# Frontend Development with React.js

## Project Documentation

## 1. Introduction

Project Title: CookBook: Your Virtual Kitchen Assistant

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## 2. Project Overview

Purpose: The project aims to provide users with a virtual kitchen assistant that helps in exploring, organizing, and managing cooking recipes efficiently.

Features: Key features include recipe search, ingredient management, step-by-step cooking guidance, and personalized recommendations.

## 3. Architecture

Component Structure: React components are used to build recipe cards, search bar, navigation, and user dashboard.

State Management: State is managed using Context API for global state management.

Routing: React Router is used to navigate between different pages like Home, Recipes, and Profile.

## 4. Setup Instructions

Prerequisites: Node.js must be installed.

Installation: Clone the repository, extract files, open in VS Code, run 'npm install' and then 'npm start'.

## 5. Folder Structure

Client: The project contains folders like components, pages, and assets.

Utilities: Custom hooks and helper functions are included.

## 6. Running the Application

Frontend: Use 'npm start' in the client directory to start the local server.

## 7. Component Documentation

Key Components: Recipe cards, search bar, navigation menu.

Reusable Components: Buttons, input fields, and modal popups.

## 8. State Management

Global State: Managed with Context API for user authentication and recipe data.

Local State: Managed within components for form handling and UI state.

## 9. User Interface

UI includes responsive design with recipe browsing, ingredient details, and step-by-step cooking guidance.

## 10. Styling

CSS Frameworks/Libraries: Styled-components for modular CSS-in-JS.

Theming: Supports light and dark mode.

## 11. Testing

Testing Strategy: Jest and React Testing Library are used for unit and integration testing.

Code Coverage: Ensured using Jest coverage reports.

## 12. Screenshots or Demo

Screenshots and demo video links are included in the project resources.

## 13. Known Issues

Some recipes may not load correctly due to API rate limits.

## 14. Future Enhancements

Planned features include AI-powered recipe recommendations, shopping list generator, and integration with smart kitchen devices.