1. Introduction

FlavourFeed is like a cozy kitchen on the internet where food lovers meet. It is super easy – just like sharing recipes with friends. The website looks great and works smoothly, thanks to simple tools like React JS, HTML, CSS, and JavaScript. Behind the scenes, we have got Spring Boot, Hibernate, and MySQL making everything run smoothly. FlavourFeed is not just a place for recipes; it is a friendly community where you can discover new flavors, make friends who love food as much as you do, and maybe even learn a thing or two about what is good for you. Join us and let us create a delicious experience together!

This web application offers a user-friendly platform for exploring, sharing, and contributing to a diverse collection of food recipes, while also empowering users to create personalized diet plans, and access valuable nutritional information.

2. Problem Definition & Scope

1. Problem Definition

Imagine a world where people who love cooking find it a bit tricky to share recipes and connect with others who enjoy food. Regular cooking websites might be a bit too complicated or not as fun. That is where FlavourFeed comes in! We noticed this problem and want to create a simple, easy-to-use place where everyone can share their favorite recipes, find yummy dishes, and make food-loving friends. So, our mission is to make cooking and sharing recipes online a lot more enjoyable and friendly for everyone!

2. Goals

a. Create a Friendly Food Community
b. Seamless Recipe Sharing
c. Recipe Discovery
d. Enhance Nutritional Awareness
e. Interactive User Engagement

3. Objectives

f. User Registration and Onboarding
g. Recipe Submission
h. Efficient Recipe Search and Discovery
i. Nutritional Information Integration0
j. Community Interaction Features
k. Responsive Design Across Devices
l. Security and Privacy Measures
m. Regular User Feedback and Improvement

2. Major Constraints

a. The web application should support common web browsers such as Chrome, Safari, Firefox, etc.
b. User Device Compatibility
c. Compliance with relevant data protection regulations.
d. Content Moderation
e. Budget Constraints

3. Outcomes

a. Establishment of a Vibrant Food Community
b. Simplified Recipe Sharing
c. Diverse Recipe Discovery
d. Enhanced Nutritional Awareness

3. Software Requirements Specification (SRS)

1. Team Members (Stake Holders):

1. Admin
2. User

2. Scope:

FlavourFeed aims to create a user-friendly culinary platform, enabling users to share, discover, and engage in a vibrant community. The scope includes intuitive recipe sharing, robust search functionalities, nutritional information integration, cross-device accessibility, security measures, continuous improvement based on user feedback, and fostering an interactive and supportive user environment. The platform's goal is to inspire culinary exploration, connection, and a positive experience for food enthusiasts.

3. Functional Requirements:

➢ Admin

1. The admin should be able to login himself.
2. The admin should be able to create and manage Users.
3. The admin should be able to create, modify, and deactivate user accounts.
4. This includes the ability to reset passwords and manage user roles.
5. The admin should be able to review, approve, or reject recipe submissions from users after checking for inappropriate content and ensuring compliance with guidelines.
6. The admin should have tools to monitor and moderate user-generated content, including comments and user interactions.
7. The admin should have access to user activity logs, including login/logout times, recipe submissions, and other significant actions.
8. The admin should be able to configure and manage automated email notifications, such as account verification, password reset, and system updates.
9. The admin should be able to adjust system parameters, such as maximum recipe size, image upload limits, and other application settings.
10. The admin should be able to respond to user queries and issues, providing assistance and resolving problems.
11. The admin should be able to communicate important information or updates to users through the platform, such as changes in policies or upcoming maintenance.

- **User**

1. User should be able to create accounts.
2. User should get secure login and authentication mechanisms.
3. User should be able to submit, edit, and delete recipes.
4. Recipes added by user should include details like ingredients, instructions, and serving sizes.
5. User should be able to search functionality to discover recipes based on ingredients, cuisine, and dietary preferences.
6. User should be able to plan meals for the day or for the week.
7. User can generate a shopping list based on selected recipes.
8. User should be able to customize the shopping list.
9. User should get nutritional content such as calories per serving for each recipe.
10. User should get aggregate nutritional information for the entire meal plan.
11. User should be able to like, comment, and share recipes.
12. User can follow other users and receive updates on their activity.

4. Non-Functional Requirements:

A) Performance

a. The web-application should handle a large user base and increasing data traffic.

b. The web-application should work fast and availability should be 24x7.

B) Security

a. Implement secure data storage and transmission.

b. Protection against web malfunctions such as SQL injections, cross-site scripting.

C) Usability

a. Provide user-friendly interface

b. Web-application accessibility on various devices.

D) Scalability

a. The system should be scalable to accommodate future growth.

E) Reliability

a. Minimum downtime for maintenance and updates.

b. Regular data backups to prevent data loss.

5. Constraints

a) The web application should support common web browsers such as Chrome, Safari, Firefox, etc.

b) User Device Compatibility

c) Compliance with relevant data protection regulations.

d) Content Moderation

e) Budget Constraints

6. Assumptions and Dependencies

a) Users will have a stable internet connection.

b) Users will provide accurate personal information.

c) Users will provide accurate recipes for food items.

d) Users will provide accurate nutritional information for recipes.

4. System Modules

1. **User Management:**

   Includes user registration, profile creation, and account management.

2. **Recipe Hub:**

   Central module for sharing, submitting, and exploring diverse recipes.

3. **Search and Discovery:**

   Functionality allowing users to search for recipes based on criteria like cuisine, ingredients, and dietary preferences.

4. **Nutritional Information:**

   Module for integrating and displaying nutritional details for each recipe.

5. **Community Engagement:**

   Features for user interaction, including likes, comments, and sharing within the FlavourFeed community.

6. **User Interface:**

   Development of a user-friendly interface using HTML, CSS, and JavaScript.

7. **Cross-Device Compatibility:**

   Ensuring the platform is accessible and responsive across various devices.

8. **Security and Privacy:**

   Implementation of security measures to protect user data and ensure privacy.

9. **Feedback and Improvement:**

   Mechanisms for users to provide feedback and continuous improvement based on user suggestions.

10. **Community Guidelines and Moderation:**

    Establishment of guidelines and content moderation to maintain a positive and safe environment.

11. Performance Optimization:

Continuous efforts to optimize platform performance for a smooth user experience.

12. External API Integration:

Potential integration with external APIs for real-time updates or additional features.

13. User Support and Communication:

Provision of user support and communication channels for addressing queries and providing updates.

These system modules collectively form the backbone of FlavourFeed, ensuring a seamless, interactive, and enriching experience for users passionate about food and culinary exploration.

5. Performance Requirements

Performance requirements for a recipe website would include quick loading times for smooth navigation, dependable and secure data storage to protect user data, and capacity to manage many concurrent users looking for recipes. A pleasant user experience depends on mobile compatibility for access while on the go, as well as user-friendly navigation and an intuitive recipe interface. To improve the recipe-sharing platform, it is imperative to track user interaction, recipe popularity, and other relevant indicators using comprehensive reporting and analytics tools.

1. Software Requirements

FRONT END	BACKEND	DATABASE
React JS	Java EE	MySQL
REACT JS	J2EE	MySQL

A) Frontend Technologies:

React:

Version: 18.2.0 (Latest stable release)

Description: JavaScript library for building user interfaces.

HTML, CSS, JavaScript:

Utilized for structuring web pages, styling, and client-side scripting.

Bootstrap:

Version: 5.3.2 (Latest stable release)

Description: Powerful, extensible, and feature-packed frontend toolkit. Build and customize with Sass, utilize prebuilt grid system and components, and bring projects to life with powerful JavaScript plugins.

B) **Backend Technologies:**

Spring Boot:

Version: 2.7.14 (Latest stable release)

Description: Java-based framework for building robust and scalable backend applications.

Hibernate:

Version: Latest stable release

Description: Object-relational mapping (ORM) tool for data management.

C) **Database technologies:**

MySQL:

Version: 8.0 (Latest stable release)

Description: Relational database management system for storing application data.

D) **Development Environment:**

Integrated Development Environment (IDE): Eclipse, VS Code

Description: An IDE for coding, testing, and debugging application components.

E) **Git:**

Version: 2.42.0.windows.2 (Latest stable release)

Description: Distributed version control system for tracking changes in source code.

F) **Web Server:**

Apache Tomcat:

Version: 9.0 (Latest stable release)

Description: Web server and servlet container for hosting the Java-based application.

G) **Deployment Platform:**

Frontend = Vercel

Vercel builds a frontend-as-a-service product—they make it easy for engineers to deploy and run the user facing parts of their applications.

Backend = Railway

Railway is the cloud for building, shipping, and monitoring applications.

2. Hardware Technologies (Minimum)

Server Side			
Monitor	**Processor**	**RAM**	**Disk Space**
Resolution 1024x768	Intel or AMD 2GHZ OR HIGHER	4GB	10GB
Client Side			
Monitor	**Processor**	**RAM**	**Disk Space**
Resolution: 1024x768	Intel or AMD 1GHZ DUAL CORE MIN	2 GB	128 GB

A) Server

A robust server with sufficient processing power and memory to handle concurrent user requests and ensure smooth application performance.

B) Storage

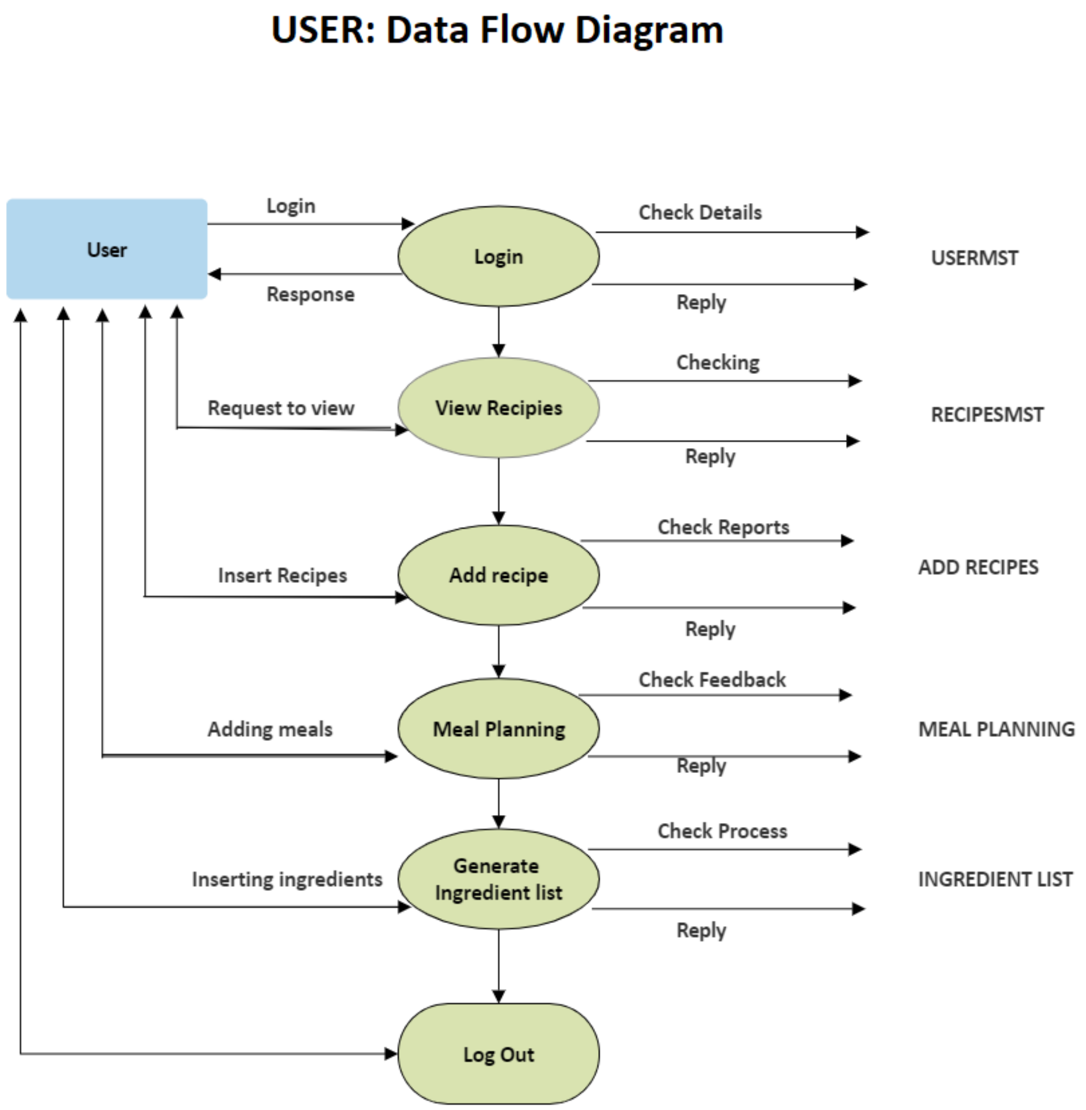
Adequate storage capacity for the database and multimedia content (images, videos) associated with recipes.

