Cookbook Virtual Kitchen Assistant

1. Introduction:

Project Title: Cookbook Virtual Kitchen Assistant

Team members:

Fronted Developer-Srisathya R

UI/UX Designer-Vithya D, Poornima T

React Developer- Uma A.R

Project Manager-Priya V

2. Project Overview:

Purpose:

The Virtual Kitchen Assistant is an interactive web application designed to help users discover, manage, and cook recipes efficiently. It includes features like voice assistance, personalized recipe recommendations, and smart pantry management.

Features:

Recipe Search And Filtering

Step-By-Step Cooking Instuction

Virtual Pantry With Ingredient Tracking

Meal Planning And Scheduling

Voice Command Support For Hands-Free Cooking

3.Architecture:

Component Structure:

App: Root Component

Navbar: Navigation And Links

RecipeList: Displays a list of recipe cards

RecipeDetail: Detailed view of a selected recipe

Pantry: Shows Available ingredients

Planner: Meal planning interface

Voice Assistant: Voice Command Interface

State Management:

Using Context API for global state (e.g., user session, pantry items) and useState for local component states.

Routing:

Handled with React Router v6, routes include:

/:Home

/recipes:All recipes

/recipes/:id:Single recipe detail

/pantry :pantry manager

/planner:meal planner

4. Setup Instructions:

Prerequisites:

Node.jsv16+

Npm or yarn

git

Installation:

1. Clone the repo:

git clone https://github.com/yourusername/cookbook-virtual-kitchen.git

2. Navigate to client directory:

cd cookbook-virtual-kitchen/client

3. Install dependencies:

npm install

4. Create .env file for environment variables:

REACT_APP_API_URL=https://api.yourbackend.com

5. Folder Structure

cookbook-app/

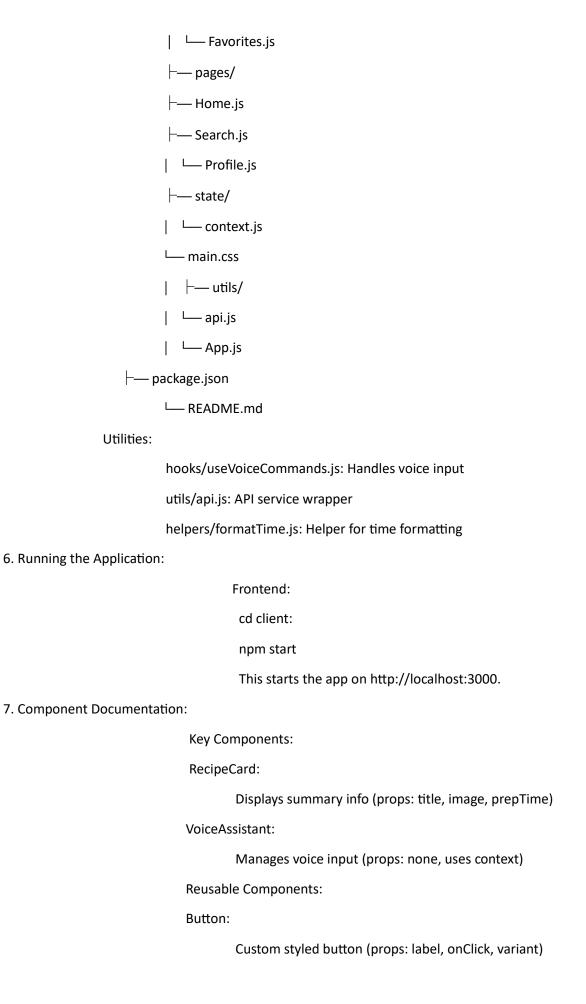
├— public/

├— src/

— components/

├— RecipeCard.js

├— SearchBar.js



Modal:

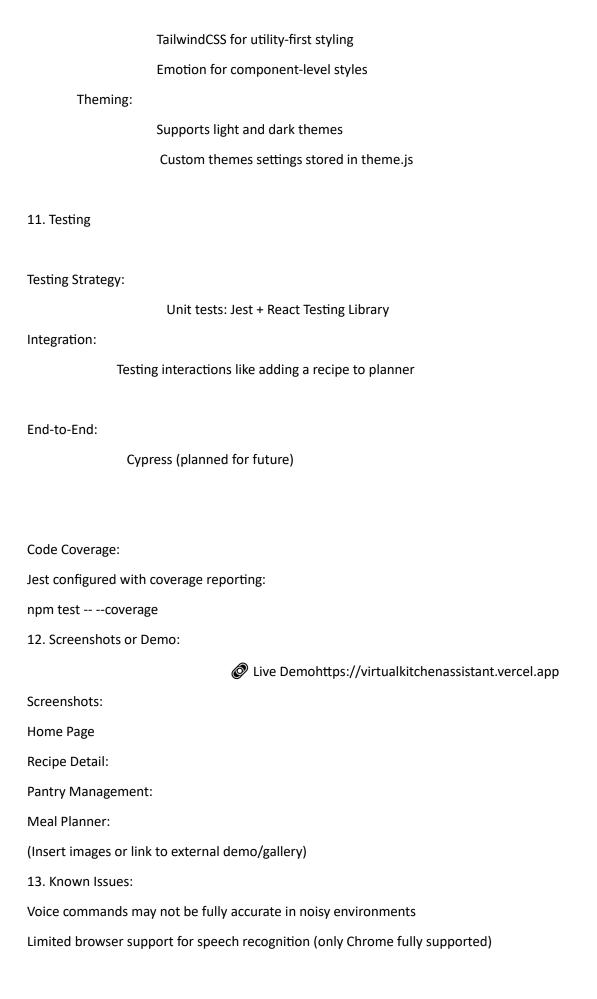
Pantry items:

Here's a classic Chicken Biryani recipe that balances rich flavor, aroma, and spice. You can adapt it for mutton, beef, or vegetables as well.

