

HYBRID MOVIE RECOMMENDATION SYSTEM

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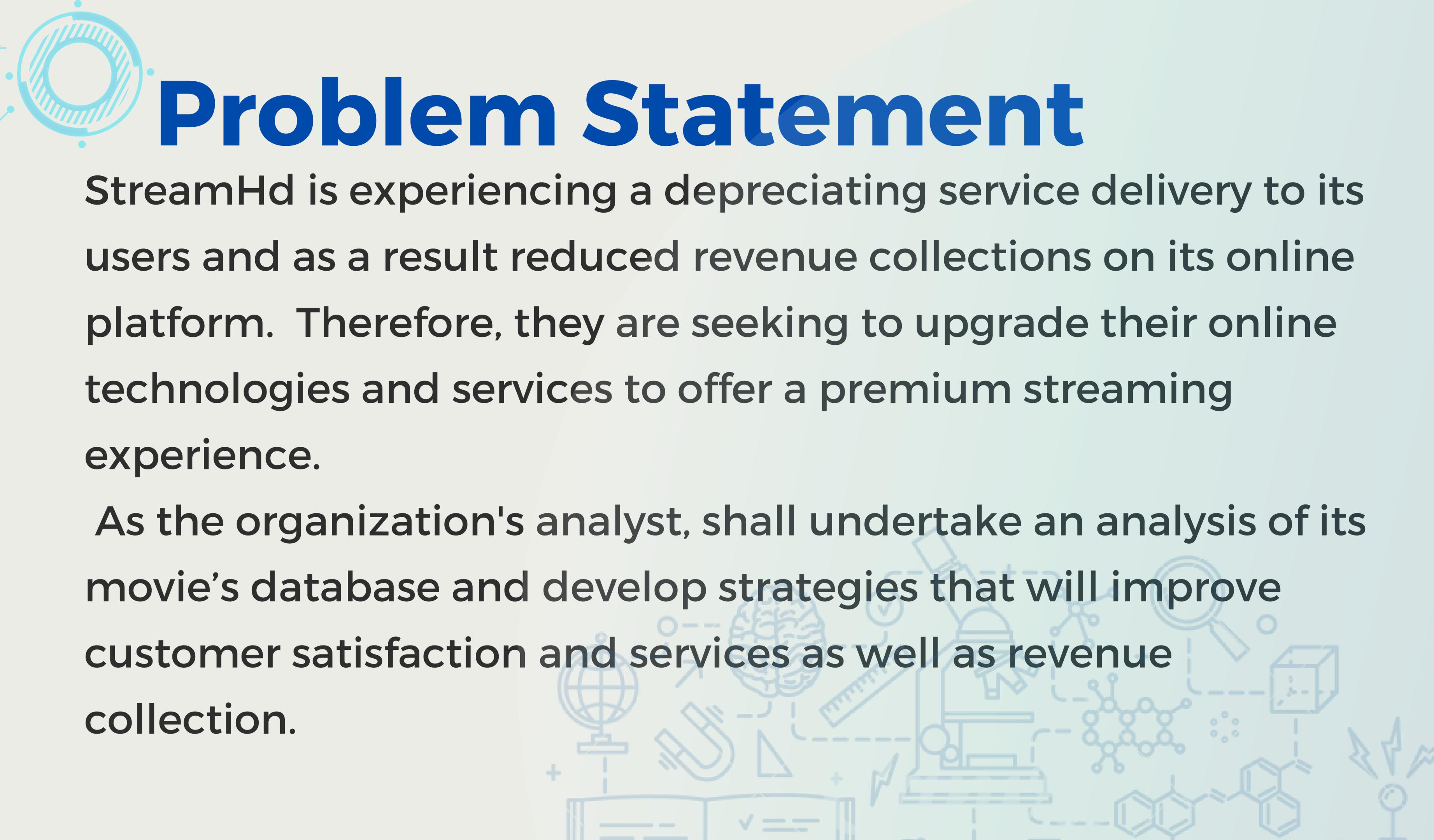
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Introduction

StreamHd is an emerging online streaming platform, that provides access to high-resolution films at fair prices and fast streaming speeds. In order to offer a competitive advantage to its rivals it must venture into implementing the latest/up-to-date streaming technologies.

