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CookBook: Your Virtual Kitchen Assistant (React Application)

A NAAN MUDHALAVAN PROJECT REPORT

Submitted in Partial Fulfilment for the Award of

BATCHELOR OF COMPUTER APPLICATION

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CookBook: Your Virtual Kitchen Assistant (React Application)

Introduction:

CookBook is an innovative React-based web application designed to revolutionize how users discover, manage, and share recipes. Whether you're a novice cook or a professional chef, CookBook provides a user-friendly and feature-rich platform to explore diverse cuisines, organize recipes, and create personalized cooking experiences.

With an intuitive UI, dynamic search, and API-powered recipe database, CookBook enables users to seamlessly navigate through a vast collection of international dishes while also offering personalized recipe management.

Abstraction:

CookBook is a revolutionary web application designed to change the way you discover, organize, and create recipes. It caters to both novice and professional chefs, offering a user-friendly interface, robust features, and a vast collection of inspiring recipes.

Features of CookBook

1.Recipe Database (MealsDB API Integration): Get access to thousands of recipes, categorized by cuisine, ingredients, and dietary preferences.

2. Visual Recipe Browsing: Explore a gallery of dishes with high-quality images for an engaging experience.

3. Intelligent Search & Filters: Quickly find recipes using keywords, ingredients, cooking time, and difficulty level.

4.Save & Organize Recipes: Bookmark your favorite recipes and create custom collections.

5. Step-by-Step Instructions: Get clear and easy-to-follow cooking directions with images and videos.

6. Nutritional Information: Know the calorie and nutritional value of meals (integrated with external APIs).

7.User Accounts & Authentication: Sign in with Google or email to save recipes and sync preferences.

8.Dark Mode Support: Provides a visually comfortable experience for users who prefer a darker UI.

9.Custom Recipe Uploads: Allows users to add their own recipes and share them with the community.

Tools & Technologies Used

Frontend:

- React.js – For building the dynamic, interactive UI.
- Redux/Context API – For efficient state management.
- React Router – Enables seamless page navigation.

Backend & APIs:

- Node.js & Express.js (Optional for user data storage)
- MealsDB API / Spoonacular API – Fetches recipes, ingredients, and nutritional details.
- Firebase / MongoDB – For user authentication & saving user-generated recipes.

Deployment & Hosting:

- Vercel / Netlify – Deploys the frontend for seamless access.
- Amazon S3 / Cloudinary – Stores images and media for recipes.

Advantages of CookBook

✔User-Friendly Interface – Simple navigation and well-structured UI for a seamless experience.

✔Vast Recipe Collection – Access thousands of global recipes instantly.

✔Personalized Features – Save, organize, and customize your favorite recipes.

✔API-Powered Data – Fetches real-time recipe data without manual updates.

✔Community Sharing – Users can add and share their own recipes.

Disadvantages of CookBook

☐Internet Dependency – Requires an active internet connection for API data.

☐Limited Offline Access – Recipes may not be accessible without a caching mechanism.

☐User Management Complexity – Storing user-generated content requires additional backend security measures.

Modules of CookBook

☐Authentication Module: User login, signup, and profile management.

☐Recipe Search Module: Filters recipes based on ingredients, cuisine, or dietary restrictions.

Recipe Details Module: Displays step-by-step instructions, ingredients, and nutritional info.

Favorites & Collections Module: Saves user-preferred recipes into collections.

Recipe Upload Module: Allows users to add their own recipes with images and instructions.

Community & Sharing Module: Enables users to comment, rate, and share recipes.

Admin Module (Optional): Manages reported content, reviews user submissions.

Languages & Technologies Used

- Frontend: JavaScript (React.js, HTML, CSS)
- Backend (Optional): Node.js, Express.js
- Database: Firebase, MongoDB (for storing user data)
- APIs Used: MealsDB API, Spoonacular API
- Hosting & Deployment: Vercel, Netlify

Use Cases of CookBook

Home Cooks: Discover new recipes and manage personal collections.

Professional Chefs: Experiment with diverse cuisines and share creations.

Diet-Conscious Users: Filter recipes based on calorie count and dietary needs.

Food Bloggers & Content Creators: Upload and share unique recipes with a global audience.

☐Students & Beginners: Learn basic cooking techniques with easy-to-follow guides.

Extra Details & Future Enhancements

☐Upcoming Features:

- AI-powered recipe recommendations based on user preferences.
- Offline Mode: Save recipes for offline access.
- Smart Meal Planner: Generate meal plans based on dietary restrictions.
- Voice-Activated Cooking Assistant: Read out recipes while cooking.
- Multilingual Support: Enable translation for global users.

