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Chai-Vibe Web-App: A Full-Stack Chai-Inspired Booking and Blog Platform with DevOps Integration

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Abstract - This research paper presents the development of 'Chai-Vibe Web-App', a full-stack web platform that blends chai culture with modern digital convenience. The application allows users to register, log in, create blog posts, and book tables at cafes in a user-friendly interface inspired by the cozy and calming essence of chai. Built using HTML, SCSS, JavaScript, Node.js, and MongoDB, and integrated with DevOps tools like GitHub Actions and AWS, the platform ensures efficient backend logic, real-time updates, and secure authentication using JWT. The project emphasizes clean architecture, responsive design, and human-centric user interaction. Future enhancements include loyalty programs, analytics, and multi-cafe support.

Key Words: chai-vibe, full-stack, blog application, MongoDB, DevOps, JavaScript, user experience.

1.INTRODUCTION

In the era of fast-paced digital interaction, many users seek a moment of calm and simplicity while navigating web applications. The Chai-Vibe Web-App was conceptualized to provide users with a cozy and culturally resonant online experience inspired by the warmth and comfort of drinking chai. The primary objective of this project is to build a responsive, full-stack web application that merges modern development practices with the essence of traditional chai culture. The app targets tea lovers, bloggers, and cafe-goers, offering features such as online table booking, user-generated posts, and interactive UI, all styled with SCSS to reflect a soothing ambiance.

2. Literature Survey

Various blogging platforms and booking systems such as Medium, Dev.to, and CMSs like Strapi and Keystone.js served as reference points for building the Chai-Vibe Web-App. Open-source contributions and educational tutorials, notably from Brad Traversy and similar content creators, guided the project's architecture. Full-stack development using the MERN stack is widely adopted in the industry for its efficiency and flexibility, and this project builds upon that trend by incorporating technologies like Node.js, Express, MongoDB, and HTML/SCSS.

2.2 System Design & Architecture

The Chai-Vibe Web-App is developed using a MERN-style architecture with HTML/SCSS on the frontend, Express and Node.js on the backend, and MongoDB for database management. RESTful APIs serve as the communication bridge between frontend and backend, while JWT (JSON Web Token) is used for secure authentication. The system is designed to maintain a modular structure with separated concerns for scalability and ease of maintenance. Relevant diagrams include the system architecture showcasing client-server communication and a data flow diagram illustrating API requests.

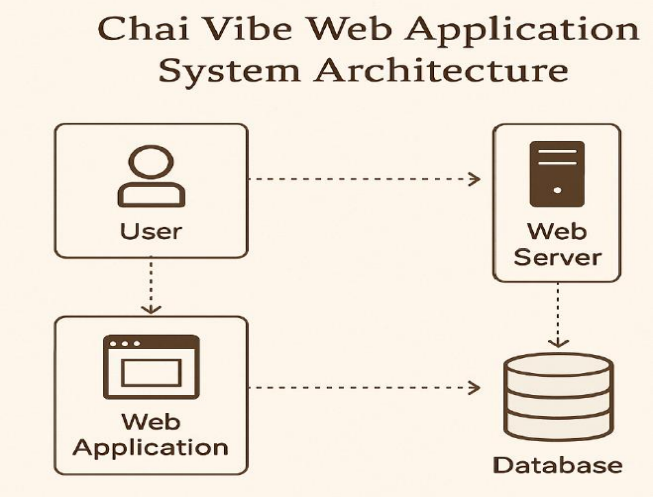

Fig -1: system Architecture

2.3 Methodology / Implementation

Development began by setting up the environment using Visual Studio Code and Node.js. The backend features RESTful APIs built with Express, connected to MongoDB through Mongoose. Secure authentication is achieved using bcrypt and JWT. Frontend components were created using HTML and SCSS, with each UI element styled for a consistent and calming user experience. DevOps practices were implemented using GitHub Actions for CI/CD, and the application was deployed to AWS for real-time availability. Diagrams such as API route flow and database schema help illustrate this implementation clearly.

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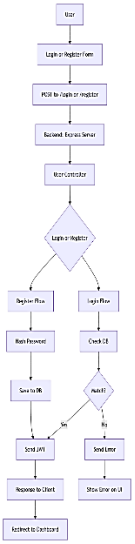
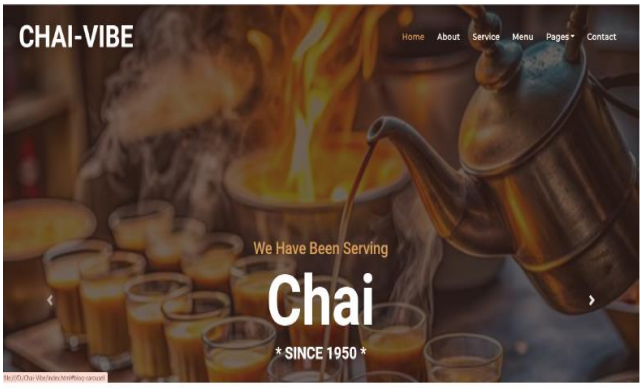


Fig -2: Route Handling Flow (Login/Register endpoints)

2.4 Features and UI

The Chai-Vibe Web-App offers multiple user-centric features such as registration, login, profile management, post creation/editing, and a cafe table booking system. Each page and interaction is styled with SCSS to evoke the aesthetic of a traditional chai environment. Font Awesome icons and responsive layouts enhance usability. Screenshots of the Register Page, Booking Module, and Dashboard can visually represent the functional and aesthetic aspects of the app.



3. CONCLUSIONS

The Chai-Vibe Web-App successfully brings together the cultural significance of chai and the efficiency of modern web technologies. It offers users a digital sanctuary for blogging, booking, and relaxation. The system ensures fast, secure, and interactive experiences through full-stack development and DevOps integration. Future enhancements include loyalty programs for regular users, analytics to track preferences, and expansion to support multiple cafe locations.

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BIOGRAPHIES

Dnyaneshwar N. Buttepawad is a Master of Computer Applications student at Trinity Academy of Engineering, Pune. His core interests include full-stack web development, DevOps, and crafting visually elegant user interfaces. Through the Chai-Vibe Web-App, he aims to merge cultural identity with modern technology, creating applications that are both functional and emotionally engaging.