

RecipeNest: Chef Portal Report

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1. Introduction

RecipeNest serves as an advanced digital platform which brings chefs together with food enthusiasts through an environment where they can display and organize their recipes. Users of the platform can establish profiles while building their recipe collections and performing interactive communication with their fanbase through an intuitive system.

The modern digital era requires all culinary professionals to develop an online presence to build their careers. Most traditional recipe sharing happens through cookbooks and social media posts or personal blogs but these services do not offer proper organization or easy access methods. RecipeNest solves this professional challenge by creating a special platform which provides chefs with a controlled environment to share knowledge through organized content while reaching wider audiences (Verborgh, 2023).

The core purpose behind RecipeNest exists to deliver chefs an efficient yet secure interactive platform which enables them to handle their profiles and develop their recipes. User authentication together with recipe portfolio creation and sorting and social media sharing tools found in the platform allow users to experience increased engagement while maintaining system simplicity. Foodies and chefs will gain benefits from a solution that uses modern web technology to deliver a secure interactive system with responsive features and scalable operations (Plotkina, Dinsmore and Racat, 2021).

2. Project Overview

Through its digital platform RecipeNest functions as an all-inclusive system that enables chefs to present their culinary masterpieces to audiences who are also fascinated by food. The project develops an approachable digital framework that allows chefs to exhibit their skills to users who want to locate new recipes along with professional culinary connections (Hou et al., 2024).

2.1 Aims and Objectives

- Security features in the interface design will facilitate chefs to easily make, handle and distribute their creations.

- Food lovers must have access to a system featuring chef profiles together with recipes and interactive features to enhance their engagement with content.
- Chefs get access to profile management features with a feature set to organize their recipe portfolio through addition and editing or deletion functions.
- A secure authentication system should be established because it will allow registered chefs to modify their profiles and recipes while providing a safe user environment.

3. Requirements Analysis

Some of the key requirements that need to be identified to achieve the goal of creating RecipeNest are as follows: The platform should, therefore, be functional, hackers should not be able to breach the system's security and the platform should be able to expand according to the amount of traffic that it is receiving in order to make sure that its response rate does not dwindle. As such, the requirements are categorized with reference to the functional and non-functional properties.

3.1 Functional Requirements

Three main requirements regarding user authentication are to be met by RecipeNest: the possibility of creating accounts for chefs and the ability of logging in to the profiles and the set of recipes owned by these chefs. This would mean that only those who are using the system with a log-in and password will only be the only ones who can access the dashboard with enough privileges to modify any content. The chef profile management feature allows users to create and modify their accounts with the basic and detailed information, photographs and phone numbers. This will help the food enthusiasts to get closer to their preferred chefs and consume more of their content (Kasauli et al., 2020).

One of the key features in the platform is the recipe portfolio where cooks/admins are able to create new recipes and assign them to portfolio, modify such recipes and even remove them. This way each recipe has such necessary attributes as an ingredient list, cooking instructions, and images to help an end-user interested in a particular cuisine or a dish. However, to increase the user interest and participation, the following elements need to be implemented; users should be able to filter recipes in some means, there should be 'Read more' for whatever has been displayed in the limited space, and social media sharing buttons. The secure dashboard acts as the main control panel of

the chefs and recipes where they can access and control the different credentials given to them. It has a user-friendly mechanism for subsequent modifications of content and provides users with comfort for further convenience for data manipulation (Kasauli et al., 2020).

Table 1: Functional Requirements

ID	Requirement	Description	Priority
FR-01	User Authentication (Login/Signup)	Allow chefs to create accounts, log in, and log out securely.	High
FR-02	Chef Profile Management	Enable chefs to create, edit, and update personal profiles, including bio, profile picture, and contact details.	High
FR-03	Recipe Portfolio Management	Allow chefs to add, edit, delete, and view their recipes in a structured format.	High
FR-04	Recipe Details	Each recipe should include a title, ingredients, instructions, an optional image, and a category (e.g., cuisine type).	High
FR-05	Interactive Features	Implement recipe sorting (by popularity, newest, cuisine type), "Read More" buttons, and social media sharing options.	Medium
FR-06	Search Functionality	Enable food lovers to search for chefs or recipes using keywords and filters.	Medium
FR-07	Secure Dashboard	Provide a private dashboard for chefs to manage their profiles and recipes securely.	High
FR-08	Responsive Design	Ensure that all features work smoothly across devices (mobile, tablet, and desktop).	High
FR-09	Comments & Reviews (Future Scope)	Allow food lovers to leave comments or rate recipes.	Low
FR-10	Admin Panel (Future Scope)	Implement an admin interface to manage chef accounts, monitor content, and address user concerns.	Low