Project Goals and Objectives:

The primary goal of CookBook is to provide a user-friendly platform that caters to individuals passionate about cooking, baking, and exploring new culinary horizons. Our objectives include:

• User-Friendly Experience: Create an interface that is easy to navigate, ensuring users can effortlessly discover, save, and share their favourite recipes.

 • Comprehensive Recipe Management: Offer robust features for organizing and managing recipes, including advanced search options.

 • Technology Stack: Leverage modern web development technologies, including React.js, to ensure an efficient, and enjoyable user experience

PRE-REQUISITES :
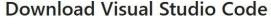
➢ Download the Node.js
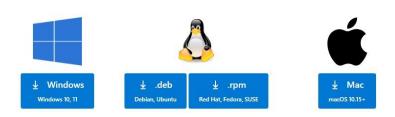

Download Node.js®

https://nodejs.org/en/download

Node.js is a powerful JavaScript runtime environment that allows you to run JavaScript code on the local environment. It provides a scalable and efficient platform for building network applications.

Install Node.js and npm on your development machine, as they are required to run JavaScript on the server-side.

➢ Visual Studio Code Download

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.

⬇ Windows
Windows 10, 11

⬇ .deb
Debian, Ubuntu

⬇ .rpm
Red Hat, Fedora, SUSE

⬇ Mac
macOS 10.15+

https://code.visualstudio.com/download

➢ Download from Sublime Text

https://www.sublimetext.com/

➢ WebStorm: Download

https://www.jetbrains.com/webstorm/download/#section=windows

➢ Get the code:

• Download the code from the drive link given below:

https://drive.google.com/drive/folders/1A4uiweLqdAz_nBEU5bc58x7p8d5yfkDj

Project demo:

Before starting to work on this project, let's see the demo.

Demo link:

https://drive.google.com/drive/folders/1r5ELGNt-HW4-U_l67zpbpk0u_g7s6WML

Github Link :-

https://github.com/BALAJI9940/recipe/tree/main

Instructions of Executing Process :

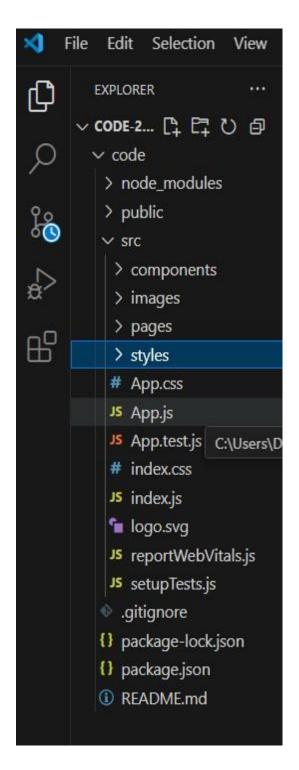- ✓ Download the Google drive code

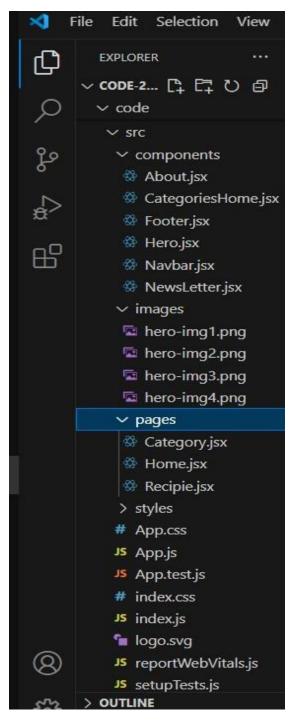   https://drive.google.com/drive/folders/1A4uiweLqdAz_nBEU5bc58x7p8d5yfkDj

