

MOVIE RECOMMENDATION SYSTEM

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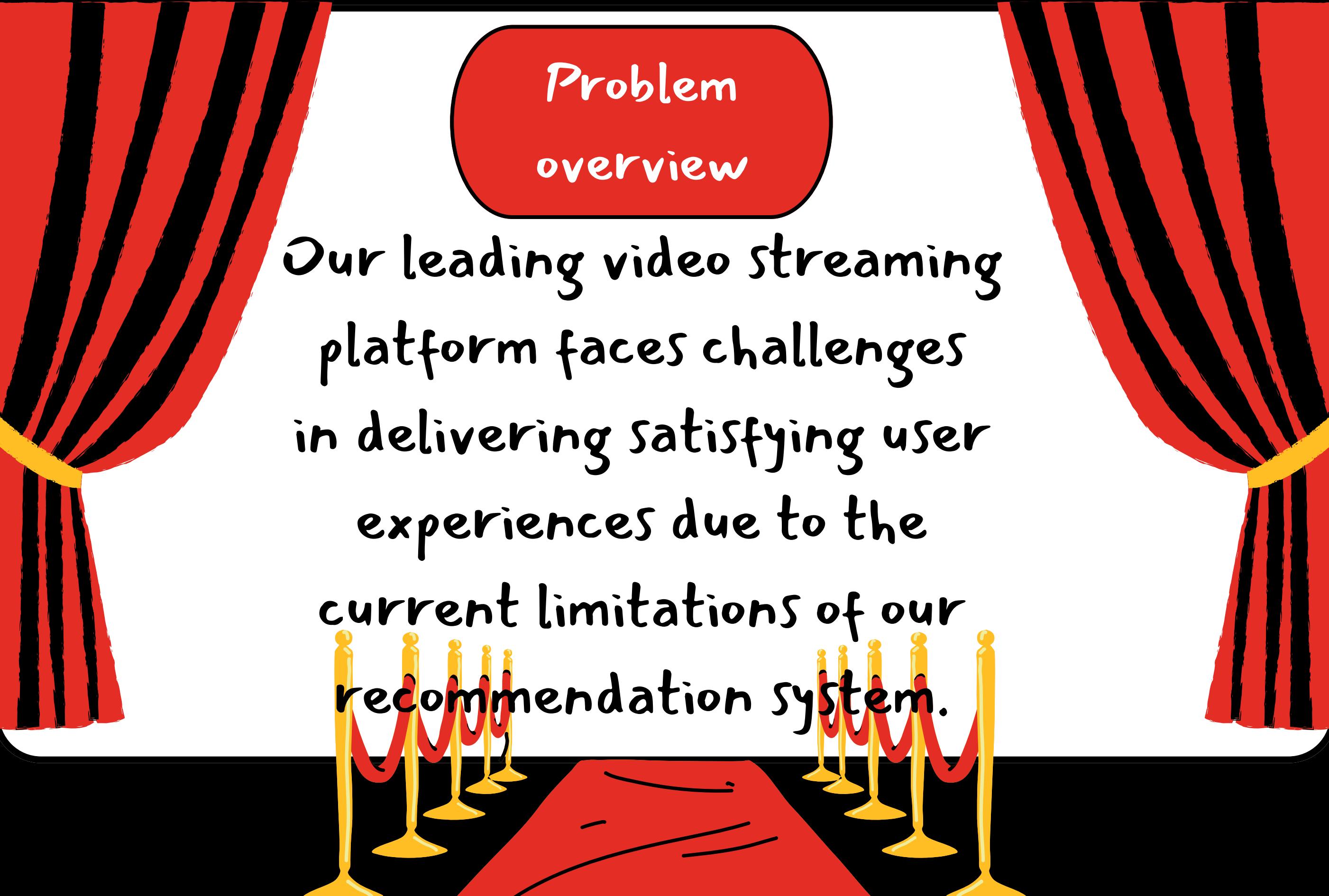
