**INGREDIENT’S BASED RECIPE FINDER**

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**ABSTRACT**

The Simple Recipe Finder project is a basic, command-line tool designed to help users identify recipes they can make with the ingredients they have on hand. This project utilises Cheerio, a lightweight web scraping library. Cheerio extracts specific data by identifying HTML elements and classes. After extracting the data, the server filters out irrelevant recipes. Formats the extracted data into a structure. If matching recipes are found, they are displayed to the user. Otherwise, the program suggests that no recipes match the given ingredients. The Recipe Finder can be easily extended by adding more recipes or implementing features to accommodate partial ingredient matching and dietary preferences, enhancing its versatility and functionality.

**1.INTRODUCTION**

The Simple Recipe Finder is a application that offers an efficient way for users to discover recipes based on the ingredients they have available. With limited time and resources, many individuals face the challenge of deciding what to cook, especially when ingredients are restricted. This tool aims to solve that problem by providing recipe suggestions that require no more than a few ingredients readily found in many kitchens. It reduces food waste by encouraging users to utilize what’s in their pantry or fridge, saving time and money on grocery shopping. By quickly providing recipe suggestions, it simplifies meal planning, making it easier for users to prepare meals without having to search through multiple sources. Additionally, it inspires creativity in the kitchen, introduces new culinary ideas, and can cater to specific dietary needs or preferences, such as gluten-free or vegan options. Ultimately, an ingredient-based Recipe Finder makes cooking more efficient, cost-effective, and enjoyable, while promoting sustainability and reducing food waste.

**2. METHODOLOGY**

The Ingredients-Based Recipe Finder is a React-based web application designed to facilitate recipe discovery and meal planning while minimizing food waste. The methodology involves several key steps:

**2.1 Data Collection and Processing**

The application employs web scraping techniques to fetch real-time recipes from popular cooking websites. The scraped data includes recipe names, ingredients, quantities, and preparation instructions.

**2.2 Ingredient Matching**

A matching algorithm identifies recipes based on the user-provided list of ingredients. This ensures that users can make the most of available resources without unnecessary purchases.

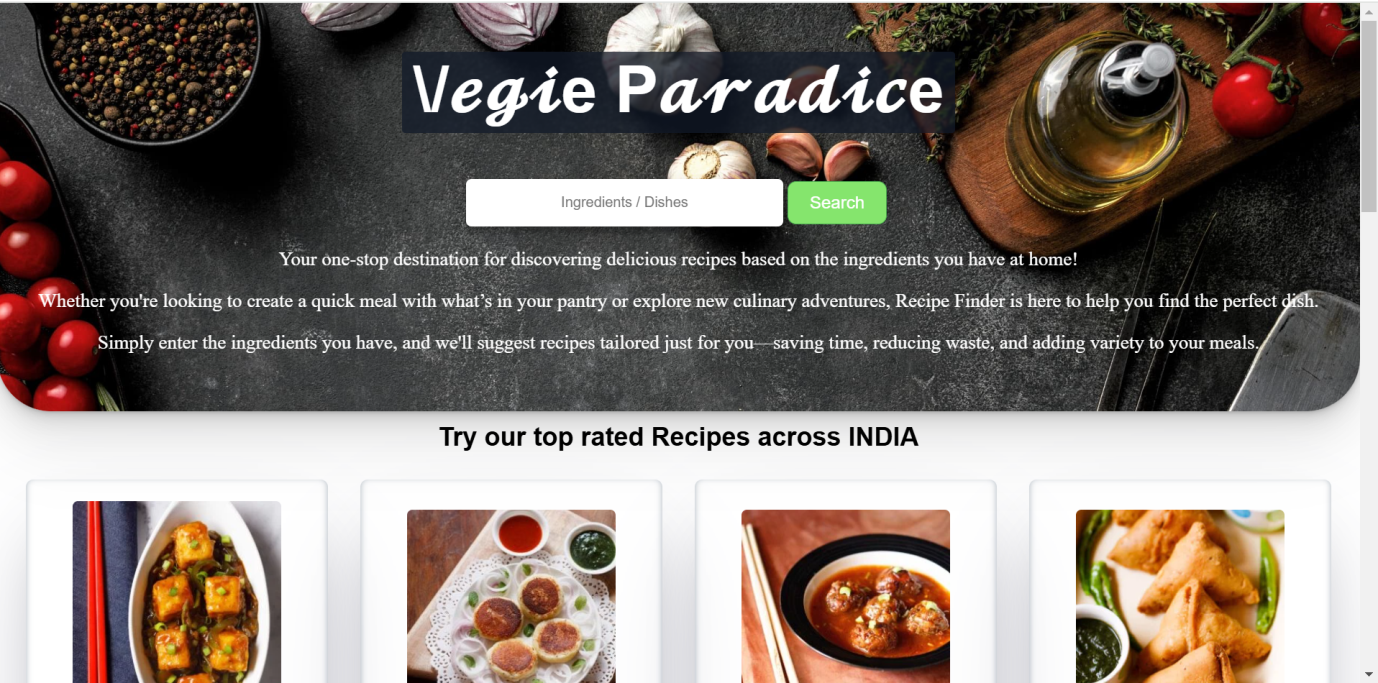
**3. MODELING AND ANALYSIS**

This section presents the conceptual and technical framework for the Ingredients-Based Recipe Finder application. It covers the core components, algorithms, and data flows essential for delivering functionality.

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| **Category** | **Description** |
| Framework | React (Frontend), Redux (State Management) |
| Programming Language | JavaScript (Frontend), Cheerio (Web Scraping and Data Processing) |
| Backend/API | Node.js/Express for backend communication |
| Input Data | User-provided ingredients, matched with recipe sources via scraping and API integration. |
| Real-Time Recipes | Recipes fetched dynamically from sources such as All Recipes |
| State Management | Ingredients, user preferences, and recipes stored in Redux for efficient state updates**.** |

**4. RESULTS AND DISCUSSION**

The Ingredients-Based Recipe Finder successfully demonstrates its ability to enhance meal planning by offering tailored recipe suggestions based on user-provided ingredients. The system's real-time web scraping ensure a diverse collection of recipes, while the ingredient-matching algorithm effectively prioritizes results that align with available resources.



*Fig 4.1 The Main Page*

**5. CONCLUSION**

In conclusion, the Recipe Finder project successfully addresses the need for an intuitive and efficient way to discover recipes based on available ingredients. By leveraging web scraping and presenting relevant results in a user-friendly interface, it simplifies the cooking experience for users. Its responsive design ensures accessibility across devices, making it a valuable tool for everyday meal planning. With its current features, the project demonstrates a strong foundation for delivering convenience and practicality to users, showcasing its effectiveness in transforming ingredient-based recipe searches into a seamless experience.

**6.REFERENCES**

[1]ShahinnHeidar-Zadeh and John W Lam “Ingredient-Based food recommender system” [2021]

[2]Z. Yu, H. Zang and X.Wan, ”Routing enforced generative model for recipe generation” [2020]

[3]S. N. R. Gona and H. Marellapudi, “Suggestion and invention of recipes using bi-directional lstms based frameworks” [2021]

[4] Fallaize R ,Zenun and Pasang J, Lovegrove J. A. Personalized nutrition and health recommendation [2022]

[5] Luis F. Deus et al, Health-aware food recommender system based on food ingredients and user preferences [2021]