3.2 Non-Functional Requirements

The two major concerns that crucial to making sure that RecipeNest can populate more users and recipes but remain fast and efficient. The system should be optimized for high traffic or load of data and should be efficient enough. Data security and authentication are very vital aspects as they help to ensure that unauthorized persons will not access users' information. The availability of a secure login into user accounts and the use of secure encryption to ensure that the user account details are safe. The web design should be responsive because it is found applicable across all devices including the laptops, tablets and the mobile phones. It must be responsive in order to fit most of the screen sizes and resolution to allow as many persons as possible to access it easily (Quba et al., 2021).

Table 2: Non-Functional Requirements

ID	Requirement	Description	Priority
NFR-01	Scalability	The system should be able to support an increasing number of chefs, users, and recipes without performance degradation.	High
NFR-02	Performance	Recipe pages should load within 2 seconds under normal load conditions.	High
NFR-03	Security & Authentication	Secure authentication with password encryption and role-based access for chefs.	High
NFR-04	Data Integrity	Prevent data loss or corruption by implementing proper database constraints and validation checks.	High
NFR-05	Usability	Ensure an intuitive user interface with a minimal learning curve for new users.	Medium
NFR-06	Cross-Browser Compatibility	The web application must function properly on Chrome, Firefox, Edge, and Safari.	Medium
NFR-07	Responsiveness	Use responsive design techniques to provide an optimal user experience across different screen sizes.	High

NFR-08	Backup & Recovery	Implement automated backups of the database to prevent data loss in case of failures.	Medium
NFR-09	Logging & Monitoring	Track system performance and user activities through logging mechanisms.	Medium
NFR-10	Legal & Compliance	Ensure compliance with data privacy laws such as GDPR for user data protection.	High