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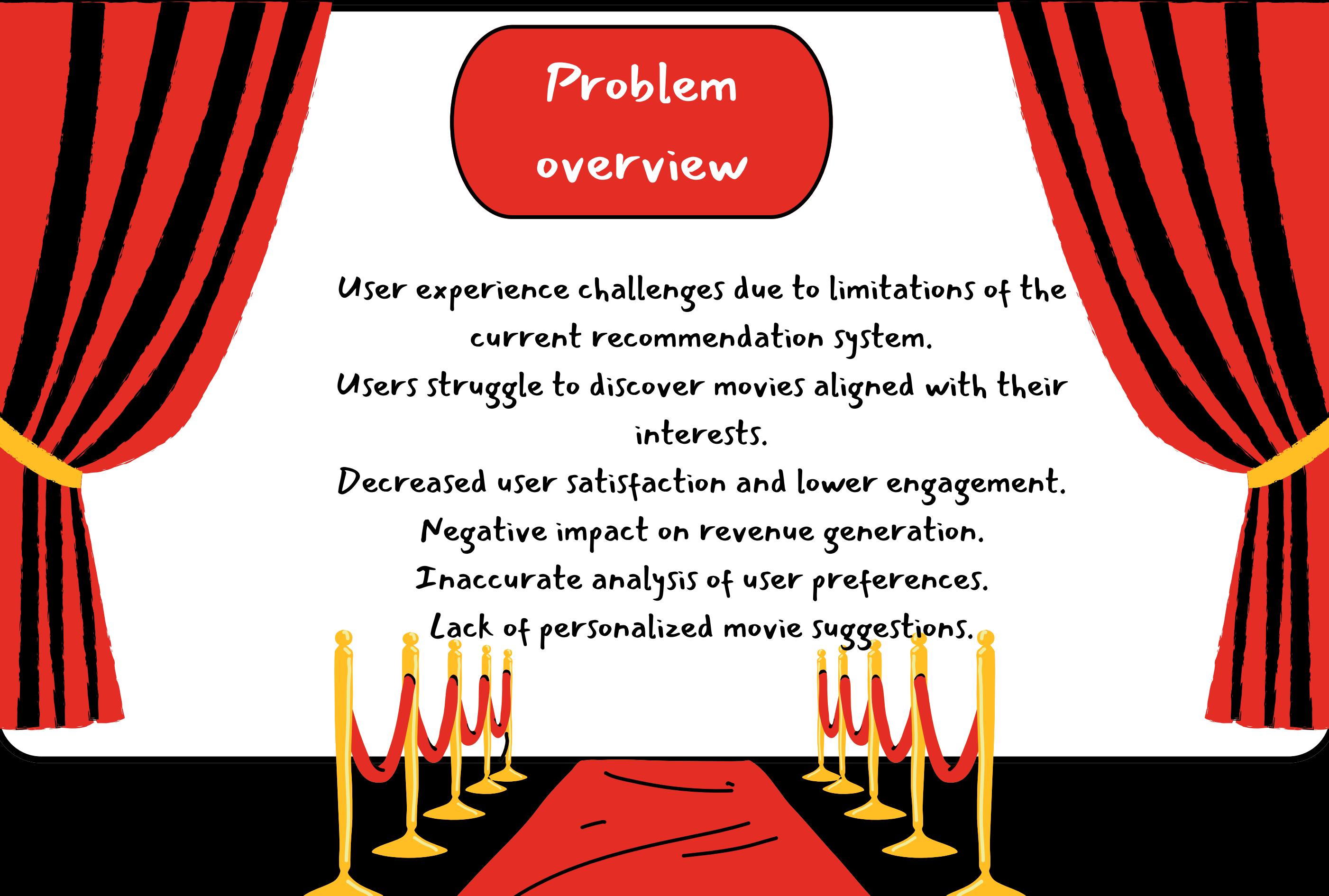
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RECOMMENDATIONS



