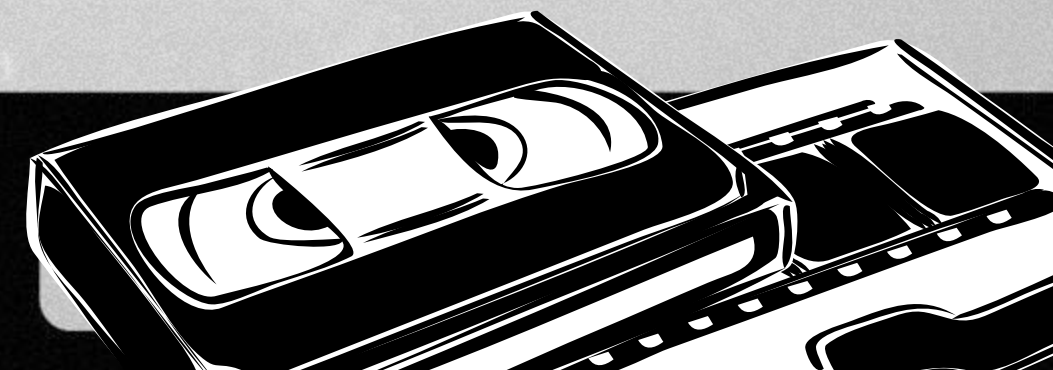


MOVIE RECOMMENDATION SYSTEM

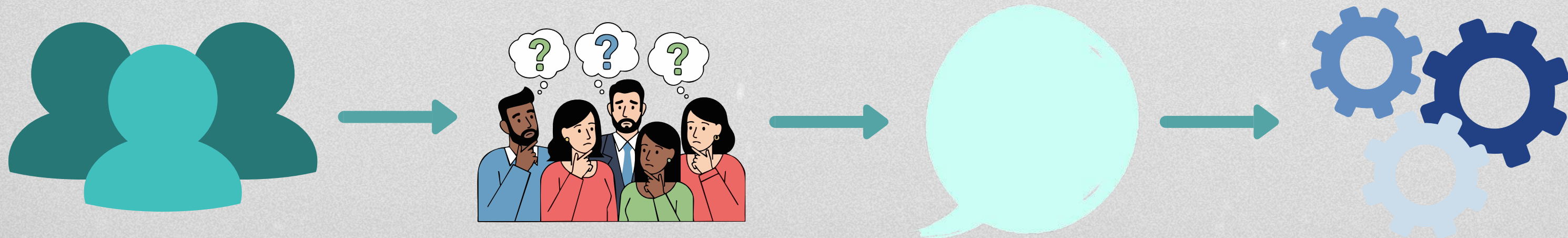
**Personalizing User Experience
with Data**

Presented by: Group Ten



WHY PERSONALIZATION MATTERS IN THE MOVIE INDUSTRY

- Too many movies, too little time.
- Users struggle to find content they'll enjoy.
- Platforms risk losing engagement and subscriptions






BUSINESS PROBLEM


The goal is to help a movie-streaming platform increase user engagement by showing each viewer movies that match their unique taste.

By predicting what users will like, the platform can:

- Keep viewers watching longer.
 - Increase subscription renewals.
 - Strengthen user loyalty.
- 




PROJECT OBJECTIVES

- Predict *what* movies users *will* enjoy
 - Recommend top 5 personalized choices
 - Evaluate accuracy and reliability
- 




DATA INSIGHTS

- Source: MovieLens dataset
 - 100,000 ratings from 600+ users
 - 9,000+ unique movies
 - Ratings: 0.5–5 stars
 - The most active user rated 7,376 movies
 - The average rating was 3.5/5 stars
 - Drama and Comedy were among the most common genres"
- 

