RECCOMENDATION OF FOOD BASED ON YOUR CURRENT MOOD

A. Pallavi Satya Durga[1], G. Sri Ram Ganesh[2], K. Govindasai[3],K. Krishna Sai Pavan[4], K.Suresh[5], J. Rajesh[6]

[1,3,4,5,6]*Department of CSE, Sri Vasavi Engineering College(A), Pedatadepalli, Tadepalligudem*
[1] *Sr.Assistant Professor Department of Computer Science and Engineering ,Sri Vasavi Engineering College(A), pedatadepalli, Tadepalligudem*

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Abstract:

In a period characterized by a proliferation of food delivery platforms, the fundamental question of "What to eat?" frequently perplexes consumers, reframing these words.. This paper introduces MoodieFoodie, an innovative web application that transforms the food delivery experience by assisting users in selecting the ideal food item tailored to their emotional state[2], encompassing a wide range of moods, from happiness and sadness to anger, dehydration, depression, excitement, and even illness. MoodieFoodie surpasses traditional food delivery apps by offering a comprehensive dining suggestion mechanism that concurrently considers three crucial factors: cost, user ratings, and distance[1]This approach streamlines decision-making for users, eliminating the need to navigate through individual filters.

Keywords: Python, Django, Logistic Regression Machine Learning Algorithm., Bootstrap.

1. INTRODUCTION

In today's world of food delivery apps, where options are endless, a common question lingers: "What should I eat?" This paper introduces a web app that promises to transform how we answer this question, offering a dining experience that's more than just satisfying hunger. Our web app taps into the power of smart computer algorithms to serve up a personalized dining adventure. It doesn't just drop off food; it brings you dishes that match your mood. Regular food apps can get you a meal, but they can't read your feelings. But the innovation doesn't stop there. With your current mood as your guide, our app figures out how you feel and connects it to a menu of delicious choices. Whether you're feeling happy, sad, hungry, down, excited, or unwell, we've got a suggestion to match your state of mind. It's a blend of technology and human emotions that makes our app special[2] .And it doesn't only cater to your mood. It also streamlines the process of picking a restaurant. While other apps make you wade through filters for cost, ratings, and distance, our app simplifies things[3]. It recommends restaurants that hit all these marks, so you get a great dining experience without fussing over filters

or making compromises The concept of being "in the mood for food" has been explored in research [4], emphasizing the vital connection between emotions and food choices, which aligns with Moodie Foodie's core objectives. Some of the studies have delved into how food preferences change based on mood [5], further highlighting the importance of considering mood in food recommendations, in line with our project's vision. We'll also explore the interplay between your emotions and your taste buds. We believe that food should be more than just fuel; it should be a reflection of how you feel[2].This paper aims introduce you to a new era of food delivery, one that takes eating beyond the basics and turns it into an emotional journey. Our web app isn't just about filling your stomach; it's about deepening your connection with food, offering personalized ideas, and elevating your culinary adventure to an emotional level. It's also about simplifying restaurant selection, so you consistently find the best dining options without the headache of endless filters

2.LITERATURE SURVEY

Food Recommendation: Framework, Existing Solutions, and Challenges:

The research paper titled "Food Recommendation: Framework, Existing Solutions, and Challenges," authored by Weiqing Min, Shuqiang Jiang, and Ramesh Jain and published in December 2019 in IEEE Transactions on Multimedia, provides an in-depth exploration of the food recommendation domain. The study addresses the growing global health concern of overweight and obesity, linked to various health issues such as diabetes, heart disease, and cancer. These health issues are predominantly attributed to unhealthy eating habits characterized by high-energy and high-fat food consumption.The authors argue that, despite significant advancements in multimedia research enhancing recommendation systems in domains like movies and Points of Interest (POI), the field of food recommendation has been relatively underexplored. In response to this gap, the paper introduces a unified framework for food recommendation and identifies key challenges in this field. These challenges include constructing personalized user models, analyzing the

distinctive features of food, and integrating diverse contextual and domain knowledge. The authors then review existing solutions that address these challenges, providing valuable insights. Furthermore, the paper articulates the research challenges and outlines future directions in the area of food recommendation.It is noteworthy that this paper is considered the first comprehensive survey dedicated to the study of food recommendation within the multimedia field, establishing it as a foundational resource for researchers and practitioners in this vital and evolving domain