4. UML Modelling

4.1 Use-case Diagram

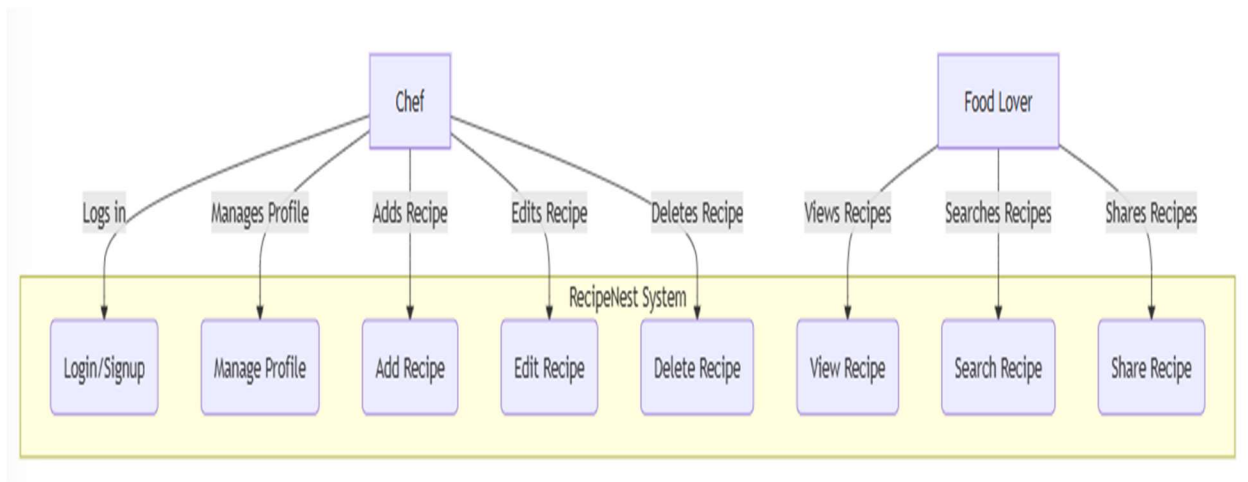


Figure 1: Use Case Diagram

The depicted use-case diagram reflects the relations of the RecipeNest system with Kn'm' Chefs and Food Enthusiasts. The chefs can sign in and sign out, and get to post, modify and even remove the posted recipes, to have full control over the contents. Equipped with this feature, the food enthusiasts can browse the recipes, look for some particular dishes, and even share them with other people on the social media. It also performs the function of bringing the two user roles into the platform to interact directly with all the common features concerning content generation, access, and sharing (Setiyani, 2021).