Problem overview

Our leading video streaming platform faces challenges in delivering satisfying user experiences due to the current limitations of our recommendation system.



Problem overview

User experience challenges due to limitations of the current recommendation system.

Users struggle to discover movies aligned with their interests.

Decreased user satisfaction and lower engagement.

Negative impact on revenue generation.

Inaccurate analysis of user preferences.

Lack of personalized movie suggestions.

Goals and objectives

To build a movie recommendation stem
that provides top 5 movie
recommendations to a user based on their
ratings of other movies.

02 To enhance user satisfaction by providing
accurate and personalized movie
recommendations that align with each user's
individual tastes and interests

03

Improve user retention by delivering a highly
engaging and satisfying user experience through

Solution process

What's the name of the dog in

ThData UnderstandingD

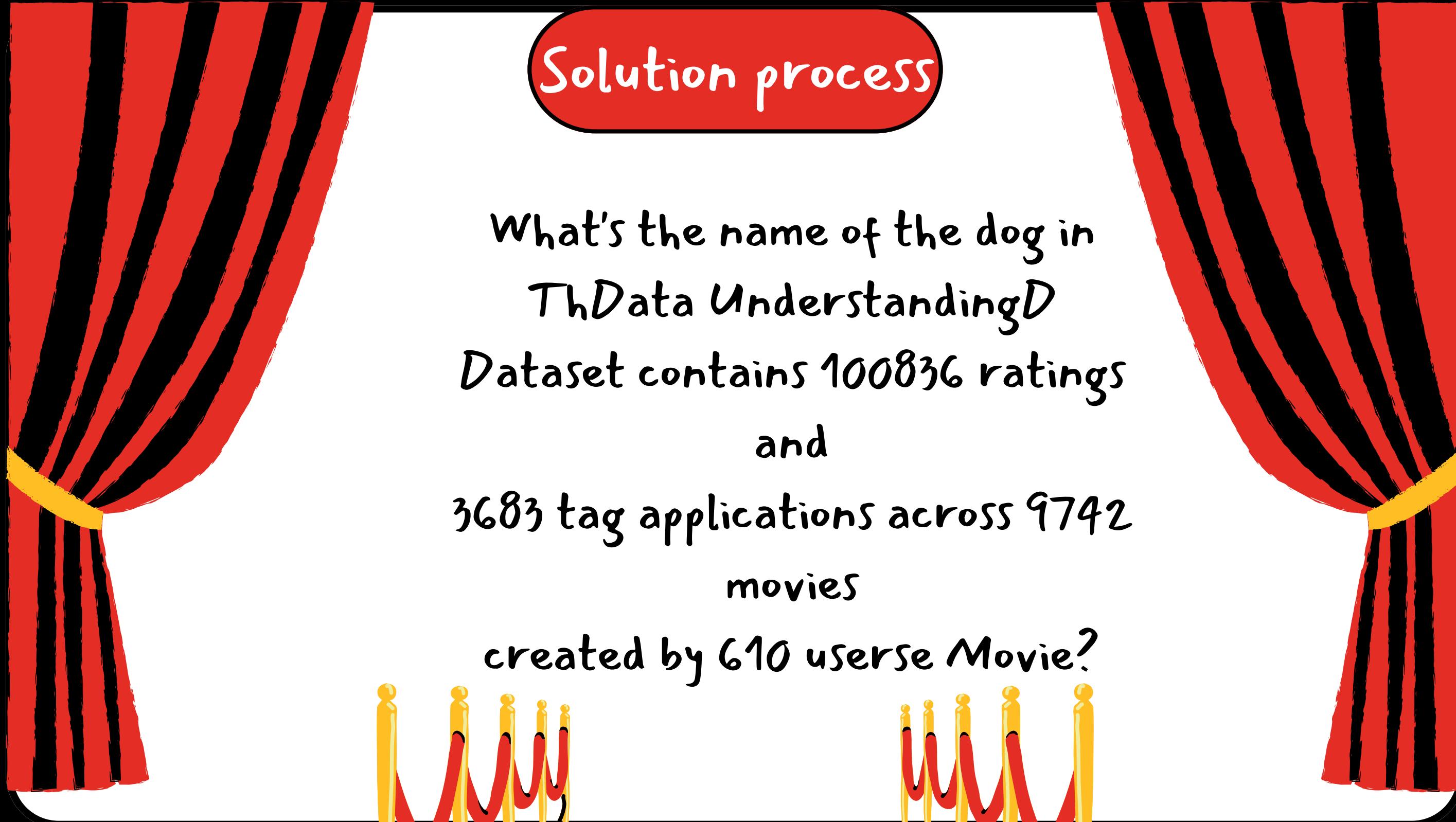
Dataset contains 100836 ratings

and

3683 tag applications across 9742

movies

created by 610 userse Movie?

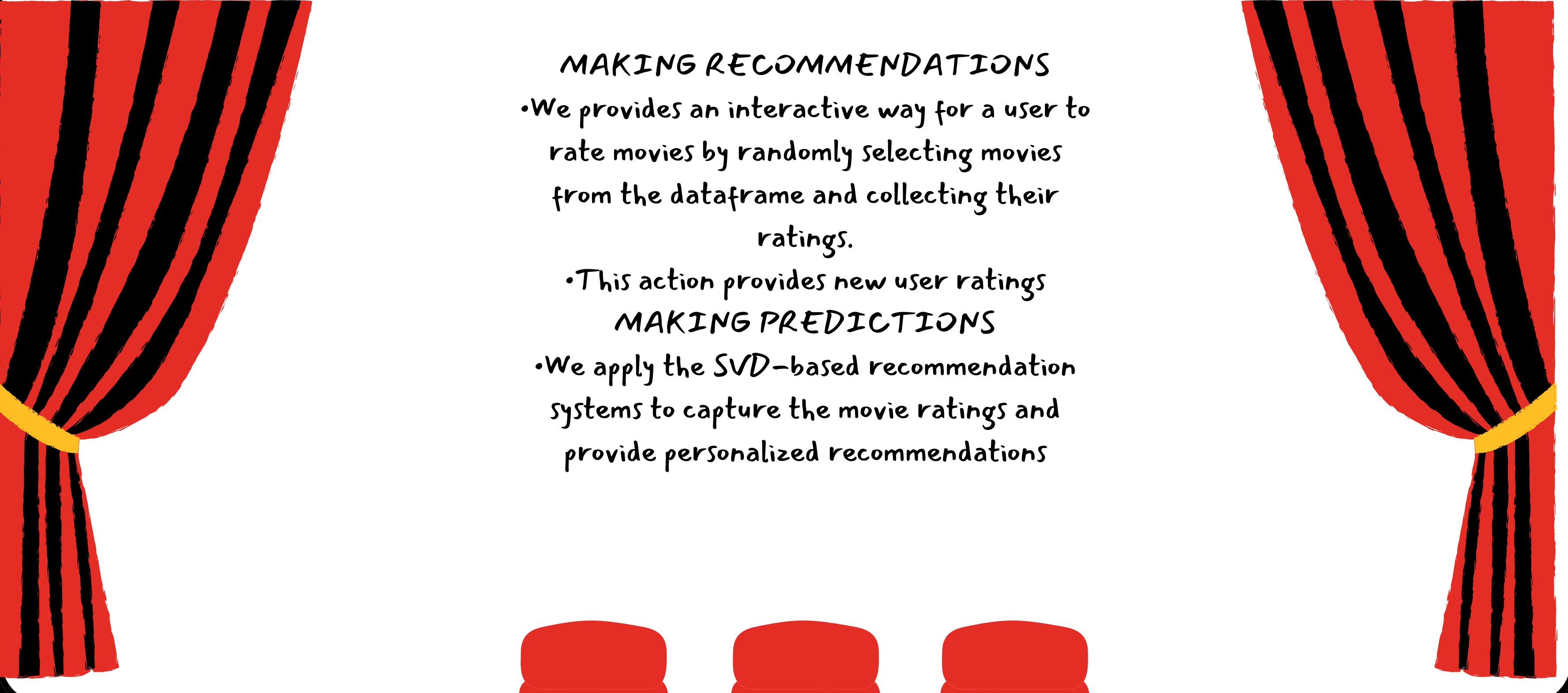


Recommendation system

COLLABORATIVE FILTERING RECOMMENDATION SYSTEM

Collaborative Filtering:
is a popular approach in
recommendation systems that
leverages user behavior and item
similarity to make personalized
recommendations.

