, and budget estimation for optimal resource utilization throughout the lifecycle.	Page no: [13] Section: [1.6]
2	CO9	Yes	The project demonstrates adherence to ethical principles by prioritizing patient privacy, obtaining informed consent, and transparently documenting the process, ensuring responsible knowledge dissemination and societal well-being through the ethical application of advanced healthcare technologies which comply with CO9 .	Page no: [60] Section: [5.3]
3	CO10	No	N/A	N/A
4	CO12	Yes	The project's dedication to continuous learning (CO12) and adaptation within the dynamic technological landscape is reflected in its comprehensive data collection, rigorous statistical analysis, meticulous development and analysis, showcasing a commitment to staying updated and refining techniques to address modern challenges.	Page no: [26-34, 37-55] Section: [3.2, 3.3, 3.4, 3.5, 4.2]

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