COOKBOOK

Your Virtual kitchen assistant

(React Application)

A fusion of flavors and recipes, perfect for a dynamic cooking experience.

DR,MGR JANAKI COLLEGE OF ARTS AND SCIENCE FOR WOMEN

(B.Sc., Computer Science-Final Year)

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2. Project Overview

Purpose:

A fusion of flavors and creativity, perfect for a delightful culinary journey with CookBook: Your Virtual Kitchen Assistant.

The primary purpose of the **CookBook: Your Virtual Kitchen Assistant** is to provide an interactive and user-friendly platform for food enthusiasts to explore, share, and discover recipes online. This React-based web application serves as a virtual kitchen assistant that simplifies the cooking journey by offering a seamless recipe browsing experience.

Goals:

- To create an intuitive interface for users to browse a wide range of recipes based on categories.
- To allow users to search and view detailed recipes with ingredients and preparation instructions.
- To provide a visually appealing design that enhances user experience.
- To categorize recipes into different meal types such as Breakfast, Lunch, Dinner, Desserts, and Beverages.
- To offer responsive design compatibility for both desktop and mobile devices.
- To make the platform user-friendly, lightweight, and easy to navigate.
- To establish the foundation for future enhancements like user authentication, recipe uploading, and saving favorite recipes.

Features:

- **Home Page:** Welcoming interface with an overview of popular recipes and categories.
- **Recipe Page:** Detailed view of recipes with images, ingredients, and step-by-step instructions.
- **Categories Page:** Organized recipe categories for quick browsing.
- **Search Functionality:** Quick search to find recipes by name or ingredients.
- **Responsive Design:** Fully optimized for desktop, tablet, and mobile devices.
- **Navigation Bar:** Seamless navigation between pages.

- **About Page:** Information about the platform and its purpose.
- **Contact Page:** Easy-to-access form for user inquiries or feedback.

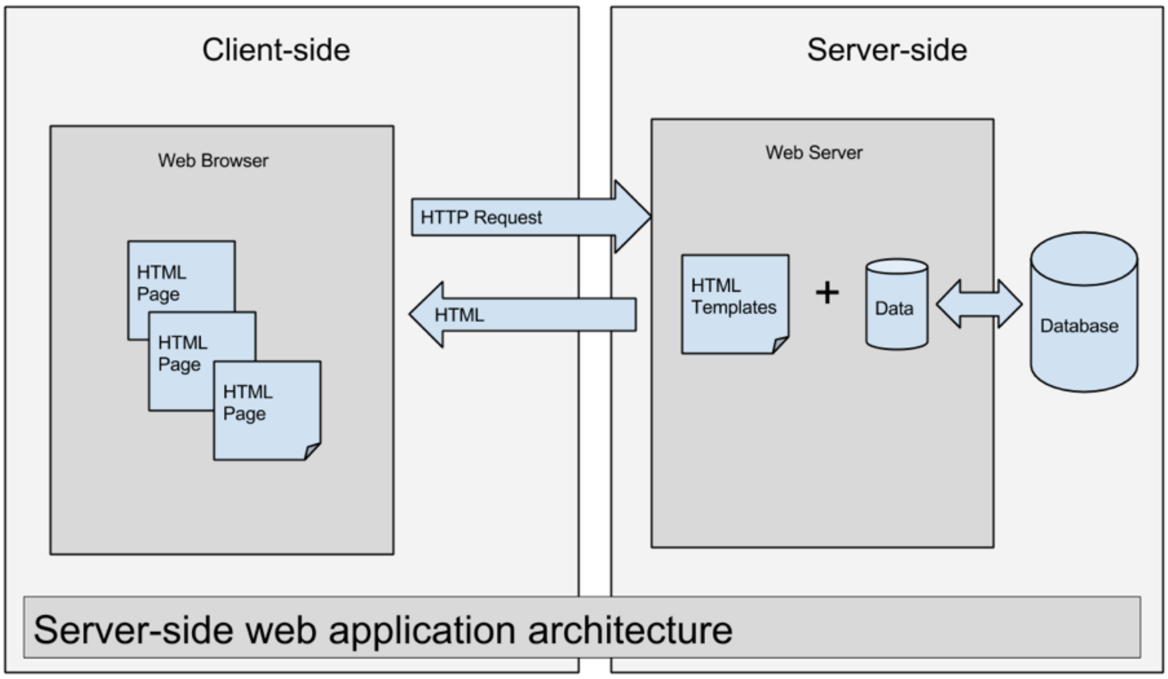
3. Architecture

Component Structure:

The **CookBook** application follows a modular component-based architecture in React, ensuring scalability and reusability. The key components and their interactions are outlined below:

- **App Component:** The root component that manages routing and serves as the main container.
- **Navbar Component:** Handles navigation across all pages.
- **Home Component:** Displays featured recipes and categories.
- **RecipeList Component:** Renders a list of recipes based on selected categories or search queries.
- **RecipeCard Component:** Shows individual recipe details with image, title, and a link to the full recipe.
- **CategoryCard Component:** Represents different recipe categories with images.
- **About Component:** Provides information about the platform.
- **Contact Component:** Displays the contact form.
- **Footer Component:** Contains website footer information.

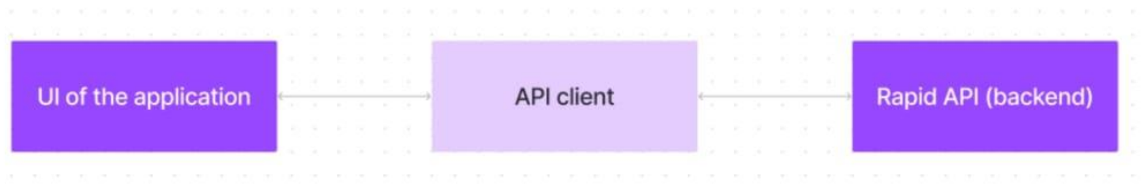
The components are organized in a hierarchical structure, ensuring smooth data flow and user experience.



State Management:

The **CookBook** application uses **React's built-in useState and useEffect hooks** for state management. The state is primarily managed at the component level to handle user interactions, dynamic content rendering, and data fetching.

- **useState:** Manages component-level state like search input, selected categories, and form data.
- **useEffect:** Handles side effects like fetching recipe data and updating components based on user actions.
- **Props Drilling:** Data is passed between parent and child components using props to ensure consistent information flow.

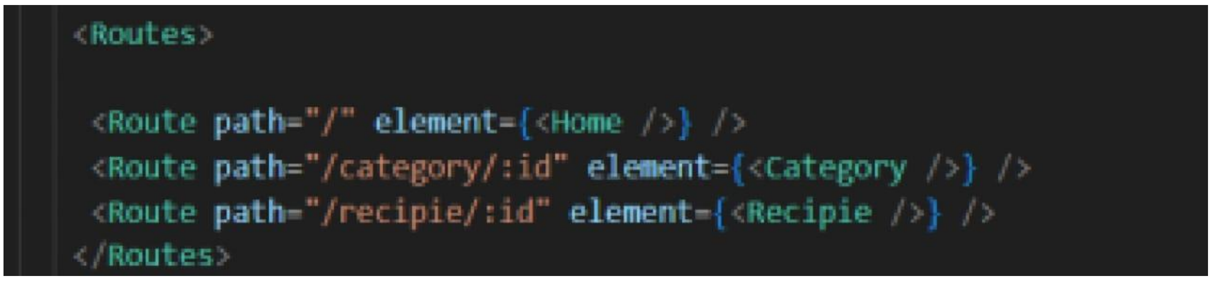


Routing:

The **CookBook** application uses **React Router** to manage client-side navigation between different pages. The routing structure ensures seamless transitions and a dynamic browsing experience.

- **BrowserRouter:** Wraps the entire application to enable routing.
- **Routes Component:** Defines all application routes.
- **Route Component:** Maps different URLs to their respective components such as Home, Recipes, Categories, About, and Contact.

- **useNavigate Hook:** Allows programmatic navigation between pages.
- **NavLink Component:** Used for navigation links with active link highlighting.



```
<Routes>

  <Route path="/" element={<Home />} />
  <Route path="/category/:id" element={<Category />} />
  <Route path="/recipie/:id" element={<Recipie />} />
</Routes>
```

4. Setup Instructions

Prerequisites:

Before setting up the **CookBook** application, ensure that the following software dependencies are installed on your system:

- **Node.js (v14 or later):** Required for running the development server and managing dependencies.
- **npm (Node Package Manager):** Comes bundled with Node.js to install project dependencies.
- **Git:** For cloning the project repository.
- **Code Editor:** Recommended **Visual Studio Code** for a better development experience.
- **Browser:** Google Chrome or any modern browser to test the application.