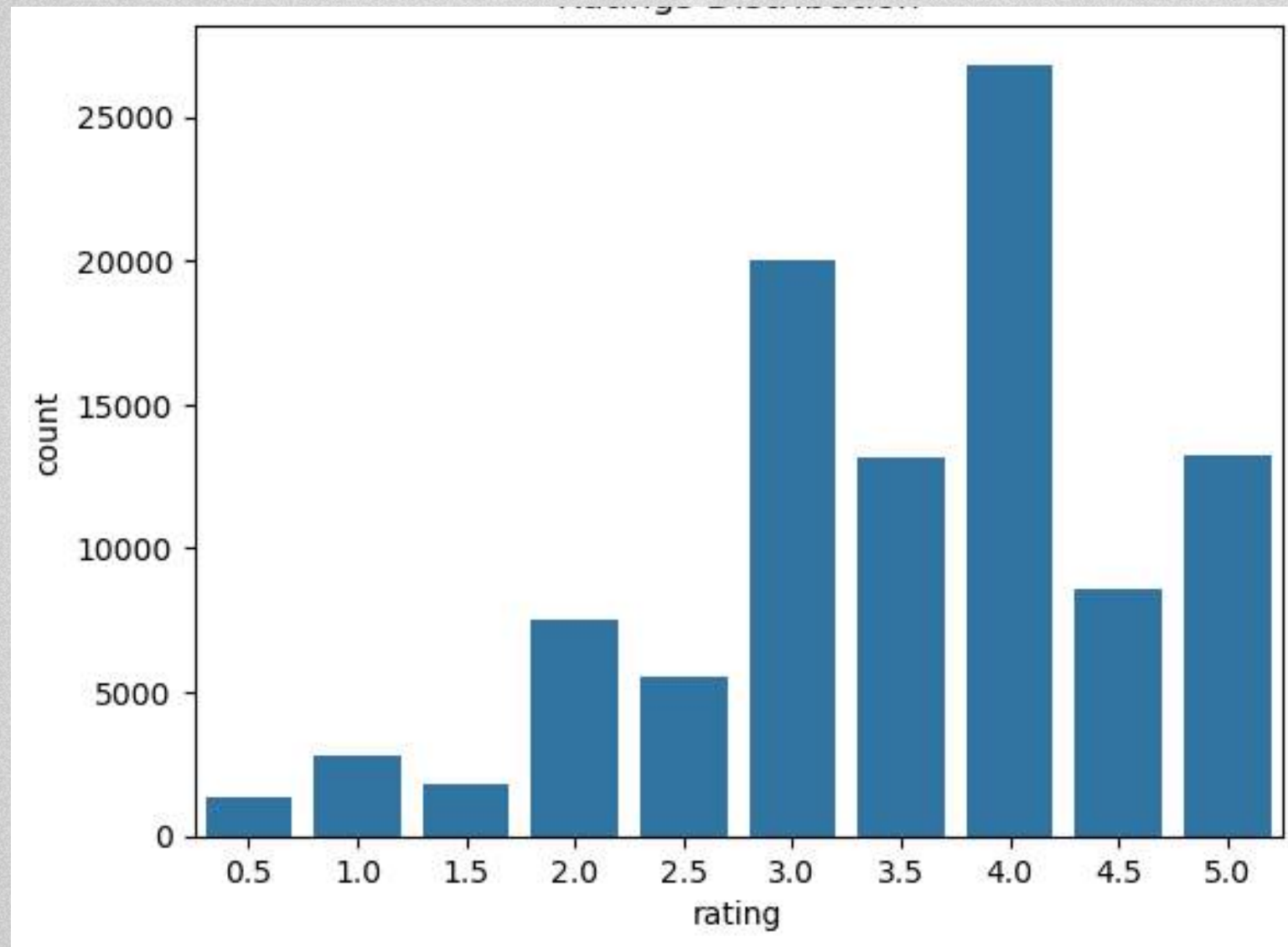


HOW IT WORKS

Our system learns from user behavior:

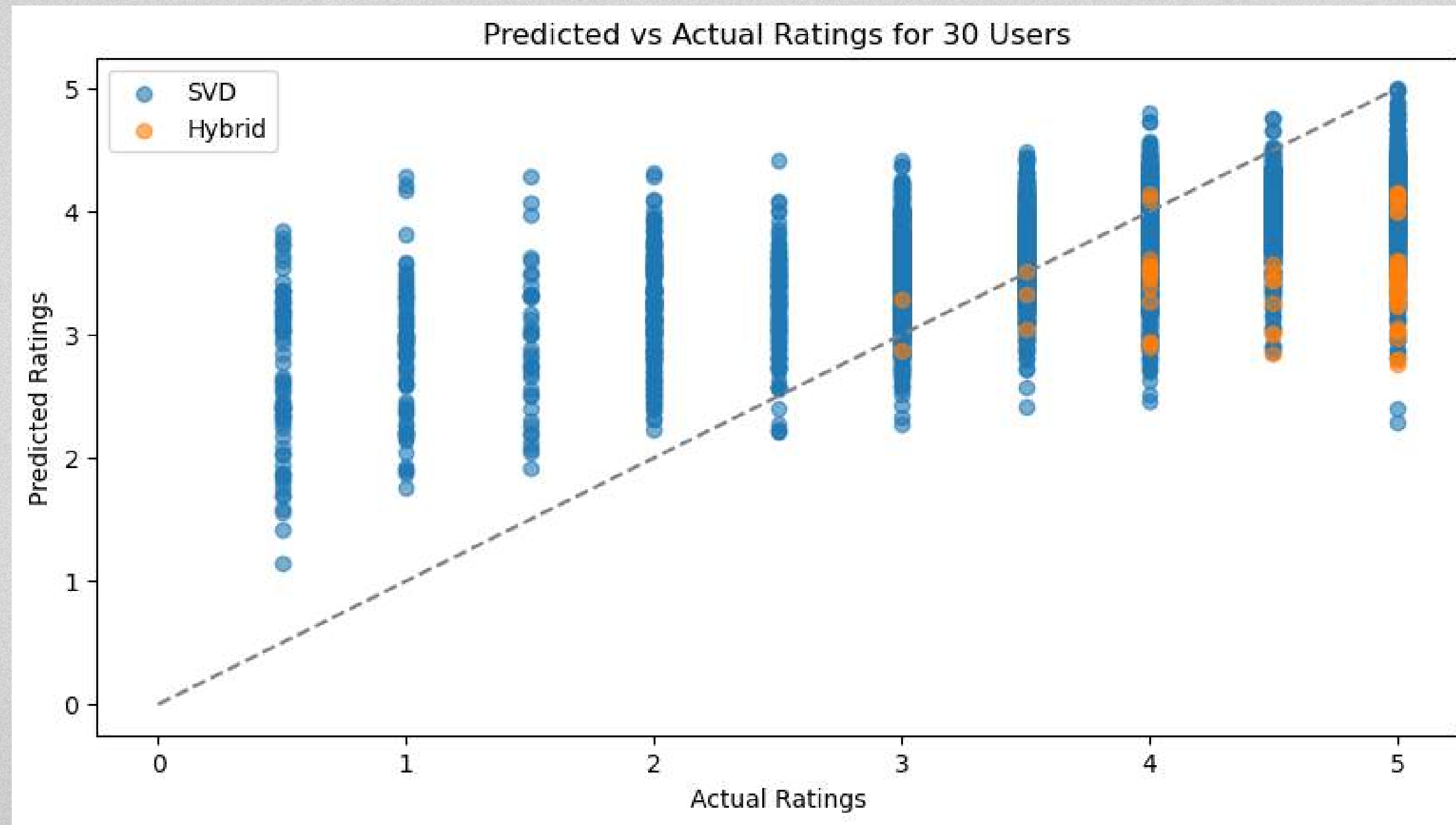
1. Looks at movies you've rated highly.
 2. Finds other users who liked similar movies.
 3. Recommends movies they loved, that you haven't seen yet!
- 