It assumes that users who have similar
preferences in the past will have similar
preferences in the future



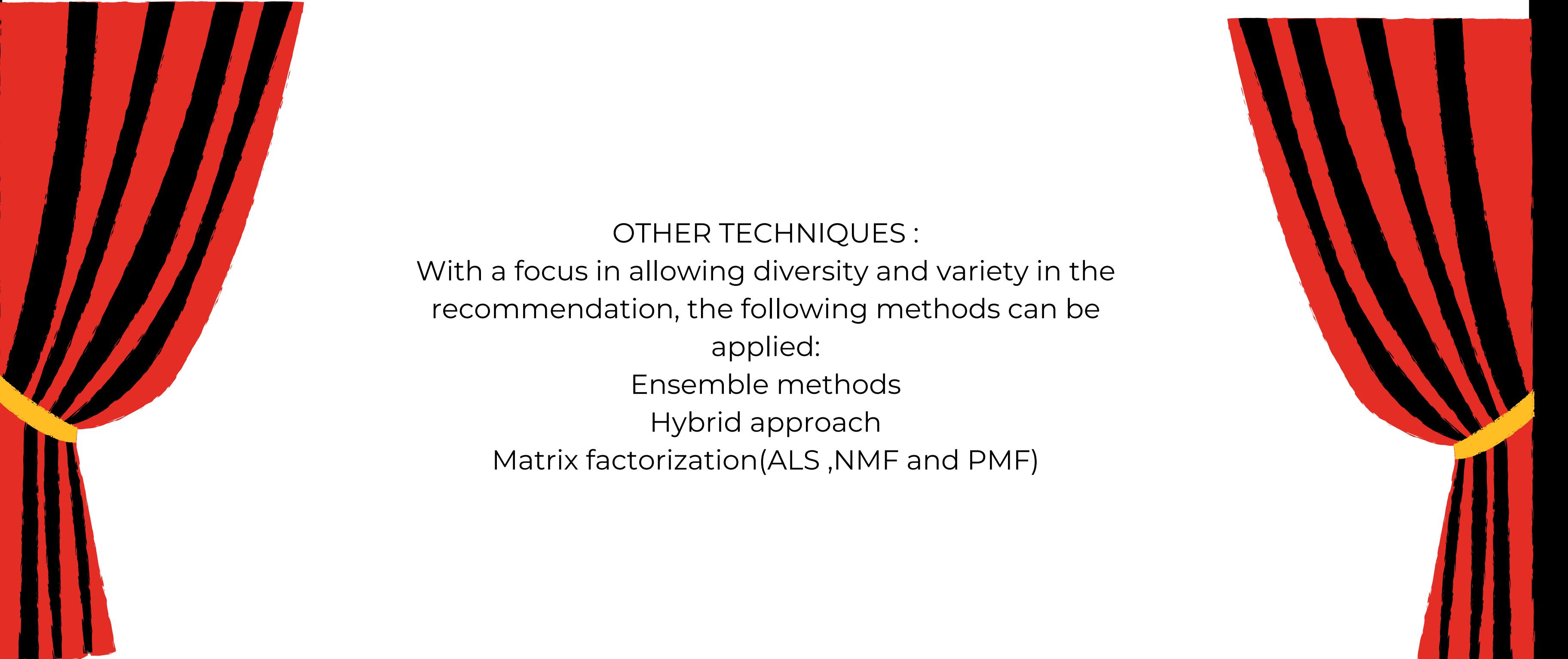
MAKING RECOMMENDATIONS

- We provide an interactive way for a user to rate movies by randomly selecting movies from the dataframe and collecting their ratings.