Data from the organization's movie database was extracted for 610 user ratings on 9,742 movies to guide the analysis.





Problem Statement

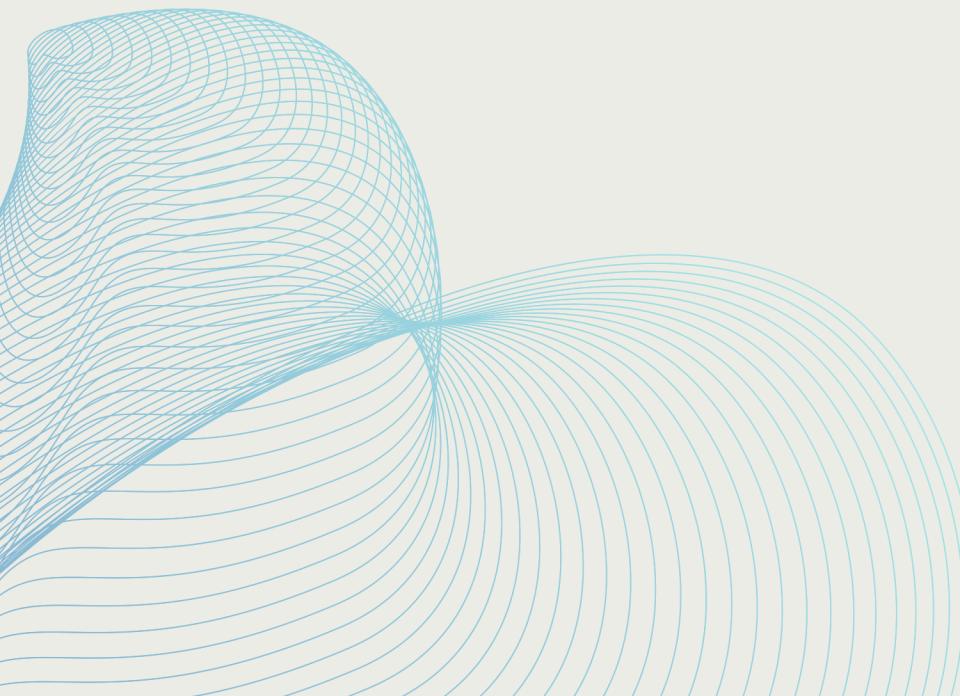
StreamHd is experiencing a depreciating service delivery to its users and as a result reduced revenue collections on its online platform. Therefore, they are seeking to upgrade their online technologies and services to offer a premium streaming experience.

As the organization's analyst, shall undertake an analysis of its movie's database and develop strategies that will improve customer satisfaction and services as well as revenue collection.



Research Questions

- 1 Which are the most loyal users?
- 2 Which are the most watched movies and genres?
- 3 Which are the most-rated movies and genres?
- 4 How can user service delivery be improved?
- 5 How can user satisfaction and retention be accomplished?

