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Mess and Stay Finder

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Abstract: *The Mess and Stay Finder project is designed to help students locate nearby messes and accommodations close to their college or university. Finding suitable food and accommodation near colleges is a common challenge for students, especially those moving to new cities for education. Many students struggle to find reliable mess services and affordable, hygienic stays due to a lack of information and structured search options. The Mess and Stay Finder is a digital platform designed to solve this issue by providing a centralized system where students can discover mess services and accommodations based on their preferences. The platform includes two types of logins: one for owners who want to list their mess or stay services, and another for students who are looking for these services. The system incorporates location-based search, real-time availability, user reviews, and a rating system to enhance the experience of both students and service providers. By leveraging technology, this project aims to simplify the process of finding essential services near colleges, ensuring students have access to quality food and accommodation with ease.*

Keywords: Mess Finder, Student Accommodation, Location-Based Services, Stay Finder, Food Services.

I. INTRODUCTION

For students relocating to new cities for education, one of the most critical concerns is finding suitable food and accommodation. Traditionally, students depend on word-of-mouth recommendations from seniors, college notice boards, or physically visiting different messes and stays to check availability. This process is time-consuming, inefficient, and often leads to dissatisfaction due to a lack of transparency regarding pricing, quality, and hygiene.

With the rise of digital platforms in various domains, there is a growing demand for a structured and technology-driven approach to solve this issue. The Mess and Stay Finder is designed to bridge the gap between students and service providers by offering an easy-to-use platform where students can explore verified mess services and accommodations based on their location, budget, and preferences.

II. NEED OF PROJECT

Students often struggle to find suitable messes and accommodations near their colleges due to the time-consuming and unreliable traditional search methods. Relying on word-of-mouth or physically visiting multiple places makes the process inefficient. Similarly, mess and stay owners face difficulties in reaching students due to a lack of proper visibility. The Mess and Stay Finder provides a centralized digital platform where students can easily search, compare, and book messes and accommodations based on location, price, and ratings. It offers real-time availability, user reviews, and a hassle-free booking process, saving time and effort. Owners can efficiently manage listings and attract more students. This project simplifies the search process for students while improving business opportunities for service providers.

III. PROBLEM DEFINITION

Many students struggle to find affordable and suitable messes and accommodations near their colleges. Traditional methods, such as word-of-mouth recommendations and offline searches, are time-consuming and inefficient. Our system addresses this problem by offering a centralized digital platform where students can browse and compare options based on their preferences. Students who relocate to different cities for their education often face difficulties in

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finding suitable messes and accommodations near their colleges. The traditional approach of word-of-mouth recommendations or manual searches is time-consuming, unreliable, and lacks transparency. Additionally, there is no centralized system where students can find all available mess and stay options in one place. As a result, students end up spending excessive time and effort searching for food and accommodation, sometimes settling for options that may not be convenient or cost-effective. On the other hand, mess and stay owners also struggle to reach potential students efficiently. The Mess and Stay Finder project addresses these challenges by providing a user-friendly online platform that connects students with nearby messes and accommodations.

IV. METHODOLOGY TO SOLVE THE PROBLEM

Our methodology follows a structured approach to solving the problem of finding nearby messes and stays for students. First, we identified key challenges, such as the lack of a centralized platform, difficulty in accessing reliable information, and limited visibility for mess and stay owners. To address this, we designed a dual-login system, allowing students to search, compare, and book messes and stays while enabling owners to manage their listings efficiently.

For development, we created a user-friendly interface using HTML, CSS, and JavaScript, with a secure backend powered by Node.js/PHP and Firebase/MySQL for data management. We integrated Google Maps API to enable location-based search and filtering, ensuring a seamless user experience. After rigorous unit testing, user testing, and performance optimization, we deployed the system for real-time use. Future improvements include AI-driven recommendations, chat support, and advanced filtering options to enhance usability and efficiency.

