

SOUTHWESTERN STATE COLLEGE
TRIBHUVAN UNIVERSITY
FACULTY OF HUMANITIES AND SOCIAL SCIENCE



A

Project Report

On

Chef Mandu
(Web application for food recipes)
Submitted to

Department of Computer Application
Southwestern State College, Basundhara, Kathmandu

In partial fulfillment of the requirements for the Bachelor in Computer Application

Submitted By

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SUPERVISOR'S RECOMMENDATION

We hereby recommend that this project is prepared by **Modit Tuladhar (6-2-530-18-2020)** and **Rojina Ghimire (6-2-530-26-2020)** under supervision by **Mr. Kiran Ghimire** entitled “**Chef Mandu (Web Application for food recipes)**” in partial fulfillment of the requirements for the degree of Bachelor of Computer Application be processed for the evaluation.

Mr. Kiran Ghimire

Supervisor

Head of Department of BCA

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LETTER OF APPROVAL

This is to certify that this project is prepared by **Modit Tuladhar (6-2-530-18-2020)** and **Rojina Ghimire (6-2-530-26-2020)** entitled “**ChefMandu (Web application for food recipes)**” in partial fulfillment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

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ACKNOWLEDGMENT

This is an attempt to present the project entitled "**ChefMandu**" prepared for partial fulfillment of the requirement for the Degree of Bachelor in computer application (BCA) is an outcome of continuous and immeasurable cooperation and support of several hands. I express my sincere honor and special sense of gratitude to my academic supervision **Mr. Kiran Ghimire**. I would also like to thank all lecturer and friends for their generous guidance, thoughtful encouragement and brilliant insight throughout this work.

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ABSTRACT

This report presents an online recipe management system that allows users to discover, create, and share recipes easily and conveniently. The report highlights the problem of not knowing how much of each ingredient is needed to prepare a dish and the solution of estimating the cost of ingredients in advance. The report also outlines the purpose, scope, and methodology of the project, including analyzing existing recipe systems, identifying requirements, and developing systems using HTML, CSS, JavaScript, PHP, and MySQL. The report concludes by highlighting the system's usability, security, and overall functionality.

Keywords: *css, html, javascript, mysql, online recipe management system, php, etc.*

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LIST OF ABBREVIATIONS

CSS :	Cascade Style Sheet
HTML :	HypeText Markup Language
MySQL :	My structured query language
PHP :	Hypertext preprocessor
UI:	User interface
ER:	Entity Relationship
RDBMS:	Relational Database Management System
DFD:	Data Flow Diagram

CHAPTER 1: INTRODUCTION

1.1. Introduction

Chef Mandu is a web application for food recipes. It is a set of step-by-step instructions which helps to prepare a specific dish. It typically includes a list of ingredients required to make the dish, as well as the quantities needed. The complexity of food recipes can range from straightforward dishes that can be prepared quickly to complex ones that demand expert cooking skills. Even a difficult dish can be made simple to prepare by following the clear and concise instructions in a well-written recipe. Our website aims to offer the finest and most accurate recipes to our users, with detailed instructions that are simple to understand and follow.

We create a space in order to teach people how to cook. Whether you're cooking for a family dinner, hosting a party, or simply looking for some inspiration for your next meal, our food recipe website is the perfect place to start. Browse our collection of recipes today and get cooking!

1.2. Problem Statement

It is a hassle to gather various ingredients and prepare a dish without knowing how much of each is required. Additionally, you would want to have all of your recipes in one place, so that you can find and use them quickly. People who follow a strict diet are mindful of their calories intake.

To address these issues, we developed a project that allows you to create and save recipes, as well as estimate the cost of ingredients because you will know what you would need ahead of time.

1.3. Objectives

- To provide a vast collection of different recipes.
- To create an intuitive and user-friendly interface.
- To offer detailed recipe information including ingredients, instructions, and nutritional facts.
- To enable users to review and share recipes.

1.4. Scope and Limitation

The scope of this web application is to provide a wide range of recipes from different cuisines and categories. This application will make easy for users to search, browse, and discover recipes based on their preferences and dietary restrictions. Also, we offer detailed instructions, including ingredient lists and step-by-step procedures. Some features are also included for users. They are to save their favorite recipes, create new recipes and to rate the recipes.

We also provide regularly update and improve the recipe collection and system features by ensuring the system is accessible and is user friendly on various device.

1.5. Report Organization

This report is about “Chef Mandu(Web Application for Food Recipes)” which contains the detail about various activities been done while doing this project having 5 chapters.

Chapter 1

This chapter is discussed on introduction of the project which has several parts such as background, problem statement, objectives, scope and limitations, development methodology and report organization.

Chapter 2

It contains the information about existing system and their review. Also, it contains specification and analysis done for the project by highlighting the challenges.

Chapter 3

This chapter covers the Analysis bit of the report which includes the System Analysis, covering Requirement analysis and Feasibility analysis. Requirements have been subdivided into functional and non-functional requirements where the Feasibility study covers the Technical, Economic, and Operational feasibility of the system as well as the Schedule. It includes the Er-diagram and DFD which is use for conceptual design of the system and the flow of data. Moreover, system design includes architectural design, database schema design, and interface design where User interface design focuses on the communication between users and computers.

Chapter 4

It contains detail information about the implementation and testing of the system done. The implementation phase covering tools used such as waterfall model because the requirement is already known. Others are visual studio code, snipping tool etc. and modules like registration, admin, search recipes and so on. For testing, we have tested login and register form of the system all the part are successful executed in the system and run effectively and manually by system.

Chapter 5

It is the last chapter where it contains the conclusion and future requirement of the project.

CHAPTER 2: BACKGROUND STUDY AND LITERATURE REVIEW

2.1. Literature Review

We will research existing recipe systems to study their strength and flaws which will help us in deciding what to include in our project and how to create them. The objective of the research is to understand how the system operates and to find areas for improvement.