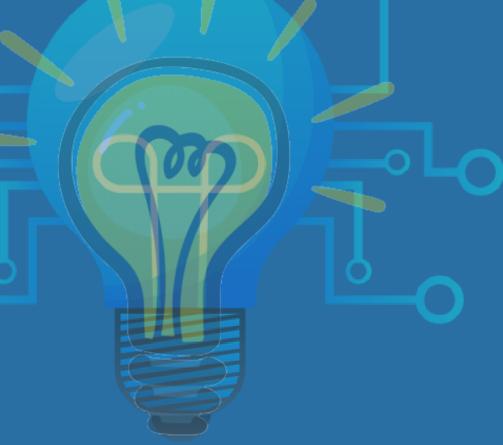


Main objectives

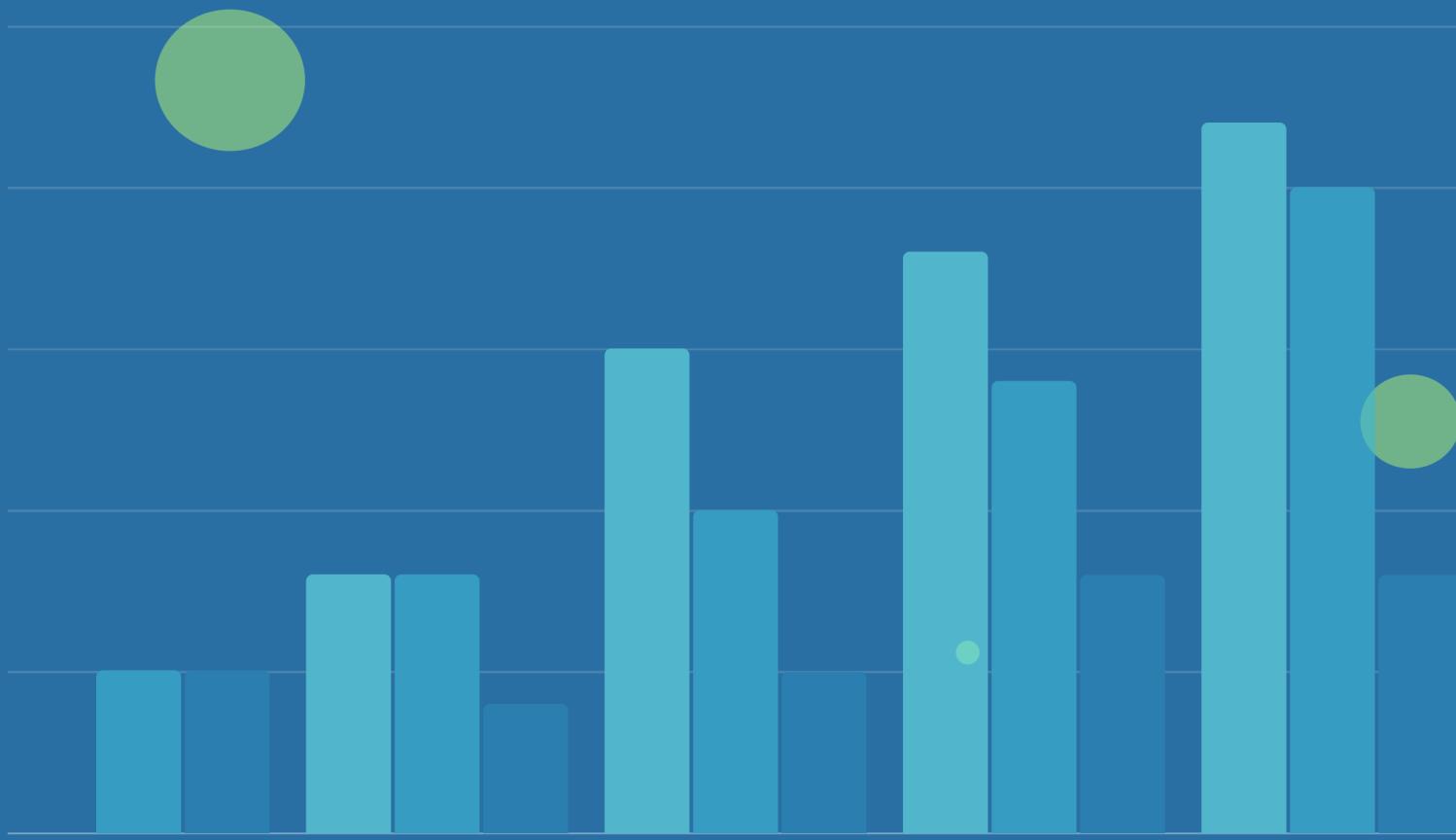
To develop a hybrid recommendation system that will, offer personalized recommendations to users while exposing users to a wide pool of movies/films improving user satisfaction & and service delivery, and increasing user purchasing thresholds as a result increasing revenue collection.

