

TITLE PAGE

INSTITUTE NAME

Department of Computer Science

Final Year Project Report

Project Title:

"Online Cooking Website with AI Recipe Generator"

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Program: BS Computer Science

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Submission Date: [DD-MM-YYYY]

ABSTRACT

This final year project presents a user-friendly and interactive cooking website. The system allows users to browse recipes by category, add their own recipes, and explore new ones using an AI-powered recipe generator. The recipe generator uses OpenAI's ChatGPT API to create custom recipes based on user input. Though the API is currently limited due to credential issues, it represents the potential of integrating artificial intelligence with user-centric web design. The website is built using modern front-end technologies and aims to enhance the cooking experience for users of all skill levels.

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1. INTRODUCTION

Cooking websites are a staple of digital life today, offering people around the world access to recipes, cooking tips, and food inspiration. This project aims to enhance that experience by allowing user interaction, recipe submission, and even AI-generated recipes. The goal is to make cooking more accessible, fun, and personalized through technology.

2. PROBLEM STATEMENT

Existing cooking websites mainly provide static content. They often lack interactivity, recipe customization, and AI integration. There is also little support for user-generated recipes. The proposed website fills these gaps by enabling user recipe submission and AI-assisted recipe generation.

3. OBJECTIVES

- Build a fully responsive cooking website
- Categorize recipes based on cuisine/type
- Allow users to add their own recipes
- Use OpenAI ChatGPT API for recipe generation
- Provide a clean UI/UX for easy navigation
- Plan for future improvements like login and favorites

4. LITERATURE REVIEW

Several platforms like AllRecipes, Tasty, and FoodFusion provide cooking content online. However, these are mostly one-way systems with limited interactivity. Modern trends suggest integrating AI and user contribution to create a personalized experience. This project builds on those trends and adds user-submitted content and AI generation.

5. METHODOLOGY

Phase	Description
Planning	Idea selection, research, feature planning
Design	Wireframes and UI layout
Development	Using HTML, CSS, JavaScript and backend tools
Testing	Manual testing and bug fixing
Evaluation	Checking functionality and usability
Documentation	Preparing final report

6. SYSTEM DESIGN

- **Pages:**
 - Home Page
 - Categories Page
 - Recipe Submission Page (My Recipe)
 - AI Recipe Generator Page
 - About Us
- **Technologies Used:**
 - HTML, CSS, JavaScript
 - NodeJS
 - Firebase / XAMPP (for backend if used)
 - ChatGPT API (for AI generation)

7. IMPLEMENTATION

The website was implemented using HTML, CSS, and JavaScript. Recipes are stored locally. The ChatGPT API integration was attempted for dynamic recipe creation. The site uses responsive design principles to ensure it works on both desktop and mobile.

8. TESTING

Manual testing was performed:

Feature	Tested?	Result
Recipe browsing	✓	Working
Recipe adding	✓	Working
AI Generator	⚠	Not working due to API credential limits
Mobile view	✓	Responsive
Navigation links	✓	Working

9. LIMITATIONS & FUTURE WORK

- ChatGPT API not working due to credit issues
- No login/signup system
- Recipes are not stored in a database (if applicable)
- In the future, add:
 - User profiles
 - Saved recipes
 - Full backend integration
 - Multilingual support

10. CONCLUSION

This project successfully implements a cooking website with recipe categories, user submission, and a planned AI-based recipe generator. It demonstrates core web development skills along with an understanding of future technology integration. The system is ready for further development and expansion.