RATING DISTRIBUTION

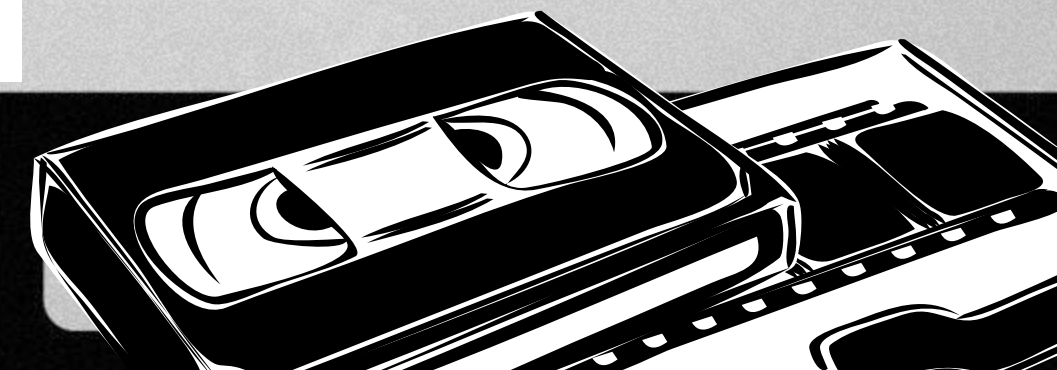


Most ratings are between 3.0 and 5.0

MODEL PERFORMANCE



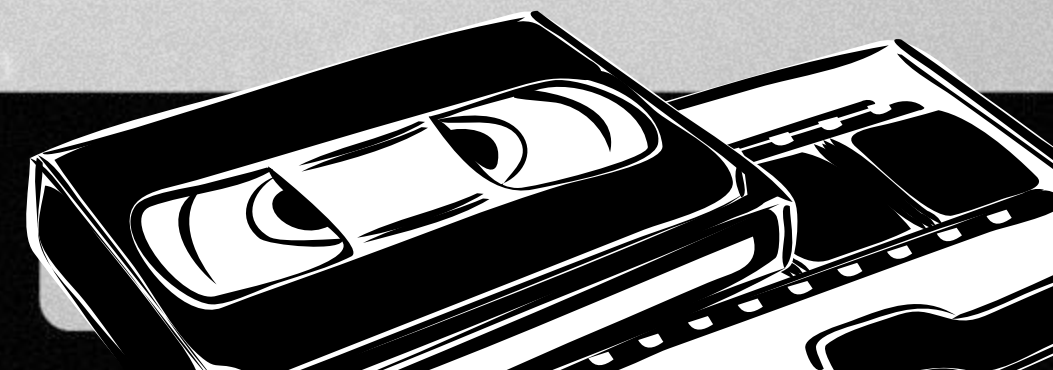
Model Accuracy:
RMSE = 0.83
MAE = 0.65
Meets success criteria



CONTENT-BASED FILTERING EXAMPLE

If you liked Toy Story (1995), our model recommends:

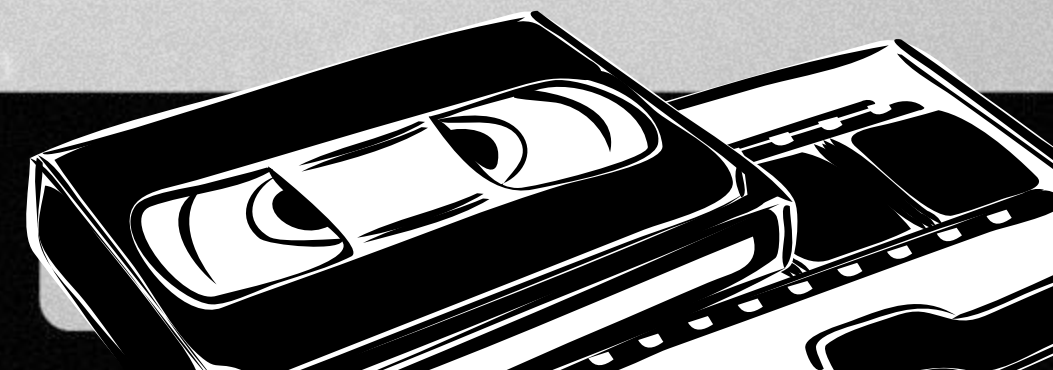
- Turbo (2013)
- Monsters, Inc. (2001)
- Moana (2016)
- The Emperor's New Groove (2000)"



HYBRID RECOMMENDATIONS EXAMPLE

For User #1, our hybrid model's top recommendations were:

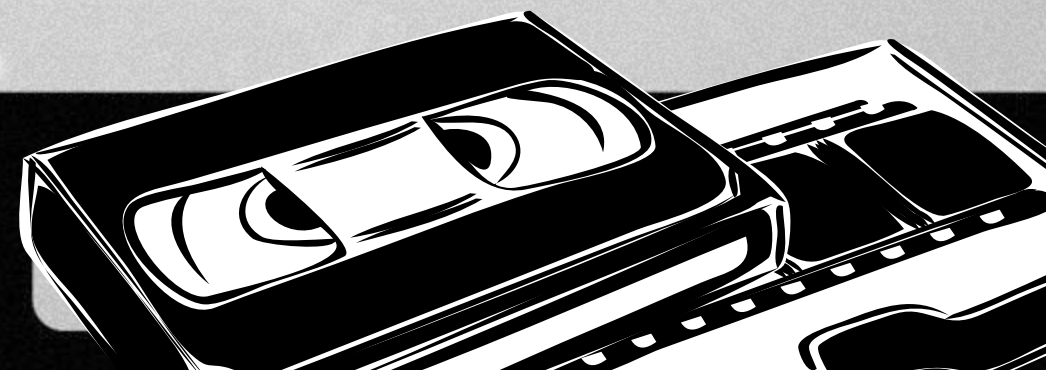
- The Princess Bride (1987)
- Great Escape (1963)
- Lawrence of Arabia (1962)
- City of God (2002)"





