TRAVEL DESTINATION RECOMMENDER SYSTEM

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Introduction

- Planning a trip can be a nightmare.
- Endless destinations, conflicting reviews, and information overload leave you overwhelmed and frustrated.
- Here we are solving that Problem with the help of our Project!!

OBJECTIVES

- Developed an ML based travel destination recommender system.
- Cater to the personalized needs of users and helping them create a perfect travel itinerary.
- Enhance user satisfaction

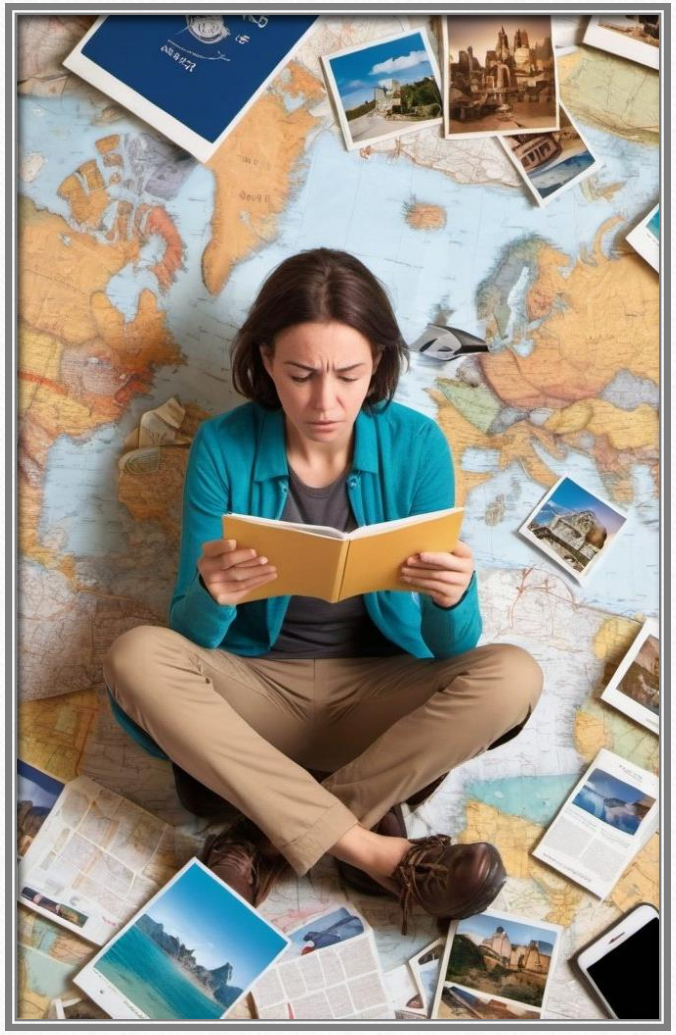
Navigating the journey: Personalized travel recommendations unveiled