11. REFERENCES

- <https://openai.com/chatgpt>
- <https://developer.mozilla.org>
- <https://www.w3schools.com>
- <https://nodejs.org>

12. Appendices

12.1 Screenshots of Pages

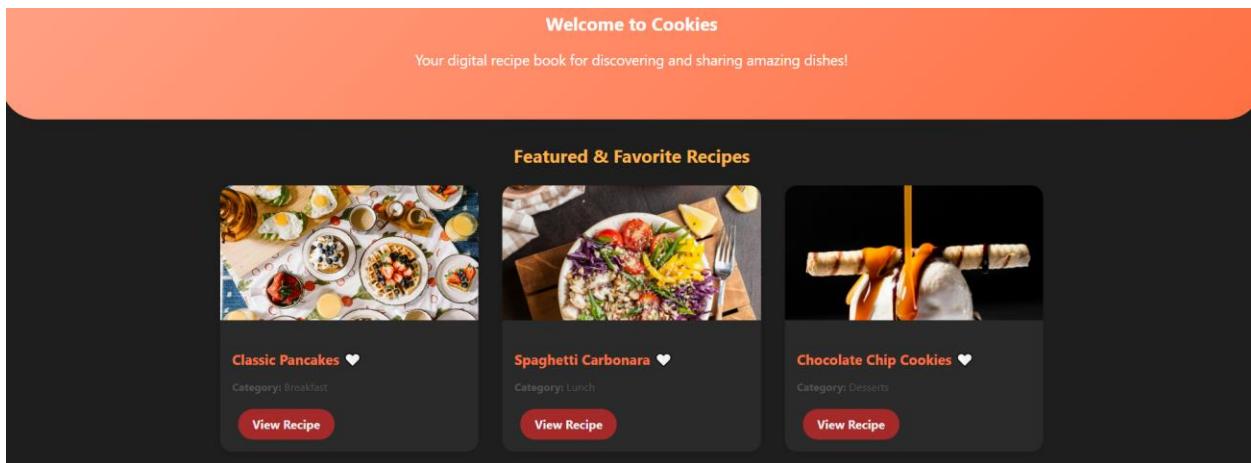


Figure 1: Home page of the cooking website displaying featured recipes.



Figure 2: Recipe categories listed for easier browsing.

Classic Pancakes

Ingredients

- 1 cup flour
- 2 tbsp sugar
- 1 cup milk
- 1 egg
- 2 tbsp butter
- 1 tsp baking powder
- Pinch of salt

Instructions

1. Mix dry ingredients in a bowl.
2. Whisk in milk, egg, and melted butter.
3. Pour batter onto a hot griddle.
4. Cook until bubbles form, flip, and cook until golden.

[Back to Home](#)

Figure 3: Example of a recipe detail page with ingredients and steps.



Figure 4: Form where users can add and submit their own recipes.