Existing platforms

i) Cuisine Nepal [1]

It is a Nepali-inspired food, ingredients and community. It is a user friendly and resource full website by providing various of recipes. This website allows you to search, view existing recipes and submit ratings and feedback.

ii) theGundruk.com [2]

The Nepali Food Blog theGundruk.com includes recipes from families and information of the Nepali foods, especially on Nepali ethnic foods. It has capabilities similar to Cuisine Nepal. They updated their interface to provide a pleasant experience for the user to browse through their recipe collections.

The purpose of our system is to ensure that the new system meets the needs of its users while also correcting any weaknesses in the previous system and add any new features that could possibly be achievable. After reviewing various systems, we discovered that existing systems lacked the ability to create recipes by the public users and suitable social interactions, which we've planned to implement.

2.2. Background Study

The background study for the Chef Mandu project report outlines the motivation and context behind creating a web application for food recipes. The report emphasizes the common challenges people face when cooking, such as the hassle of gathering ingredients without knowing the quantities needed and the desire for a centralized place to store recipes. Additionally, it acknowledges the concerns of individuals following strict diets who are mindful of their calorie intake. To address these issues, the Chef Mandu project was developed. The primary objectives of the project include providing a vast collection of recipes, creating an intuitive and user-friendly interface, offering detailed recipe information (including ingredients, instructions, and nutritional facts), and enabling users to review and share recipes.

The scope of the web application surrounds a wide range of recipes from different cuisines and categories. Users can easily search, browse, and discover recipes based on their preferences and dietary restrictions. The application allows users to save their favorite recipes, create new recipes, and rate existing recipes. The project also commits to regular updates and improvements to the recipe collection and system features, ensuring accessibility and user-friendliness on various devices. Overall, the Chef Mandu web application aims to simplify the cooking experience by providing a comprehensive platform for recipe discovery, storage, and sharing.

CHAPTER 3: SYSTEM ANALYSIS AND DESIGN

3.1. System Analysis

3.1.1. Requirement Analysis

i. Functional Requirements

- The user shall be able to register and login.
- The admin shall be able login to the system.
- Admins and users shall be able to search recipes.
- Admins and users shall be able to view the recipes.
- Admins and users shall be able to create, delete and update the recipes.
- User shall be able to save recipe
- Users shall be able to rate and comment on recipes.
- Admin shall be able to delete the users.

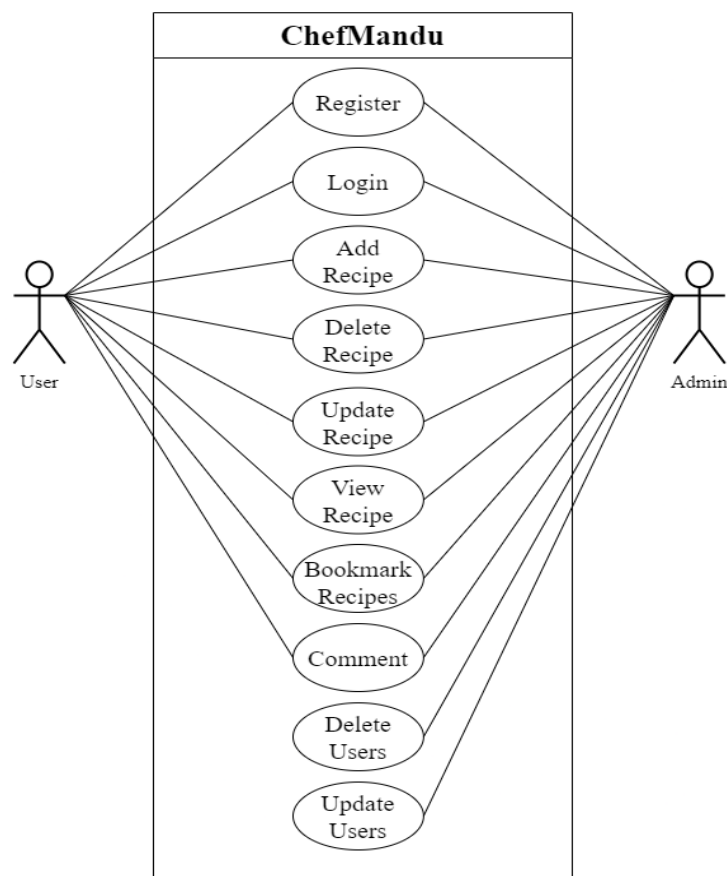


Figure 1 Use-Case Diagram of Chef Mandu

ii. Non-Functional Requirements

- The system must have an intuitive UI.
- The system must be secured.
- The system must have a good response.

3.1.2. Feasibility Analysis

i. Technical

Our project designs the UI using HTML, CSS and JavaScript for smooth user experience. We develop a reliable and efficient DBMS using PHP and MySQL to store and retrieve data. We use hardware, software with the latest version and existing technologies

ii. Operational

The operation feasibility determines if a system can be successfully deployed and operated reliably. Because the suggested system is web-based, it is platform independent. It is simple to access through a variety of platforms. The simple user interface will be simple to grasp and use.

iii. Economic

Most materials are freely available, and most software can be utilized complies with fair use laws and uses open-source technologies. Thus, developing the project had no associated costs. The proposed system is therefore economically feasible.

iv. Schedule

Table 1 Gantt Chart of Chef Mandu

PROCESS	2023						
	April 1	May 1	June 1	July 1	August 1	September 1	October 1
Planning							
Design							
Front-end development							
Back-end development							
Testing							
Deployment							