4.3 Activity Diagram

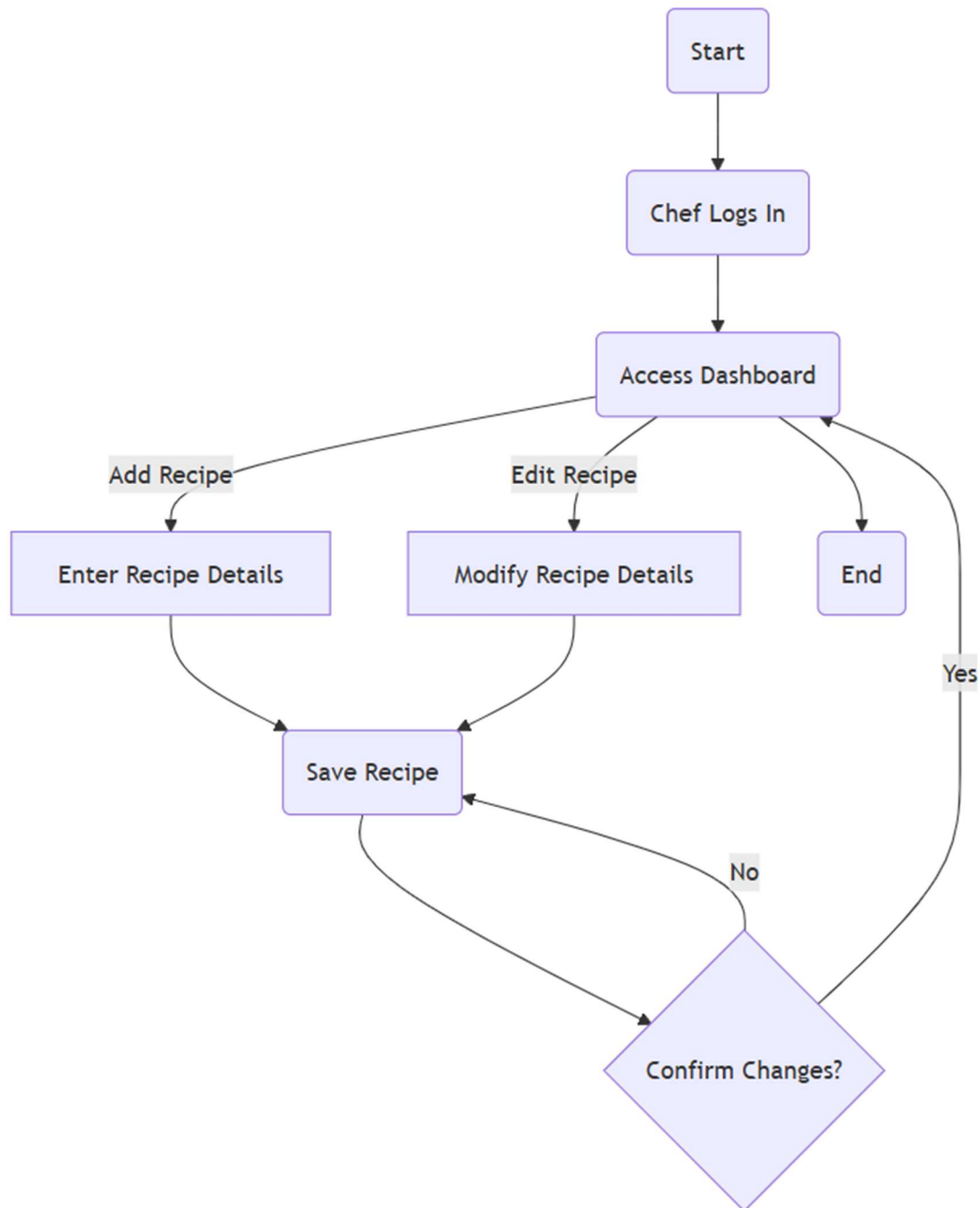


Figure 2: Activity Diagram

In the nests, such as for example RecipeNest discussed here, the activity diagram represents the work flow of the process of adding and altering recipes in the nest. Starting with the login into the application, a chef is first taken to the dashboard. They can either create new recipe information

inputting information required or modify existing one. After that, the user will be displayed a status confirmation of the changes and is taken back to the main dashboard. If such changes are expected, they can always go back to the editing phase. This kind of differentiation makes it easier to manage the Anovia recipes and their differentiation from other usual recipes by chefs (Kulkarni and Srinivasa, 2021).

5. Prototype

5.1 Chefs List

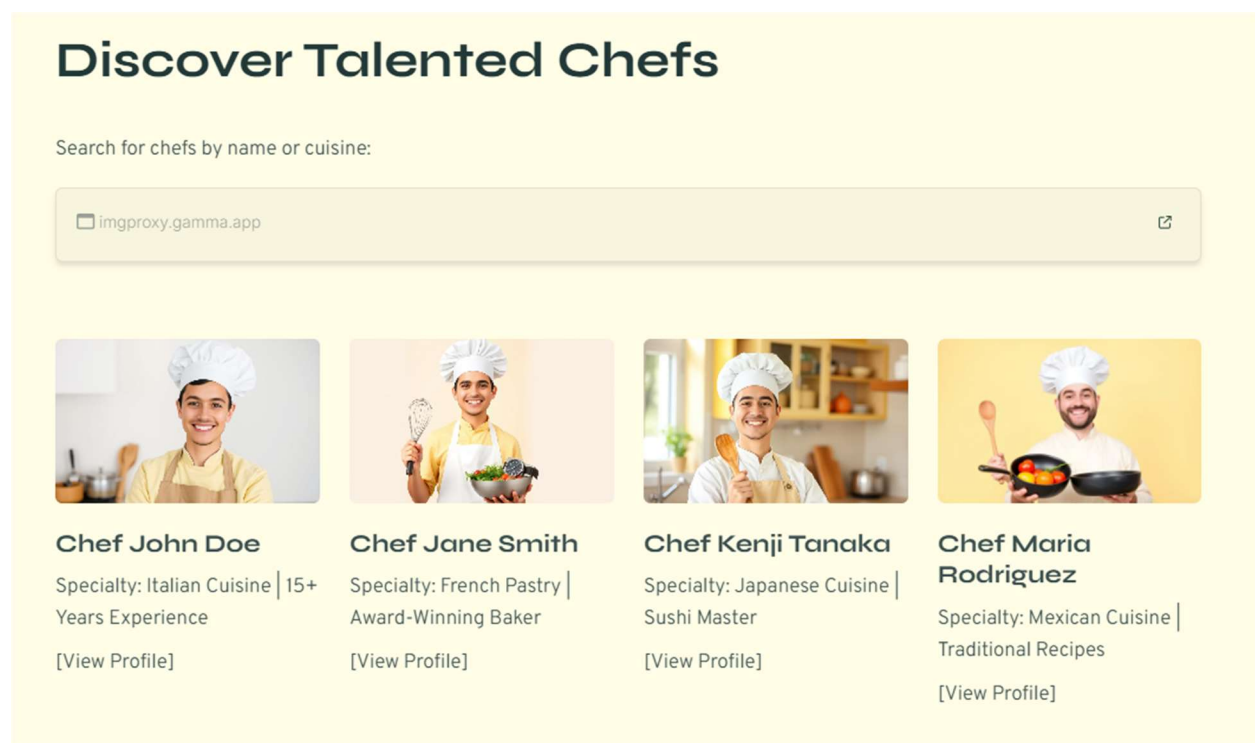


Figure 3: List of Chefs

5.2 Chef Profile

About Isabelle Dubois

Culinary Philosophy

Chef Dubois brings over 15 years of experience from renowned kitchens, passionately crafting dishes with locally sourced, seasonal ingredients and innovative techniques.

