

EPIC Destinations- Tour Recommendation System using Collaborative Filtering

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Abstract - Tourism is a thriving global industry, offering a delightful escape from our daily routines. However, planning a trip can be a daunting and time-consuming task. Relying solely on recommendations from friends, limits our choices to their personal experiences, while travel agents may provide biased suggestions with the goal of selling packages. Navigating the vast expanse of the internet for research often leaves travellers frustrated and overwhelmed. To address these challenges, we propose "EPIC Destinations," an intelligent tour recommendation system that utilizes collaborative filtering to provide personalized suggestions for travellers. Our website optimizes itineraries, recommends the best places to visit, and offers insights on hotels, local cuisine, ideal timings, and transportation options. By leveraging advanced algorithms and data analysis, EPIC Destinations considers factors such as user feedback, popular attractions, local events, and travel patterns to ensure accurate and unbiased recommendations that cater to individual preferences.

Therefore, through the power of collaboration, our website enhances the overall travel experience, empowering users to optimize their adventures and create unforgettable memories.

Key Words: Tour recommendation, Collaborative filtering, Wonders of India, Seasonal escapes, Users Ratings, Tour description, Similarity scores.

1. INTRODUCTION

Tourism has become an integral part of our lives, providing us with the opportunity to take a break from our daily routines and find tranquillity, whether by the sea or in the mountains. However, planning these trips has become a complex and time-consuming task. Recommendations from friends and travel agents are often limited and potentially biased, while sifting through the vast amount of information on the internet can be overwhelming. To tackle this issue, we have developed a user-friendly Tour Recommendation System that employs collaborative filtering. This system takes into account various factors such as individual interests, preferred destinations, food choices, and optimal travel times to create personalized suggestions and daily itineraries. It also calculates travel durations and time allocations for each location, facilitating efficient trip planning. Furthermore, the system provides real-time

recommendations based on the plans of other users. Our solution is designed to simplify and enhance the tour planning experience, delivering customized and impartial recommendations that streamline the process, making it both efficient and enjoyable.

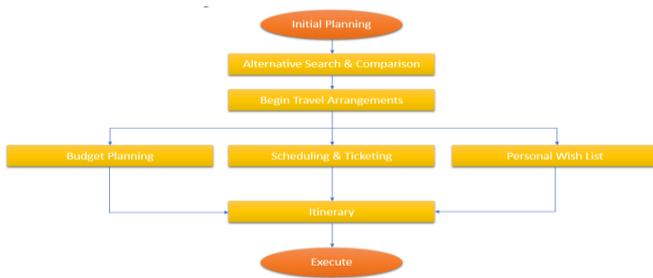
2. LITERATURE SURVEY

Abhishek Kulkarni [1], proposed a research article, "A Machine Learning Approach to Building a Tourism Recommendation System using Sentiment Analysis" consisting analysis of various machine learning and deep learning algorithms has been done and their behaviour has been studied. Through the results obtained recommendation system which generates a unique tourism based on user's interests is built.

Vasileios Komi Anos [2], through his article, "Constrained interest-based tour recommendations in large scale cultural heritage virtual environments" explained how to deal with the issues by providing users with constrained interest-based tour recommendations. A recommendation model is proposed to deal with the user's information overload issue. The model and algorithm are tested with a wide range of cases to obtain interesting outcomes.

3. PROPOSED SYSTEM

We're creating a friendly website to help travellers plan their dream trips. Our site will suggest amazing places to visit that fit your preferences, taking into account things like how much money you want to spend and the best time of year to go. We'll also recommend delicious local foods to try. Our main goal is to make trip planning easy and fun for you, so you don't have to spend a lot of time searching all over the internet for information. We want to be your one-stop shop for creating a personalized and enjoyable travel experience.



4.IMPLEMENTATION

In the initial phase of the work, we focused on gathering the necessary requirements. We curated datasets, including "Marvels India" and "Seasonal Escapes," which served as the foundation for our travel suggestions. Additionally, to enhance the visual aspect of the recommendations, we collected images from various sources using AI tools and internet resources. To support the development of our project and ensure its robustness and user-friendliness, we meticulously selected the tools and technologies necessary.

In the front-end development phase, we carefully designed the project's structure and visual appearance to create an appealing and user-friendly interface. Leveraging technologies like HTML, CSS, and JavaScript, we developed a dynamic and interactive front-end, thus enhancing the overall user experience. Visual enhancement was another important aspect of this phase, and we expertly edited background images using tools like Canva, contributing to the project's aesthetics and overall appeal.

For the database design, we opted for a MySQL Database and used a PHP-XAMPP connection for the login section. To set up the database, we downloaded XAMPP and initiated the Apache and MySQL services in the XAMPP Control Panel. Then, we accessed the Php MyAdmin interface to create the 'epic_destinations_db' database and the 'users' table with columns for email and password. In addition to this, we downloaded MySQL within VS Code, creating an 'EPIC_db' that was connected to localhost/phpmyadmin.

In the backend development phase, we implemented a robust rating system, allowing users to provide feedback and ratings. To enhance this system, we integrated collaborative filtering techniques to offer personalized and relevant recommendations based on user interactions and preferences. This user-centric approach ensures that the project's recommendations are finely tailored to individual user preferences, promoting a highly personalized and satisfying travel planning experience.

5. RESULT ANALYSIS

In this part, we're sharing pictures of our website to show how our travel recommendation system works in real life and how people use it. These images give you a good look at what it's like for users and how our project actually functions. The

screenshots will help you see how well our project works and what it looks like for users. Below, you'll find the pictures that show how the project is doing and what it looks like for users.