Installation:

Follow these steps to set up the **CookBook** application:

1. **Clone the Repository:**
2. git clone https://github.com/username/cookbook.git

cd cookbook

3. **Install Dependencies:**

npm install

4. **Configure Environment Variables:** Create a .env file in the project root directory and add the following environment variables:
5. REACT_APP_API_URL=https://api.example.com

REACT_APP_SITE_NAME=CookBook

6. **Run the Development Server:**

npm run dev

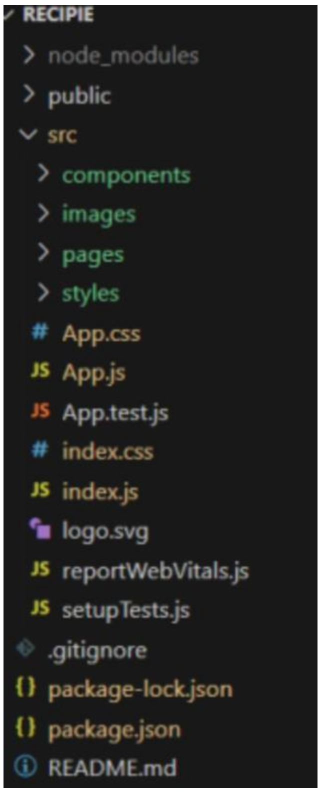
7. **Access the Application:** Open your browser and navigate to http://localhost:3000 to view the application.

5. Folder Structure

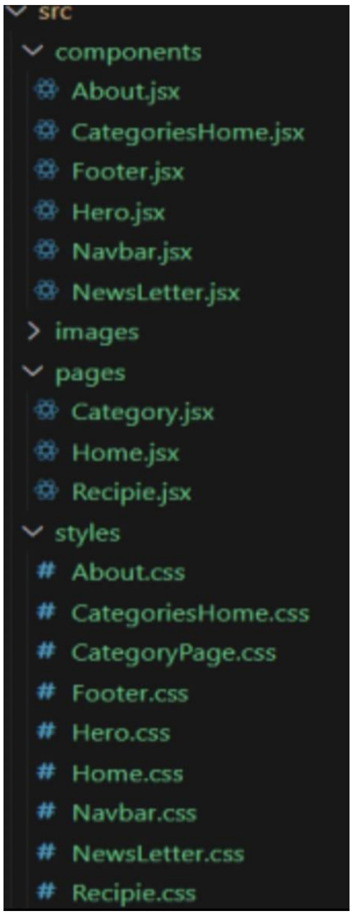
Client:

The **CookBook** application's React project is organized into the following folder structure to maintain clarity and separation of concerns:

- **src/**: Main source code folder containing all application files.
  - **components/**: Reusable UI components like Navbar, Footer, and Cards.
  - **pages/**: Page components such as Home, Recipes, Categories, About, and Contact.
  - **assets/**: Static assets like images, icons, and CSS files.
  - **hooks/**: Custom hooks to handle reusable logic.
  - **utils/**: Utility functions used throughout the application.
  - **App.jsx:** Main application component.
  - **main.jsx:** Application entry point.
  - **router.jsx:** Defines application routes.



```
RECIPIE
  > node_modules
  > public
  v src
    > components
    > images
    > pages
    > styles
    # App.css
    JS App.js
    JS App.test.js
    # index.css
    JS index.js
    logo.svg
    JS reportWebVitals.js
    JS setupTests.js
  .gitignore
  {} package-lock.json
  {} package.json
  README.md
```



```
src
  components
    About.jsx
    CategoriesHome.jsx
    Footer.jsx
    Hero.jsx
    Navbar.jsx
    NewsLetter.jsx
  images
  pages
    Category.jsx
    Home.jsx
    Recipie.jsx
  styles
    About.css
    CategoriesHome.css
    CategoryPage.css
    Footer.css
    Hero.css
    Home.css
    Navbar.css
    NewsLetter.css
    Recipie.css
```

Utilities:

The **CookBook** application utilizes custom hooks and utility functions to streamline reusable logic across components.

- **Custom Hooks:**
  - useFetchRecipes: Custom hook to fetch recipe data from an API.
  - useWindowWidth: Hook to get the current window width for responsive components.
- **Utility Functions:**
  - formatDate(date): Formats date strings into a readable format.
  - filterRecipes(recipes, query): Filters recipe list based on search queries.
  - capitalizeFirstLetter(string): Capitalizes the first letter of a string.