Chicken Biryani Recipe
Prep Time: 30 mins
Cook Time: 45 mins
1●I Serves: 4–5
2 Ingredients
For Marination:
500g chicken (bone-in, cut into medium pieces)
1 cup yogurt
1 tbsp ginger-garlic paste
1 tsp red chili powder
½ tsp turmeric powder
1 tsp garam masala
Salt to taste
Juice of ½ lemon
Fresh chopped coriander & mint leaves (a handful each)
For Rice:
2 cups basmati rice (soaked 30 mins)
1 bay leaf
4–5 cloves
2–3 cardamom pods
1-inch cinnamon stick
Salt to taste
For Biryani:
2 large onions (thinly sliced)

2 tomatoes (chopped)
1 tsp cumin seeds
2 green chilies (slit)
1 tsp biryani masala (optional)
¼ cup oil or ghee
Saffron strands soaked in 2 tbsp warm milk (or use a pinch of food color)
Fried onions (for garnish)
Mint and coriander leaves
New Instructions:
1. Marinate the Chicken:
Mix all marination ingredients in a bowl.
Add chicken and coat well.
Cover and marinate for at least 1 hour (overnight is best).
2. Cook the Rice:
Boil water in a large pot.
Add whole spices and salt.
Add soaked rice and cook until 70% cooked (grains should still be firm).
Drain and set aside.
3. Prepare the Biryani Masala:
Heat oil/ghee in a deep pan.
Fry onions until golden brown. Remove half for garnish.
In the same pan, add cumin seeds, green chilies, and chopped tomatoes.
Cook until tomatoes are soft.
Add marinated chicken. Cook covered on medium heat for $10-15$ mins until the chicken is cooked and oil separates.
4. Layer the Biryani:

Lower the heat.			
Layer half of the p	partially cooked rice over the chicken.		
Sprinkle some mint, coriander, fried onions, and saffron milk.			
Repeat with rema	nining rice and toppings.		
5. Dum (Steam) C	ooking:		
Cover tightly with	a lid or seal with dough.		
Cook on low heat	for 20–25 minutes.		
Alternatively, plac	ce a heavy object on the lid and cook on a griddle (tawa) to prevent burning.		
10) C			
Serve:			
Gently mix before			
	ita, salad, or boiled eggs.		
8. State Managen			
	Global State:		
	Context API Handle:		
	Auth state:		
	Pantry items:		
	Current voice command:		
	Local State:		
0.11	Handled via useState for form inputs, search filters, modal visibility		
9. User Interface:			
	Screenshots (replace with your actual images or include links):		
	Home page with top recipes		
	Detailed recipe view		
	Pantry management interface		
	Meal planner calendar		
	Voice command interface		
40.60.11	(Add screenshots or GIFs here)		
10. Styling:			
	CSS Frameworks/Libraries:		



Pantry items not syncing in real-time

14. Future Enhancements:

Al-based recipe suggestions based on pantry contents
Integration w

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5. Folder Structure

client/

├— assets/ # Images, icons, etc.

├— components/ # Reusable UI components

├— pages/ # Page-level components

├— hooks/ # Custom React hooks

├— context/ # Global state providers

├— styles/ # Global styles and themes

├— App.js

├— index.js

Utilities:

hooks/useVoiceCommands.js: Handles voice input

utils/api.js: API service wrapper

helpers/formatTime.js: Helper for time formatting

6. Running the Application
Frontend:
cd client
npm start
This starts the app on http://localhost:3000.
7. Component Documentation
Key Components:
RecipeCard: Displays summary info (props: title, image, prepTime)
VoiceAssistant: Manages voice input (props: none, uses context)
Reusable Components:
Button: Custom styled button (props: label, onClick, variant)
Modal: Popup for recipe steps or pantry items

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Screenshots (replace with your actual images or include links):
Home page with top recipes
Paga min tok ranka

Detailed recipe view
Pantry management interface
Meal planner calendar
Voice command interface
(Add screenshots or GIFs here)
10. Styling
CSS Frameworks/Libraries:
TailwindCSS for utility-first styling
Emotion for component-level styles
Theming:
Supports light and dark themes
Custom theme settings stored in theme.js

11. Testing
Testing Strategy:
Unit tests: Jest + React Testing Library
Integration: Testing interactions like adding a recipe to planner
End-to-End: Cypress (planned for future)
Code Coverage:
Jest configured with coverage reporting:
npm testcoverage
12. Screenshots or Demo
Demo: https://virtualkitchenassistant.vercel.app
Screenshots:

Home Page
Recipe Detail
Pantry Management
Meal Planner
(Insert images or link to external demo/gallery)
13. Known Issues
Voice commands may not be fully accurate in noisy environments
Limited browser support for speech recognition (only Chrome fully supported)
Pantry items not syncing in real-time
14. Future Enhancements
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Integration w