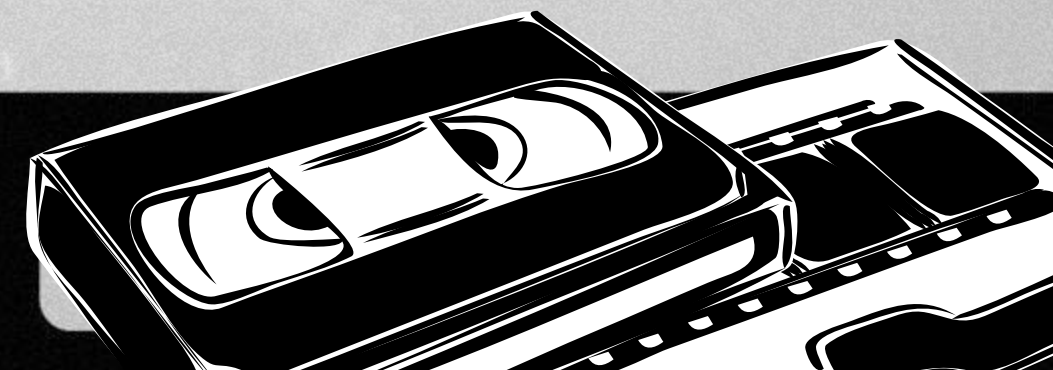
BUSINESS IMPACT

- Higher engagement: Users discover more movies they love.
- Better retention: Happier users stay subscribed longer.
- Smarter content decisions: Insights can guide which movies to promote or acquire.



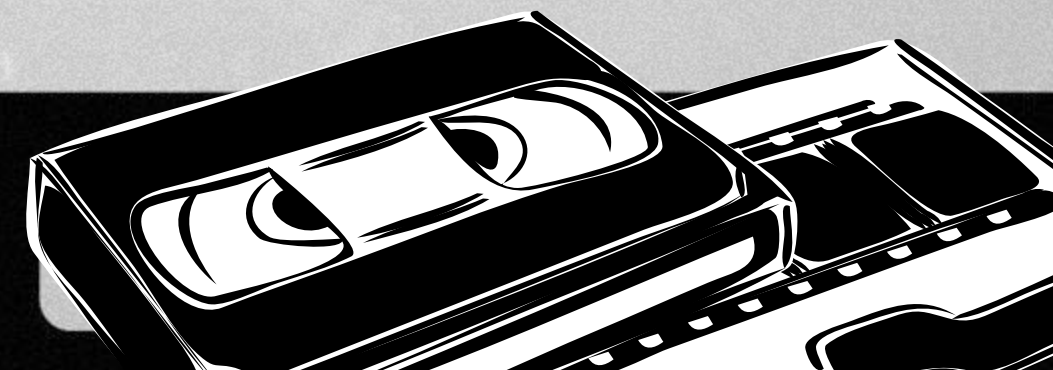
CONCLUSION

- Built a system that predicts what users will enjoy.
- Model is accurate and reliable.
- Personalized recommendations drive engagement and growth.



RECOMMENDATIONS

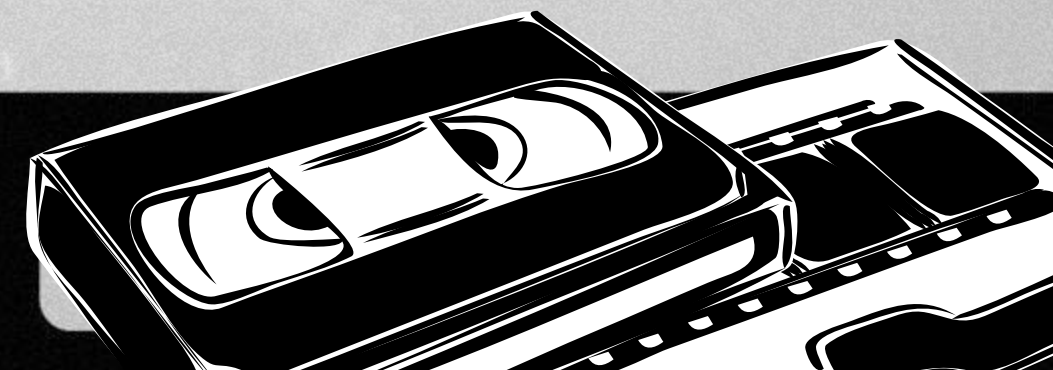
- Use the hybrid model for diverse, accurate results.
- Add more features like tags and demographics.
- Retrain the model regularly.
- Build a user-friendly web app.
- Collect user feedback for improvement.





NEXT STEPS

- Create weighted user profiles for better personalization
- Explore Neural Collaborative Filtering for deeper learning
- Track coverage to ensure diverse recommendations



THANK
YOU