Understanding Preferences

Personalized Recommendations

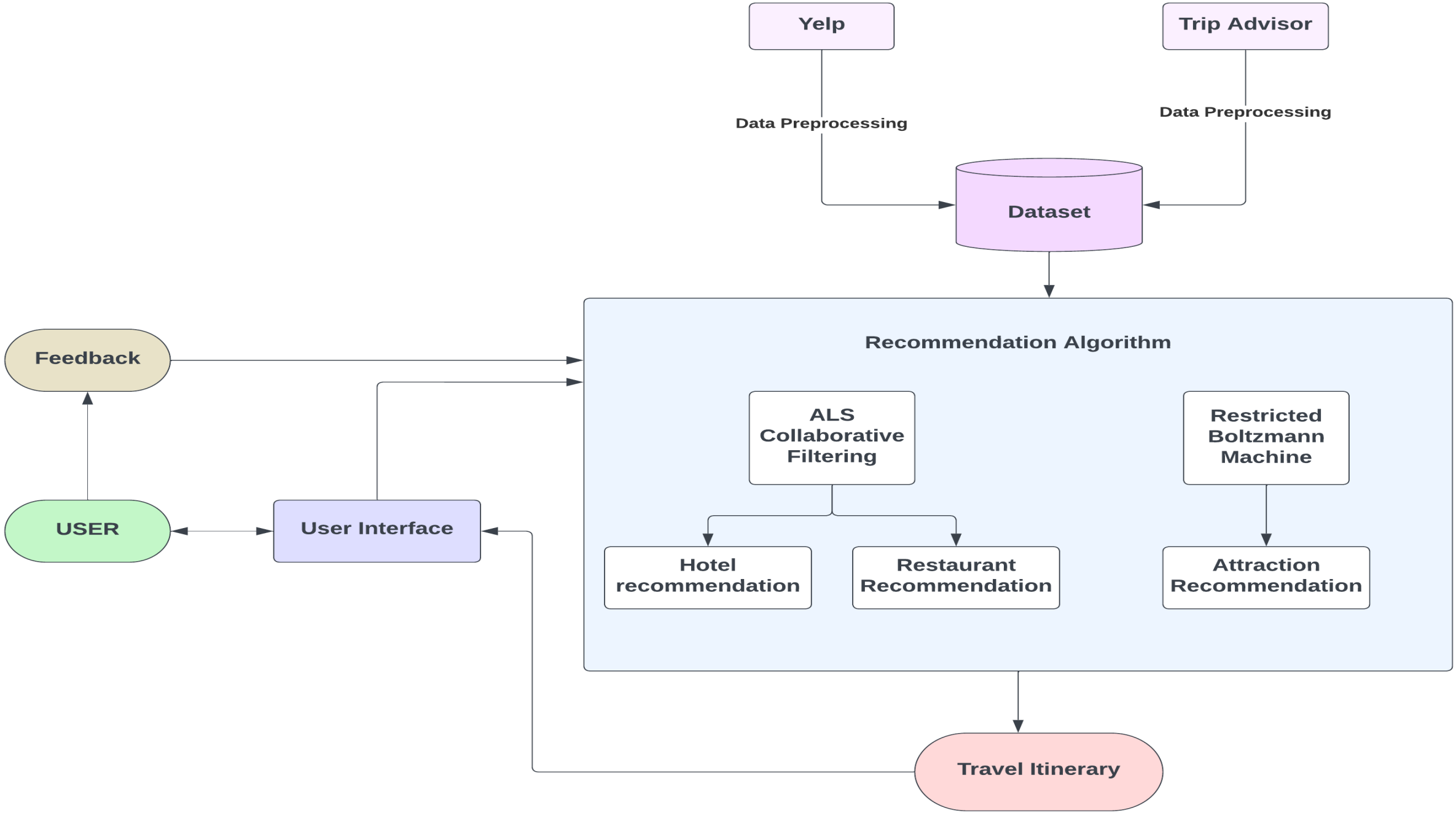
Crafting unique experiences

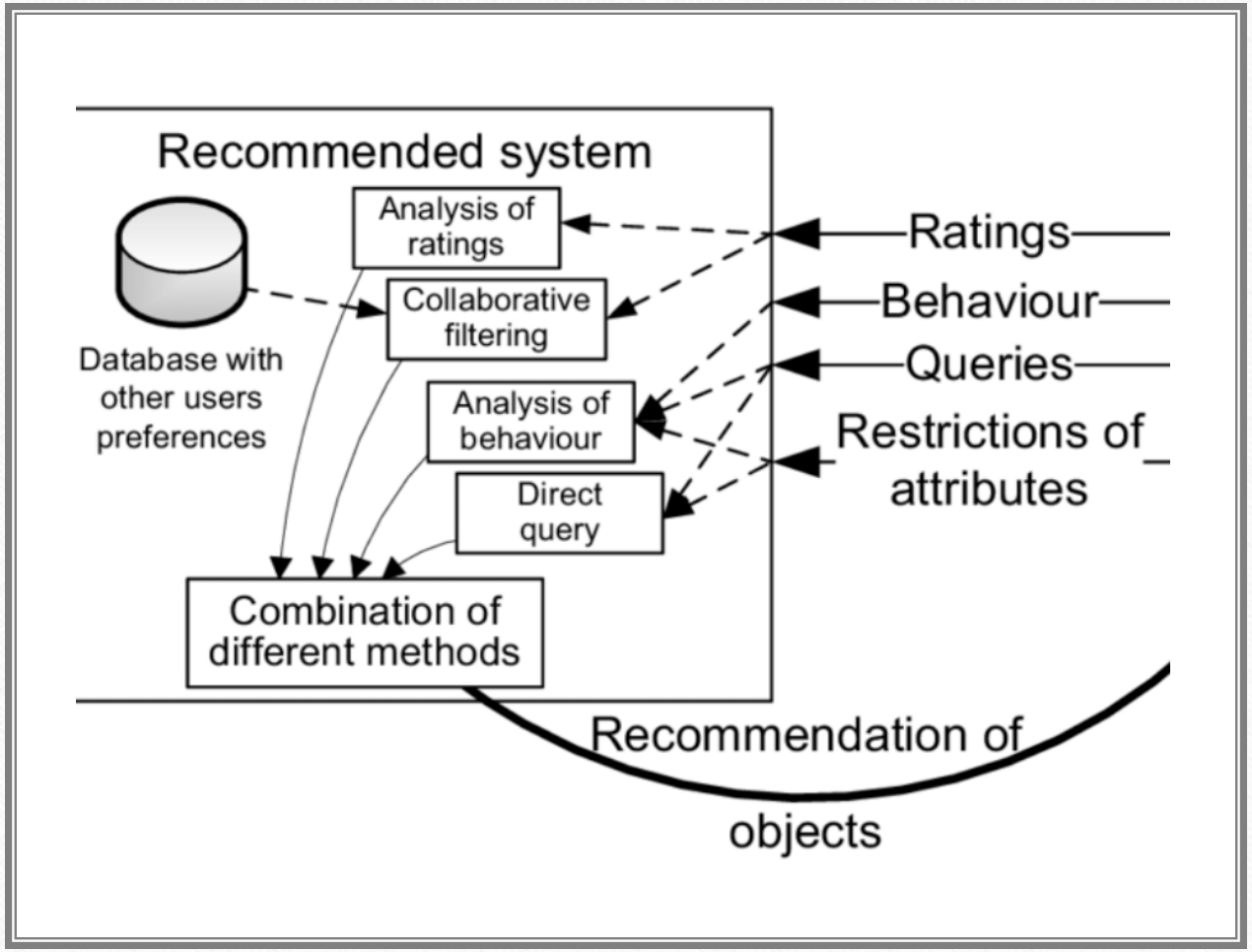
Curating unforgettable memories



How does it work?

- Data Set
- Data Preprocessing
- Recommendation Algorithm
- User Interface


Yelp
Trip Advisor
Data Preprocessing
Data Preprocessing
Dataset
Recommendation Algorithm
Feedback
ALS Collaborative Filtering
Restricted Boltzmann Machine
USER
User Interface
Hotel recommendation
Restaurant Recommendation
Attraction Recommendation
Travel Itinerary