Background

With a deep-seated passion for contemporary French cuisine, Chef Dubois specializes in creating memorable dining experiences through elegant plating and refined flavor profiles. Her culinary journey includes leading "Le Fleur" as Executive Chef (2018-2022) and receiving the "Rising Star Chef" award in 2021.

Figure 4: Chef profile - about

My Culinary Journey

- #### 1 Early Influences

My culinary journey began with a transformative experience working on my mother's small farm, instilling a deep appreciation for fresh, seasonal ingredients.
- #### 2 Restaurant Experience

I gained invaluable experience at La Tante Claire in London and Taillevent in Paris during the late 1990s and early 2000s, honing his skills in classic French cuisine.
- #### 3 Key Mentors

I credits his culinary style to mentors like Roland Henin, who inspired a commitment to perfection and meticulous attention to detail in every dish.



Figure 5: Chef Profile - journey

5.3 Recipe Portfolio



Figure 6: Recipe Portfolio - explore



Figure 7: Recipe Portfolio – featured recipes



Figure 8: Recipe Portfolio – chef spotlight

Recipe Categories



Appetizers

Start your meal with a delicious appetizer. Browse our collection of tasty bites.



Entrees

Discover a variety of satisfying entrees, from classic dishes to modern creations.



Desserts

End your meal on a sweet note with our tempting dessert recipes.



Vegetarian

Explore delicious vegetarian recipes for all tastes and occasions.



Figure 9: Recipe Portfolio – recipe categories

Interactive Ingredient Search

Discover recipes based on your favorite ingredients.

Simply type in the ingredient you're looking for and watch as our intelligent search filters your results.

Recipe Submission Form

Share your culinary creations with the world!



Figure 10: Recipe Portfolio – ingredient search

Chef Profiles

- Explore the profiles of our talented chefs, each with their unique culinary journey and specializations.
- Browse their impressive repertoire of recipes, spanning diverse cuisines and flavors.
- Connect with chefs directly, learn about their inspirations, and get insights into their cooking techniques.



Figure 11: Recipe Portfolio – chef profile

5.4 Chef Dashboard

Recipe Creation: Sharing Your Culinary Genius

Add Recipe

Showcase your latest culinary masterpiece. Click here to add a new recipe to your portfolio.

Submit

Edit Recipe

Refine and update your existing recipes. Click here to edit a recipe.

Recipe 1Recipe 2

Edit

Delete Recipe

Manage your culinary archive. Click here to delete a recipe.

Recipe 1Recipe 2

Delete

Figure 12: Chef dashboard – manage recipes

Recipe Creation: Sharing Your Culinary Genius

Share your culinary masterpiece with the world! Fill out the form below to submit your recipe.

Recipe Name: _____

Ingredients: _____

Instructions: _____

Cuisine Type: _____

Upload Image: _____

Submit Recipe

Figure 13: Chef dashboard – recipe creation form

Manage Your Profile with Ease

1

Profile Settings

Easily edit your name, bio, and profile picture.

2

Recipe Management

Add new recipes, edit existing ones, and delete as needed.

3

Dashboard Navigation

Quick access to profile settings and recipe portfolio.

4

Secure System

Ensuring your information and recipes are safe.

5

Logout Button

Easily sign out of your account when finished.

Figure 14: Chef dashboard – manage profile and recipe

6. Selected Web Technologies

The framework applied in RecipeNest is made of both front-end and back-end technologies that develop an ideal user interface that is engaging and safe for the users. Technologies used on the side of the client guarantee user comfort, whereas technologies used on the server side guarantee reliability and efficient data processing.