3.1.3 Data Modeling

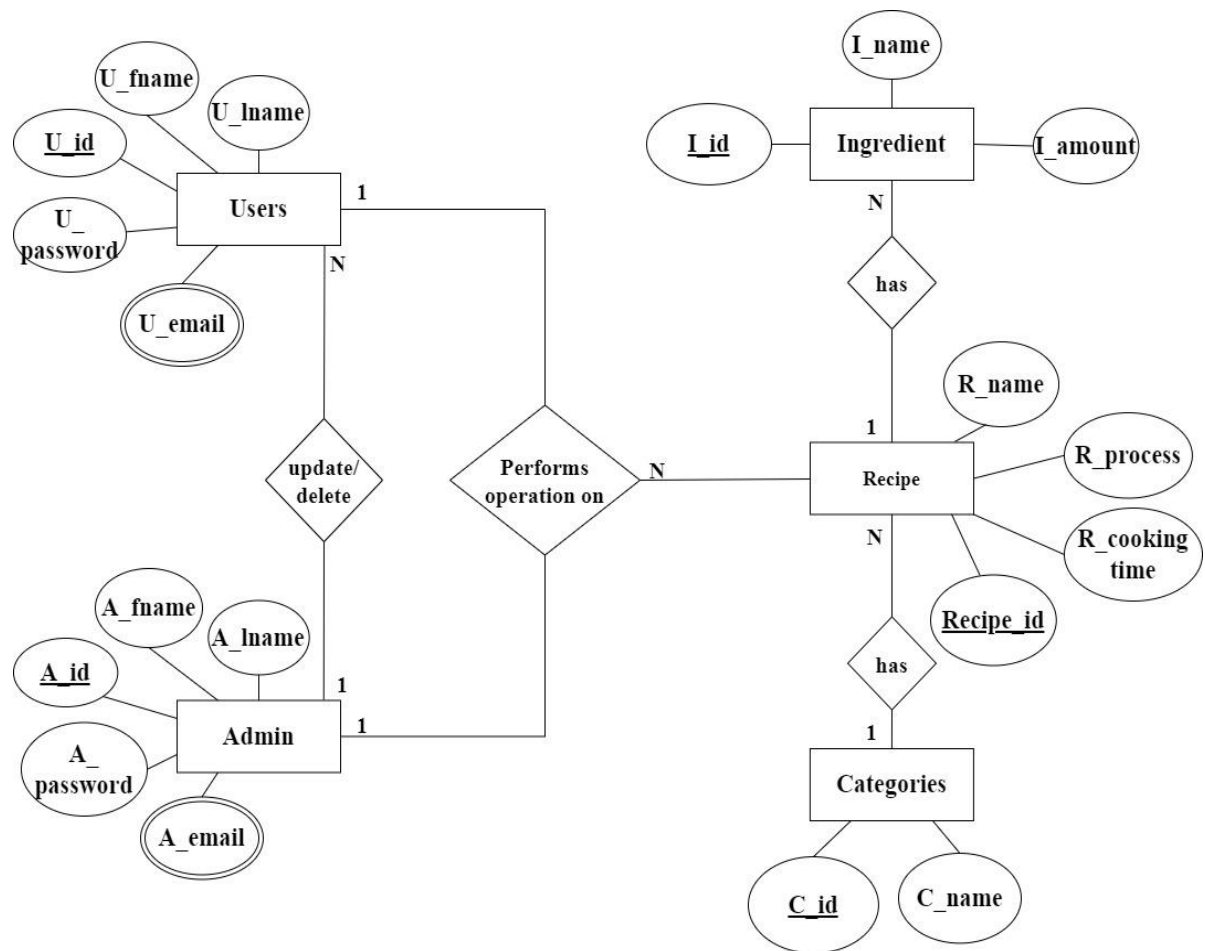


Figure 2 ER Diagram of Chef Mandu

3.1.4. Process Modeling

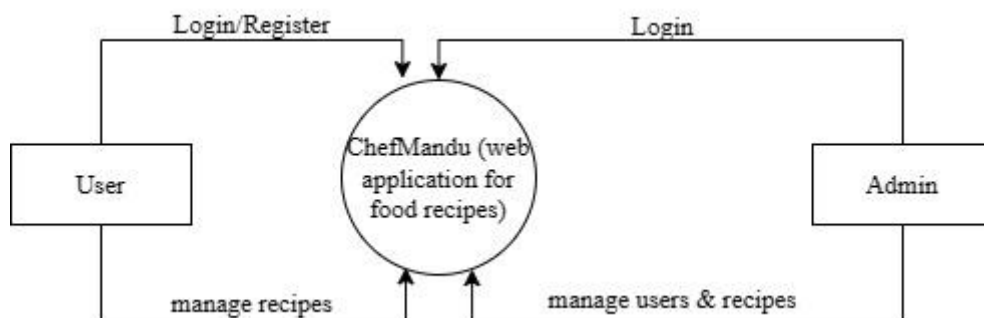


Figure 3 Context-Level Diagram of Chef Mandu

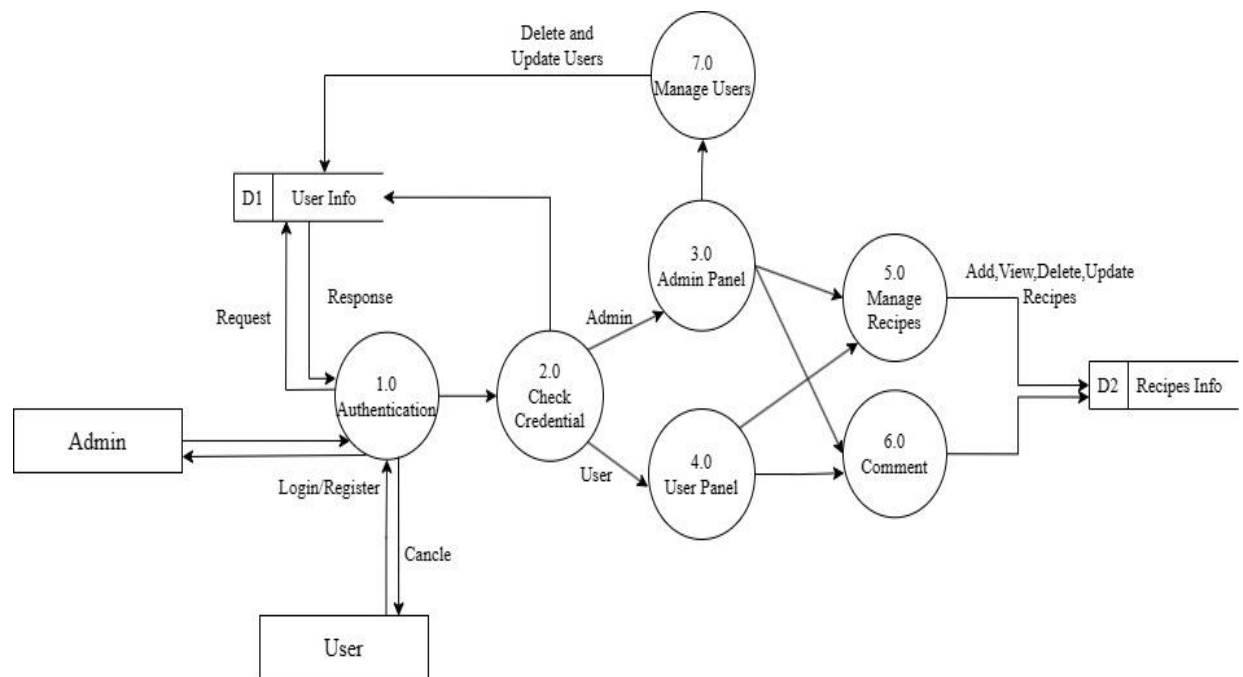


Figure 4 Data Flow Diagram of Chef Mandu

3.2. System Design

3.2.1. Architectural Design

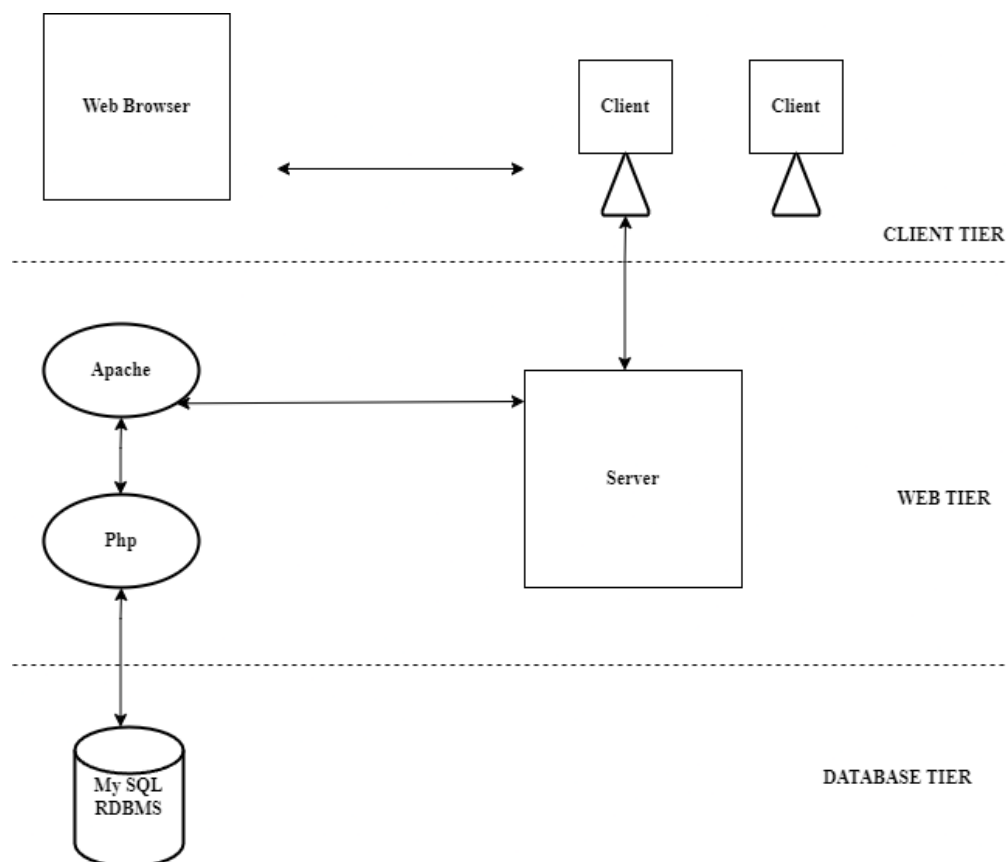


Figure 5 Architectural Design of Chef Mandu

3.2.2. Database Schema Design

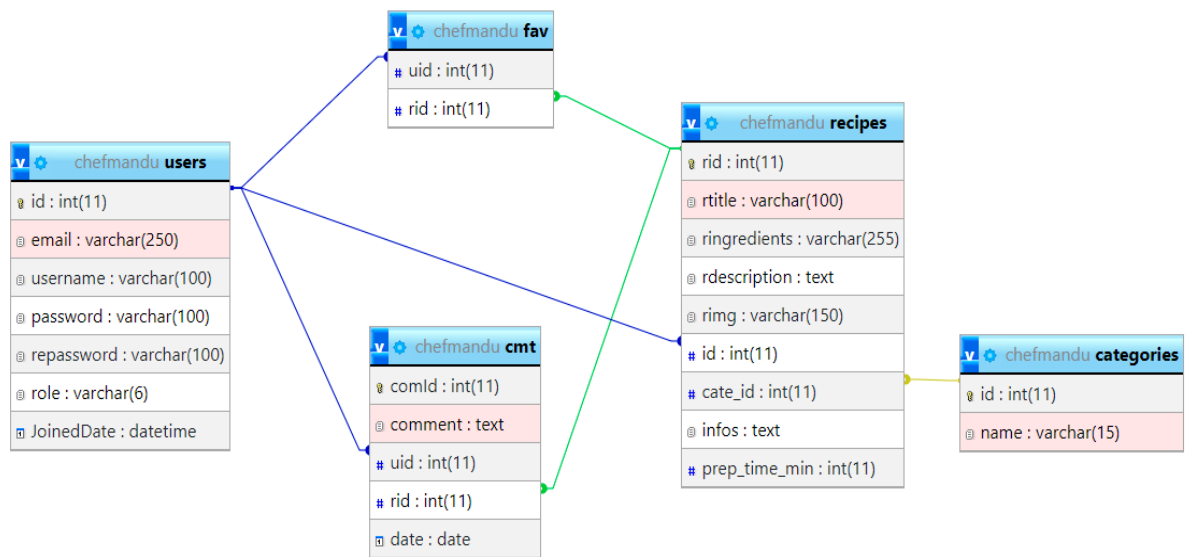


Figure 6 Database Schema of Chef Mandu