A. Output

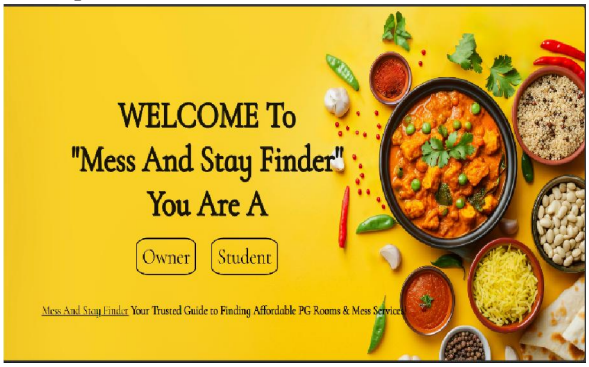

Fig. Home Page

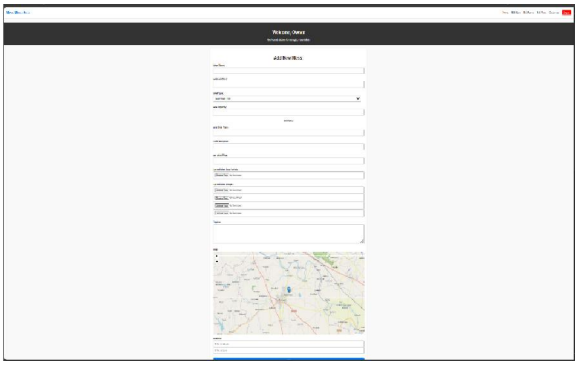

Fig. Add New Mess

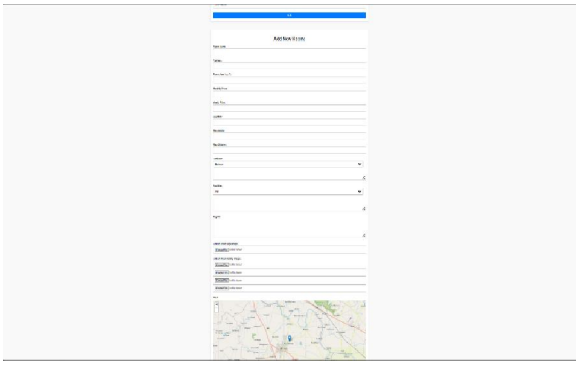

Fig.Add New Stay

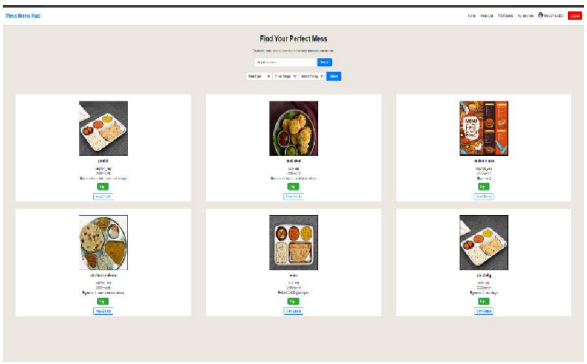

Fig. Select Mess

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B. Training and Testing Algorithm

The last step in our Mess and Stay Finder system involves testing user inputs and recommending the best mess or stay option based on their preferences. The algorithm used in the recommendation system is a Hybrid Recommendation Model, which combines Collaborative Filtering and Content-Based Filtering. This model consists of multiple layers for processing user preferences and extracting relevant features from the dataset. Initially, the system collects details of messes, accommodations, user reviews, and ratings, storing structured data in the database. The data is then preprocessed by removing duplicates, handling missing values, and normalizing categorical features like meal type, stay type, and pricing. The next phase involves feature extraction, where key factors such as location, price, ratings, and facilities are identified to compute similarity between mess/stay options using algorithms like Cosine Similarity or Euclidean Distance.

In the training phase, the Collaborative Filtering model analyzes past user choices to understand preferences, while the Content-Based model matches user preferences with mess/stay attributes. A Hybrid Filtering approach is used to combine both methods, enhancing recommendation accuracy. The testing phase begins when a user enters location, budget, and preferences. The system retrieves relevant mess/stay options, filters out irrelevant results based on predefined thresholds (such as budget limits), and assigns scores based on similarity measures, user ratings, and popularity. Finally, the system ranks and displays the most suitable options, providing details such as pricing, distance, and reviews.

The recommendation algorithm continuously improves by learning from user interactions, refining its classification and ranking process. The accuracy of recommendations depends on the quality and diversity of training data, ensuring users receive personalized and optimized results. This approach significantly enhances the user experience by offering tailored suggestions, helping students easily find the best mess and stay options suited to their needs.

Algorithm :

Input: User query with search preferences for messes and stays (e.g., location, price range, rating).
Output: A list of messes and stays that match the user's preferences.
Step 1: Start
Step 2: Prepare Databases:
a. Mess Database: Contains location, food type, price, rating.
b. Stay Database: Contains location, room type, price, rating.
Step 3: Preprocess Data:
a. Normalize location, price, rating, and other fields.
Step 4: Collect User Input:
a. Mess: Location, food type, price, rating.
b. Stay: Location, room type, price range, rating.
Step 5: Filter and Sort Messes and Stays:
a. Filter messes and stays based on user input.
Step 6: Display Results:
a. Display messes and stays that match user preferences.
Step 7: End the Process.

V. CONCLUSION

The Mess and Stay Finder project provides an efficient and user-friendly platform for students to find nearby messes and accommodations near their colleges. By integrating location-based search, real-time availability updates, and user reviews, the system simplifies the process of finding suitable food and stay options. It eliminates the traditional time-consuming search methods and ensures transparency and convenience for students. Additionally, it helps mess and stay owners reach a larger audience, efficiently manage their services, and grow their business. This project successfully bridges the gap between students and service providers, making the process faster, smarter, and more reliable.

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