C) Network Infrastructure:

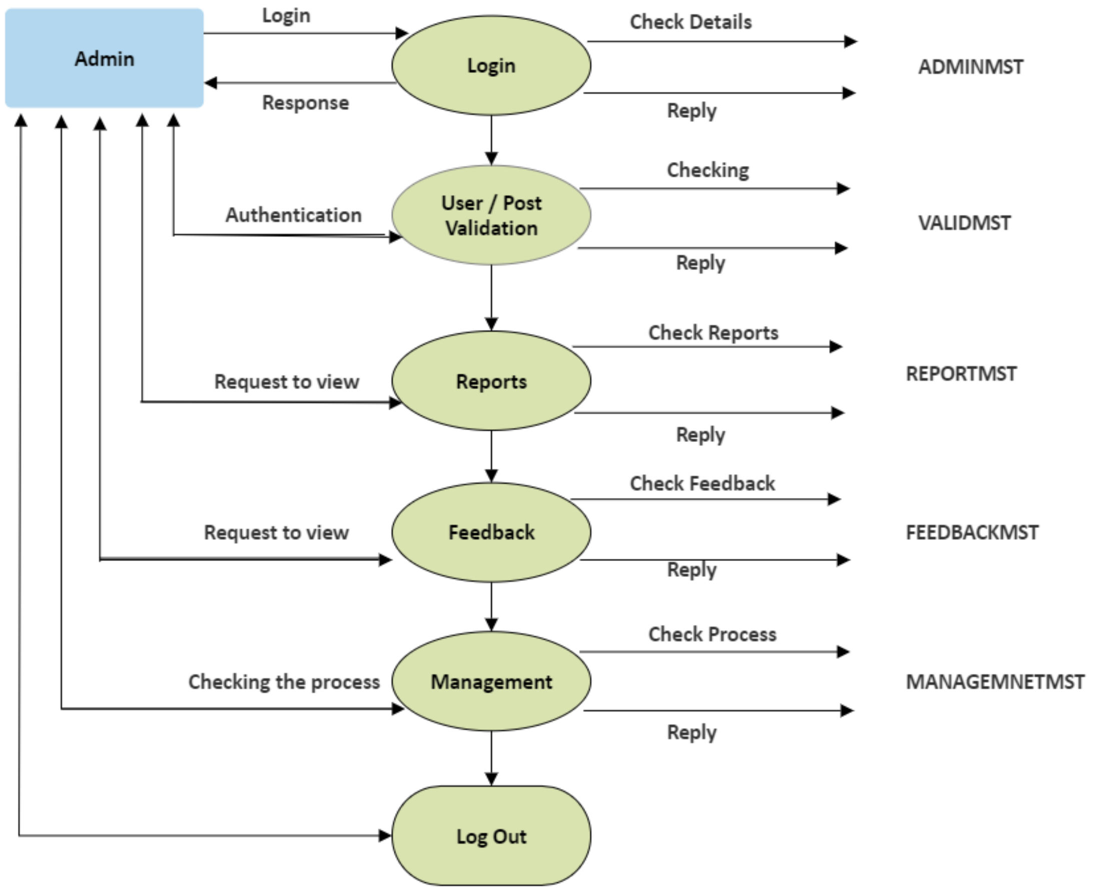
Reliable internet connectivity and network infrastructure to support data transmission between the frontend and backend components.

6. UML Diagrams

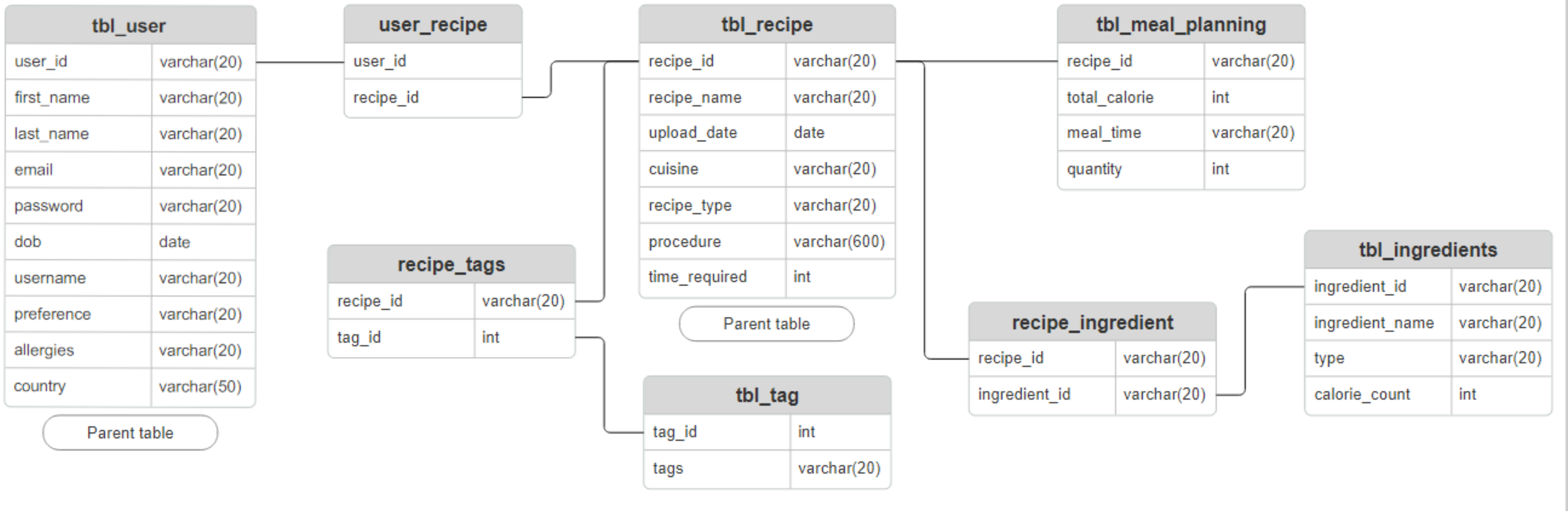
1. Data Flow Diagram



ADMIN - Data Flow Diagram



2. Entity Relation Diagram (ERD)



tbl_user	
user_id	varchar(20)
first_name	varchar(20)
last_name	varchar(20)
email	varchar(20)
password	varchar(20)
dob	date
username	varchar(20)
preference	varchar(20)
allergies	varchar(20)
country	varchar(50)

user_recipe
user_id
recipe_id

recipe_tags	
recipe_id	varchar(20)
tag_id	int

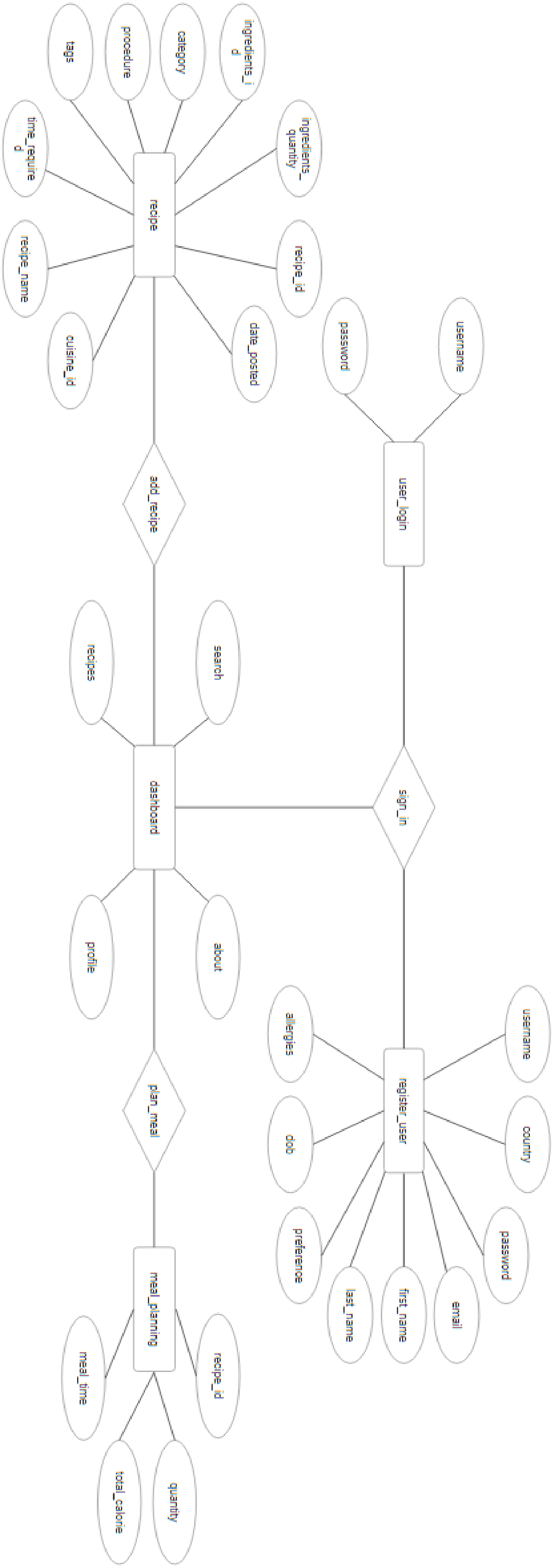
tbl_recipe	
recipe_id	varchar(20)
recipe_name	varchar(20)
upload_date	date
cuisine	varchar(20)
recipe_type	varchar(20)
procedure	varchar(600)
time_required	int

tbl_tag	
tag_id	int
tags	varchar(20)

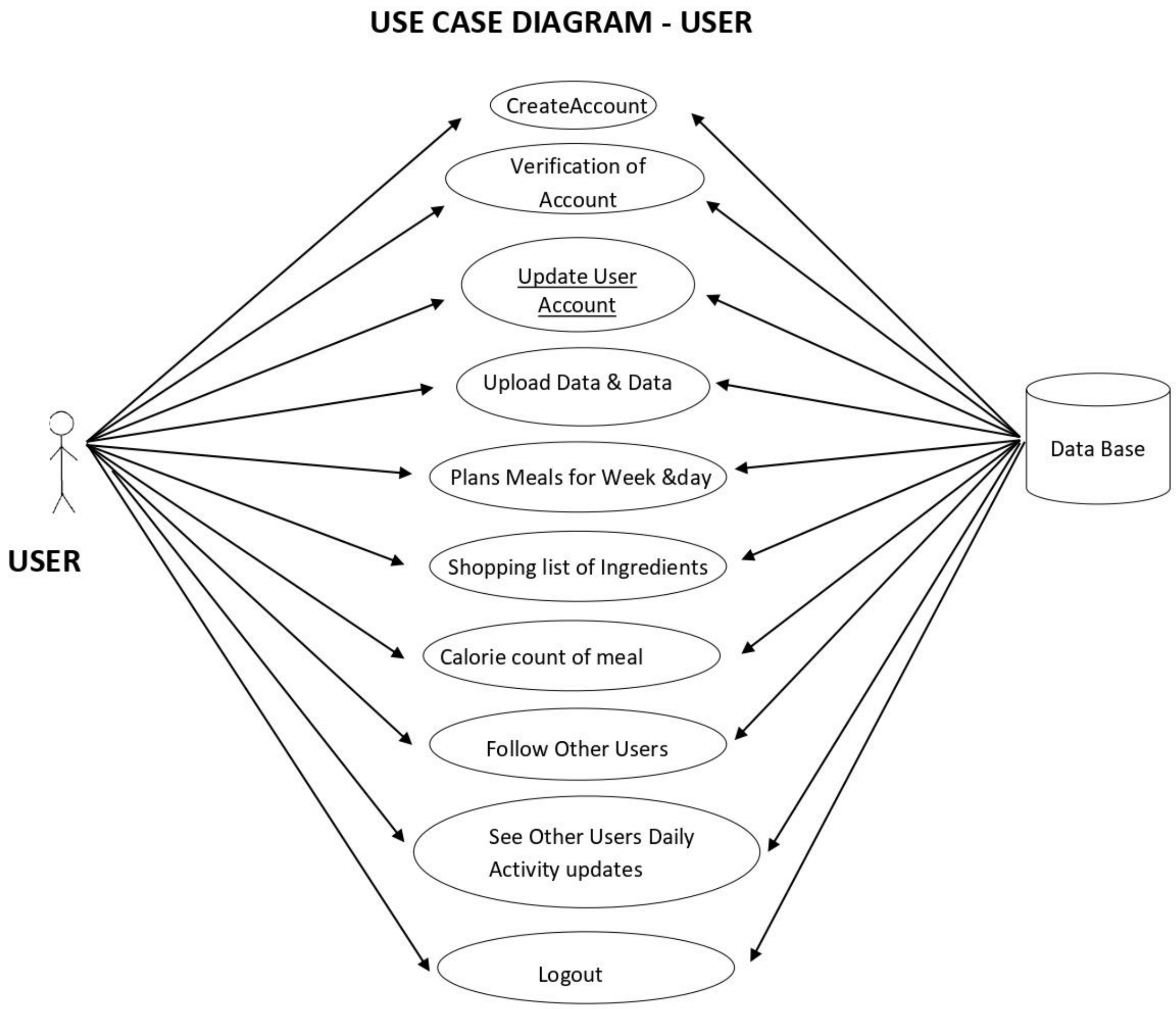
tbl_meal_planning	
recipe_id	varchar(20)
total_calorie	int
meal_time	varchar(20)
quantity	int

recipe_ingredient	
recipe_id	varchar(20)
ingredient_id	varchar(20)