3.2.3. Interface Design (UI Interface/ Interface Structure Diagram)

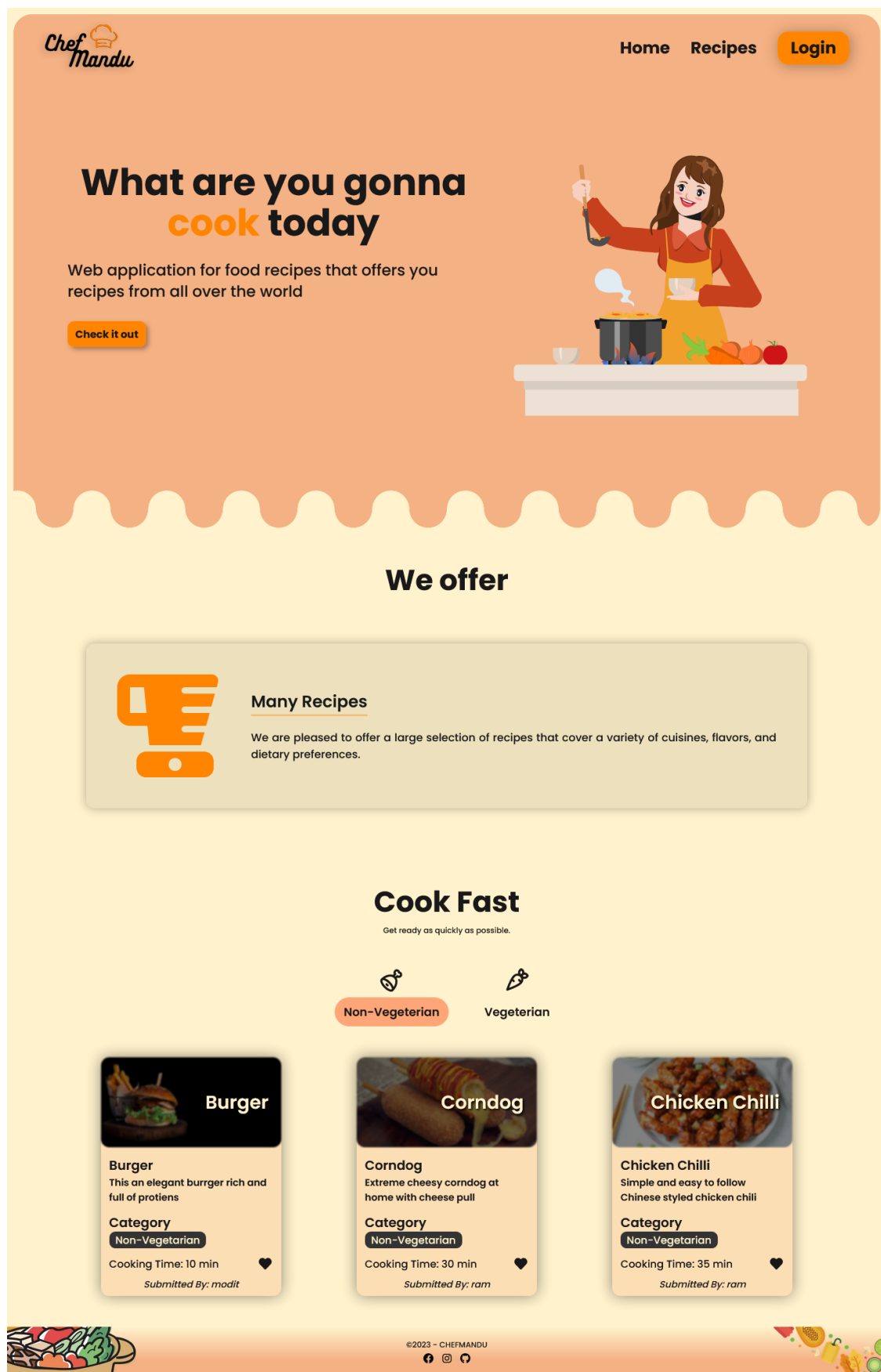


Figure 7 Homepage of Chef Mandu

CHAPTER 4: IMPLEMENTATION AND TESTING

4.1. Implementation

Implementation refers to the process of translating a concept or plan into a tangible reality by executing the necessary actions and steps. It involves putting the ideas, designs, and strategies into practice to create a functioning product, system, or solution. In the context of Chef Mandu (Web application for food recipe), implementation refers to the actual development and deployment of the system based on the defined requirements and specifications.

4.1.1. Tools Used

1. Waterfall Model

To implement the project, we are going to use the waterfall model (outcome of one phase acts as input for next phase). Our project's description is stable. Since we have well known, clean and fixed requirements therefore its best fits for the software development. This model is simple, easy to comprehend and user friendly. Phases are processed and finished one at a time in this model, and they do not overlap. The waterfall model works well for smaller tasks with well-defined sequences.