Specific objectives

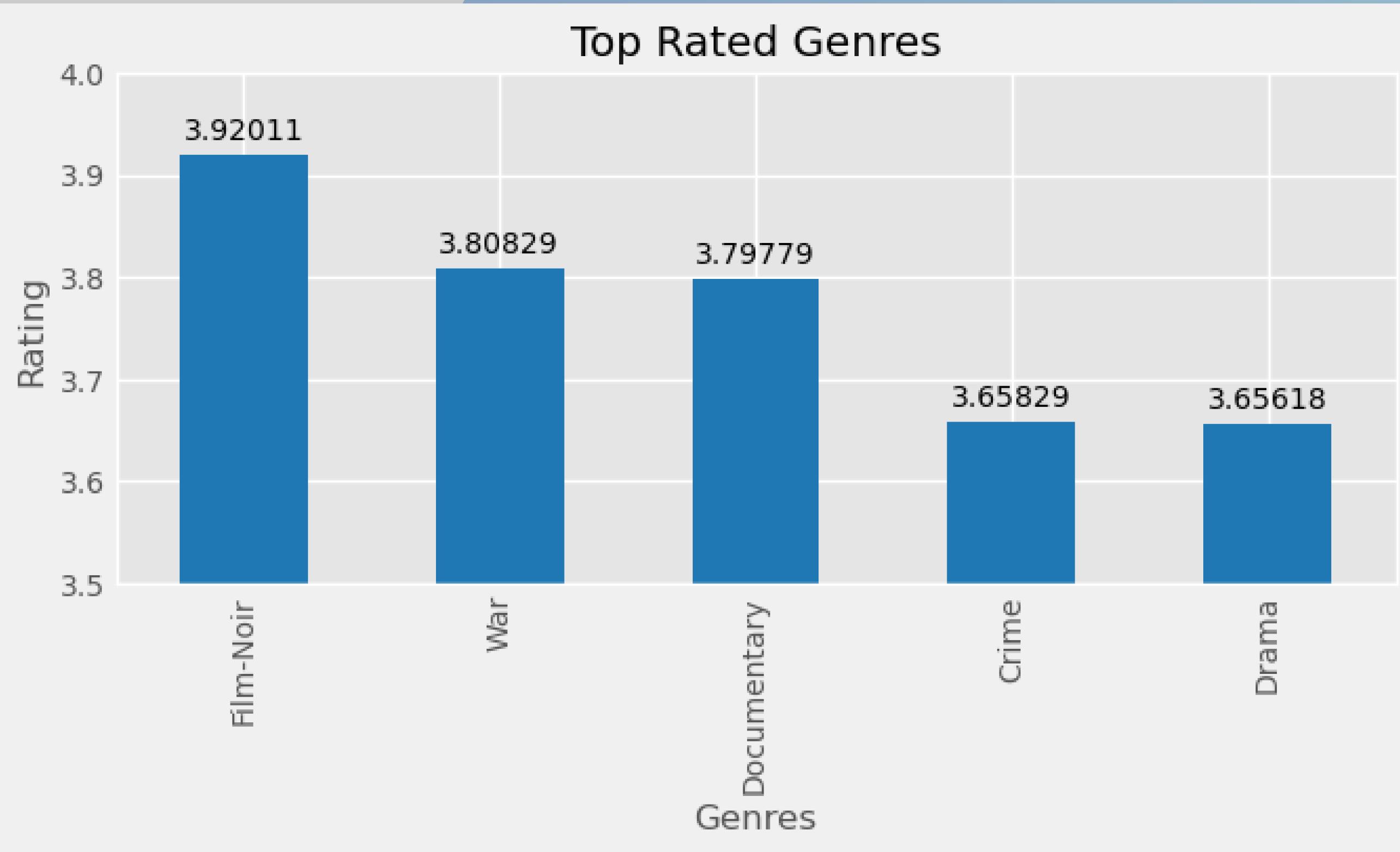
- Identify ways of improving user satisfaction and services.
- Develop a Content-based recommendation system.
- Develop a Collaborative Filtering recommendation system.
- Solve the cold start problem by implementing a hybrid recommendation system.