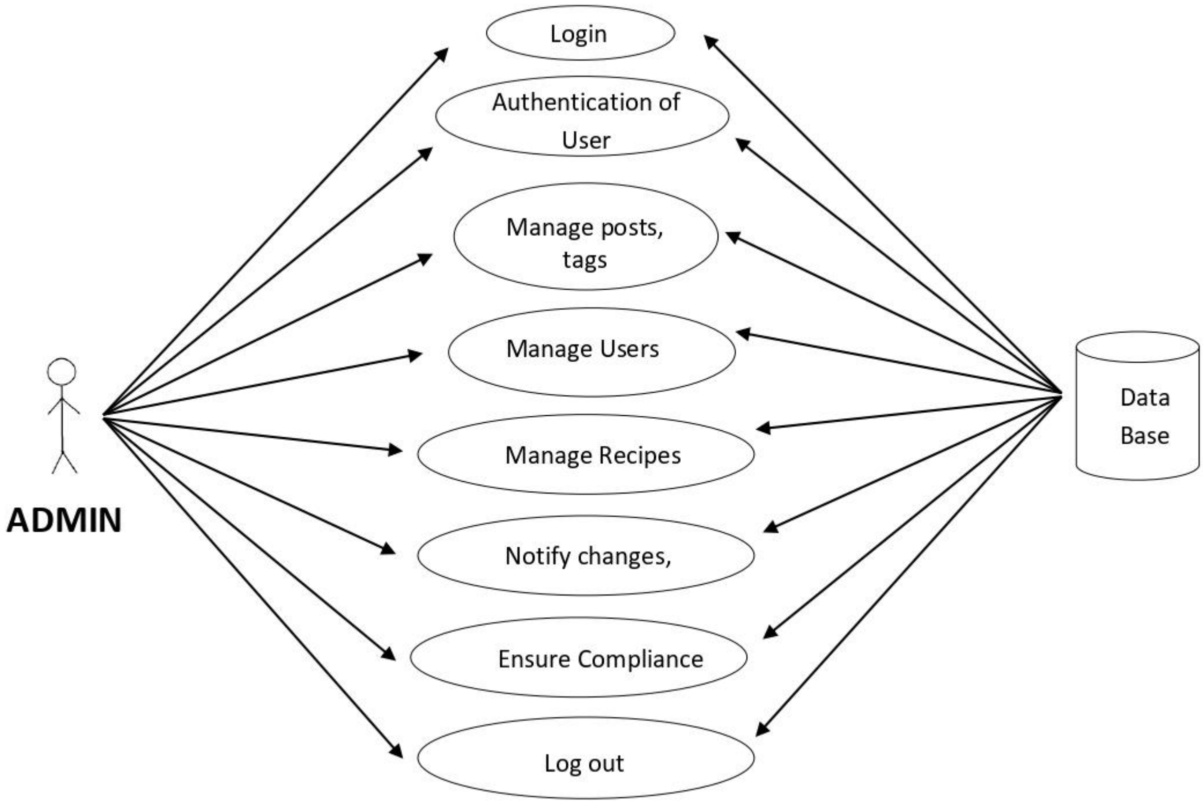
tbl_ingredients	
ingredient_id	varchar(20)
ingredient_name	varchar(20)
type	varchar(20)
calorie_count	int


recipe
tags
procedure
category
ingredients_id
ingredients_quantity
time_required
recipe_name
recipe_id
cuisine_id
date_posted
add_recipe
user_login
password
username
dashboard
recipes
search
sign_in
profile
about
plan_meal
register_user
allergies
username
dob
country
preference
password
last_name
first_name
email
meal_planning
meal_time
recipe_id
total_calorie
quantity

3. Use Case Diagram

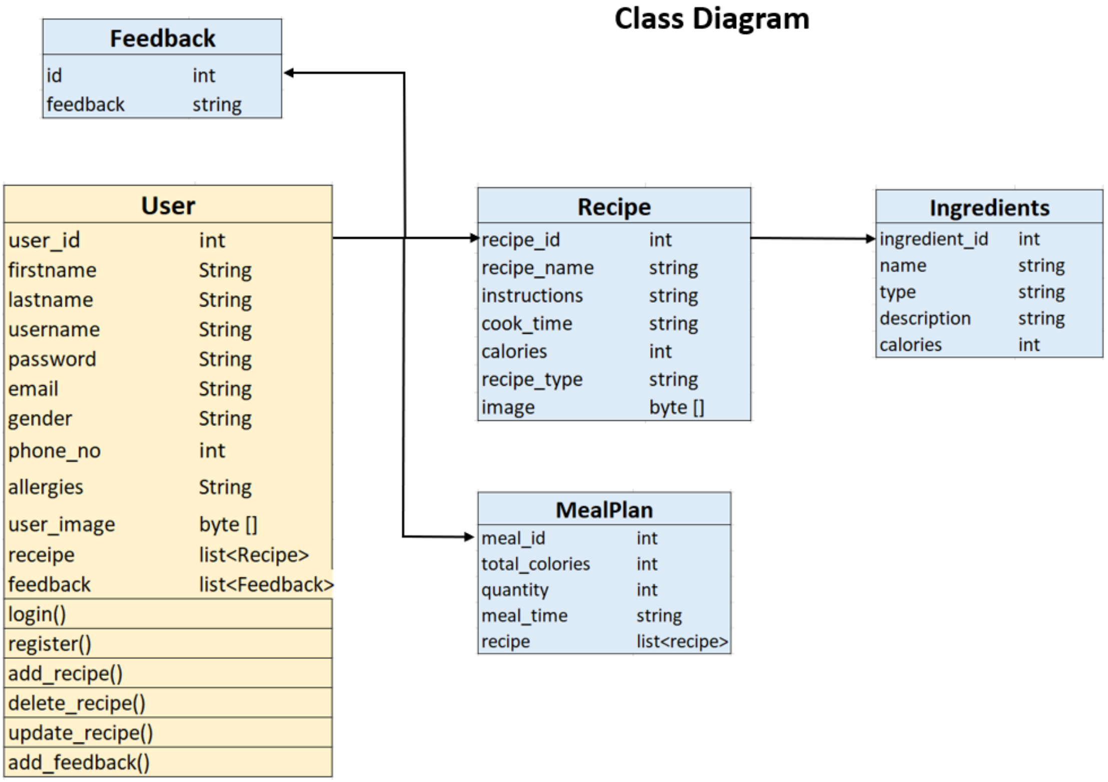


USE CASE DIAGRAM - ADMIN



4. Class Diagram

Class Diagram



Feedback	
id	int
feedback	string

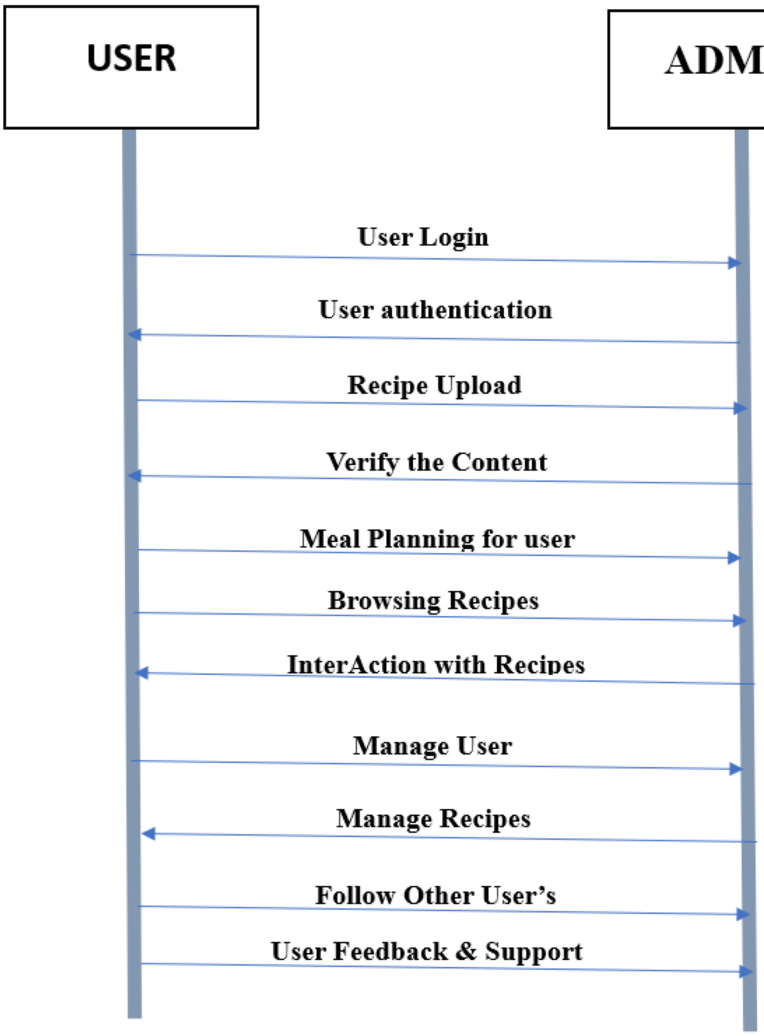
User	
user_id	int
firstname	String
lastname	String
username	String
password	String
email	String
gender	String
phone_no	int
allergies	String
user_image	byte []
receipe	list<Recipe>
feedback	list<Feedback>
login()	
register()	
add_recipe()	
delete_recipe()	
update_recipe()	
add_feedback()	

Recipe	
recipe_id	int
recipe_name	string
instructions	string
cook_time	string
calories	int
recipe_type	string
image	byte []

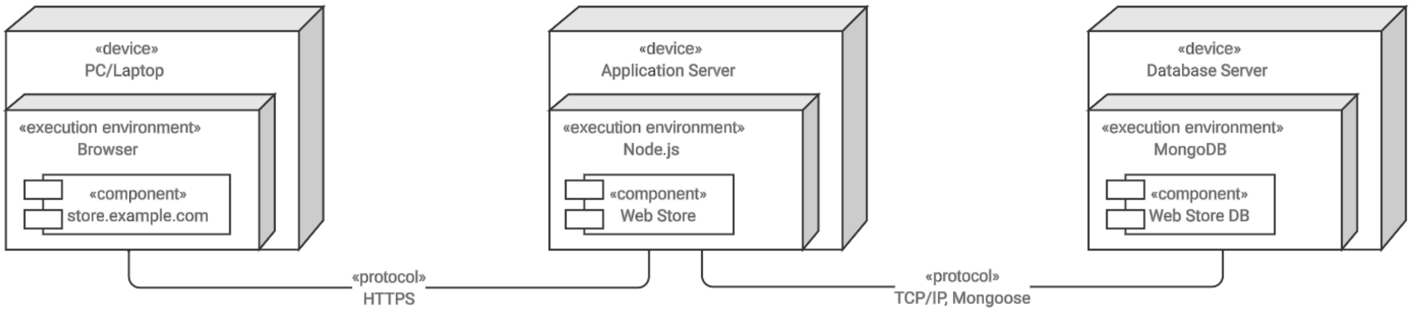
Ingredients	
ingredient_id	int
name	string
type	string
description	string
calories	int