- This action provides new user ratings

MAKING PREDICTIONS

- We apply the SVD-based recommendation systems to capture the movie ratings and provide personalized recommendations



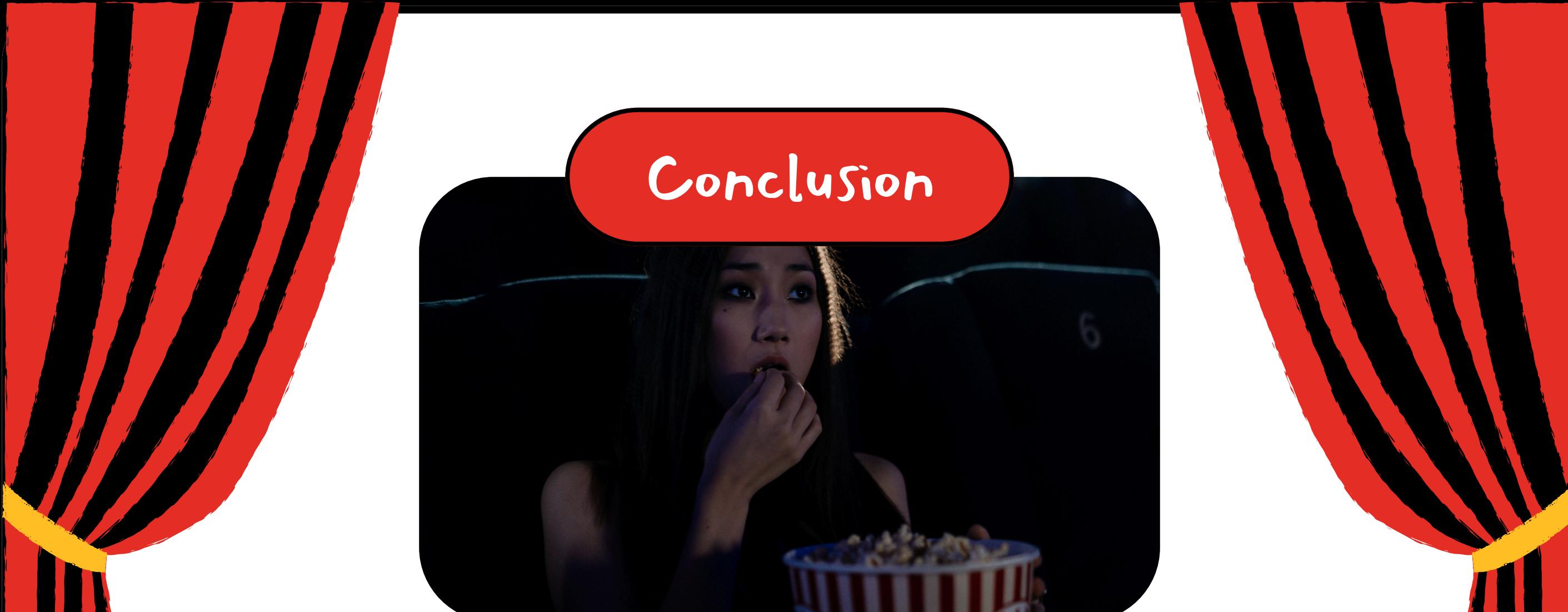
OTHER TECHNIQUES :

With a focus in allowing diversity and variety in the recommendation, the following methods can be applied:

Ensemble methods

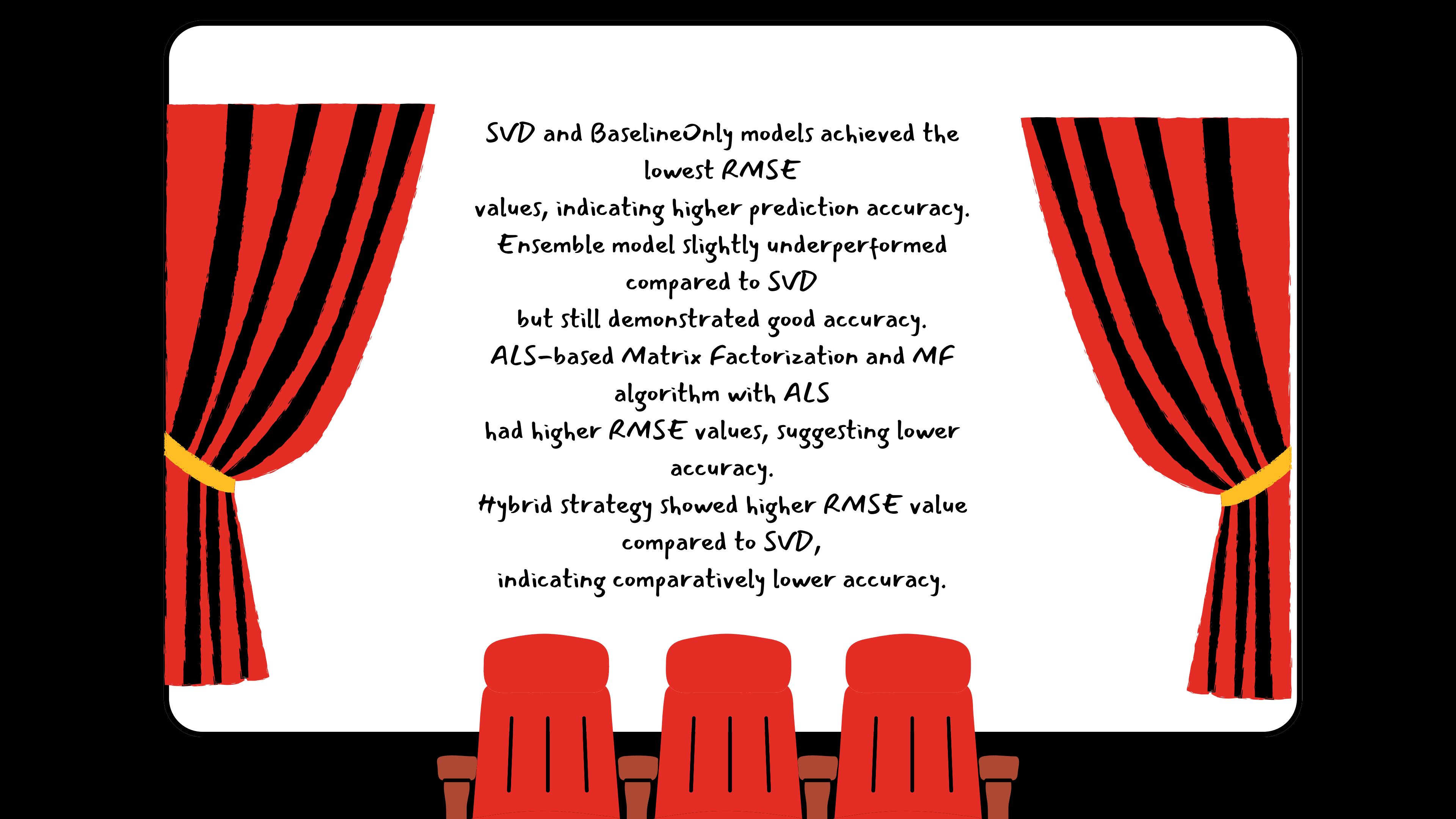
Hybrid approach

Matrix factorization(ALS ,NMF and PMF)



