Recipe Book Web Application

1. Project Title

Recipe Book – Colorful & Interactive Web Application

2. Domain

Web Application / Lifestyle / Education

3. Technologies Used

- HTML5 – Structure of the application
- CSS3 – Styling, animations, and responsive design
- JavaScript (ES6) – Application logic and interactivity
- Browser Local Storage – Persistent data storage

4. Project Overview

The Recipe Book Web Application is a single-page, client-side web application that allows users to store, manage, and view cooking recipes in an organized and visually appealing manner. Users can add, edit, delete, search, and filter recipes. The application provides a modern UI with animations, modal views, toast notifications, and image upload support.

This project is designed as an internship-level assignment to demonstrate strong frontend development skills, clean coding practices, and usability-focused design.

5. Objectives

- To create a user-friendly recipe management system
- To enable users to store recipes digitally
- To demonstrate advanced HTML, CSS, and JavaScript usage
- To implement persistent storage without a backend
- To build a responsive and visually attractive UI

6. Key Features

- Add new recipes with name, category, ingredients, steps, and image
- Edit existing recipes
- Delete recipes
- Upload images using file picker or drag-and-drop
- Search recipes by name, ingredients, or steps
- Filter recipes by category
- Modal-based detailed recipe view

- Import and export recipes in JSON format
- Toast notifications for user actions
- Celebration confetti animation on save
- Responsive design for desktop and mobile

7. Functional Modules

7.1 Recipe Management Module

- Add Recipe
- Edit Recipe
- Delete Recipe
- View Recipe Details

7.2 Search and Filter Module

- Keyword-based search
- Category-based filtering

7.3 Storage Module

- Uses browser localStorage
- Data stored in JSON format
- Data persists after page refresh

7.4 UI Interaction Module

- Modal dialogs
- Toast notifications
- Animations and transitions

8. Functional Requirements

- System shall allow users to add recipes
- System shall allow users to edit recipes
- System shall allow users to delete recipes
- System shall allow users to search and filter recipes
- System shall store data persistently

9. Non-Functional Requirements

- Easy to use and intuitive interface
- Responsive on different screen sizes
- Safe (no external dependencies or harmful operations)
- Maintainable and modular code
- Portable across browsers

10. System Architecture

The application follows a client-side architecture: - Presentation Layer: HTML & CSS - Logic Layer: JavaScript - Data Layer: Browser Local Storage

No backend server is required, making the application lightweight and easy to deploy.

11. Code Organization

- HTML: Page structure and UI components
- CSS: Layout, colors, animations, and responsiveness
- JavaScript:
- State management
- DOM manipulation
- Event handling
- Data storage handling

12. Data Storage Strategy

- Recipes are stored using `localStorage` under the key `recipes_v2`
- Images are stored as Base64 strings
- Data is retrieved and rendered dynamically

13. Logging and Notifications

- User actions are communicated via toast notifications
- Visual feedback provided for save, delete, and import actions

14. Test Cases

Test Case ID	Description	Expected Result
TC01	Add new recipe	Recipe added successfully
TC02	Edit recipe	Recipe updated successfully
TC03	Delete recipe	Recipe removed
TC04	Search recipe	Matching recipes displayed
TC05	Filter by category	Only selected category shown
TC06	Import JSON	Recipes imported correctly
TC07	Export JSON	JSON file downloaded

15. Optimization Techniques

- Single-page application for fast load time
- Efficient DOM updates
- Reusable UI components
- Minimal external dependencies

16. Deployment

- Can be deployed as a static website
- Runs locally in any modern browser
- Can be hosted on GitHub Pages or any static hosting service

17. GitHub Repository Guidelines

- Public repository
- Proper README file
- Clean commit history
- Well-commented code

18. Future Enhancements

- User authentication
- Cloud database integration
- Recipe sharing feature
- Rating and favorites system

19. Conclusion

The Recipe Book Web Application is a complete, feature-rich frontend project that demonstrates practical knowledge of web technologies. It is suitable for internship submission and highlights the candidate’s ability to design, develop, and document a real-world application.

Developed for Internship Submission