Recipe Sharing Website

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Abstract:-

Today's world is very much dependent on the web applications. "Recipe Sharing" website is a project that presents a web application for users to contribute their own recipes. The website features a user authentication system to allow registered users to access and manage their own recipes, as well as new functionality help users find specific recipes. In addition, the website provides the ability for users to add, edit, and delete their own recipes,making it a dynamic and interactive platform for food enthusiasts and home cooks. The project aims to create a useful resource for users to find and share new and interesting recipes, while also showcasing the skills and abilities of the student team in developing web applications.

Keyword: HTML, CSS, JavaScript, and server-side languages, to create a seamless and engaging user experience

Introduction :-

"Recipe Sharing" is a project that presents a web application for users to browse, and contribute their own recipes. This project is a web-based application that provides an online platform where any users who like to cook can explore others recipes and post or share their own recipes. The project has simple features and functionalities which allow the user to use this application easily. It has a pleasant user interface. The website features a user authentication system to allow registered users to access and manage their own recipes. In addition, the website provides the ability for users to add, edit, and delete their own recipes, making it a dynamic and interactive platform for food enthusiasts and home cooks. The project aims to create a useful resource for users to find and share new and interesting recipes, while also showcasing the skills and abilities of the student team in developing web applications. The website provides a userfriendly interface that makes it easy to find and share recipes, and the ability for users to contribute their own recipes helps to build a community of recipe enthusiasts. There are mainly four modules:

- Admin
- Chef
- Critic
- User

In this paper, we have 4 logins such as for admin, user, chef, critic. Admin can approve/reject chef, can approve/reject critics, view user details, delete user etc. The chef is another module they can add new verity recipes which born own their creativity. The user is the other module of the project. The user can add, edit and view recipes, save their favorite recipes.Thecriticisanothermoduleoftheproject.Thecriticcanloginintothewebsite.

Itprovides a login page for the critics in the website and after verifying the qualification details of the critic by the admin and provide permission comments. It uses react as front end, Node.js & Express.js as backend and MongoDB as database.

Literature Review :-

The proliferation of mobile applications and digital platforms has significantly transformed how users interact with culinary content. Several research efforts and commercial platforms have explored the domain of online recipe sharing, each with varying features and user engagement models.

A. Existing Recipe Sharing Platforms

Popular applications such as AllRecipes, Yummly, and Tasty offer large repositories of user-submitted and professionally curated recipes. AllRecipes [1] focuses on community ratings and reviews but offers limited personalization. Yummly [2] introduced ingredient-based filtering and dietary preferences but lacks real-time user interactions. Tasty, developed by Buzzfeed, emphasizes video-based content for easy understanding but provides minimal collaborative features.

These platforms typically centralize content creation, offering limited scope for dynamic, community-driven interaction. Furthermore, they often lack localized and cultural recipes contributed by users from diverse regions.

B. User-Generated Content and Social Features

The value of user-generated content (UGC) has been explored in several studies. UGC not only enhances the volume of data but also improves diversity and personalization . Research by Zhang et al. highlights that allowing users to comment, rate, and discuss content significantly boosts platform engagement. In recipe applications, this enables users to adapt and improve shared recipes based on real-life experience and local availability of ingredients.

Proposed System :-

The existing system for the food recipe website built using React stack primarily consists of a user interface (UI) that allows users to browse and search for recipes. The UI is built using React components, which handle the rendering of the website's pages and functionality. The back-end server is built using Node.js and Express.js The website also lacks user accounts, which means that users cannot save their favourite recipes or create shopping lists[2].

The proposed improved version of the website aims to address these shortcomings. The new version will have a more advanced feature. The website will also have a user account system that allows users to save their favourite recipes. Additionally, the website will have a recipe submission and editing feature, which allows users to submit their own recipes and edit existing ones. The website will also have a social integration feature, where critic can rate recipes, and make comments. The improved version will also have a mobile app, which will provide a better user experience on mobile devices. Overall, the proposed improved system aims to make the food recipe website more user-friendly, interactive and engaging.

1 Limitations of the Existing System

- Lack of variety
- Limited user feedback
- Limited accessibility

To overcome the drawbacks on the existing system a new system has to be implemented. In the proposed system, Advantages and Features of the Proposed System

- Simple design
- Easy to operate
- Wide range of recipes
- Reliable & Secure

Each component of the stack has a specific role to play in the web application development process. MongoDB is a NoSQL database that is used to store and manage the application data. Express.js is

Methodology :-

Project Planning and Requirements Gathering: Define the objectives, features, and target audience of the website. Gather all the functional and non-functional requirements. Database Design: Design the database schema using MongoDB to store recipe data, such as recipe name, ingredients, instructions, images, etc. Backend Development with Node.js and Express.js: Implement the server-side logic to handle user requests, authentication, and interactions

The MongoDB database. API Development: Create RESTful APIs to handle CRUD operations (Create, Read, Update, Delete) for recipes and user-related actions[1].User Authentication and Authorization: Implement user authentication and authorization using tools like JSON Web Tokens (JWT) to secure the API endpoints and manage the user sessions. Frontend Development with React.js: Build the user interface for the website, allowing users to browse, search, and submit recipes. User Interface Design: Design an intuitive and visually appealing user interface with responsive layouts, making it accessible across different devices. User Interaction and Social Features: Allow users to comment recipes. Implement features to create user profiles and save favorite recipes. Testing: Perform unit testing, integration testing, and user testing to ensure the website functions correctly and meets the requirements.