Patterns & Findings

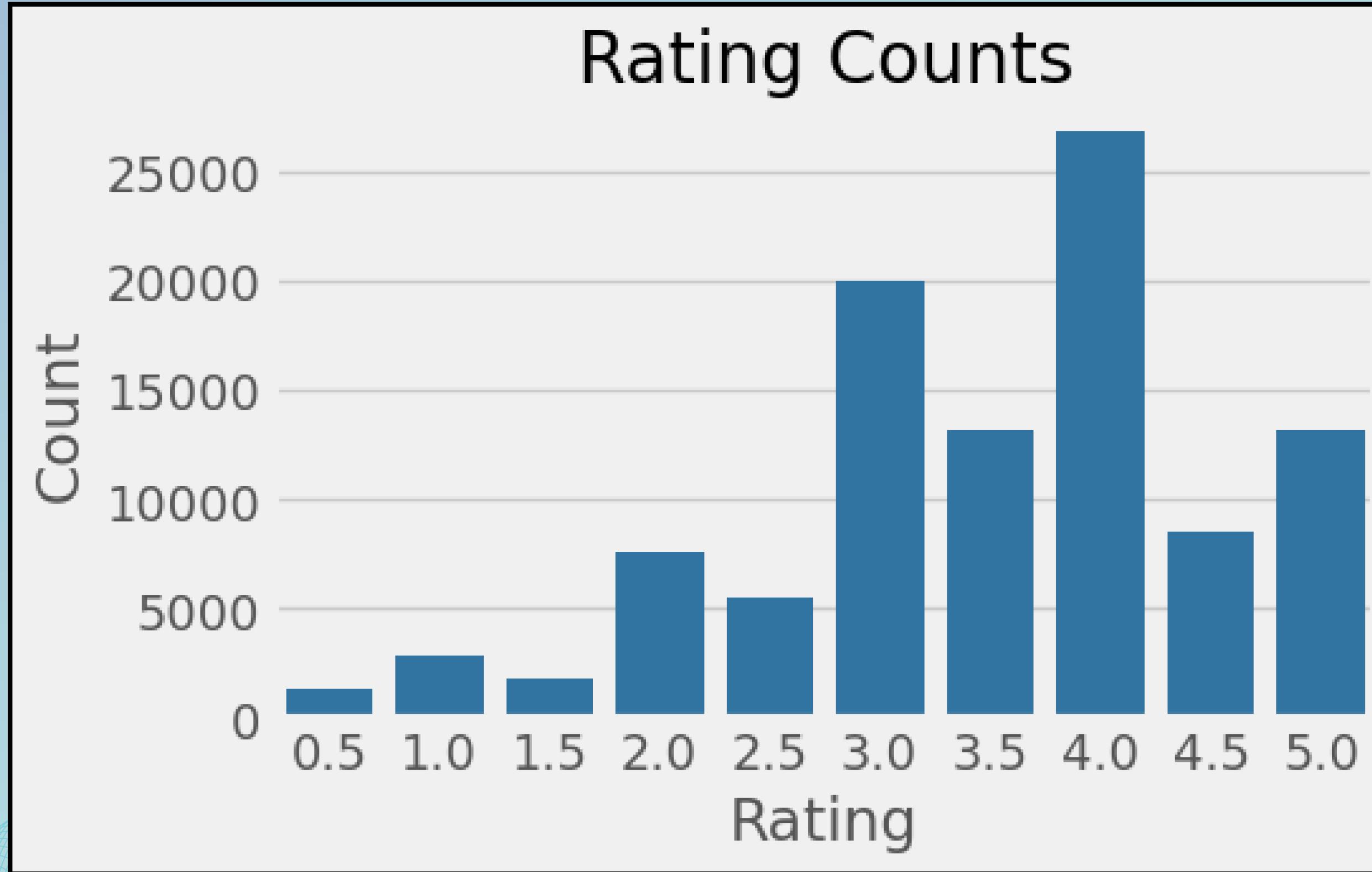


TOP 5 MOST RATED GENRES



- 1 **Film-Noir**
- 2 **War**
- 3 **Documentary**
- 4 **Crime**