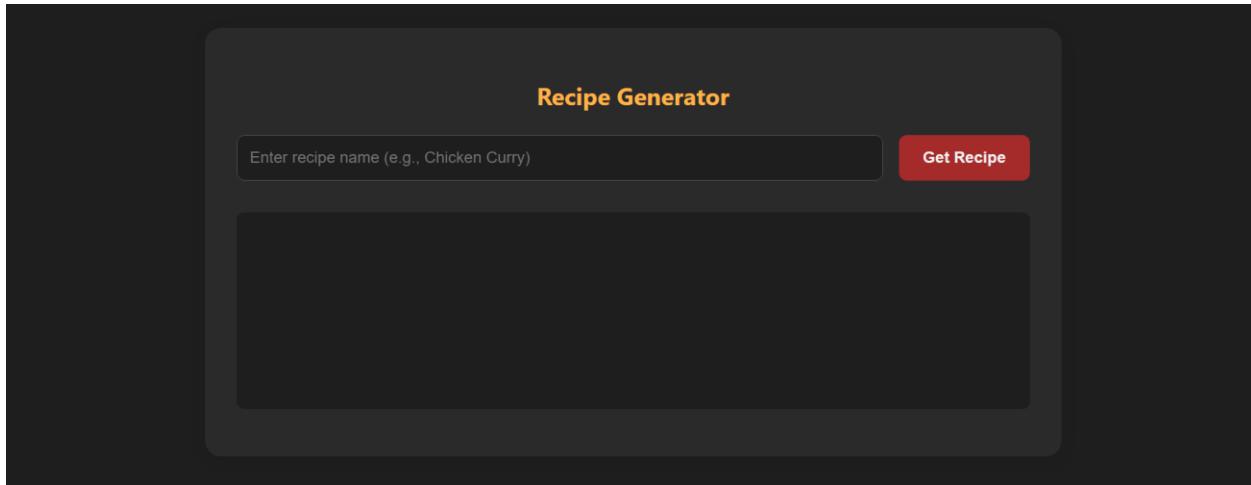


Figure 5: AI-based recipe generator using ChatGPT API (under development).

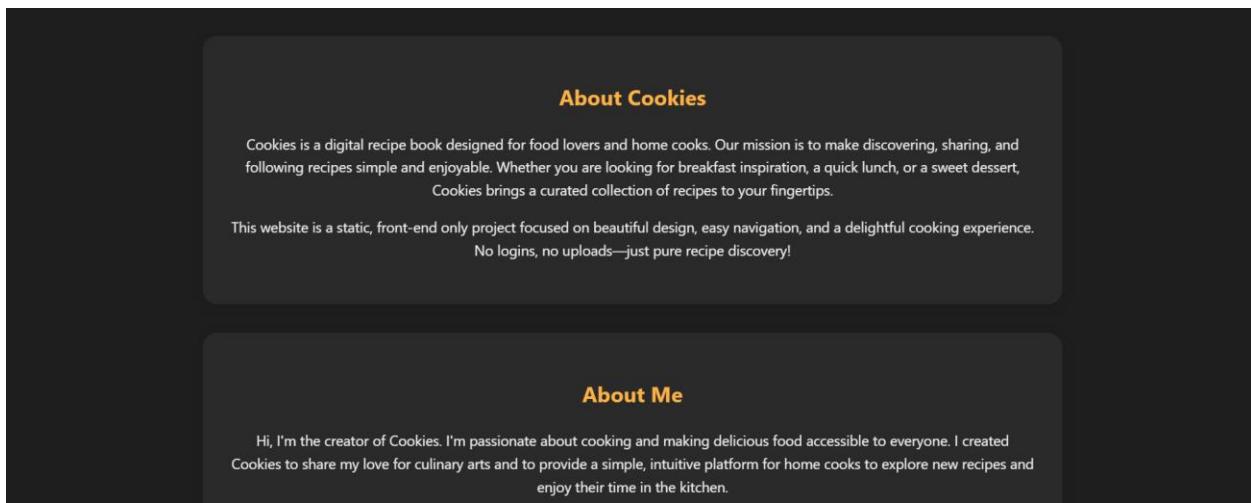


Figure 6: About Us page describing the purpose and background of the website.