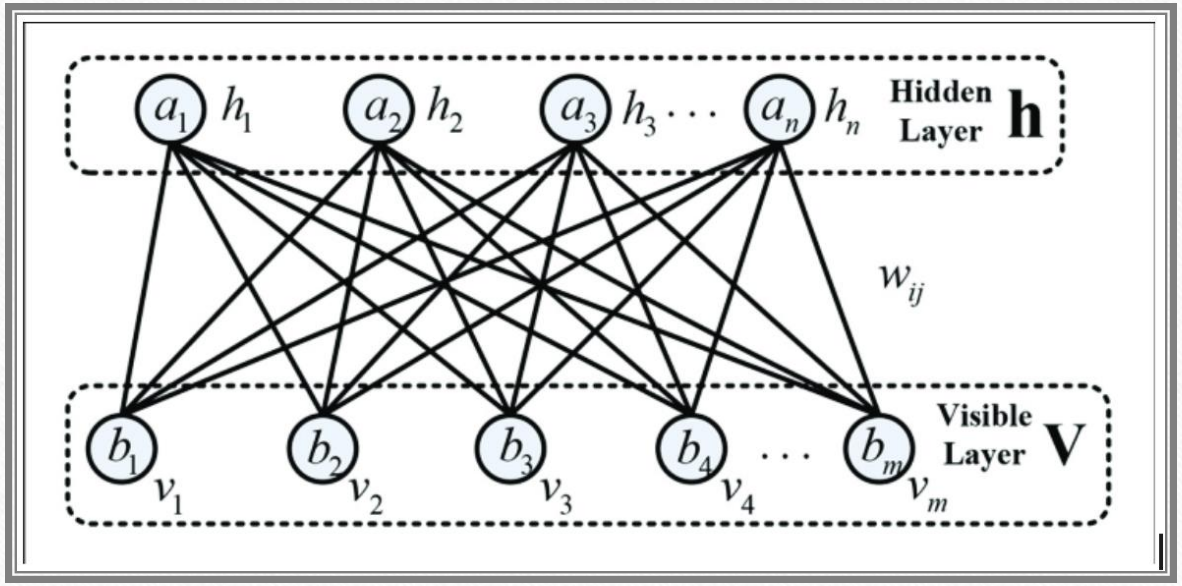
ALS – Collaborative Filtering

- User-item Matrix

- **Two Types:**
- User-based
- Item-based

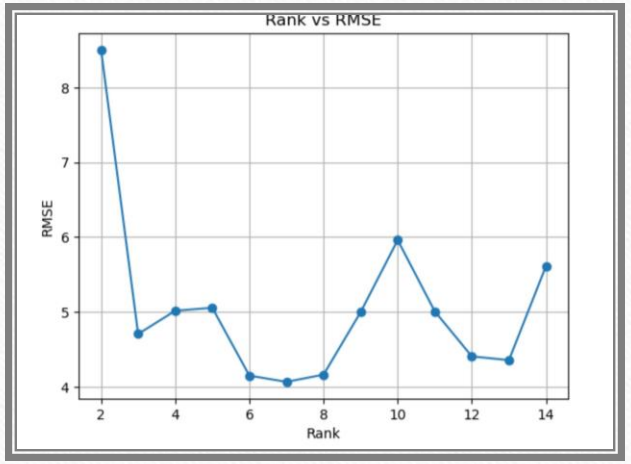
Restricted Boltzmann Machine Model

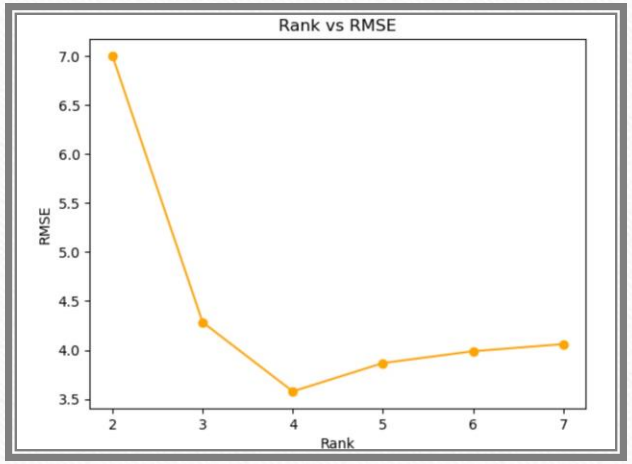
- It will create a vector where each element corresponds to a specific preference.
- Assign a binary value of 1 if the user has that preference and 0 otherwise.