6.1 Front-End Technologies

HTML & CSS – Structuring and Styling Pages

HTML or HyperText Markup Language is used to create the layout of the web application and it features the content of the application such as headings, forms, buttons and navigation bar. CSS (Cascading Style Sheets) adds the aesthetic value by adding styles, layout and even responsive design to make it compatible for all devices.

JavaScript – Adding Interactivity

JavaScript may be used for interactions as well as real-time enhancements involving goals, processing event and animation. Account options such as the ability to sort the recipes, having the more button to expand the description, and allowing users to share the recipes in their preferred social networks are done using JavaScript.

React.js – Dynamic User Interface

Used JavaScript library is React.js responsible for the construction of the interactive and component containing UI of RecipeNest. It enables the easy displaying of objects like the list of chefs, the set of recipes and simply the dashboard. React's creation of virtual DOM make the performance and rendering seamless for the user, also, the reusability of the components makes development and implementation easy.

6.2 Back-End Technologies

ASP.NET Core & C# – Server-Side Logic

ASP.NET Core, which has been developed with the help of C#, serves for the processing of the business logic and API integration. Thus, it provides a secure user authentication and performs request handling and data communication between the front end and database. Due to its features, it is possible to identify that the framework set is rather effective in developing reliable web applications.

Entity Framework & LINQ – Database Management

Entity Framework (EF) is a database software which serves as an Object-Relational Mapper that enables developers to perform various database operations using objects of C# language. LINQ (Language Integrated Query) is an improvement on querying, thus it can be used in areas such as filtering recipes and managing accounts for the users.

SQL Server – Storing Chef Profiles and Recipes

SQL Server is responsible for managing data relative to chef profiles, recipes, and other information about users. It provides data consistency, indexing so that data can be retrieved easily and contains security measures to safeguard user's data.

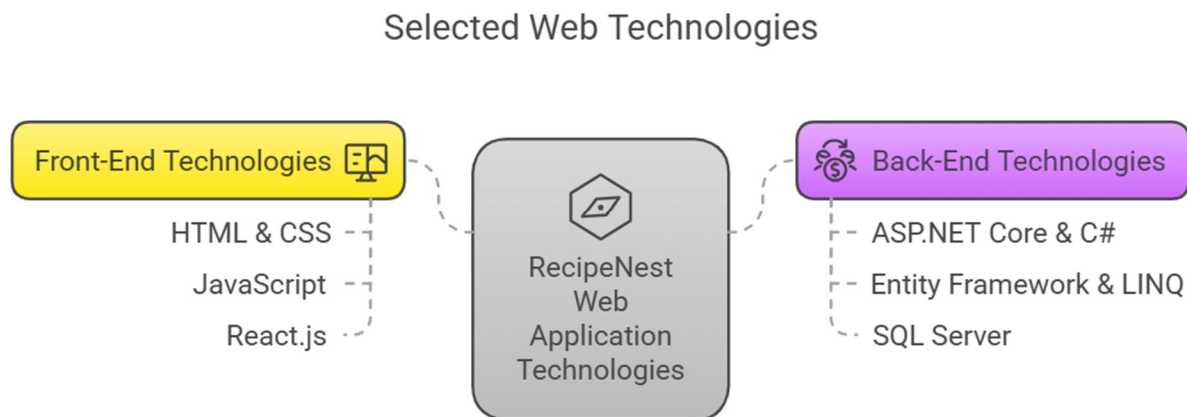


Figure 15: Selected web technologies

7. Project Schedule

Phase	Description	Estimated Duration
Phase 1: Requirement Gathering & Wireframing	Identify functional and non-functional requirements, create wireframes and UML diagrams to define system structure.	1-2 weeks

Phase 2: Front-End Development	Develop the user interface using HTML, CSS, JavaScript, and React.js. Implement responsive design and interactive features.	3-4 weeks
Phase 3: Back-End Development	Set up the server-side logic with ASP.NET Core and C#. Implement database management using Entity Framework and SQL Server.	4-5 weeks
Phase 4: Testing & Deployment	Conduct testing to ensure functionality, security, and performance. Deploy the system for live use.	2-3 weeks

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