Mood Based Food Recommendation System :

The research paper titled "Mood Based Food Recommendation System" authored by Gupta et al., presented at the 2021 Asian Conference on Innovation in Technology (ASIANCON), explores the emerging field of mood-based food recommendation. In response to the increasing importance of personalization in recommendation systems, mood-based recommendations have gained prominence as a strategy to enhance user experiences within the culinary realm. By considering the emotional and psychological states of users, these recommendations acknowledge the significant impact of mood on food preferences. Gupta et al.'s study delves into the incorporation of mood as a pivotal factor in food recommendation, emphasizing how a nuanced understanding of users' emotions can lead to more precise and satisfying suggestions. The paper details the methodology and algorithms employed in the proposed system, shedding light on its potential applications and implications. This contribution adds to the dynamic landscape of personalized food recommendations, particularly catering to users seeking enjoyable and emotionally gratifying dining experiences.

Changing Food Preference as a Function of Mood:

The study by Christensen and Brooks, published in the Journal of Psychology in 2010, titled "Changing Food Preference as a Function of Mood," is a noteworthy contribution to understanding the intricate relationship between mood and food preference. This work investigates the phenomenon where an individual's emotional state, or mood, significantly influences their food choices. The authors conducted experiments to examine how mood can impact food preferences, shedding light on the intricate interplay between emotions and eating behavior. This research is particularly relevant to the development of personalized food recommendation systems as it underscores the importance of mood as a key factor influencing food choices. The findings of this study may serve as a foundation for the design and implementation of mood-based food recommendation algorithms, enriching the

user experience and increasing the accuracy of food recommendations based on emotional states.

Restaurant Recommendation System for User Preference and Services Based on Rating and Amenities:

The paper "Restaurant Recommendation System for User Preference and Services Based on Rating and Amenities" by Gomathi et al., presented at the 2019 International Conference on Computational Intelligence in Data Science (ICCIDS), introduces a restaurant recommendation system that considers user preferences and services based on ratings and amenities. In an era characterized by a proliferation of dining options and user-generated reviews, the need for personalized restaurant recommendations is paramount. Gomathi et al. delve into the key components of their recommendation system, emphasizing the incorporation of user ratings and restaurant amenities. The study explores the techniques and algorithms used to process these factors and generate personalized restaurant recommendations. Furthermore, it contributes to the growing field of recommendation systems by showing the importance of user ratings and amenities as essential criteria for enhancing the accuracy and effectiveness of restaurant recommendations. This work is a valuable addition to the research landscape of restaurant recommendation systems and is particularly pertinent for individuals seeking dining options that align with their preferences and expectations.

3.EXISTING SYSTEM

Now there are several existed systems and various approaches will be followed by them for food delivery. But there are some issues in these system lets address all these in a clear and understandable way:

1.Lack of Mood-Based Recommendations: One of the primary limitations of existing systems is their inability to understand and cater to the user's mood. These platforms typically offer a vast array of food choices, but they faliled when it comes to recognizing that a person's emotional state often influences their food preferences. Users are left to navigate through extensive menus without personalized guidance, resulting in decision fatigue and potential dissatisfaction with their choices.

2.Time-Consuming Filter Options: Existing apps often require users to filter restaurant options based on individual parameters such as cost, user ratings, and distance. This piecemeal approach forces users to make trade-offs between these factors and can be time-consuming. Users are left with the burden of selecting a restaurant that best aligns with their preferences.