Analysis

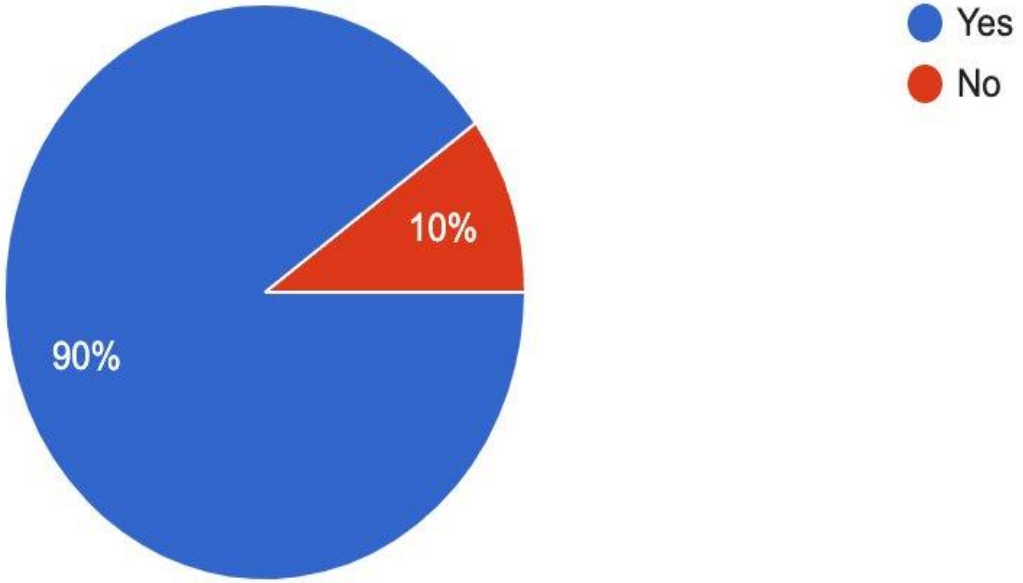
- First graph shows the Rank vs RMSE for hotel recommendation, done using ALS-Collaborative Filtering. For first 7 recommendations, the RMSE was low at 4.0679 and high at 8.56 for first 2 recommendations.
- Second graph shows the Rank vs RMSE for restaurant recommendation, again done using ALS-Collaborative Filtering. For first 4 recommendations, the RMSE was low at 3.579 and high at first 7.014 for 2 recommendations.





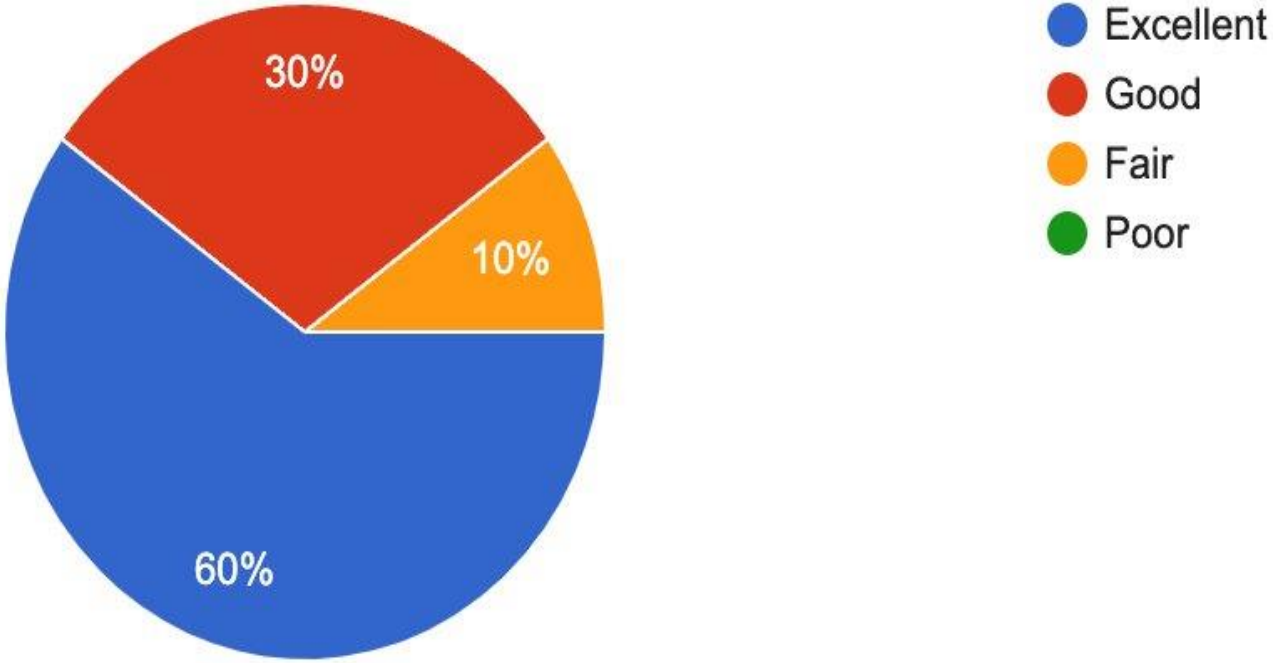
After visiting the "Bonvoyage" website, did you find the recommendations provided relevant to your interests and preferences?