6. Running the Application

To run the application locally, follow these steps:

- **Frontend**
  Navigate to the project directory where your React application is located.

Use the following commands:

bash

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```
# Go to the project folder
cd cookbook

# Install dependencies
npm install

# Start the frontend server
npm run dev
```

7. Component Documentation

This section describes the **key components** of **CookBook: Your Virtual Kitchen Assistant** built with React, their **purpose**, and the **props** they receive.

1. Navbar.jsx

- **Purpose:** Displays the navigation bar with links to different pages.
- **Props:**
  - title (optional) – Title of the website (default: **CookBook**)

---

2. Home.jsx

- **Purpose:** Serves as the homepage with a welcome message and featured recipes.
- **Props:**
  - None

---

3. Recipes.jsx

- **Purpose:** Displays the list of recipes with images, descriptions, and links.
- **Props:**
  - recipes – Array of recipe objects with properties like title, image, and description.

---

4. Categories.jsx

- **Purpose:** Showcases different recipe categories (e.g., Breakfast, Lunch, Dessert).
- **Props:**
  - categories – Array of category objects with properties like name, image, and id.

---

5. About.jsx

- **Purpose:** Provides information about the website and its purpose.
- **Props:**
  - None

---

6. Contact.jsx

- **Purpose:** Displays the contact form with fields like name, email, and message.
- **Props:**
  - None

---

7. Footer.jsx

- **Purpose:** Displays the website's footer with social media links and copyright information.
- **Props:**
  - year – Current year (dynamic)

Reusable Components

This section lists the **Reusable Components** used in **CookBook: Your Virtual Kitchen Assistant** with a simple explanation.

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1. Button.jsx

- **Purpose:** Used for clickable buttons.
- **Props:**
  - text – Button text.
  - onClick – Action when clicked.

Example Usage:

jsx

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```jsx
<Button text="Explore Recipes" onClick={handleClick} />
```

---

2. Card.jsx

- **Purpose:** Displays recipes or categories with image and title.
- **Props:**
  - title – Card title.
  - image – Image URL.

Example Usage:

jsx

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```jsx
<Card title="Pasta" image="/images/pasta.jpg" />
```

---

3. Input.jsx

- **Purpose:** Used for input fields in forms.
- **Props:**
  - type – Text or Email.
  - placeholder – Placeholder text.

Example Usage:

jsx

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```jsx
<Input type="text" placeholder="Enter Name" />
```

---

4. Loader.jsx

- **Purpose:** Shows loading spinner.
- **Props:**
  - None

Example Usage:

jsx

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{loading ? <Loader /> : <Recipes />}

8. State Management

This section explains how **state management** is handled in **CookBook: Your Virtual Kitchen Assistant**.

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1. Global State

- **Purpose:** Stores data that needs to be shared across multiple components.
- **Implementation:** Managed using **React Context API**.
- **Example Usage:** Global state like selected categories or user login status is stored in the App.jsx component and passed down using **props**.

Example:

jsx

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```
const [selectedCategory, setSelectedCategory] = useState("All");

<CategoryItem name="Desserts" onClick={() => setSelectedCategory("Desserts")} />
```

---

2. Local State

- **Purpose:** Stores data that is only needed within a single component.
- **Implementation:** Managed using the **useState** hook.

Example: In the **Contact.jsx** component, local state is used to handle form inputs:

jsx

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```
const [name, setName] = useState("");

<Input type="text" placeholder="Enter Name" value={name} onChange={(e) =>
setName(e.target.value)} />
```

9. User Interface

This section showcases the **User Interface** of **CookBook: Your Virtual Kitchen Assistant** with a description of its key features.

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1. Homepage

- Welcome message with a brief introduction.
- Button to explore recipes.

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2. Recipes Page

- Grid layout displaying recipe cards.
- Each card contains:
  - Recipe Image
  - Title
  - Short Description

---

3. Categories Page

- Display different recipe categories like:
  - Breakfast
  - Lunch
  - Desserts
- Clickable cards to filter recipes by category.

---

4. About Page

- Short description of the website.
- Purpose of the project.

---

5. Contact Page

- Simple form with:
  - Name
  - Email
  - Message
- Submit button to send user queries.

---

6. Footer

- Social media links.
- Copyright information.