- ✓ Extract the zip file

- ✓ Open the Visual Studio Code

- ✓ New folder select to upload the Extract file on VS code

- ✓ Download React.js

   https://react.dev/learn/creating-a-react-app

- ✓ Download Vite Code

- ✓ Open the all Files an Check the Program

- ✓ All Files an Packages Loaded in the VS code

Project Strcture :

```
code > src > JS index.js > ...
1    import React from 'react';
2    import ReactDOM from 'react-dom/client';
3    import './index.css';
4    import App from './App';
5    import reportWebVitals from './reportWebVitals';
6    import { BrowserRouter } from 'react-router-dom';
7
8    const root = ReactDOM.createRoot(document.getElementById('root'));
9    root.render(
10     <React.StrictMode>
11       <BrowserRouter>
12         <App />
13       </BrowserRouter>
14     </React.StrictMode>
15   );
16
17   // If you want to start measuring performance in your app, pass a function
18   // to log results (for example: reportWebVitals(console.log))
19   // or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
20   reportWebVitals();
21
```

```
code > src > pages > ⚙ Home.jsx > ...
1    import React from 'react'
2    import Hero from '../components/Hero'
3    import CategoriesHome from '../components/CategoriesHome'
4    import About from '../components/About'
5    import NewsLetter from '../components/NewsLetter'
6    import '../styles/Home.css'
7
8    const Home = () => {
9      return (
10       <div className='homepage'>
11         <Hero />
12         <CategoriesHome />
13         <NewsLetter />
14       </div>
15     )
16   }
17
18   export default Home
```

```
code > src > JS index.js > ...
1    import React from 'react';
2    import ReactDOM from 'react-dom/client';
3    import './index.css';
4    import App from './App';
5    import reportWebVitals from './reportWebVitals';
6    import { BrowserRouter } from 'react-router-dom';
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8    const root = ReactDOM.createRoot(document.getElementById('root'));
9    root.render(
10     <React.StrictMode>
11       <BrowserRouter>
12         <App />
13       </BrowserRouter>
14     </React.StrictMode>
15   );
16
17   // If you want to start measuring performance in your app, pass a function
18   (alias) reportWebVitals(onPerfEntry: any): void    onsole.log))
19   import reportWebVitals                              ttps://bit.ly/CRA-vitals
20   reportWebVitals();
21
```

Execute the React.js

➤ Open the Terminal
Enter the drive code in path mention to command the terminal

cd code

npm install

✓ Start the Development Server:

• To start the development server, execute the following command:

npm start

✓ Access the App:

• Open your web browser and navigate to http://localhost:3000.

• You should see the recipe app's homepage, indicating that the

installation and setup were successful.

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS
● PS C:\Users\DELL\Downloads\code-20250305T112114Z-001> cd code
● PS C:\Users\DELL\Downloads\code-20250305T112114Z-001\code> npm install

  up to date, audited 1545 packages in 12s

  246 packages are looking for funding
    run `npm fund` for details

  30 vulnerabilities (3 low, 11 moderate, 16 high)

  To address issues that do not require attention, run:
    npm audit fix

  To address all issues (including breaking changes), run:
    npm audit fix --force