3.Limited Restaurant Selection: Many traditional food delivery apps offer a limited selection of restaurants, which may not encompass the full spectrum of culinary experiences available. This limitation can leave users feeling constrained and longing for more diverse options.

4. Missed Connection Between Emotions and Food: Existing systems overlook the vital connection between a person's mood and their food choices. Food is a reason for our comfort, celebration, or a reflection of one's emotional state, but current platforms fail to recognize and leverage this emotional connection.

5.User Satisfaction Challenges: Due to the limitations mentioned above, users of traditional food delivery apps might find it challenging to identify the ideal restaurant and menu items that genuinely satisfy their cravings and moods. This can lead to lower user satisfaction and potentially hinder the overall dining experience.

4.PROPOSED SYSTEM

The proposed system, MoodieFoodie, introduces a revolutionary approach to food recommendations and delivery, addressing the limitations of traditional food delivery apps and enhancing the user experience in several key areas:

Mood-Based Food Recommendations:

Moodie Foodie uses some machine learning algorithms to provide personalized food recommendations aligns to the user's current emotional state. This innovative feature transforms the food ordering experience, ensures the users can find the perfect meal to match their mood. Whether a user is feeling joyful, melancholic, stressed, parched, despondent, elated, or unwell, MoodieFoodie can suggest appropriate food choices, eliminating the need for time-consuming and often indecisive scrolling through extensive menus. The machine learning model continually refines its recommendations by analyzing user feedback, reviews, and historical order data, ensuring ever-improving accuracy.

Innovative Filtering and Restaurant Partnerships:

Moodie Foodie simplifies restaurant selection by integrating three crucial parameters into its recommendation system: cost, user ratings, and distance. This approach streamlines the process, enabling users to make informed decisions without compromise. It offers a well-rounded selection of restaurants, encompassing various price points, user ratings, and locations. MoodieFoodie forms partnerships with a diverse range of restaurants, including local favourites, renowned establishments, and unique eateries. These partnerships

contribute to a broad and diverse culinary selection, catering to different tastes and preferences, from exotic cuisines to comfort food.

Additional Ordering Options and Seller Onboarding:

Going beyond conventional food delivery apps, MoodieFoodie expands its offerings to include a broader spectrum of food and beverages. Users can order not only delectable meals but also beverages like tea, fresh juices, and even chocolates, satisfying various cravings. To facilitate this expansion, MoodieFoodie has introduced the "Wanna sell on MoodieFoodie" option, providing a platform for small-scale sellers, such as local tea shops and homemade chocolate artisans. This inclusive feature supports small businesses and entrepreneurs, allowing them to reach a wider customer base through the MoodieFoodie platform.

Continuous Innovation and User Engagement:

MoodieFoodie is committed to delivering excellence and continuous innovation. We prioritize user engagement by implementing loyalty programs, and constantly trying to provide various features for the user satisfaction. These initiatives encourage users to return and experience the ever-improving services provided by MoodieFoodie.

Privacy and Security:

The security and privacy of our users are paramount. MoodieFoodie ensures the confidential handling of user data, adhering to stringent privacy regulations and industry best practices. Users can believe Strongly that their personal information and preferences are safeguarded.

The proposed system, MoodieFoodie, redefines the food delivery industry by introducing mood-based food recommendations, simplifying the restaurant selection process, expanding food and beverage options, and focusing on user engagement and privacy. This innovative system promises a personalized and enjoyable food ordering experience, catering to the diverse moods and preferences of its users.

5. PROPOSED MODEL

1.Model Objectives: The primary objectives of the proposed "Food for Every Mood" model are as follows:To create a recommendation model that offers food suggestions aligned with the user's current mood, preferences, and available data.To simplify restaurant selection by integrating cost, user ratings,and distance parameters into a unified recommendation framework.To support a diverse range of food choices, including beverages and confectionery, while providing a

platform for small-scale sellers.To continuously enhance recommendation accuracy through machine learning and a feedback-driven learning loop.