MealPlan	
meal_id	int
total_colories	int
quantity	int
meal_time	string
recipe	list<recipe>

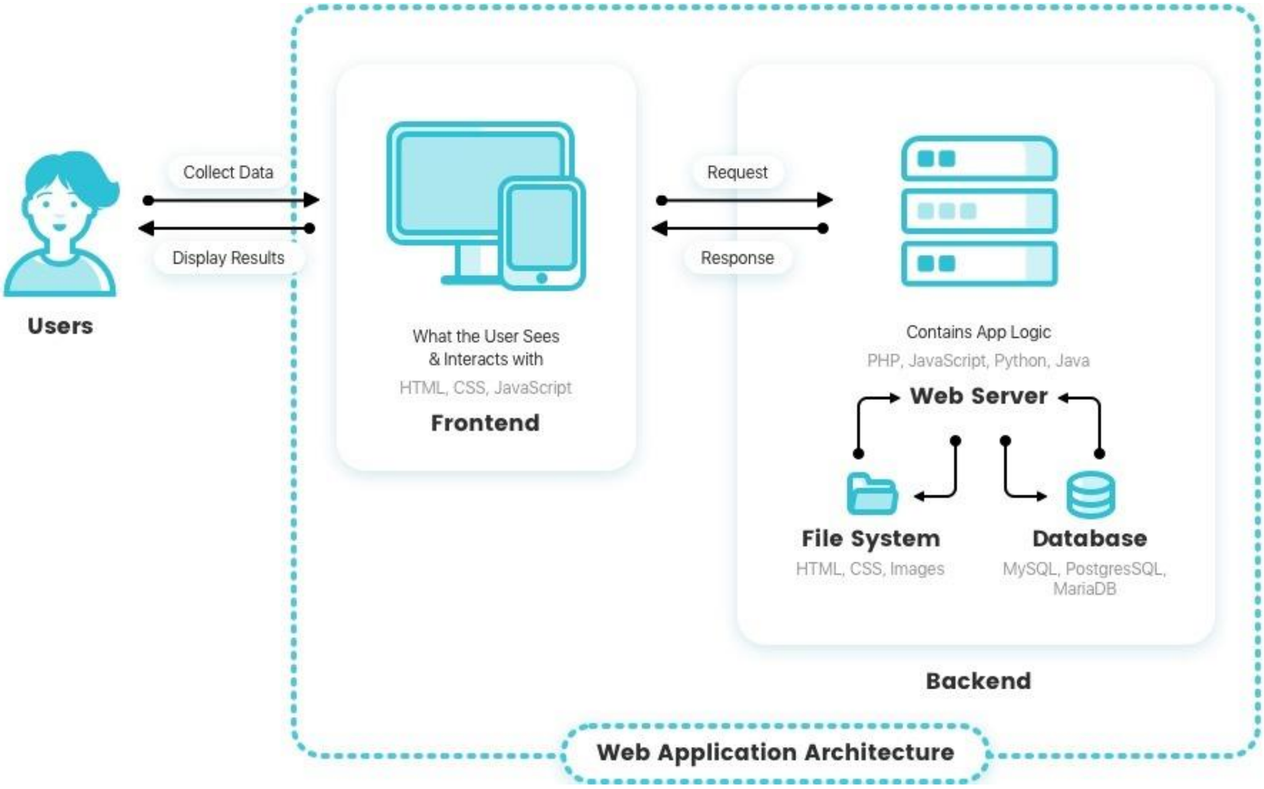
5. Sequence Diagram



6. Deployment Diagram



7. System Architecture



The system architecture for FlavourFeed can follow a typical three-tier architecture, separating the application into three main components: the presentation layer (frontend), the application layer (backend), and the data layer (database). Here is an overview of the system architecture:

1. **Presentation Layer (Frontend):**

   Technology: React (HTML, CSS, JavaScript)

   Description: The user interface where users interact with the application. React is used for building responsive and dynamic components, allowing for an interactive and engaging user experience.

2. **Application Layer (Backend):**

   Technology: Spring Boot (Java)

   Description: The backend logic and application processes are managed using the Spring Boot framework. It handles user requests, business logic, and communication with the database.

3. **Data Layer (Database):**

   Technology: MySQL

   Description: The MySQL database stores user profiles, recipes, and related data. It interacts with the backend to retrieve and update information.

4. **External APIs (Optional):**

   Description: Additional external APIs, if integrated, provide services such as nutritional information retrieval. These APIs can be accessed by the backend for enhanced functionality.

5. **Cloud Service (Optional):**

   Description: Cloud platforms like AWS, Google Cloud, or Azure can be used for hosting the application, providing scalability, flexibility, and reliable infrastructure.

6. **Development Environment:**

   Technology: IntelliJ IDEA, Eclipse (Optional)

   Description: Integrated Development Environments (IDEs) are used during the development phase for coding, testing, and debugging application components.

7. **Version Control:**

   Technology: Git

   Description: Git is employed for version control, allowing multiple developers to collaborate on the codebase, track changes, and manage the development workflow.

8. **Web Server (Optional):**

   Technology: Apache Tomcat (or similar)

   Description: A web server may be used to host the React frontend files and serve them to users' web browsers.

8. Test Cases

Testing for a web application like FlavourFeed involves verifying various aspects of its functionality, usability, and security. Below are examples of test cases covering different scenarios:

User Registration:

a) Verify that users can successfully register with valid information.
b) Check for appropriate error messages when invalid or incomplete information is provided.
c) Ensure the uniqueness of usernames and email addresses during registration.

Login Functionality:

a) Confirm that registered users can log in with correct credentials.
b) Test the handling of incorrect login attempts, ensuring appropriate error messages are displayed.
c) Check for session management, including proper session expiration and user logout.

Recipe Submission:

a) Test the ability to submit a new recipe with all required fields.
b) Verify that users can upload images or multimedia content related to the recipe.
c) Check for appropriate error handling when required fields are left blank or invalid data is entered.

Recipe Search and Discovery:

a) Test the search functionality by searching for recipes based on keywords, ingredients, or cuisine types.
b) Verify that search results are relevant and displayed correctly.
c) Check for pagination or infinite scrolling functionality for a large number of search results.

Nutritional Information:

a) Verify that nutritional information is displayed accurately for each recipe.
b) Test scenarios where nutritional information is not available or incomplete.
c) Ensure proper units and formatting of nutritional values.

Community Interaction:

a) Test the ability to like, comment on, and share recipes.
b) Verify that notifications are triggered for user interactions.
c) Check for proper display of user-generated content within the community.

Responsive Design:

a) Test the application's responsiveness on different devices, including desktops, tablets, and smartphones.
b) Verify that the layout adjusts appropriately to various screen sizes.

Security Testing:

a) Test for SQL injection vulnerabilities by entering malicious input.
b) Ensure that user authentication and authorization mechanisms are robust.
c) Verify that sensitive information is appropriately protected, especially during data transmission (HTTPS).

Cross-Browser Compatibility:

a) Test the application on different browsers (Chrome, Firefox, Safari, Edge) to ensure consistent behavior.
b) Check for compatibility with different browser versions.

Performance Testing:

a) Test the application's response time under different levels of user load.
b) Verify that the application performs well in terms of speed and responsiveness.

Error Handling:

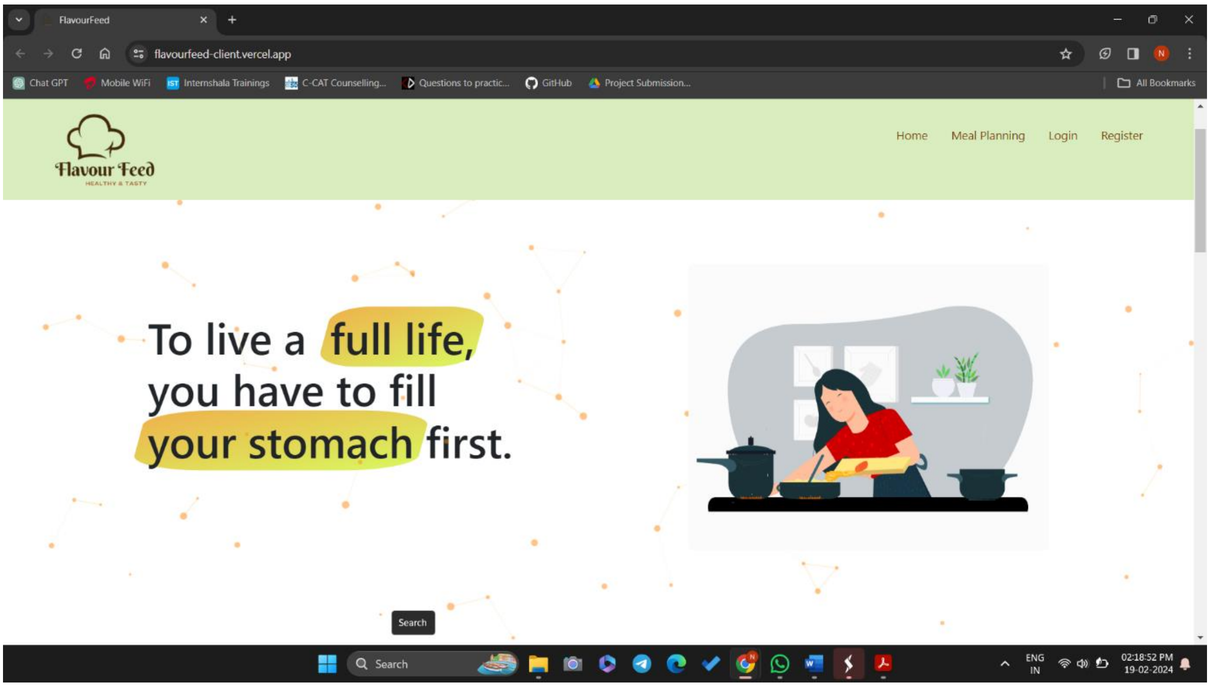
a) Test how the application handles unexpected errors or exceptions.
b) Verify that users receive clear and helpful error messages.
c) Compatibility with External APIs (if applicable):

If the application integrates with external APIs for features like nutritional information, test the integration for accuracy and reliability.

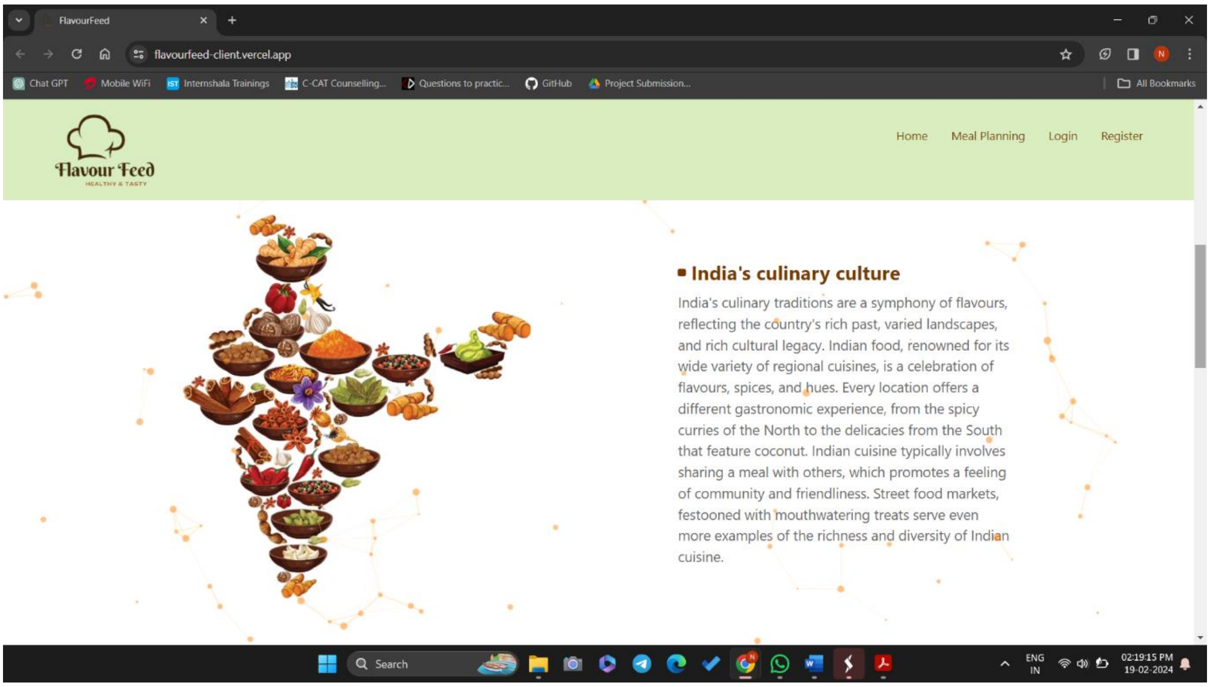
These test cases cover various functional and non-functional aspects of the FlavourFeed web application, ensuring a thorough evaluation of its performance and user experience. Adapt and expand these test cases based on the specific features and requirements of your project.