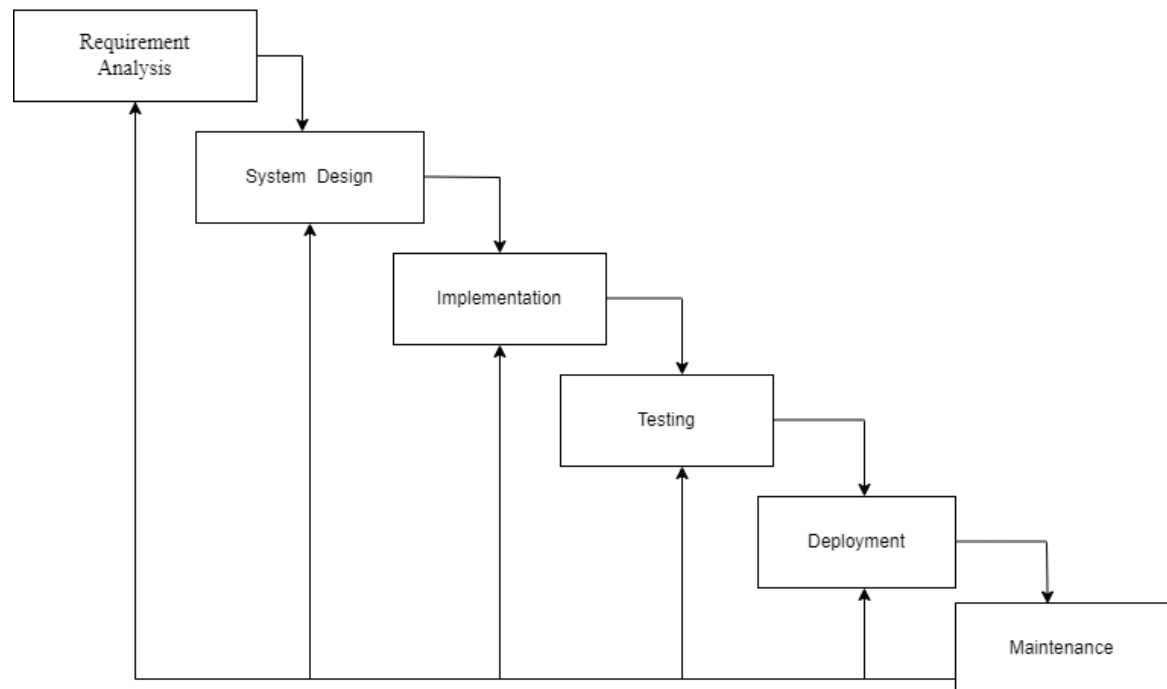


Figure 8 Waterfall Model of Chef Mandu

It is easy to understand technology. The scope of our project is secure. As we have clear, certain needs, software development is best suited because of this. Its model is user-friendly, clear, and straightforward. The phases in this model are processed and finished one at a time, with no overlap. For smaller projects where the sequence is clearly defined, the waterfall paradigm works well.

- XAMPP

XAMPP is an open-source software used for creating a local web environment. It allows users to create a server locally for developing and testing web applications. It comes bundled with Apache (web server), MySQL (database sever), PHP (scripting language) and Perl, a high-level, general-purpose programming language.

- Visual Studio Code

It is an open-source and cross platform code editing software developed by Microsoft, that support wide range of programming languages. It also supports various extensions to extend the functionalities, themes and language support.

- Snipping Tool

Snipping tools is a built-in software of Microsoft Windows that allows users to take screenshot of their screen and save it in various image formats (like PNG, JPEG, or GIF). It is fast, easy to use and light-weight software that supports windows shortcut keys as well.

- Microsoft Word

Microsoft Word is a word processing software and a part of Microsoft Office Package developed by Microsoft. It is widely used for creating, editing, and formatting the documents.

- Draw.io

It is an online drawing software developed in HTML and JavaScript. It is used for making charts, graphs, diagrams and other visual representation.

4.1.2. Implementation Details of Modules

Implementation details modules for Chef Mandu are as follows:

- **User Registration Module**

This module is responsible for user registration and login functionality with secure password storage and authentication mechanisms. Both user and admin can login in and access their information.

- **User**

A user can browse through website without having to login. To have the access of functionalities like adding, saving recipes, user needs username and password to log into the system. If the user doesn't have an account, they can register through registration page. Once logged in, Users can browse recipes and leave a review and save the recipe as well. Through user dashboard, users can add their own recipes as well as manage them. Some of its personal information such as username and email can also be modified if needed.

- **Admin**

Admin logs into the system with the account registered as admin. Admin can handle users, recipes of their own as well as others and can register other admins if required.

- **Recipe Management Module**

Develop CRUD operations for managing recipes, including creating, reading, updating, and deleting recipe information. Implement search functionality for recipe discovery.

- **Review Module**

Enable users to review recipes. Implement a review system, provides a platform for the users to share feedback.

- **Saved Recipes Module**

Allow users to save recipes to their collections or favorites. Provide features for creating and organizing recipe collections.

- User Interface Module

Design a responsive user interface that adapts to different devices and screen sizes for optimal user experience.

- System Administration and Maintenance Module

Create an admin interface for managing system settings, user accounts, and recipe database.

4.2. Testing

Software testing is a crucial part of software development life cycle. Software testing is the process of ensuring that the system or product works as it intend to or say meets the requirement and specification. Mostly testing should be started as early as possible in order to reduce the cost and loss of time. But testing can be done at the end of the implementation before the time of the deployment. A system or an application can never be 100% free from bugs or error. So, testing helps in separating the error with that of the successful outcome so that updating as well as bug fixing can be done at time. In this project, unit testing and system testing has been applied.