10. Styling

This section explains the **styling techniques** used in **CookBook: Your Virtual Kitchen Assistant**.

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1. CSS Frameworks/Libraries

- **Framework Used: Tailwind CSS**
- Purpose: For quick and responsive design.
- Usage: Applied for layout, colors, and spacing.

Example Usage:

jsx

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```
<div className="bg-orange-200 text-center p-4">
  Welcome to CookBook!
</div>
```

---

2. Theming

- Custom design system with consistent:
  - Colors: Orange and White
  - Fonts: Sans-serif
  - Buttons with rounded corners

---

3. Responsive Design

- Mobile-friendly layout using **Tailwind CSS**'s built-in breakpoints.
- Example:

jsx

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```
<div className="grid grid-cols-1 md:grid-cols-3 gap-4">
  {/* Cards */}
</div>
```

11. Testing

This section describes the **testing approach** used in **CookBook: Your Virtual Kitchen Assistant**.

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1. Testing Strategy

Currently, the project follows **manual testing** to check the functionality of each component.

Testing Approach:

- Unit Testing: Testing individual components like **Button** and **Card** to ensure they render correctly.
- Integration Testing: Checking if pages like **Recipes** and **Categories** display the correct content based on data.
- User Interface Testing: Manually verifying forms, navigation, and responsiveness across devices.

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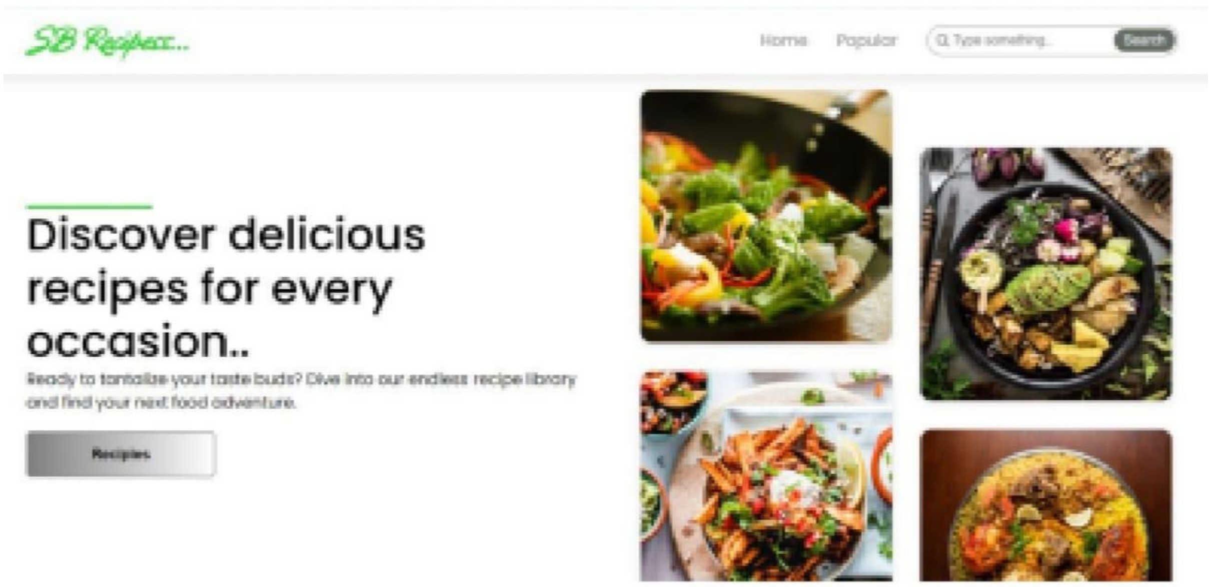
2. Code Coverage

- No automated test coverage tools are used in this project.
- Testing is done by:
    - Manually checking component rendering.
    - Verifying functionality like button clicks and form submissions.