9. Screenshots

Home/Landing Page



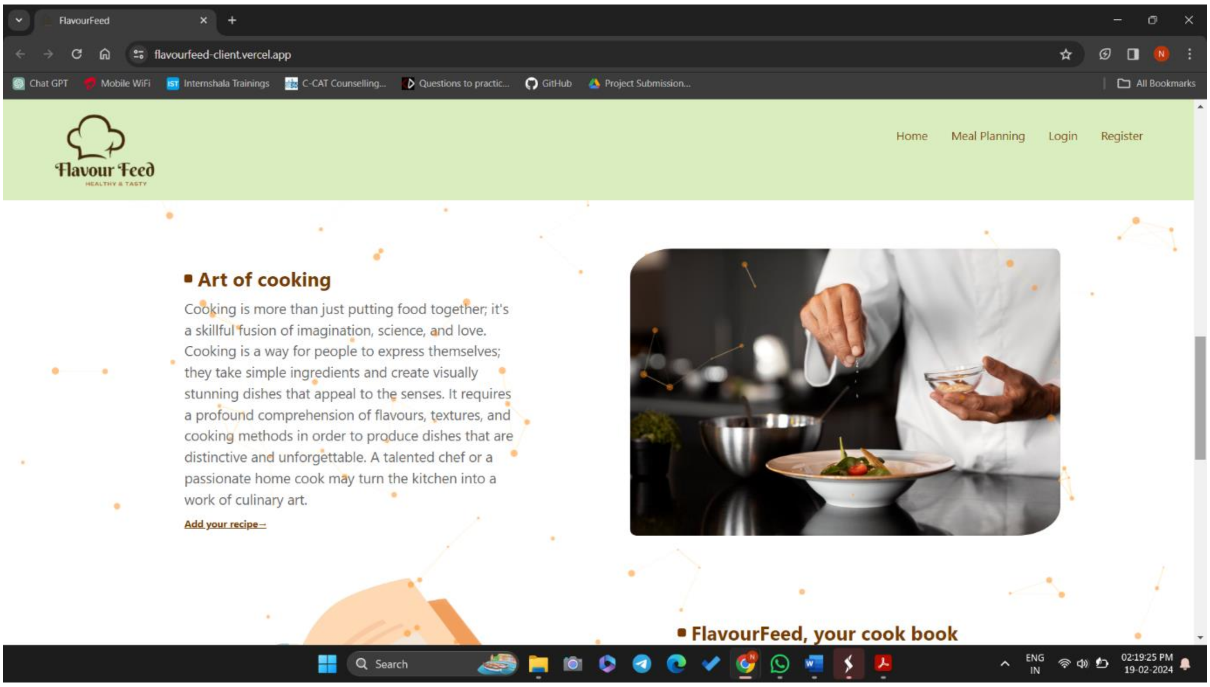
To live a full life, you have to fill your stomach first.



India's culinary culture

India's culinary traditions are a symphony of flavours, reflecting the country's rich past, varied landscapes, and rich cultural legacy. Indian food, renowned for its wide variety of regional cuisines, is a celebration of flavours, spices, and hues. Every location offers a different gastronomic experience, from the spicy curries of the North to the delicacies from the South that feature coconut. Indian cuisine typically involves sharing a meal with others, which promotes a feeling of community and friendliness. Street food markets, festooned with mouthwatering treats serve even more examples of the richness and diversity of Indian cuisine.

Add Recipe



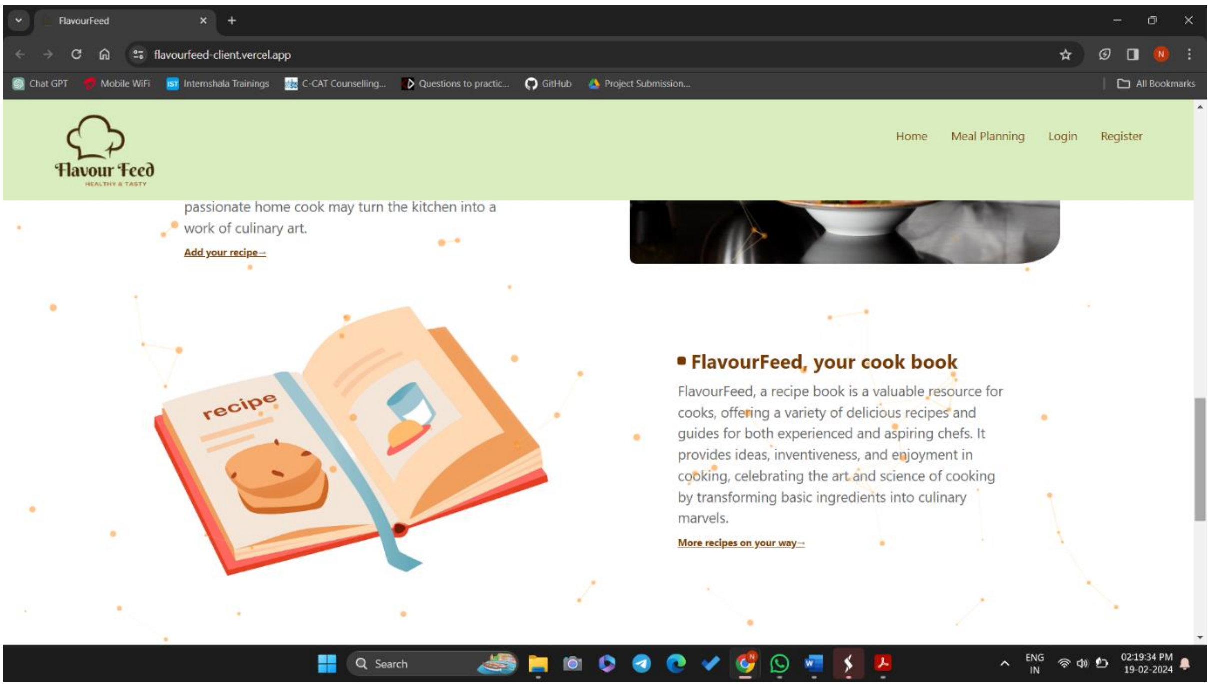
Art of cooking

Cooking is more than just putting food together; it's a skillful fusion of imagination, science, and love. Cooking is a way for people to express themselves; they take simple ingredients and create visually stunning dishes that appeal to the senses. It requires a profound comprehension of flavours, textures, and cooking methods in order to produce dishes that are distinctive and unforgettable. A talented chef or a passionate home cook may turn the kitchen into a work of culinary art.

Add your recipe→

FlavourFeed, your cook book

Discover Recipe



passionate home cook may turn the kitchen into a work of culinary art.

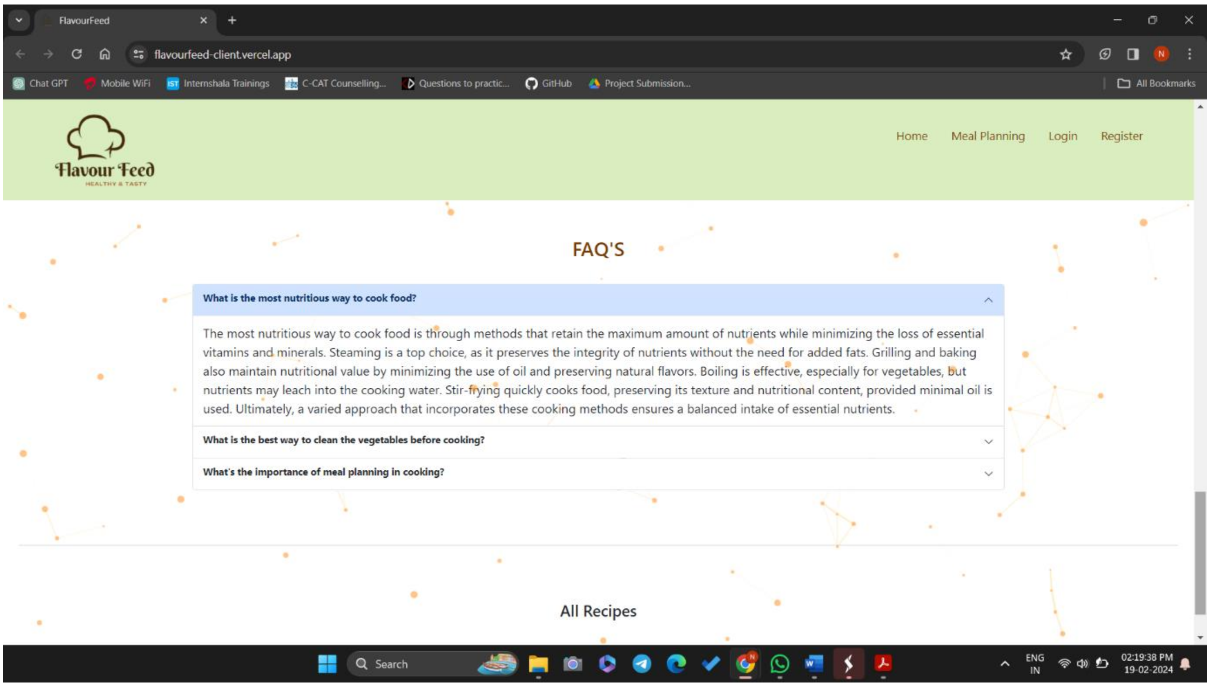
Add your recipe→

FlavourFeed, your cook book

FlavourFeed, a recipe book is a valuable resource for cooks, offering a variety of delicious recipes and guides for both experienced and aspiring chefs. It provides ideas, inventiveness, and enjoyment in cooking, celebrating the art and science of cooking by transforming basic ingredients into culinary marvels.

More recipes on your way→

FAQ



FAQ'S

What is the most nutritious way to cook food?

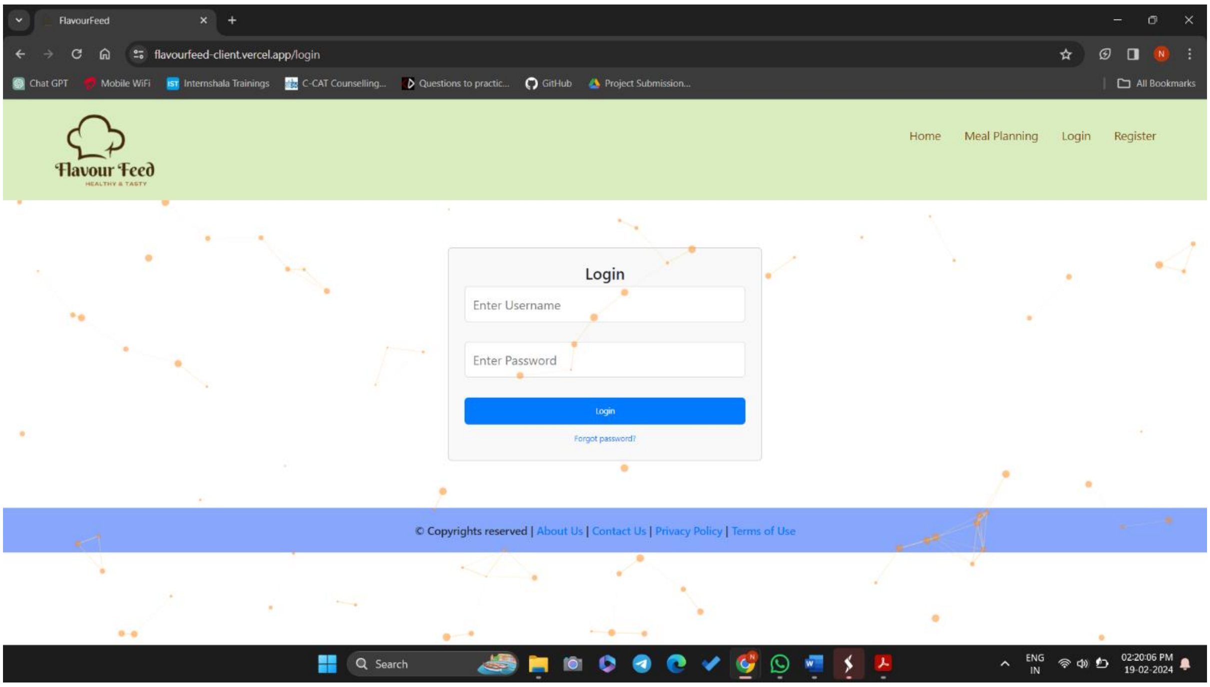
The most nutritious way to cook food is through methods that retain the maximum amount of nutrients while minimizing the loss of essential vitamins and minerals. Steaming is a top choice, as it preserves the integrity of nutrients without the need for added fats. Grilling and baking also maintain nutritional value by minimizing the use of oil and preserving natural flavors. Boiling is effective, especially for vegetables, but nutrients may leach into the cooking water. Stir-frying quickly cooks food, preserving its texture and nutritional content, provided minimal oil is used. Ultimately, a varied approach that incorporates these cooking methods ensures a balanced intake of essential nutrients.

