



SMART MOVIE RECOMMENDER

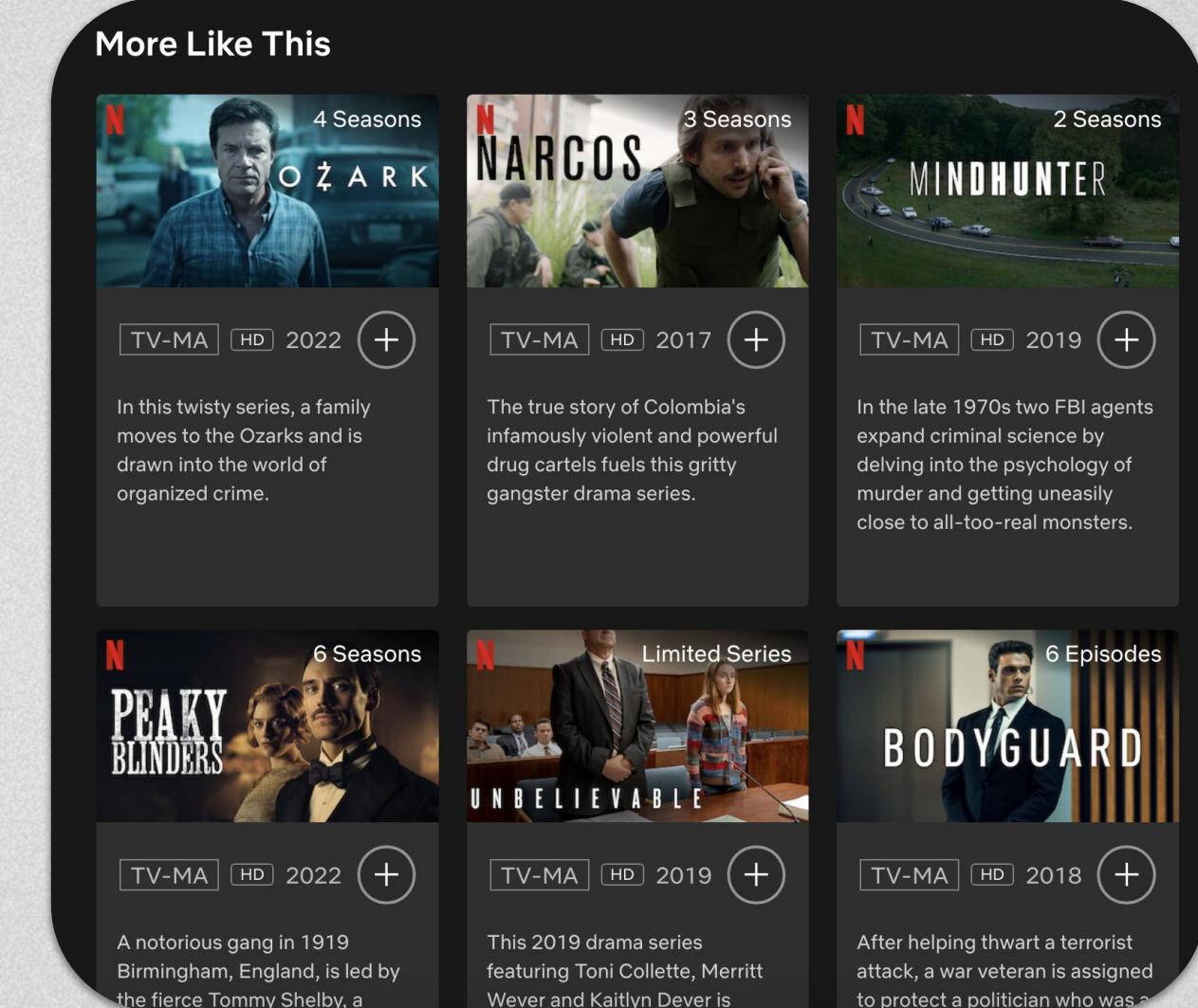
Lizzie Healy, Rachna Rawalpally, Caroline Delua