  Run `npm audit` for details.
○ PS C:\Users\DELL\Downloads\code-20250305T112114Z-001\code> npm start
```
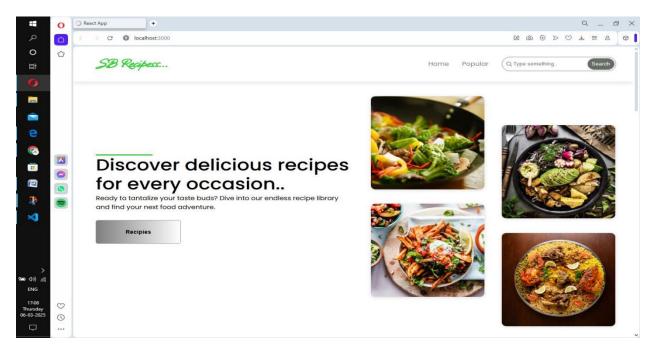
User Interface snips:

➢ Hero components

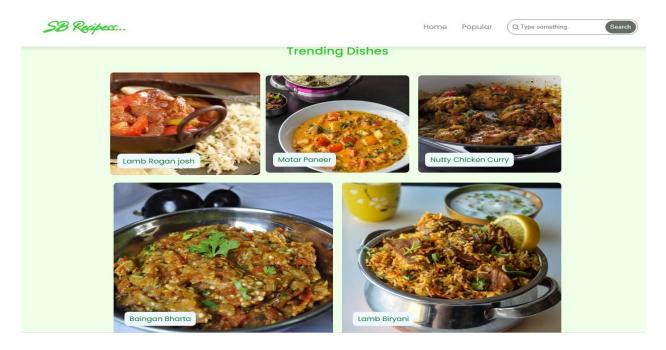The hero component of the application provides a brief description about our application and a button to view more recipes.
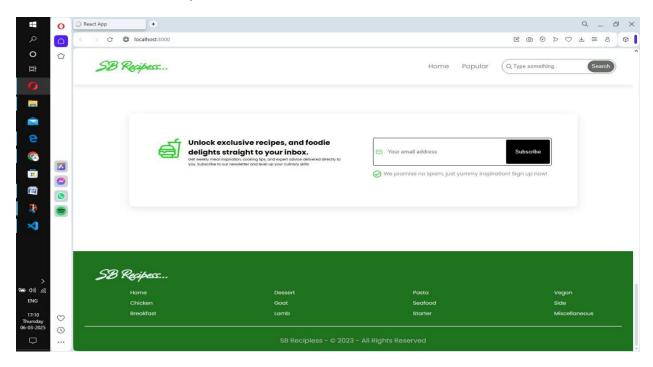
➢ Popular categories This component contains all the popular categories of recipes..
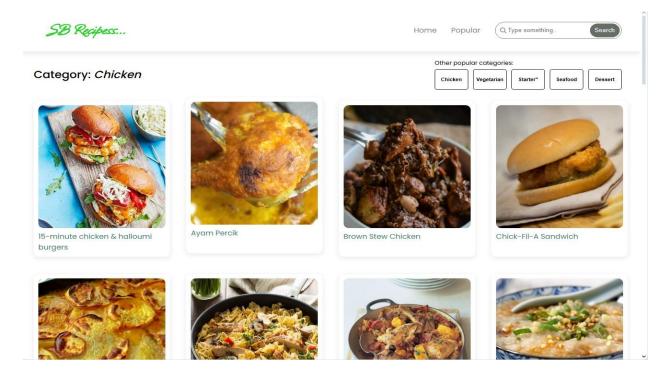
➢ Trending Dishes This component contains some of the trending dishes in this application.
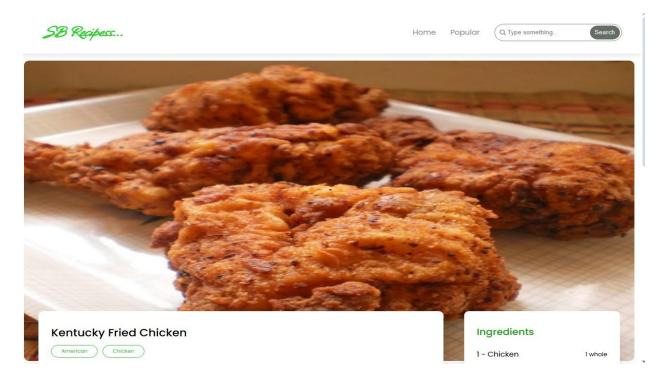
➢ News Letter The news letter component provides an email input to subscribe for the recipe newsletters.

➢ Category dishes page The category page contains the list of dishes under a certain category.

➢ Recipe page The images provided below shows the recipe page, that includes images, recipe instructions, ingredients and even a tutorial video.

Kentucky Fried Chicken

(American)   (Chicken)

Procedure

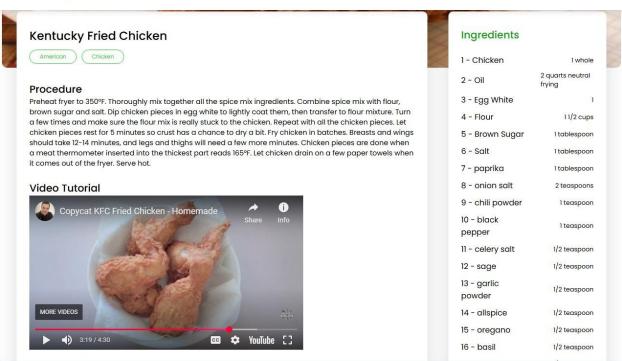Preheat fryer to 350°F. Thoroughly mix together all the spice mix ingredients. Combine spice mix with flour, brown sugar and salt. Dip chicken pieces in egg white to lightly coat them, then transfer to flour mixture. Turn a few times and make sure the flour mix is really stuck to the chicken. Repeat with all the chicken pieces. Let chicken pieces rest for 5 minutes so crust has a chance to dry a bit. Fry chicken in batches. Breasts and wings should take 12-14 minutes, and legs and thighs will need a few more minutes. Chicken pieces are done when a meat thermometer inserted into the thickest part reads 165°F. Let chicken drain on a few paper towels when it comes out of the fryer. Serve hot.

Video Tutorial

Ingredients

1 - Chicken	1 whole
2 - Oil	2 quarts neutral frying
3 - Egg White	1
4 - Flour	1 1/2 cups
5 - Brown Sugar	1 tablespoon
6 - Salt	1 tablespoon
7 - paprika	1 tablespoon
8 - onion salt	2 teaspoons
9 - chili powder	1 teaspoon
10 - black pepper	1 teaspoon
11 - celery salt	1/2 teaspoon
12 - sage	1/2 teaspoon
13 - garlic powder	1/2 teaspoon
14 - allspice	1/2 teaspoon
15 - oregano	1/2 teaspoon
16 - basil	1/2 teaspoon

Project demo link:

https://drive.google.com/drive/folders/1r5ELGNt-HW4-U_l67zpbpk0u_g7s6WML

*** Happy coding!! **