What is the best way to clean the vegetables before cooking?

What's the importance of meal planning in cooking?

All Recipes

Login Page



Login

Enter Username

Enter Password

Login

Forgot password?

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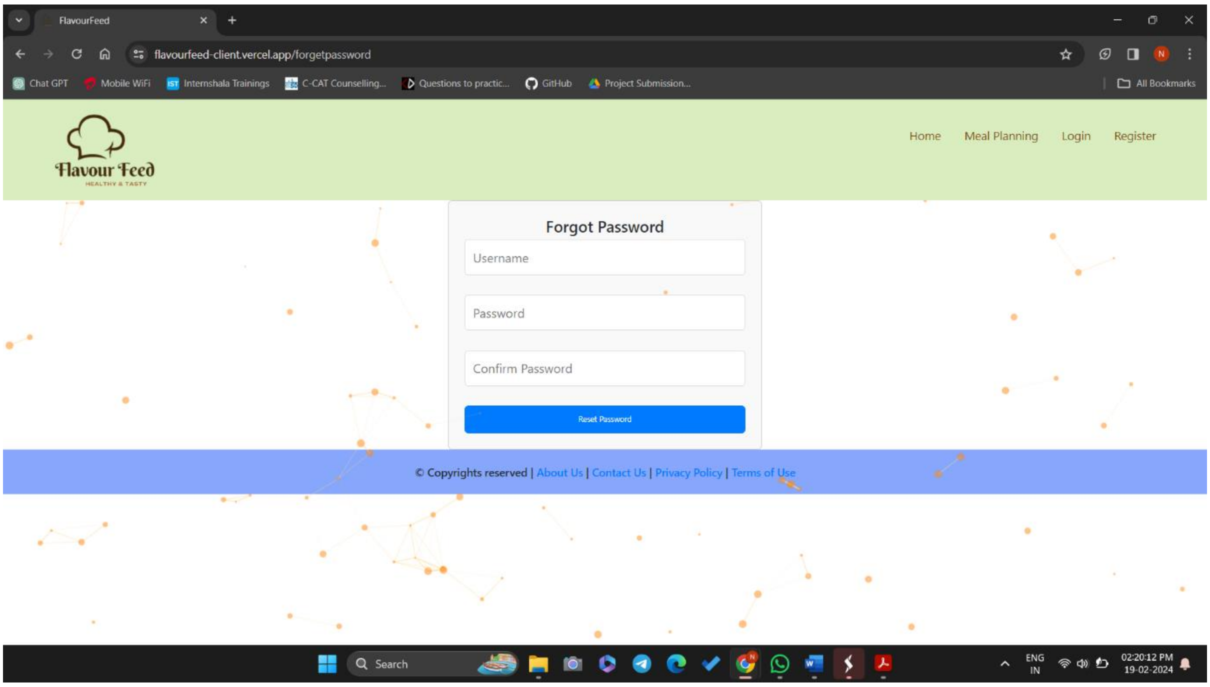
Forgot Password



Forgot Password

Username

Password

Confirm Password

Reset Password

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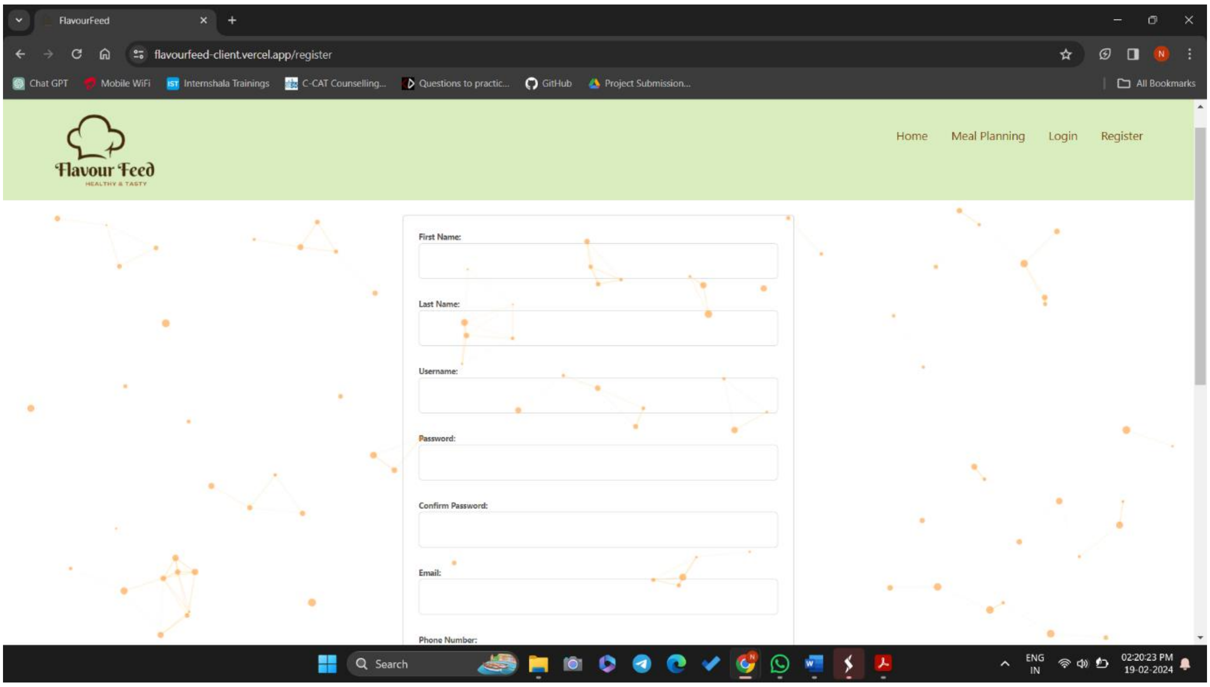
Register Page



First Name:

Last Name:

Username:

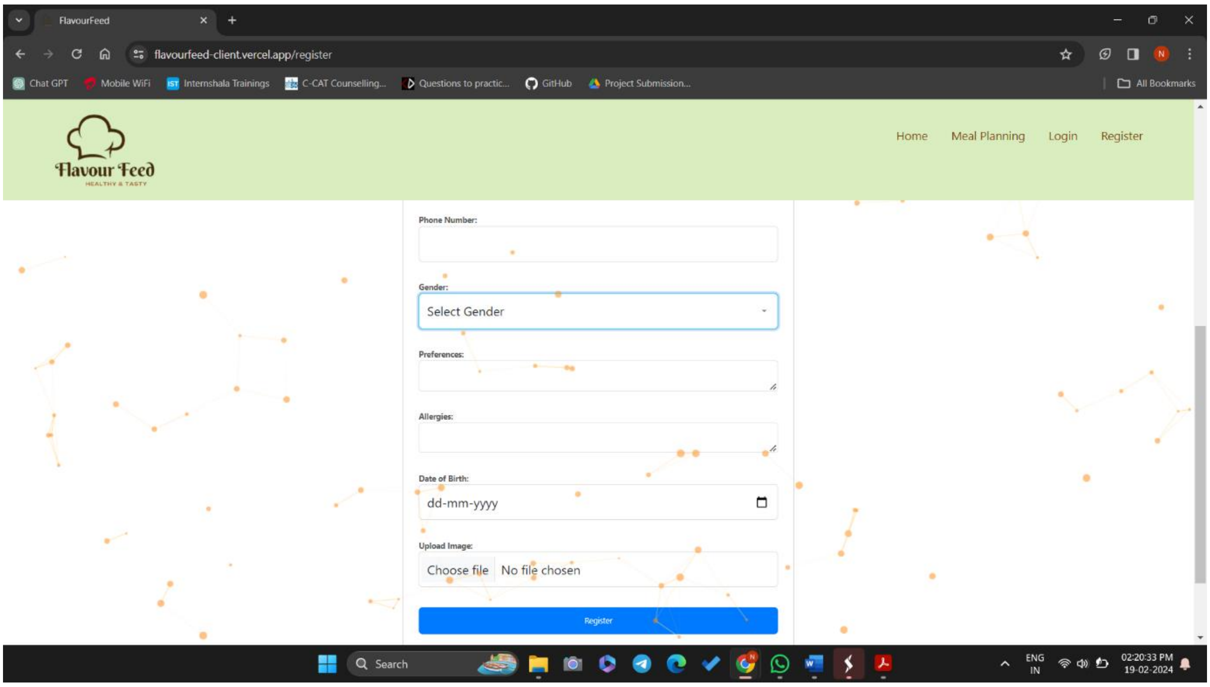
Password:

Confirm Password:

Email:

Phone Number:

Register Page



Phone Number:

Gender: Select Gender

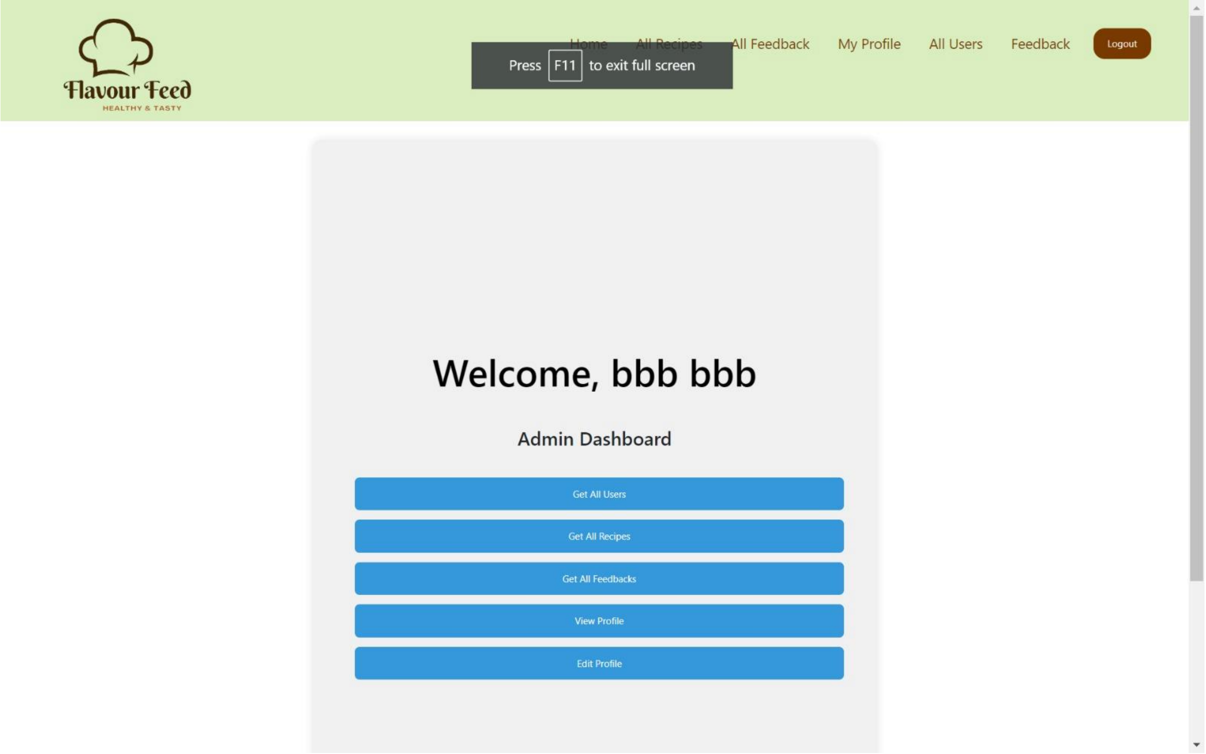
Preferences:

Allergies:

Date of Birth: dd-mm-yyyy

Upload Image: Choose file No file chosen

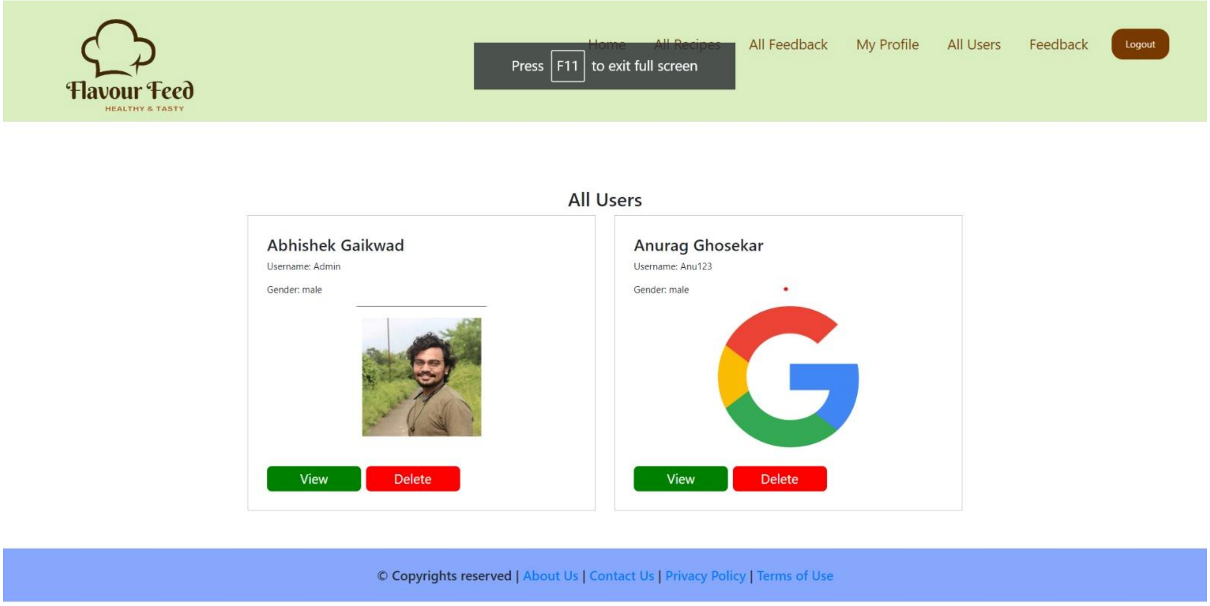
Admin Dashboard



Welcome, bbb bbb

Admin Dashboard

Get all Users

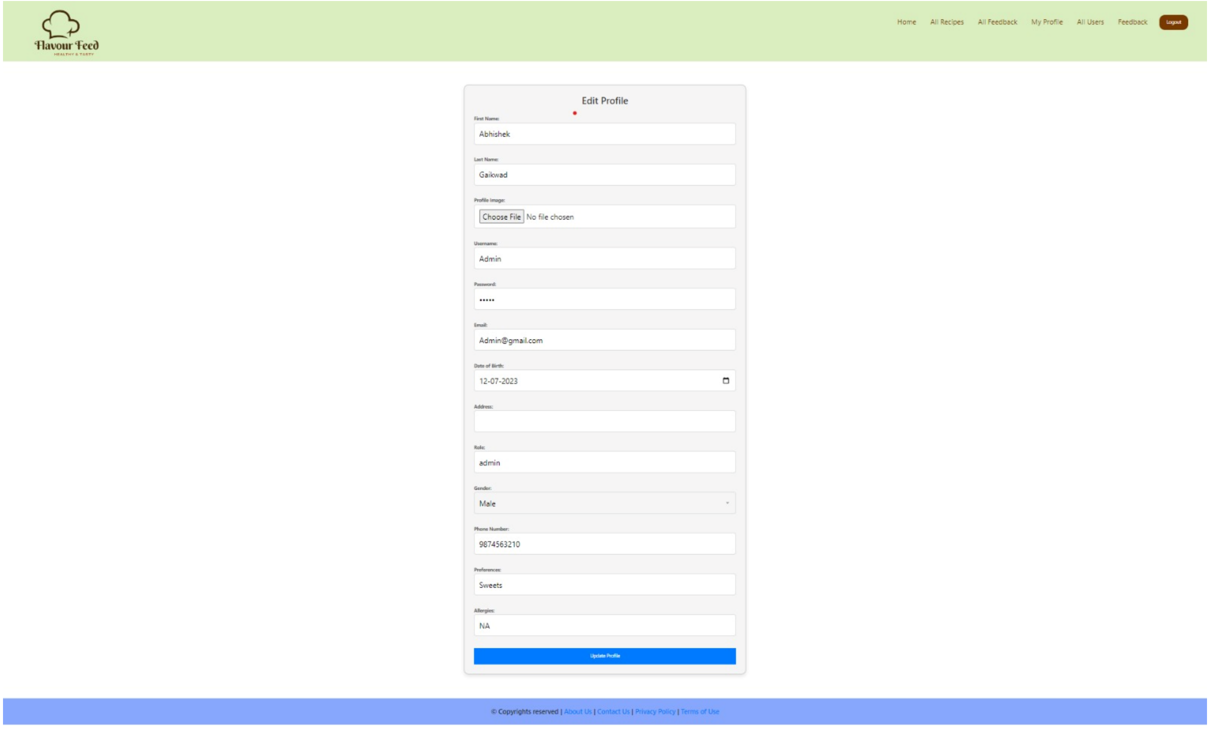


All Users

Abhishek Gaikwad
Username: Admin
Gender: male

Anurag Ghosekar
Username: Anu123
Gender: male

Edit User Profile



Edit Profile

First Name: Abhishek

Last Name: Gaikwad

Profile Image: No file chosen

Username: Admin

Password: •••••

Email: Admin@gmail.com

Date of Birth: 12-07-2023

Address:

Role: admin

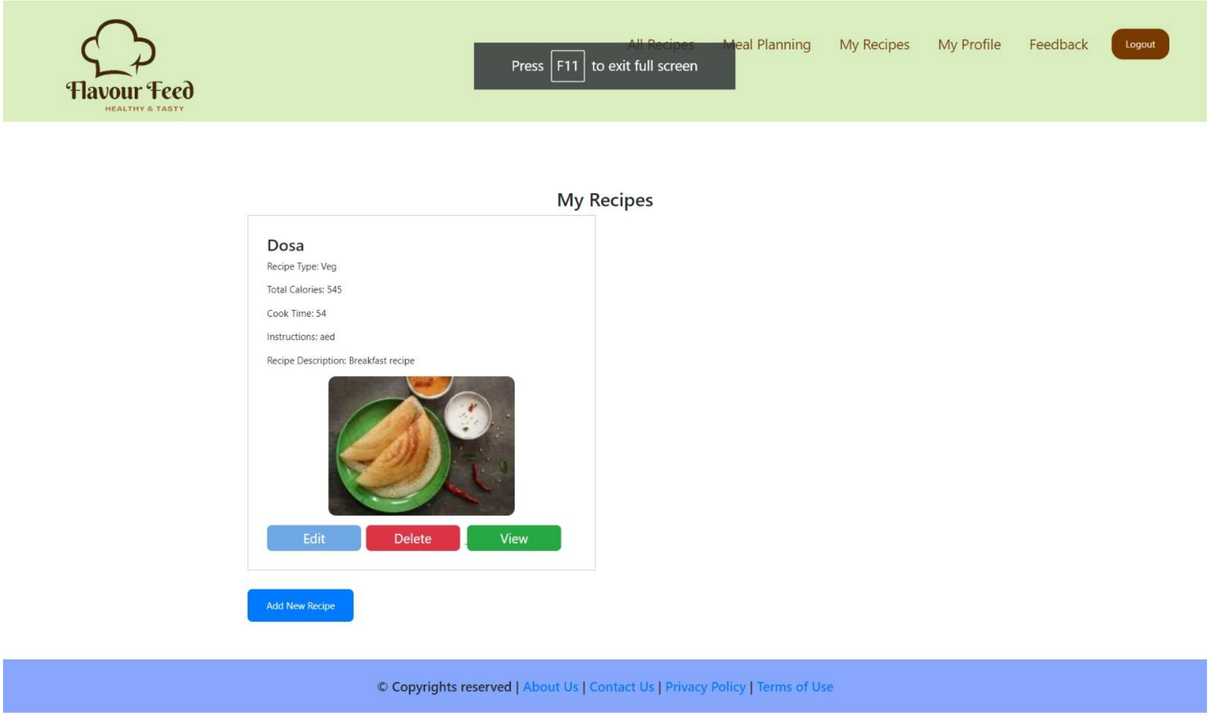
Gender: Male

Phone Number: 9874563210

Preferences: Sweets

Allergies: NA

Get all Recipes



My Recipes

Dosa

Recipe Type: Veg

Total Calories: 545

Cook Time: 54

Instructions: aed

Recipe Description: Breakfast recipe

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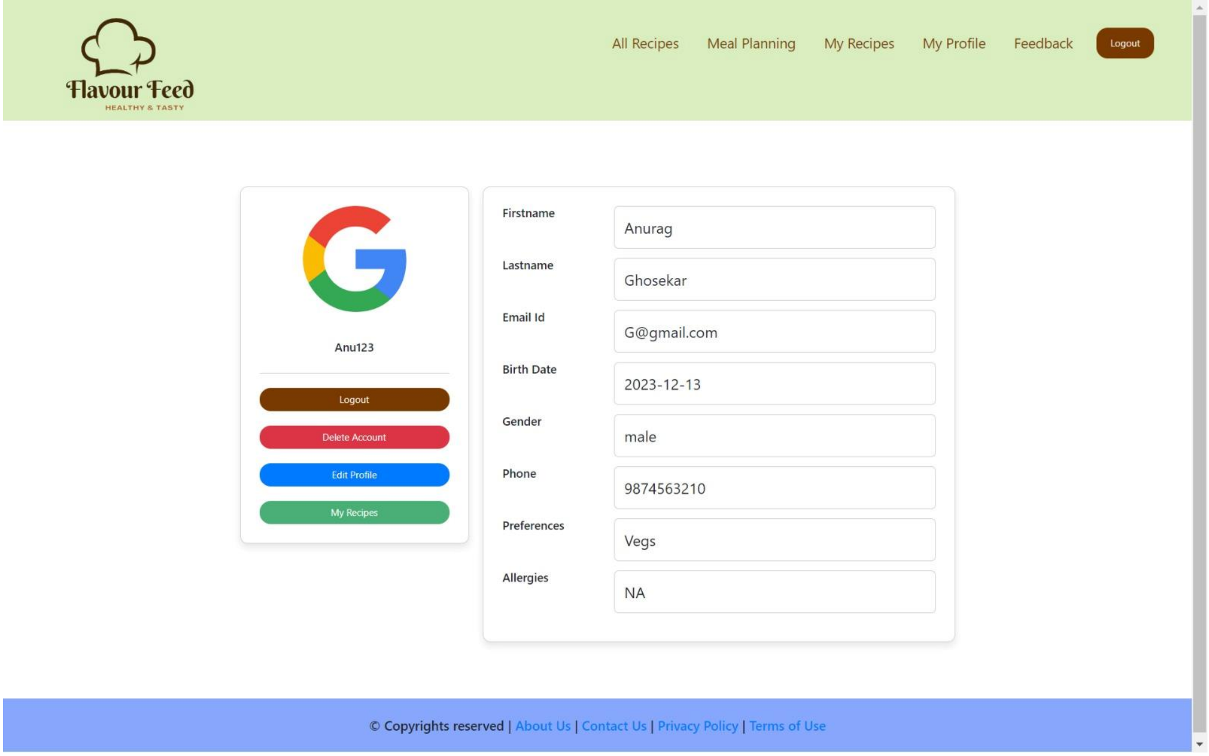
User Dashboard



Firstname	Anurag
Lastname	Ghosekar
Email Id	G@gmail.com
Birth Date	2023-12-13
Gender	male
Phone	9874563210
Preferences	Vegs
Allergies	NA