4.2.1. Test Cases for Unit Testing

Table 2 User Registration of Chef Mandu

Test ID	Test Description	Test Step	Test Data	Expected Outcome	Actual Outcome	Remarks
TC-UR-01	Testing username validation	Enter invalid username	Username: 123modit	Username should start with alphabet	Username should start with alphabet	Pass
TC-UR-02	Testing password validation	Enter invalid password	Password: 12a	Password should be greater than 4	Password should be greater than 4	Pass
TC-UR-03	Testing email validation	Enter invalid email format	Email: modit@com	Wrong email format	Wrong email format	Pass

TC-UR-04	Testing duplicate data	Enter existing data	Username: modit Email: modit123@gmail.com Password: abcd Repassword: abcd	Username already exists	Username already exists	Pass
TC-UR-05	Testing password fields in form	Leaving re-password blank	Password: Abcde Repassword:	Password doesn't match	Registered Successfully	Fail
TC-UR-05	Supporting steps for TC-UR-05(fail) <ul style="list-style-type: none"> Input fields should be required. Password and Re-password field should be same 					
TC-UR-06	Testing password fields in form	Leaving re-password blank	Password: Abcde Repassword:	Password doesn't match	Password doesn't match	Pass
TC-UR-07	Testing password fields in form	Entering different passwords in password and repassword field	Password: Abcde Repassword: 1234a	Password doesn't match	Password doesn't match	Pass
TC-UR-08	Testing empty fields in form	Leaving some input field empty	Username: sita Email: Password:sita123 Repassword:sita123	Displays validation message respectively above their field	Displays validation message respectively above their field	Pass
TC-UR-09	Testing registration	Enter all valid information	Username: sita Email:sita@gmail.com Password:sita123 Repassword:sita123	Successfully Registered	Successfully Registered	Pass

4.2.2. Test case for Integration Testing (login)

Table 3 User Login of Chef Mandu

Test ID	Test Description	Test Step	Test Data	Expected Outcome	Actual Outcome	Remarks
TC-UL-01	Testing username validation	Enter invalid username	Username: 123modit	Username should start with	Username should start with alphabet	Pass

				alphabet		
TC-UL-02	Testing password validation	Enter invalid password	Password: 12a	Password should be greater than 4	Password should be greater than 4	Pass
TC-UL-03	Testing incorrect data with valid format	Enter valid username and password but different from database	Username: modit Password: 12abcd	Wrong password/username	Wrong password/username	Pass
TC-UL-04	Testing for user and admin login	Enter valid username and password	User: modit Password: modit123	Opens user's page	Opens user's page	Pass
TC-UL-05	Testing for user and admin login	Enter valid username and password	User: adminOne Password: admin	Opens admin's page	Opens admin's page	Pass

4.2.3. Test Cases for System Testing

Table 4 System Testing of Chef Mandu

Test ID	Test Description	Test Step	Test Data	Expected Outcome	Actual Outcome	Remarks
TC-UR-01	Testing username validation	Enter invalid username	Username: 123modit	Username should start with alphabet	Username should start with alphabet	Pass
TC-UR-02	Testing password validation	Enter invalid password	Password: 12a	Password should be greater than 4	Password should be greater than 4	Pass
TC-UR-03	Testing email validation	Enter invalid email format	Email: modit@com	Wrong email format	Wrong email format	Pass
TC-UR-04	Testing duplicate data	Enter existing data	Username: modit Email: modit123@gmail.com Password: abcd Repassword: abcd	Username already exists	Username already exists	Pass

TC-UR-06	Testing password fields in form	Leaving re-password blank	Password: Abcde Repassword:	Password doesn't match	Password doesn't match	Pass
TC-UR-07	Testing password fields in form	Entering different passwords in password and repassword field	Password: Abcde Repassword: 1234a	Password doesn't match	Password doesn't match	Pass
TC-UR-08	Testing empty fields in form	Leaving some input field empty	Username: sita Email: Password:sita123 Repassword:sita123	Displays validation message respectively above their field	Displays validation message respectively above their field	Pass
TC-UR-09	Testing registration	Enter all valid information	Username: sita Email:sita@gmail.com Password:sita123 Repassword:sita123	Successfully Registered	Successfully Registered	Pass

CHAPTER 5: CONCLUSION AND FUTURE RECOMMENDATION

5.2. Conclusion

Many people are looking for ways to simplify their lives and save time in today's fast-paced society. The Recipe Management System tries to accomplish this by offering a centralized platform for recipe and ingredient management. By eliminating the need for users to go through actual cookbooks, or internet bookmarks, the system will make it easier for them to find and follow their favorite recipes. Overall, the Recipe Management System is a modern and relevant technology that has the potential to make life of many cooks easier. We are eager to complete this project and create a solution that is both useful and easy to use.

5.3. Future Recommendation

For the future I would like to include the rating system in our project. Ratings not only help users make informed choices but also help build trust on the platform. By using these features, we can meet the different preferences of our customers. This development is in line with the evolution of the digital platforms space, increasing user engagement and satisfaction, providing us with management guidance as a leader in the field of culinary space.