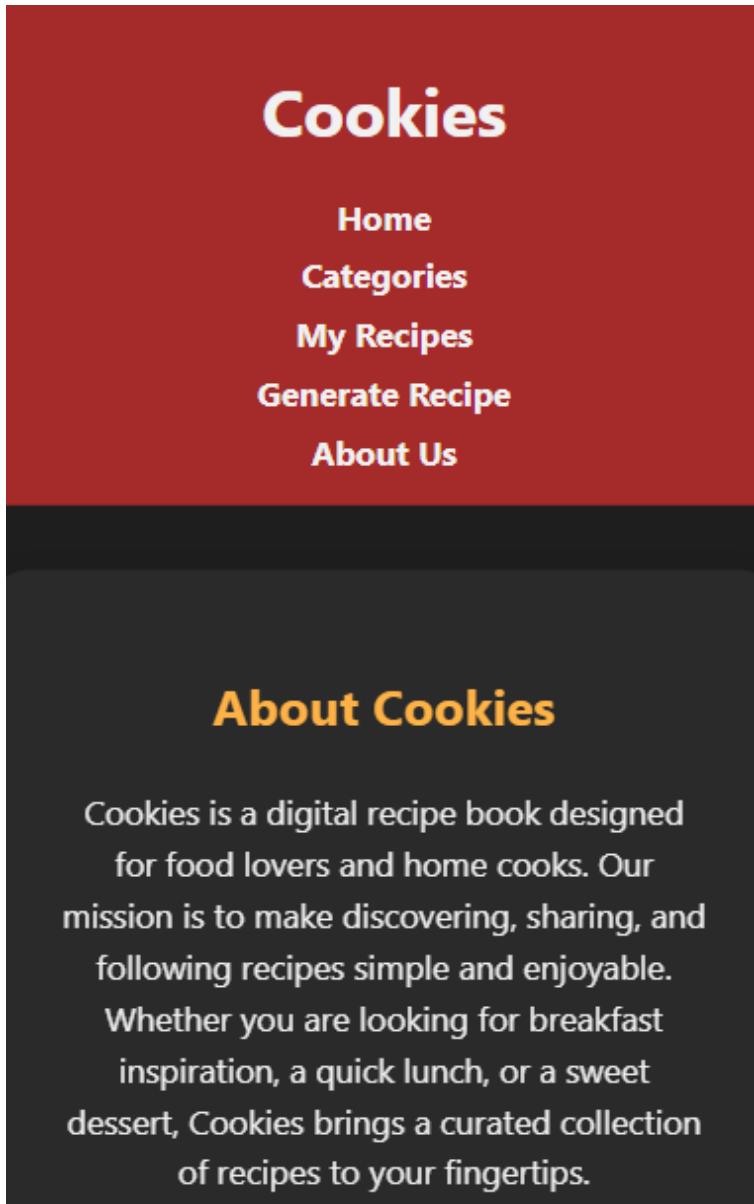


Figure 7: Responsive mobile view of the cooking website.

12.2 System Diagram

1. Simple Page Flow Diagram

The following diagram illustrates the basic structure and navigation of the website. All pages are accessible from the home page.

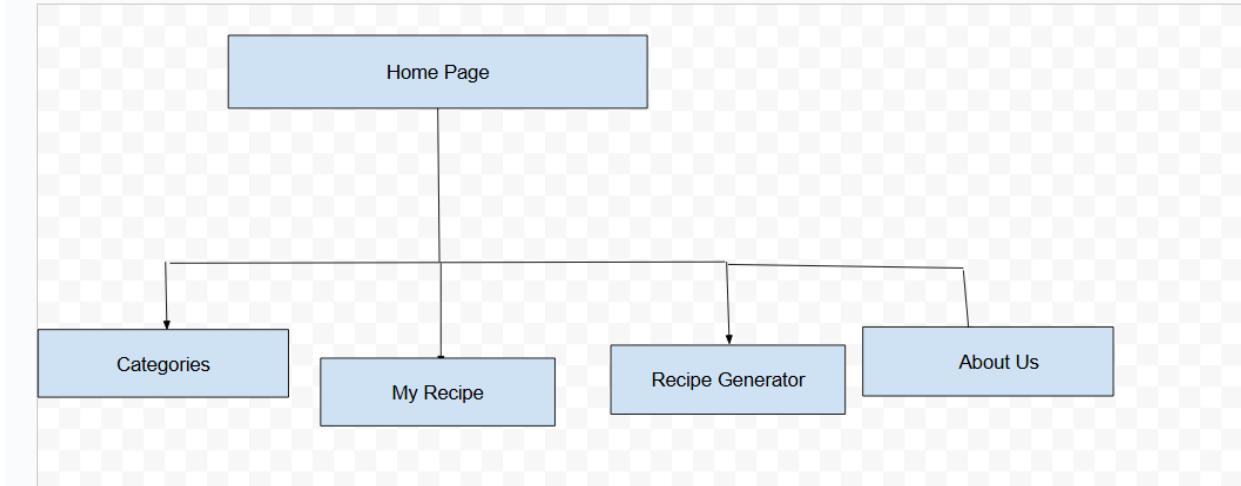


Figure 8: Simple sitemap showing the navigation flow between the main pages of the cooking website.