Conclusion

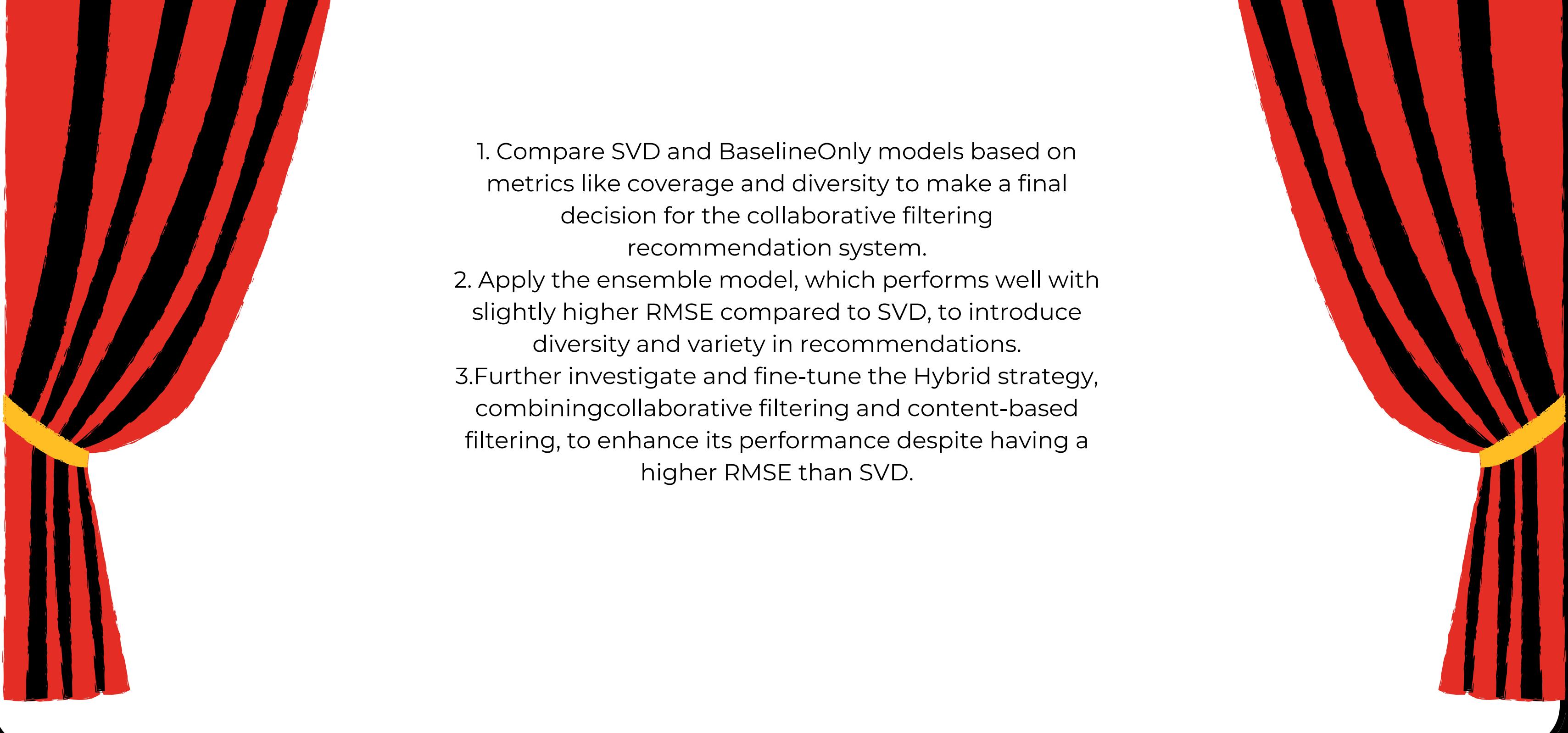




SVD and BaselineOnly models achieved the lowest RMSE values, indicating higher prediction accuracy. Ensemble model slightly underperformed compared to SVD but still demonstrated good accuracy. ALS-based Matrix Factorization and MF algorithm with ALS had higher RMSE values, suggesting lower accuracy. Hybrid strategy showed higher RMSE value compared to SVD, indicating comparatively lower accuracy.



Recommendation

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1. Compare SVD and BaselineOnly models based on metrics like coverage and diversity to make a final decision for the collaborative filtering recommendation system.
 2. Apply the ensemble model, which performs well with slightly higher RMSE compared to SVD, to introduce diversity and variety in recommendations.
 3. Further investigate and fine-tune the Hybrid strategy, combining collaborative filtering and content-based filtering, to enhance its performance despite having a higher RMSE than SVD.



Thank you
for watching