- 5 **Drama**

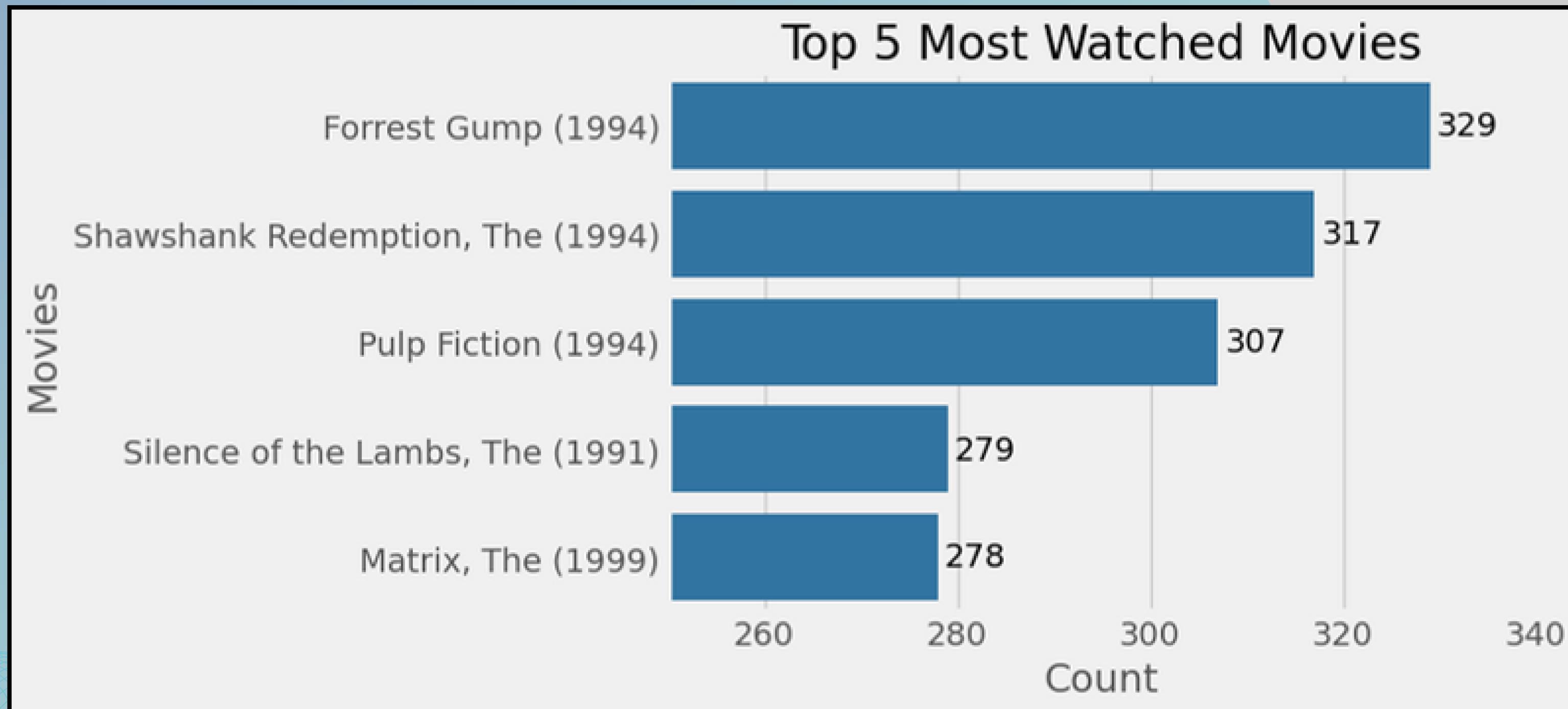
RATING COUNTS



The majority of movie ratings are 3.0 and above, with 3.0 and 4.0 being the most frequent.

