**Project Document**

**Rhythmic Tunes: Cookbook Your Virtual Kitchen Assistan**

1. **Introduction**

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**2. Project Overview**

Cookbook is a virtual kitchen assistant built with React.js that helps users discover recipes, manage ingredients, and plan meals efficiently. The app provides step-by-step cooking guidance, personalized recommendations, and a smooth user interface.

**3. Architecture**

* Frontend: React.js, React Router, Context API/Redux (for state management)

* Backend (Optional): Node.js/Express (for API & authentication)
* Database (Optional): MongoDB / Firebase
* Styling: Tailwind CSS / CSS Modules / Styled Components
* API Integration: Recipe API (e.g., Spoonacular) for fetching recipes

**4. Setup Instructio**

* Clone the repository

git clone https://github.com/username/cookbook.git

cd cookbook

* Install dependencies

npm install

* Run development server

npm start

* Build for production

npm run build

**5. Folder Structure**

cookbook/

│── public/ # Static files

│── src/

│ ├── assets/ # Images, icons

│ ├── components/ # Reusable UI components

│ ├── pages/ # Application pages (Home, Recipes, Favorites, etc.)

│ ├── context/ # Context API files

│ ├── hooks/ # Custom React hooks

│ ├── services/ # API calls

│ ├── styles/ # Global styles / Tailwind config

│ ├── App.js # Main application file

│ └── index.js # Entry point

│── package.json

│── README.md

**6. Running the Application**

Development: npm start

Production: npm run build && npm run serve

**7. Component Documentation**

* Header.js – Navigation bar with links (Home, Recipes, Favorites, Profile).
* RecipeCard.js – Displays recipe details (image, title, ingredients).
* SearchBar.js – Allows users to search recipes by keyword.
* RecipeDetails.js – Shows cooking steps and ingredient list.
* Favorites.js – Saves favorite recipes.

**8. State Management**

Context API / Redux used for:

User authentication

Favorites list

Shopping list

Recipe search results

**9. User Interface**

Clean, minimal UI with easy navigation

Responsive layout (mobile-first design)

Icons & illustrations for better cooking experience

**10. Styling**

Tailwind CSS for utility-first styling

Consistent theme with light/dark mode

Reusable button & card styles

**12. Testing**

Jest + React Testing Library for unit and integration tests

Test coverage:

Components render correctly

API calls work as expected

State updates properly

**13. Screenshots / Demo**

https://drive.google.com/file/d/1wjXooXeMVWuVWJZPnIsTLUObU3fekCAc/view?usp=sharin

**14. Known Issues**

Some recipes may not load due to API rate limits

Offline mode not yet supported

**15. Future Enhancements**

Add voice assistant for hands-free cooking

Meal planner with weekly schedule

AI-powered ingredient-based recipe suggestions

Multi-language support