90 responses



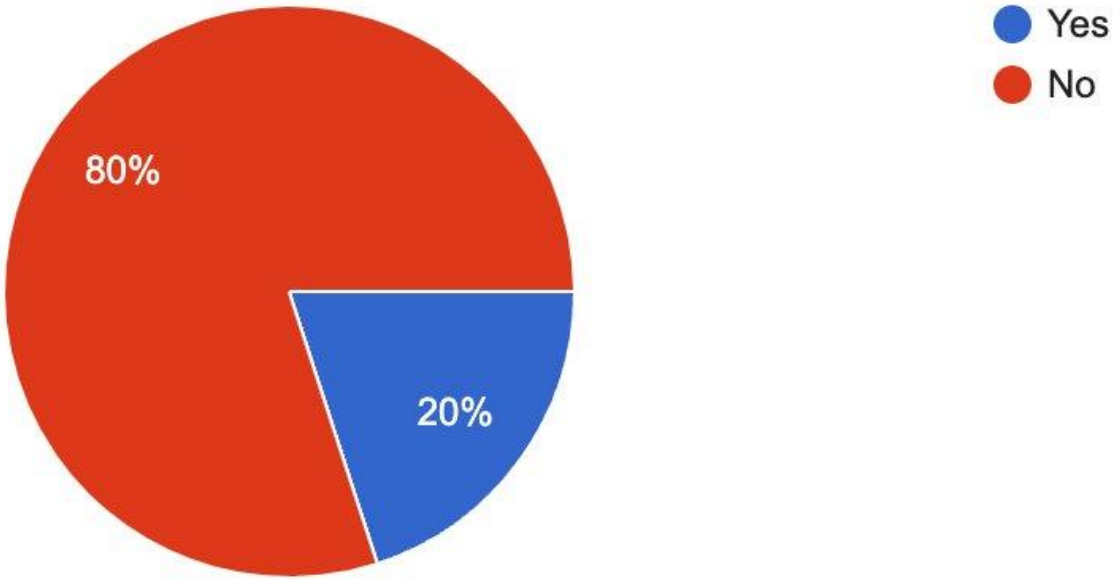
How would you rate the user interface (UI) of the website?

90 responses



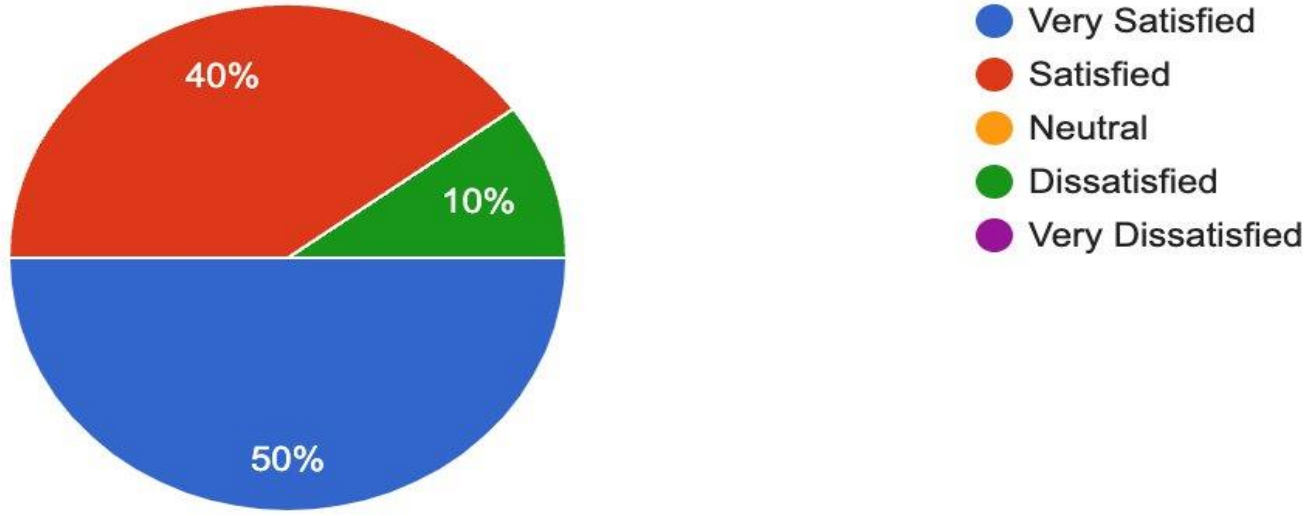
Did you experience any issues with the performance of the website (e.g., slow loading times, errors)?

