Frontend Development AaWith React. Js

Project documentaion-Cook Book

1.Introduction

- *Project Title: CookBook – Virtual Kitchen Assistant*
- *Team Members:*

  S.Kruthi– code executer

  S. Divya- documentaion

  Divya dharshini- demo video

  Hema latha-demo video

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2. Project Overview

- *Purpose:*

CookBook is a web application that helps users discover, organize, and cook recipes easily. It acts as a virtual kitchen assistant by providing personalized recommendations, step-by-step instructions, and ingredient management.

- *Features:*

Search and filter recipes by ingredients, cuisine, or dietary preferences.

Step-by-step cooking instructions with timers.

Save favorite recipes and create custom collections.

Suggest meals based on ingredients you already have.

Responsive design optimized for desktop, tablet, and mobile.

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3. Architecture

- *Component Structure:*

Header – App logo, search bar, navigation links.

RecipeList – Displays recipe cards fetched from the API.

RecipeDetails – Shows ingredients, steps, and nutrition info.

PantryManager – Manage available ingredients.

Favorites – User's saved recipes.

Timer – Integrated cooking timer component.

Footer – Links and copyright.

- *State Management:*

Used Context API with useReducer for global state.

Maintains authentication status, favorites, pantry items, and theme mode.

- *Routing:*

Implemented with React Router v6.

Routes: / (Home), /recipe/:id, /favorites, /pantry, /about.

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4. Setup Instructions

- *Prerequisites:*

Node.js ≥ 18

Npm Or yarn

Git

- *Installation:*

Github link: https://github.com/24bca33-oss/Cookbook

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5. Folder Structure

- *Client:*

/src

/assets → Images, icons

/components → Reusable UI components (Button, Timer, Card)

/pages → Home, RecipeDetails, Favorites, Pantry

/context → Global state providers

/utils → API helpers, custom hooks

index.js

App.js

- *Utilities:*

useFetch.js – Custom hook for API calls.

formatTime.js – Helper to format timers.

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6. Running the Application

- *Frontend:*

npm start

Runs the app locally on http://localhost:3000.

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7. Component Documentation

- *Key Components:*

RecipeCard: Displays recipe image, title, and cooking time.

SearchBar: Filters recipes dynamically.

StepList: Shows ordered cooking steps with progress tracking.

Reusable Components:

Button, Modal, Spinner, Timer.

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8. State Management

- *Global State:*

Managed with Context API for favorites, pantry, and user settings.

Reducers handle actions like ADD_FAVORITE, REMOVE_FAVORITE, ADD_PANTRY_ITEM.

- *Local State:*

Components use useState for form inputs, search queries, and timers.

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9. User Interface

Demo link:https://drive.google.com/file/d/1RwRlLG-O5nyvbHa2VbXbqL4ISRqenGeI/view?usp=drivesdk

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10. Styling

- *CSS Frameworks/Libraries:*

Tailwind CSS for utility-first styling.

Styled-Components for theme-based styling.

- *Theming:*

Supports light/dark mode with theme context.

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11. Testing

- *Testing Strategy:*

Unit tests for components using React Testing Library and Jest.

Integration tests for routing and state flow.

End-to-end tests with Cypress for recipe search and saving.

- *Code Coverage:*

Jest coverage reports ensure ≥80% test coverage.

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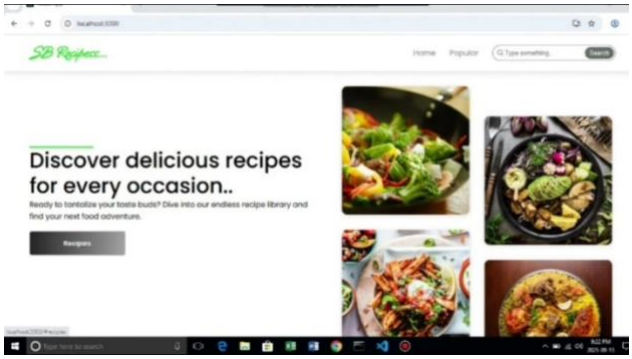
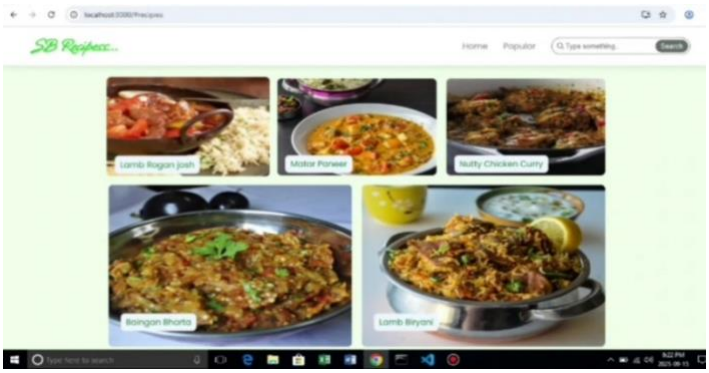
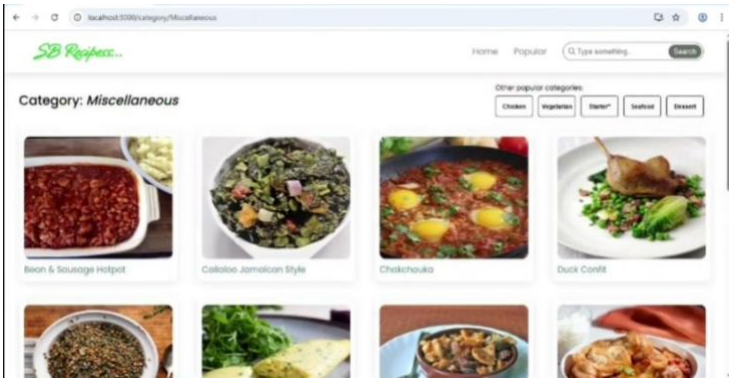
12. Screenshots or Demo







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13. Known Issues

Slow loading for very large recipe images on low-end devices.

Timer notification sound may not play on Safari due to autoplay restrictions.

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14. Future Enhancements

Add voice guidance for hands-free cooking.

Allow users to upload their own recipes.

Integration with smart kitchen devices.

Offline mode for saved recipes.