The MERN stack is a popular combination of technologies used to build web applications. MERN operations can be expanded as MongoDB, Express.js, React.js, and Node.js. Each component of the

a server-side framework for Node.js that helps in building RESTful APIs and handling HTTP requests. React.js is a front-end framework used for building user interfaces. Node.js is a garçon- side JavaScript runtime used to make scalable and high-performance

Implementation :-

The implementation of the Recipe Sharing App follows a modular and iterative development process, employing modern frameworks and cloud services for rapid deployment, cross-platform compatibility, and real-time user interaction. This section outlines the key technologies, tools, and steps taken to build the application.

System Design:-

The Recipe Sharing App is designed to be a modular, scalable, and cross-platform solution that enables users to create, share, and discover recipes. The system is divided into multiple layers, ensuring separation of concerns and facilitating ease of maintenance and future upgrades.

A. Overall Architecture

The system follows a three-tier architecture consisting of:

1. Presentation Layer (Frontend)

2. Application Logic Layer (Backend Services)

3. Data and Intelligence Layer (Database + Recommendation Engine)

Future Scope :-

The current implementation of the recipe sharing app lays a strong foundation for collaborative culinary engagement. However, there is significant potential to expand its features and capabilities in the future. The following directions are proposed for further development and research:

A. AI-Powered Ingredient Substitution and Recipe Generation

Incorporating Natural Language Processing (NLP) and Generative AI can enable the app to suggest intelligent ingredient substitutions based on availability, dietary restrictions, or regional preferences. Furthermore, AI models such as GPT or BERT-based transformers can be used to generate complete recipes based on user-input ingredients, preferences, or cuisine styles.

B. Nutrition Analysis and Health-Based Filtering

Future versions can integrate automated nutritional analysis by parsing ingredient data through food databases like USDA or APIs like Edamam. Users will be able to filter recipes based on health conditions (e.g., diabetes, hypertension), daily calorie targets, or macronutrient requirements. This would make the app more valuable for health-conscious users and those with dietary restrictions.

C. Video Integration and Augmented Reality (AR)
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C. Video Integration and Augmented Reality (AR)

To enhance the learning experience, the app could include step-by-step video tutorials. In advanced implementations, AR-based cooking g sizes or timer prompts while cooking), improving accessibility for beginners

System architecture diagram:-
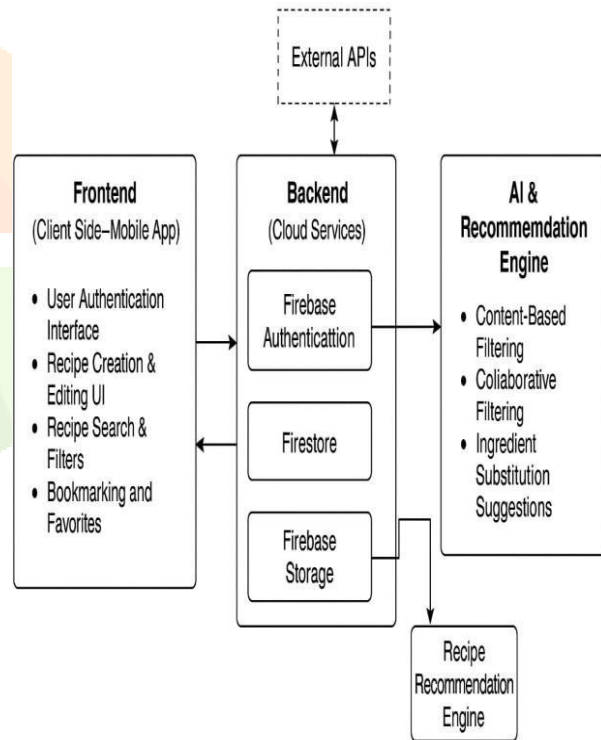
Conclusion :-

social media integration, nutritional information, user ratings and reviews, and video tutorials. By considering these future enhancements, "Recipe Sharing" website project can continue to evolve and provide a valuable resource for cooking enthusiasts.

Overall, " Recipe Sharing " project has the potential to make a significant contribution to the online cooking community, providing a platform for users to share and discover new recipes, connect with other cooking enthusiasts, and improve their cooking skills.

In future adding, modifying, or developing the code to support the changes in the specification. It is the process of adding new capabilities such as Integration with smart kitchen devices, social media integration, Video tutorials. Further modifications and extensions can be made in the system to make overall work easier.

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Refrances :-

[1] CURD operations View at: https://www.crowdstrike.com/cybersecurity-101/observability/crud/

[2] Recipe app View at: https://reactjsexample.com/a-recipes-app-using-react-hooks-and-context-api/

[3] MERN Stack View at: Pro MERN Stack: Full Stack Web App Development with Mongo, Express, React, and Node 2nd ed. Edition by Vasan Subramanian.