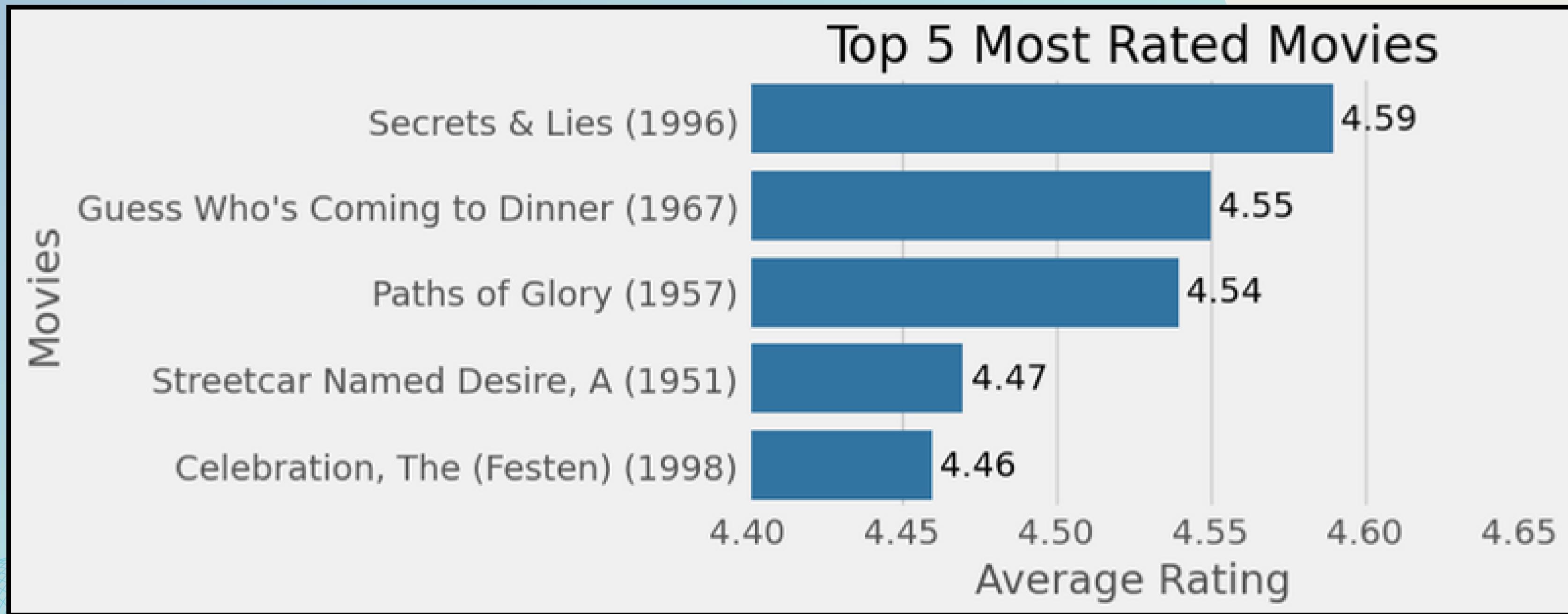
TOP 5 MOST WATCHED MOVIES

Below are the 5 most-watched/ popular movies, having being watched by almost half of the users.