2. Detailed System Architecture Diagram

The system architecture diagram below provides a more technical overview of the web application. It outlines how data flows between the user, website components, and the external ChatGPT API (planned integration).

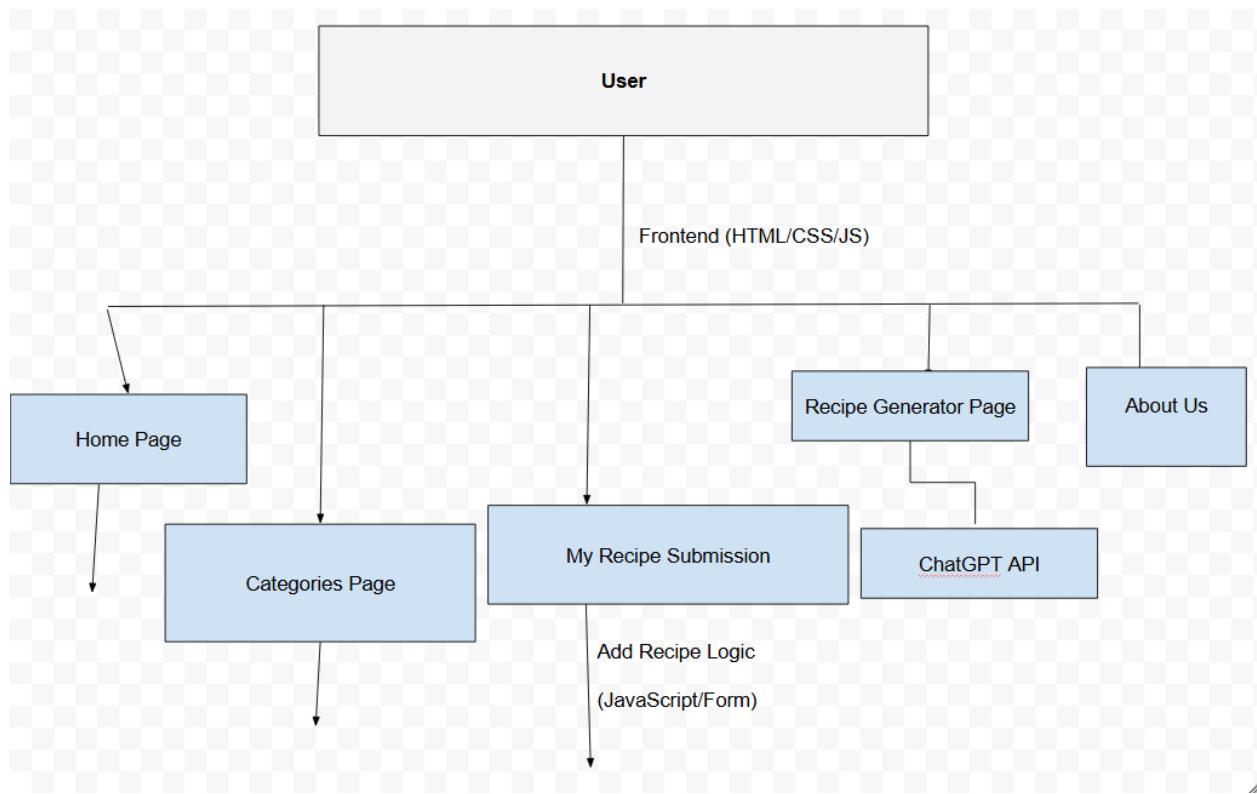


Figure 9: System architecture showing data flow, recipe submission logic, and attempted ChatGPT API integration.