2. Model Components: The proposed model consists of the following essential components:

Mood-Based Recommendation Engine: The core component responsible for generating food recommendations based on the user's selected mood, incorporating past preferences and real-time data.

Unified Restaurant Selection Algorithm: An advanced algorithm that harmonizes cost, user ratings, and distance parameters to recommend restaurants that match user preferences, streamlining the selection process.

Data Repository and Management: A data storage system that stores and organizes restaurant data, food item details, user feedback, and data from small-scale sellers.

User Feedback Loop: A critical element for collecting user feedback, including ratings which serves to refine the recommendation model over time.

3. Model Features:

Mood-Based Recommendations: Users can input their current mood from a predefined list, triggering food recommendations that align with their emotional state. ML techniques are used to enhance recommendation accuracy as users provide feedback.

Unified Restaurant Recommendations: The model simplifies restaurant selection by integrating cost, user ratings, and distance parameters into a unified recommendation framework, improving user experience.

Diverse Food Choices: The model accommodates a wide range of food items, including beverages and confectionery. A dedicated platform is provided for small-scale sellers to list their products, fostering entrepreneurship.

Continuous Learning: Leveraging user feedback, the model iteratively refines and adapts recommendations, ensuring users receive increasingly relevant and satisfactory suggestions.

4. Technical Framework:

Framework: The application is built using the Django framework, offering scalability and security for web applications.

Programming Language: Python serves as the backend language due to its rich ecosystem of libraries and tools, ideal for data processing and analysis.

Machine Learning Algorithm: Initially, the model employs a logistic regression algorithm for mood-based recommendations, with provisions for incorporating more efficient machine learning methods as the model evolves.

6.EXPERIMENTAL RESULTS

In this section, we delve into the real-world application and performance evaluation of our groundbreaking "Food for every Mood" web application. We take a deep dive into the application's operational aspects, user interactions, and the pivotal role played by the underlying technologies. Furthermore, we present valuable insights derived from user experiences and our rigorous performance assessment, offering a comprehensive view of how our platform distinguishes itself in the field of food recommendation and delivery.Here these are the technologies involved in our project ,and also how and why they will be implemented is explained below:

Logistic Regression Algorithm: Our application's recommendation engine is powered by a logistic regression algorithm, which is at the core of delivering personalized food suggestions. This algorithm takes into account user ratings, cost for two people, and the distance between the user and the restaurant. When users select a restaurant from the recommended list, based on their choice it helps to train the model. As users continue to interact with the application and make selections, the logistic regression model adapts and refines its recommendations, continually improving the accuracy of food suggestions.

Django Framework : The Django framework serves as the robust foundation of our application, providing a structured and scalable architecture for development and deployment. It handles essential database management tasks, storing critical information about restaurants, user ratings, and menu items. Django ensures seamless communication between the front-end and back-end components, enabling real-time recommendations and effortless order placement for users.

Bcrypt : Security is a paramount concern in our application, and 'bcrypt' plays role for safeguarding the user data. This technology ensures the user information is stored securely, protecting against potential breaches.

Bootstrap 3 : Bootstrap 3 enhances the user experience by delivering a responsive and user-friendly interface. This technology ensures that our application is accessible and visually appealing on various devices, catering to a wide user base.

Google Maps API : To compute the distance between users and restaurants, we incorporate the Google Maps

API. This technology provides precise geolocation services, allowing us to estimate delivery times accurately and enhance the overall user experience.