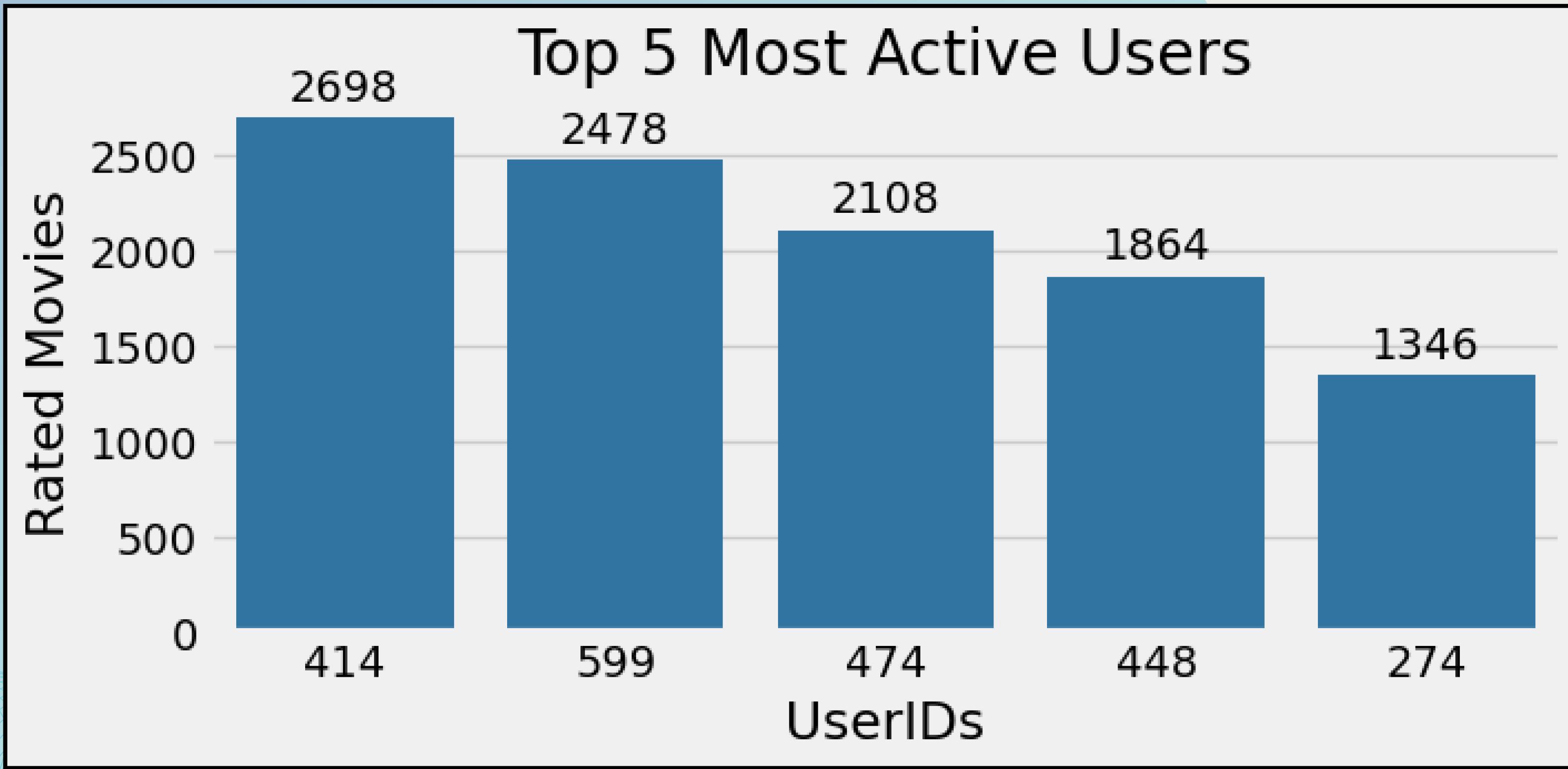
TOP 5 MOST RATED MOVIES

Below are the 5 most liked movies, having the highest average user ratings



TOP 5 MOST ACTIVE USERS

Below are the 5 active users, having the most rated/watched movies



CONCLUSION

- Film-noir, War, Documentary, Crime, and Drama are the most-rated movie genres ie. they are the most liked genres.
- The users with IDs 414, 599, and 474 are the most frequent users, each with above 2,000 movies rated.
- Secrets & Lies (1996), Paths of Glory (1957), Forrest Gump (1994), Shawshank Redemption, The (1994), and Pulp Fiction (1994) are the most ranked and watched movies.
- Developed a hybrid recommender system that incorporates both content-based and collaborative filtering models to solve the cold start problem. Further development and tunings are required for lower prediction errors.

RECOMMENDATIONS

- 01 Implementing reward systems for user loyalty eg discounted subscriptions to the most active/frequent users eg users with the IDs **414**, **599**, and **474**, in order to boost user retention and satisfaction.
- 02 To make use of the recommendation system, for providing personalized movie recommendations, as it encourages user engagement and interaction with the platform resources while increasing their purchasing thresholds.
- 03 Display the highly ranked and watched movies and genres on the platform's cover page due to their huge popularity and liking. This can serve as a way to entice new users to watch them.



Stream HD

Thank You

By Mulei Mutuku