REFERENCES

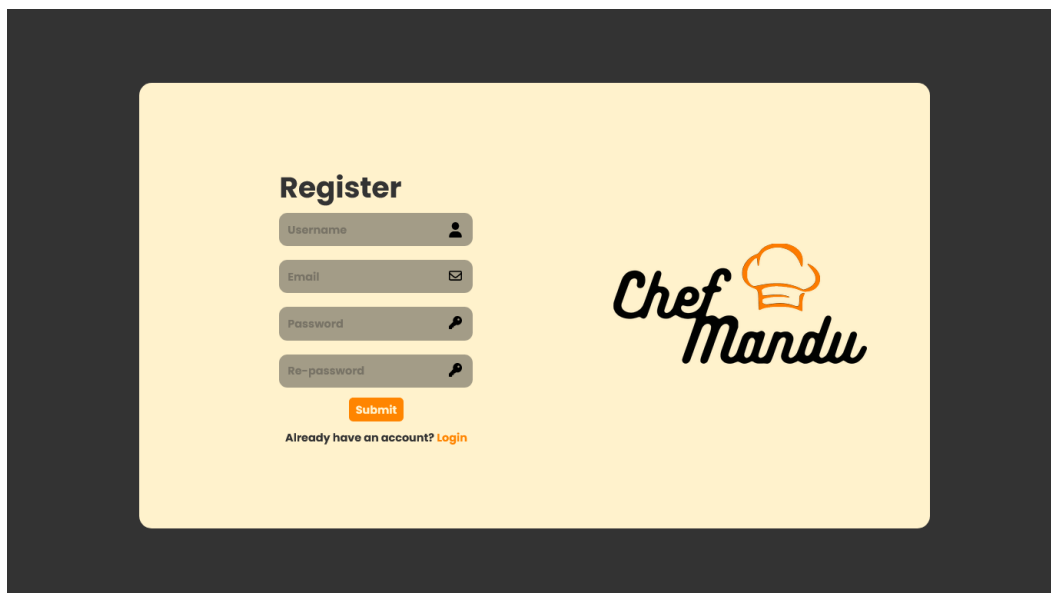
- [1] Deepak, "Cuisine Nepal," 2021. [Online]. Available: <https://cuisinenepal.com/>.
- [2] P.khanal, "theGundruk.com," 2020. [Online]. Available: <https://www.thegundruk.com/>.

APPENDIX



The login page features the Chef Mandu logo on the left, which consists of the text "Chef Mandu" in a black script font with an orange chef's hat icon above the "M". To the right of the logo is a "Log In!" section. It contains two input fields: "Username" with a person icon and "Password" with a key icon. Below these fields is an orange "Submit" button. At the bottom of the login section, there is a link that says "No Account? Register".

Figure 9 Login Page of Chefmandu



The registration page features the Chef Mandu logo on the right, which consists of the text "Chef Mandu" in a black script font with an orange chef's hat icon above the "M". To the left of the logo is a "Register" section. It contains four input fields: "Username" with a person icon, "Email" with an envelope icon, "Password" with a key icon, and "Re-password" with a key icon. Below these fields is an orange "Submit" button. At the bottom of the registration section, there is a link that says "Already have an account? Login".

Figure 10 Registration Page of Chef Mandu

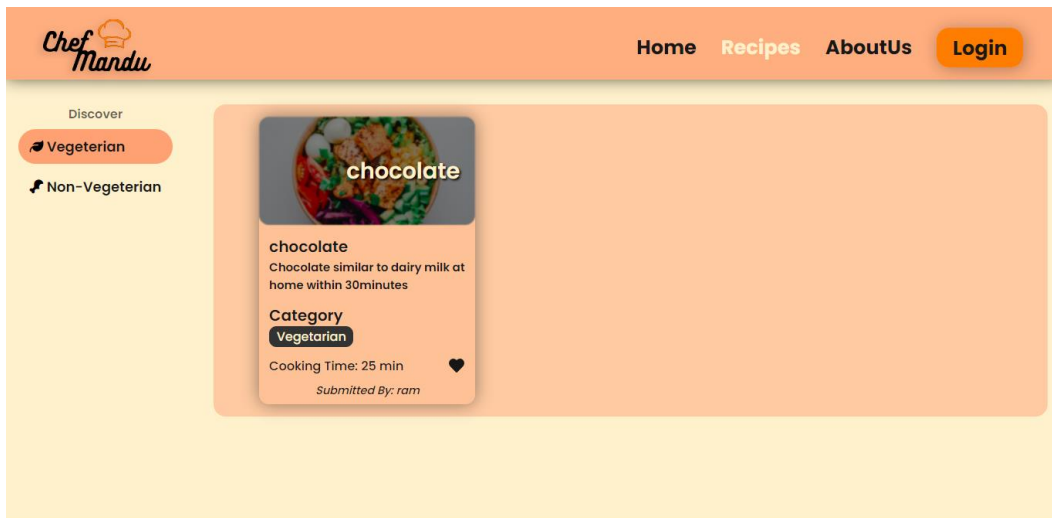


Figure 11 View page of Chef Mandu

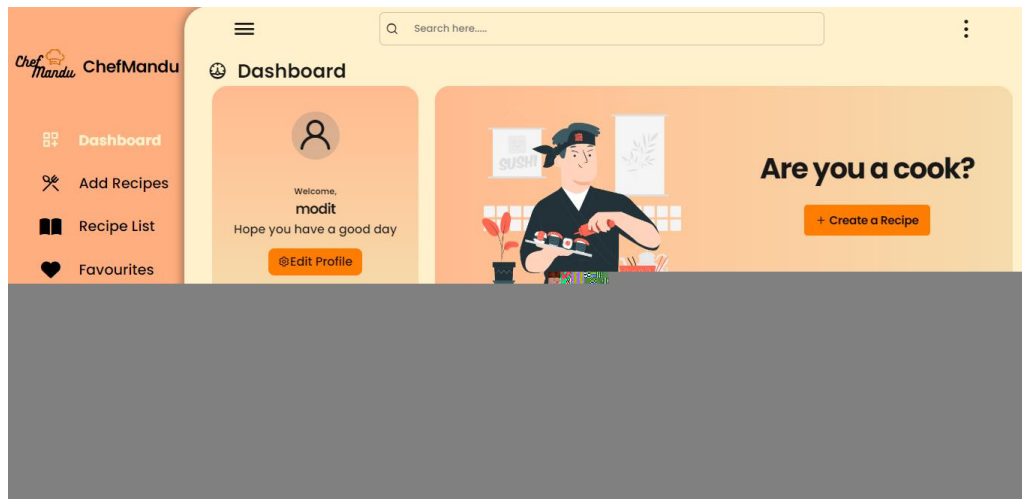


Figure 12 User dashboard of Chef Mandu

Figure 13 Recipe insertion page of Chef Mandu