90 responses



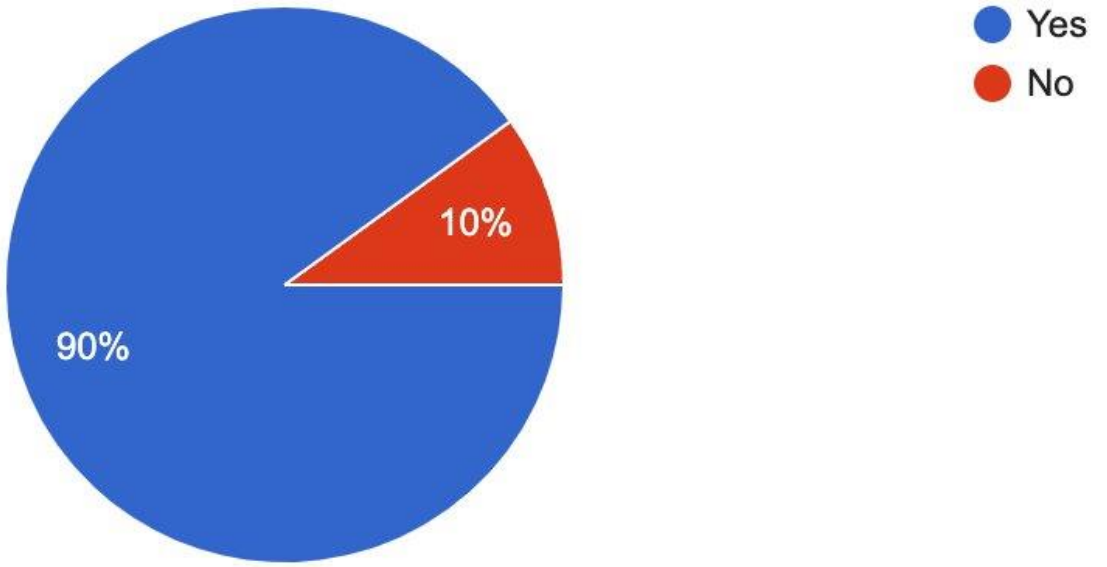
Overall, how satisfied are you with your experience using the "Travel Destination Recommendation System" website?

90 responses



Would you recommend the "Travel Destination Recommendation System" website to others?

90 responses



Conclusion

- Recommends destinations based on individual preferences, budget, and travel timing, empowering informed decisions and new discoveries.

- Advanced machine learning algorithms ensure efficiency, scalability, and personalization.

References

- [1] H. Ko, S. Lee, Y. Park, and A. Choi, "A Survey of Recommendation Systems: Recommendation Models, Techniques, and Application Fields, "in *Electronics*, vol. 11, no. 1, pp. 141, 2022.
- [2] U. Gretzel, N. Mitsche, Y. H. Hwang, and D. R. Fesenmaier, "Tell Me Who You Are, and I Will Tell You Where to Go: Use of Travel Personalities in Destination Recommendation Systems," in *Information Technology & Tourism*, vol. 7, no. 1, pp. 3–12, 2004.
- [3] M. Goossen, H. Meeuwsen, J. Franke, and M. Kuyper, "My Ideal Tourism Destination: Personalized Destination Recommendation System Combining Individual Preferences and GIS Data," in *Information Technology & Tourism*, vol. 11, no. 1, pp. 17-30, 2009.

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THANK YOU