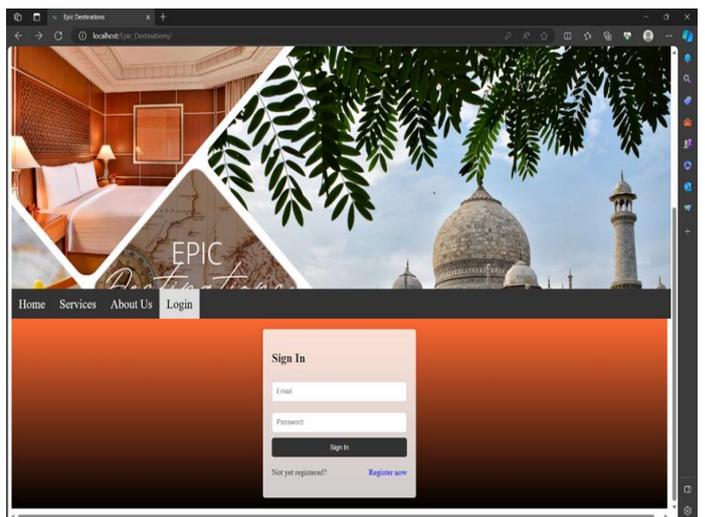


Fig -2: Home Page and Login of Recommendation System

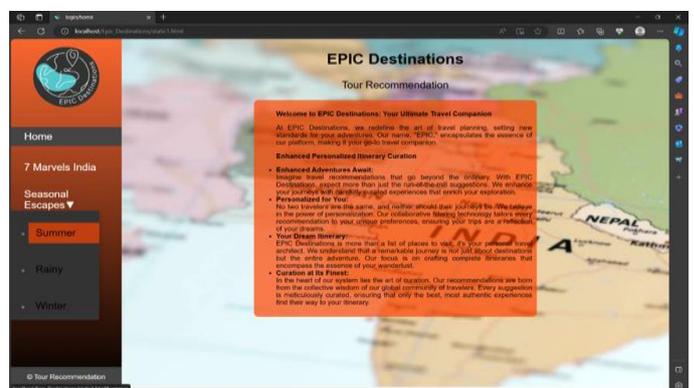




Fig. 3. Select a Category for Tour Recommendation

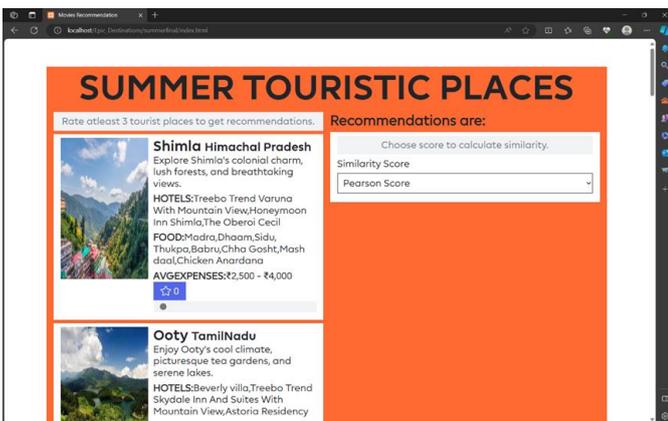


Fig. 4 Detail Information about a Place

6. CONCLUSION and FUTURE ENHANCEMENT

In this paper we implemented users a comprehensive and personalized travel planning experience. By providing customized recommendations based on seasons and offering insights into local cuisine and dining options, we ensure that travelers can make informed decisions. The system's real-time adaptability through user ratings, combined with the user-friendly interface, further enhances the travel planning process. This approach not only supports personalization and impartiality in travel recommendations but also ensures that users can enjoy a more enriching and user-centric travel experience. We look forward to continuing to refine and expand our platform to further serve the needs of our users in their travel adventures.

The future scope of our paper is to further enhance and expand the platform, with a focus on providing a comprehensive travel experience for users like geo-location information, emergency contact information, activities and things to do, destinations' suggestions according to categories, restaurant recommendations.

REFERENCES

[1] Recommending travel packages based on mobile crowd sourced Communications Magazine, IEEE Year: 2014, Volume: 52, Issue: 8.

[2] A Cocktail Approach for Travel Package Recommendation Qi Liu; Enhong Chen; Hui Xiong; Yong Ge; Zhongmou Li; Xiang Wu Knowledge and Data Engineering, IEEE Transactions on Year: 2014, Volume: 26, Issue: 2.

[3] Thivaharan S, Srivastun G, Sarathambekai S, "A Survey on Python Libraries Used for Social Media Content Scrapping" IEEE(ICOSEC-2020).

[4] David Mathew Thomas, Sandeep Mathur, "Data Analysis by Web Scraping using Python" IEEE(ICECA-2019).

[5] Quang Thai Le, Davar Pishva, "Application of Web Scraping and Google API Service to Optimize Convenience Stores' Distribution" IEEE(ICACT-2015).

[6] C. Aggarwal, Recommender Systems. Cham: Springer International Publishing, 2016.

[7] Kumar, B. & Sharma, N., 2016, Approaches, Issues and Challenges in Recommender systems: A Systematic Review, Indian Journal of Science and Technology, vol 9(47), pp.1-12.

[8] Bin et al, 2019, A travel Route recommendation System based on Smart phones and IoT Environments, Hindawi, vol. 2019.

[9] S. Rajendar, K. Manikanta, M. Mahendar, K. Madhavi, "Price comparison website for online shopping" 2021 International Journal of Creative Research Thoughts (IJCRT) vol 9, issue 6 June 2021.

[10] Aravind kumar M, Muthu selvam M, Logeshkanna V, "Online shopping comparison on e-commerce sites using web scraping approach", International Journal of Creative Research Thoughts (IJCRT) vol-6 Issue-1 2020.