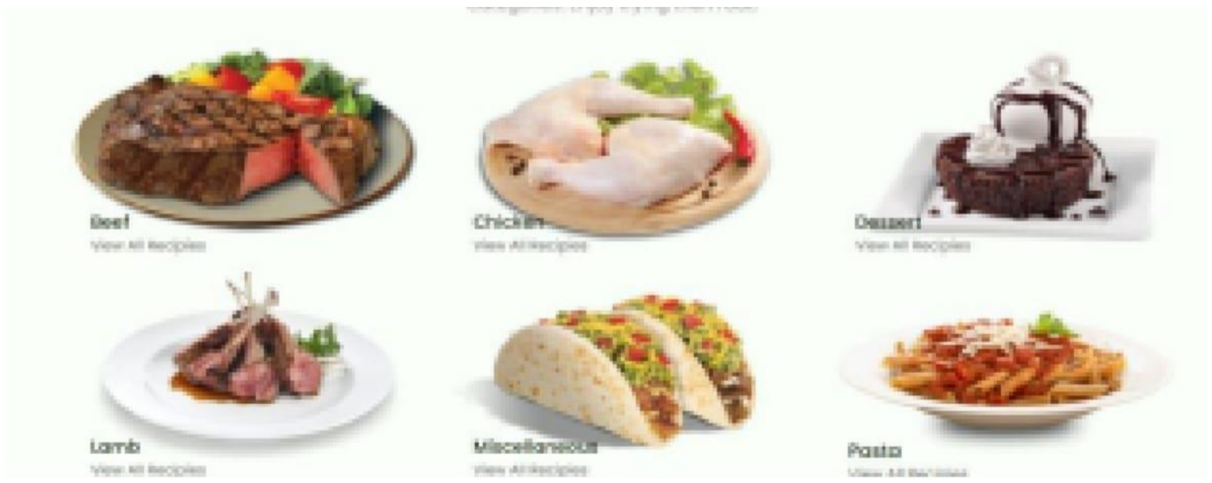
12. **Screenshots**



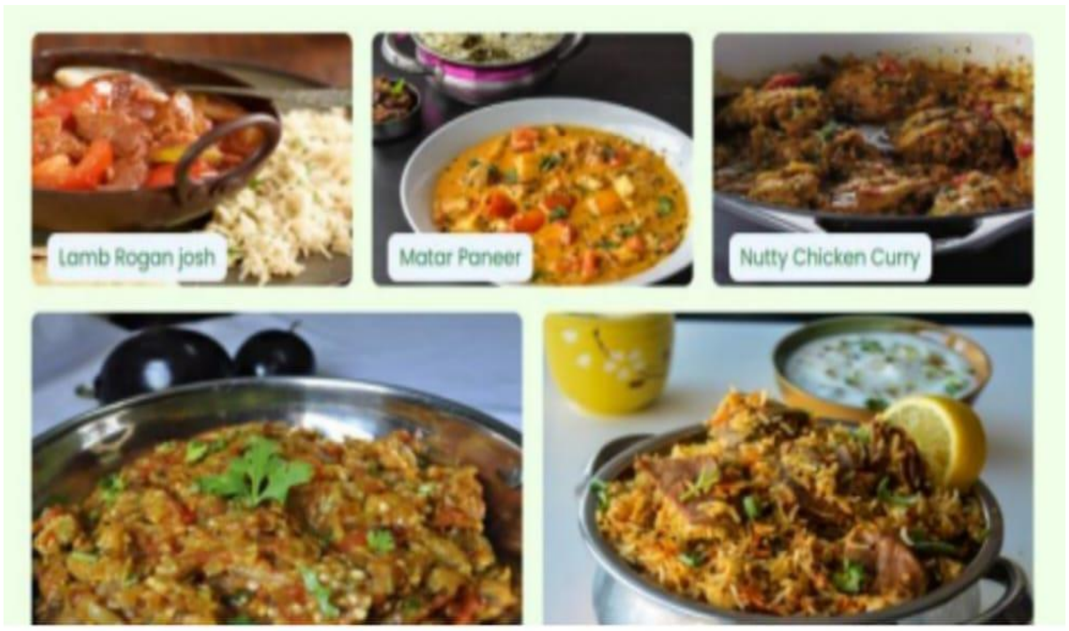
Discover delicious recipes for every occasion..

Ready to tantalize your taste buds? Dive into our endless recipe library and find your next food adventure.