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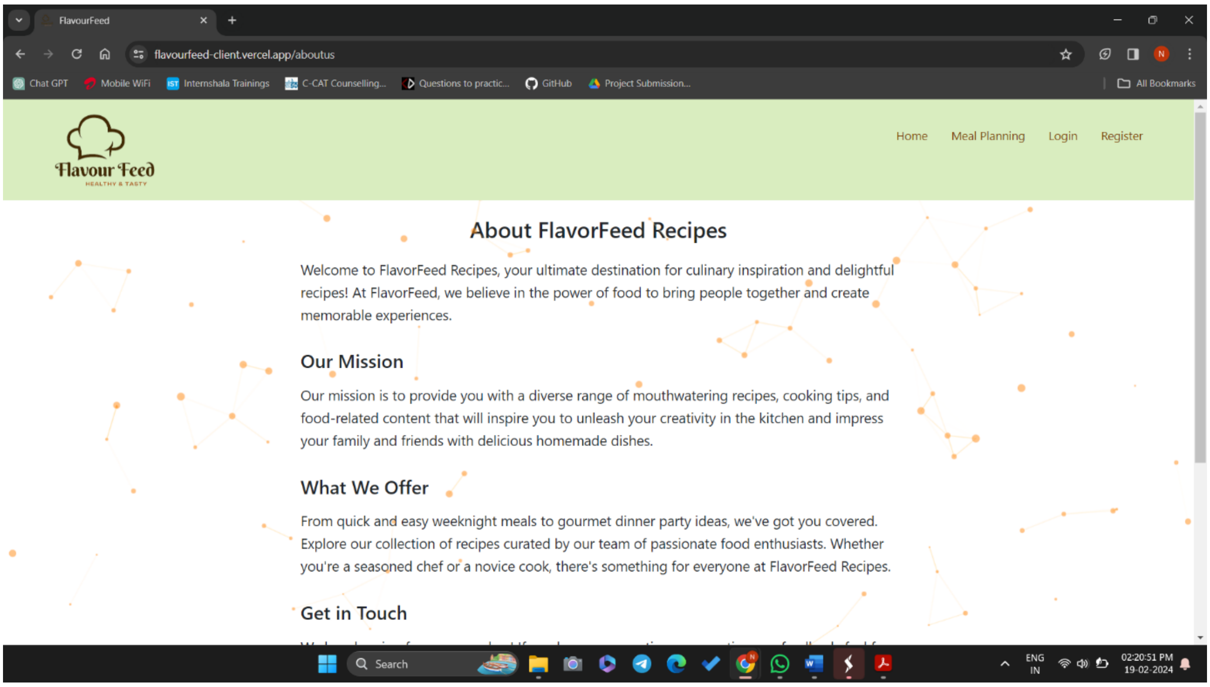
About Page



About FlavorFeed Recipes

Welcome to FlavorFeed Recipes, your ultimate destination for culinary inspiration and delightful recipes! At FlavorFeed, we believe in the power of food to bring people together and create memorable experiences.

Our Mission

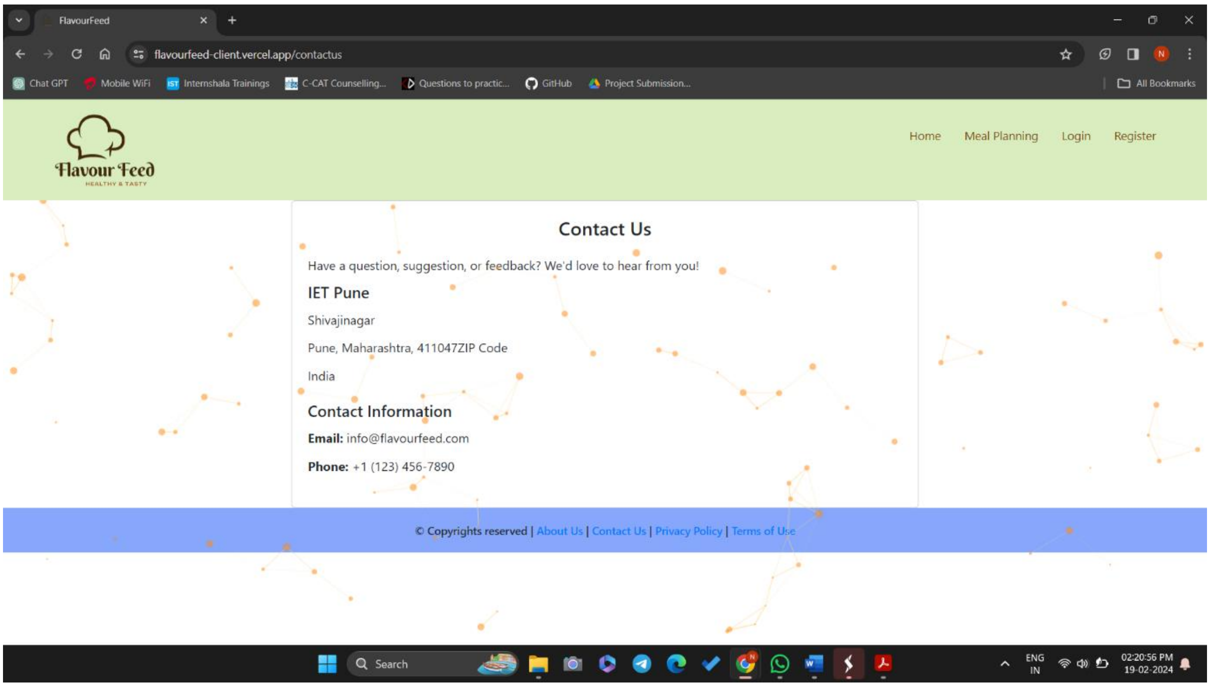
Our mission is to provide you with a diverse range of mouthwatering recipes, cooking tips, and food-related content that will inspire you to unleash your creativity in the kitchen and impress your family and friends with delicious homemade dishes.

What We Offer

From quick and easy weeknight meals to gourmet dinner party ideas, we've got you covered. Explore our collection of recipes curated by our team of passionate food enthusiasts. Whether you're a seasoned chef or a novice cook, there's something for everyone at FlavorFeed Recipes.

Get in Touch

Contact Us Page



Contact Us

Have a question, suggestion, or feedback? We'd love to hear from you!

IET Pune

Shivajinagar

Pune, Maharashtra, 411047ZIP Code

India

Contact Information

Email: info@flavourfeed.com

Phone: +1 (123) 456-7890

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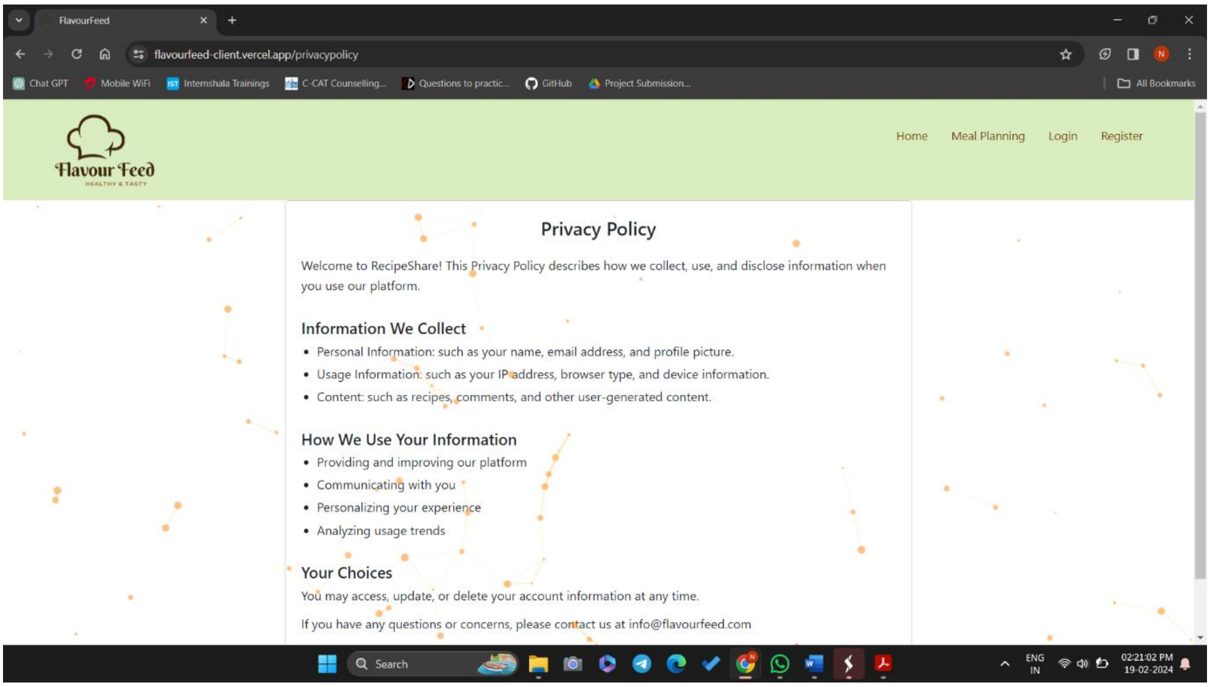
Privacy Page



Privacy Policy

Welcome to RecipeShare! This Privacy Policy describes how we collect, use, and disclose information when you use our platform.

Information We Collect

- Personal Information: such as your name, email address, and profile picture.
- Usage Information: such as your IP address, browser type, and device information.
- Content: such as recipes, comments, and other user-generated content.

How We Use Your Information

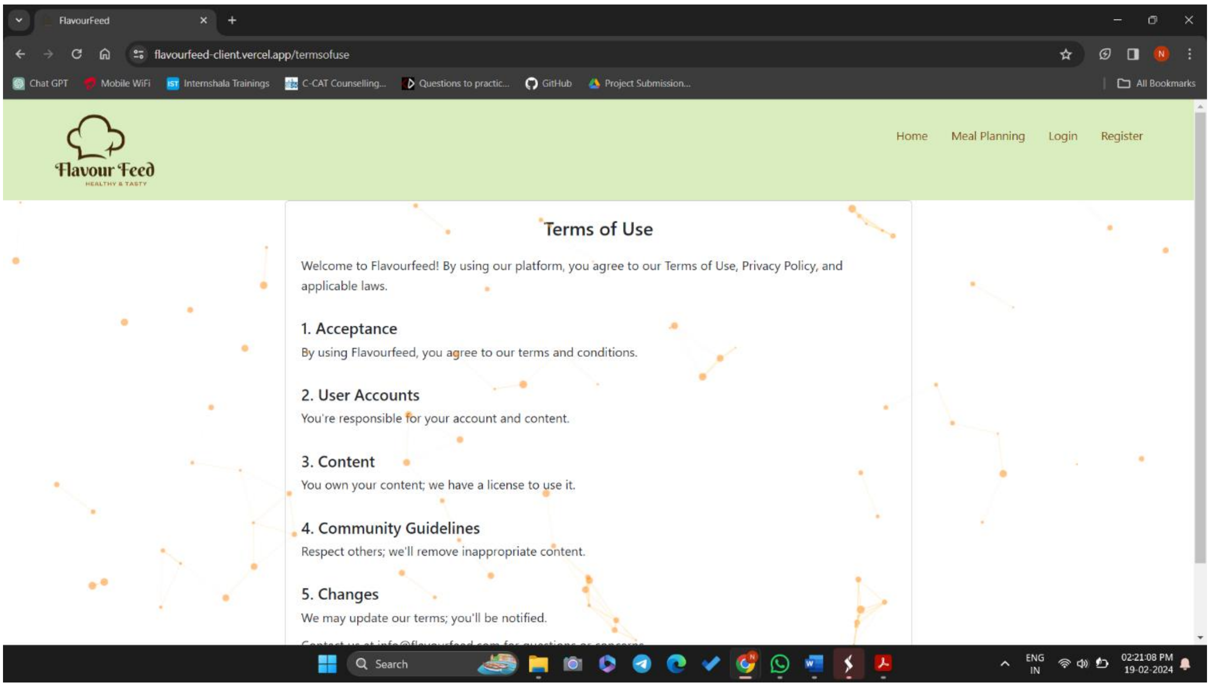
- Providing and improving our platform
- Communicating with you
- Personalizing your experience
- Analyzing usage trends

Your Choices

You may access, update, or delete your account information at any time.

If you have any questions or concerns, please contact us at info@flavourfeed.com

Terms of Use



Terms of Use

Welcome to Flavourfeed! By using our platform, you agree to our Terms of Use, Privacy Policy, and applicable laws.

1. Acceptance

By using Flavourfeed, you agree to our terms and conditions.

2. User Accounts

You're responsible for your account and content.

3. Content

You own your content; we have a license to use it.

4. Community Guidelines

Respect others; we'll remove inappropriate content.

5. Changes

We may update our terms; you'll be notified.

Contact us at info@flavourfeed.com for questions or concerns.

10. References

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