SYSTEM ARCHITECTURE :
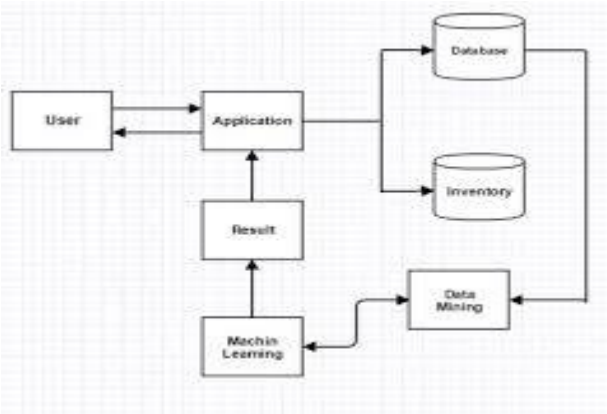
RESULTS:

In these we present the heart of our 'Food for every Mood' application. Users are given the power to select a mood that reflects their current emotional state. This mood selection serves as the catalyst for the personalized food recommendations that follow. Through this intuitive process, users are connected to a tailored dining experience that resonates with their feelings, whether it's a 'happie,' 'sadie,' 'angrie,' 'dehydratie,' 'depressie,' 'excitie,' or 'unwellie' mood.
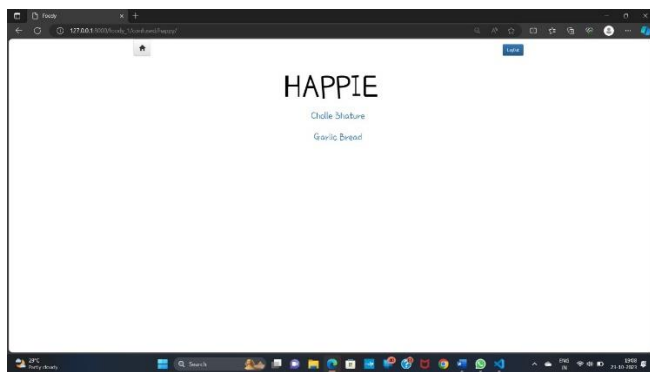
The logistic regression algorithm takes into account the cost for two people, user ratings, and the distance between the user's location and the restaurant. By harmonizing these elements,users receive restaurant recommendations that align with their budget, preferences, and proximity. Users can enjoy a dining experience that is not just convenient but also in line with their taste and location preferences.
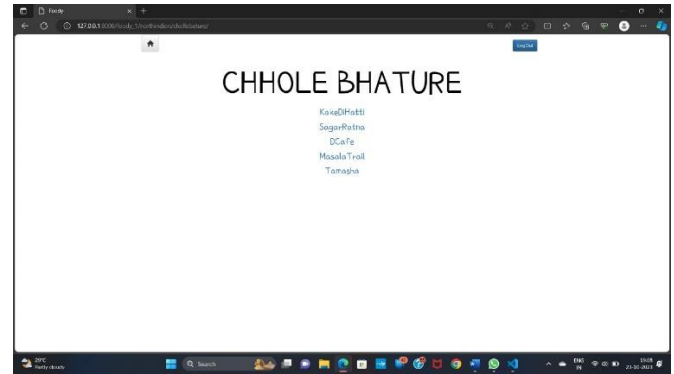
7.CONCLUSION

In summary, MoodieFoodie represents a pioneering advancement in the realm of food delivery applications. It introduces a distinctive and inventive approach by amalgamating mood-driven food recommendations, the consideration of multiple selection criteria, and a range of supplementary ordering choices. The app effectively addresses the ubiquitous dilemma of "What to eat?" by simplifying the decision-making process for users, allowing them to effortlessly select restaurants that align with their budget, user ratings, and proximity preferences all at once. Furthermore, MoodieFoodie uses the machine learning to suggest food options based on users' historical mood patterns and ordering history, resulting in a tailored and delightful food ordering experience. The platform transcends conventional food delivery apps by providing insights into popular food items at different times of the day, restaurants known for swift deliveries, and highly sought-after dishes. Notably, MoodieFoodie embraces inclusivity by offering a platform for small-scalesellers to offer a diverse array of products, including tea, beverages, and confections. In conclusion, MoodieFoodie stands as a testament to innovation, convenience, and adaptability, reshaping the landscape of food delivery to cater to the varied tastes and emotional states of its users.

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