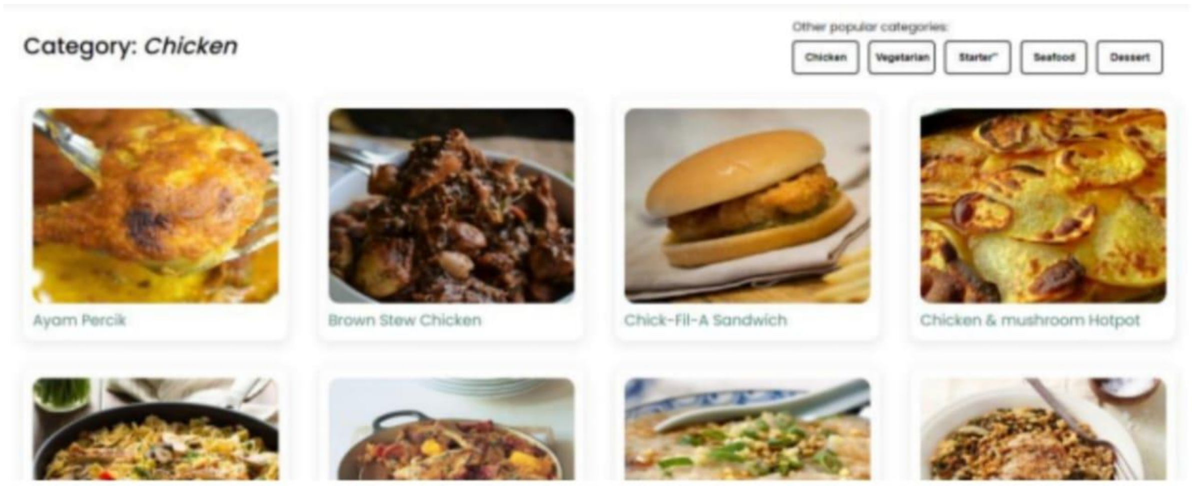
Popular Categories:



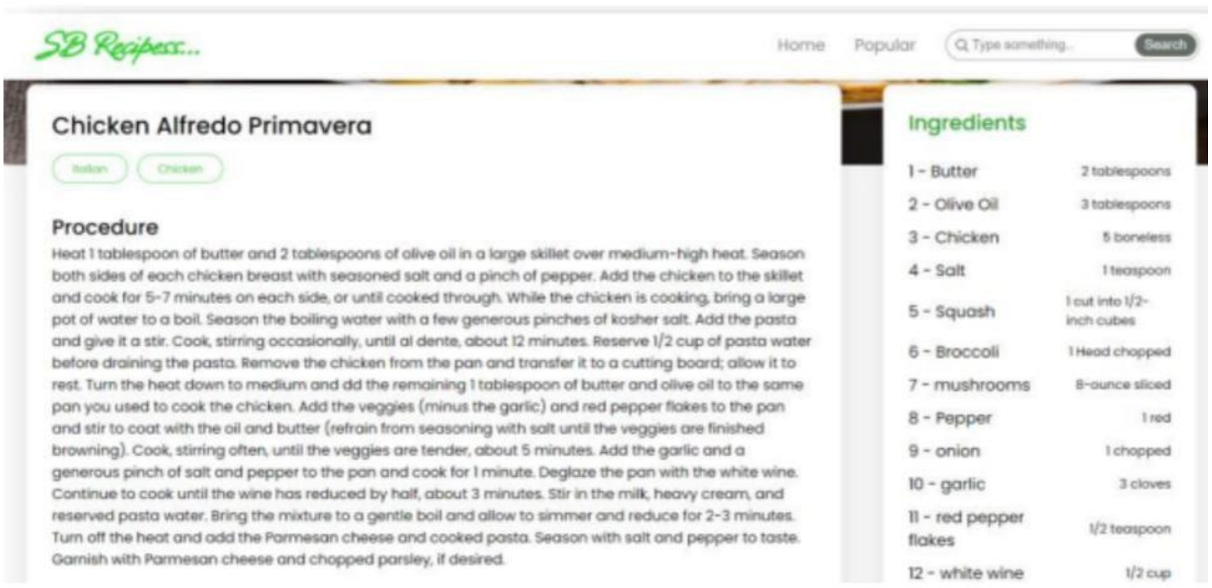
Trending Dishes:



Categories Dishes Page:



Recipe Page:



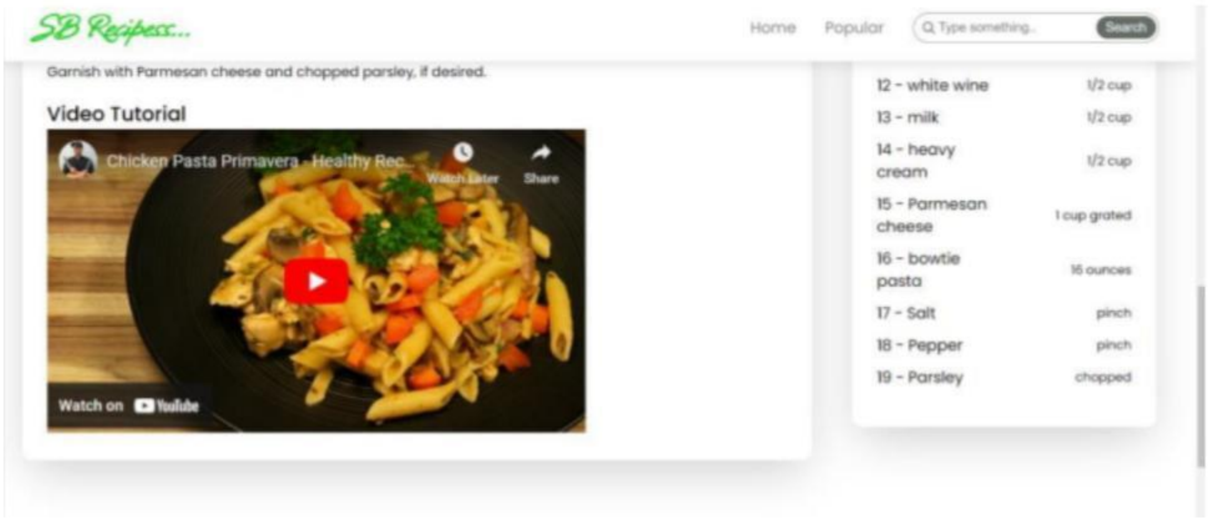
Chicken Alfredo Primavera

Procedure

Heat 1 tablespoon of butter and 2 tablespoons of olive oil in a large skillet over medium-high heat. Season both sides of each chicken breast with seasoned salt and a pinch of pepper. Add the chicken to the skillet and cook for 5-7 minutes on each side, or until cooked through. While the chicken is cooking, bring a large pot of water to a boil. Season the boiling water with a few generous pinches of kosher salt. Add the pasta and give it a stir. Cook, stirring occasionally, until al dente, about 12 minutes. Reserve 1/2 cup of pasta water before draining the pasta. Remove the chicken from the pan and transfer it to a cutting board; allow it to rest. Turn the heat down to medium and dd the remaining 1 tablespoon of butter and olive oil to the same pan you used to cook the chicken. Add the veggies (minus the garlic) and red pepper flakes to the pan and stir to coat with the oil and butter (refrain from seasoning with salt until the veggies are finished browning). Cook, stirring often, until the veggies are tender, about 5 minutes. Add the garlic and a generous pinch of salt and pepper to the pan and cook for 1 minute. Deglaze the pan with the white wine. Continue to cook until the wine has reduced by half, about 3 minutes. Stir in the milk, heavy cream, and reserved pasta water. Bring the mixture to a gentle boil and allow to simmer and reduce for 2-3 minutes. Turn off the heat and add the Parmesan cheese and cooked pasta. Season with salt and pepper to taste. Garnish with Parmesan cheese and chopped parsley, if desired.

Ingredients

1 - Butter	2 tablespoons
2 - Olive Oil	3 tablespoons
3 - Chicken	5 boneless
4 - Salt	1 teaspoon
5 - Squash	1 cut into 1/2-inch cubes
6 - Broccoli	1 Head chopped
7 - mushrooms	8-ounce sliced
8 - Pepper	1 red
9 - onion	1 chopped
10 - garlic	3 cloves
11 - red pepper flakes	1/2 teaspoon
12 - white wine	1/2 cup



Garnish with Parmesan cheese and chopped parsley, if desired.

Video Tutorial

12 - white wine	1/2 cup
13 - milk	1/2 cup
14 - heavy cream	1/2 cup
15 - Parmesan cheese	1 cup grated
16 - bowtie pasta	16 ounces
17 - Salt	pinch
18 - Pepper	pinch
19 - Parsley	chopped

14. Future Enhancements

Here are some **future features and improvements** planned for **CookBook: Your Virtual Kitchen Assistant**:

1. **Search Functionality** – Allow users to search recipes by name.
2. **Recipe Filtering** – Filter recipes by category or ingredients.
3. **User Login System** – Let users create accounts and save favorite recipes.
4. **Dark Mode** – Add light and dark theme options.
5. **Animations** – Add smooth animations for better user experience.