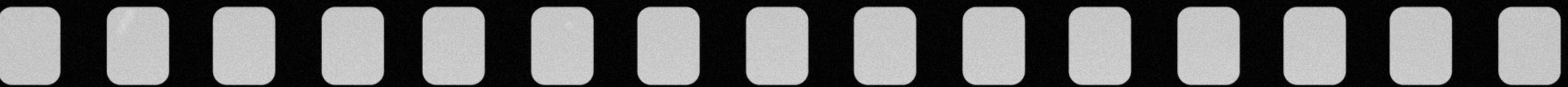




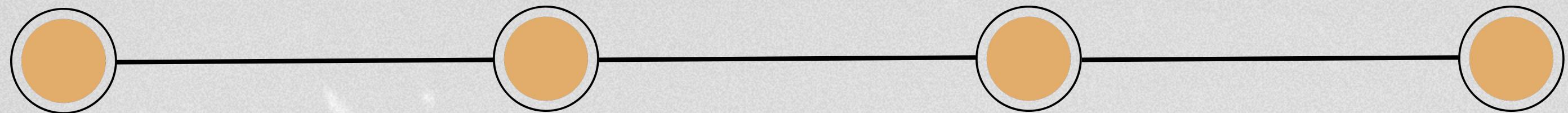
Countless number of
streaming service
options, but what to
watch?

"Is it possible to revamp existing movie recommendation systems to more accurately suggest the perfect next watch for viewers?"





We took a 4-step process



Data Collection

Scraping IMDb and
querying Gemini

Data Cleaning

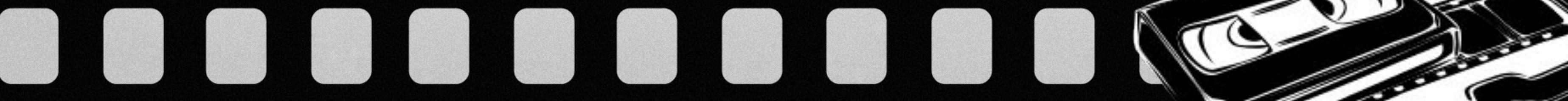
Making numeric
variables and
normalizing 0-1

Cosine Similarity

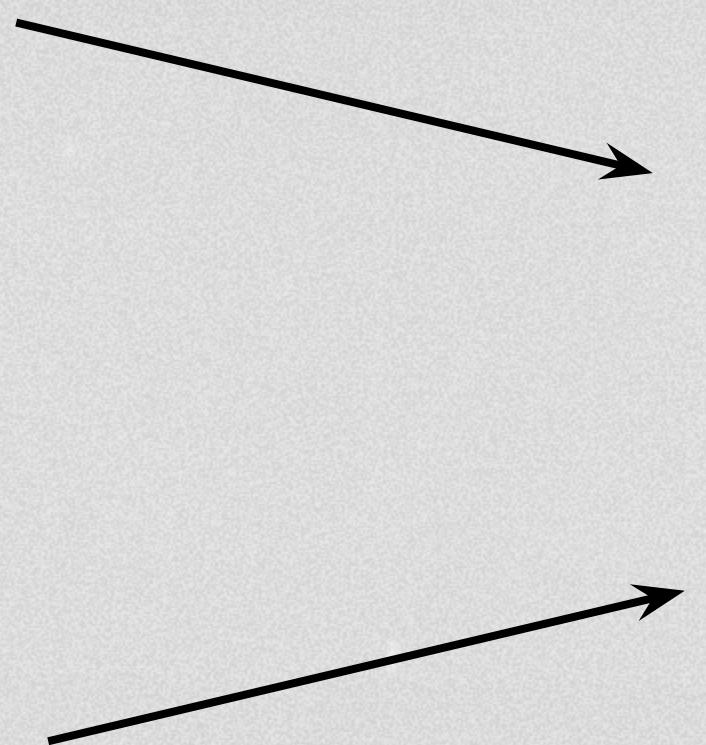
Computing cosine
similarity scores for
movies

Deployment of Recommendation

input handling and
interface creation



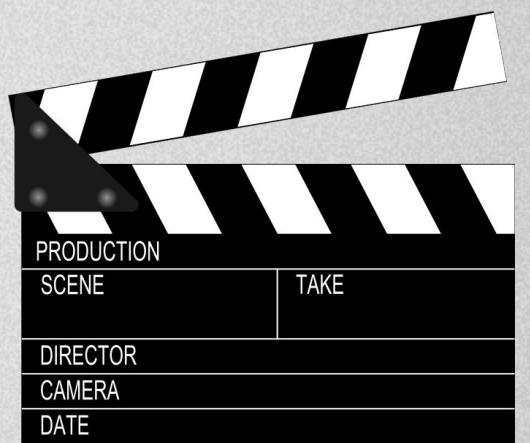
Data Collection

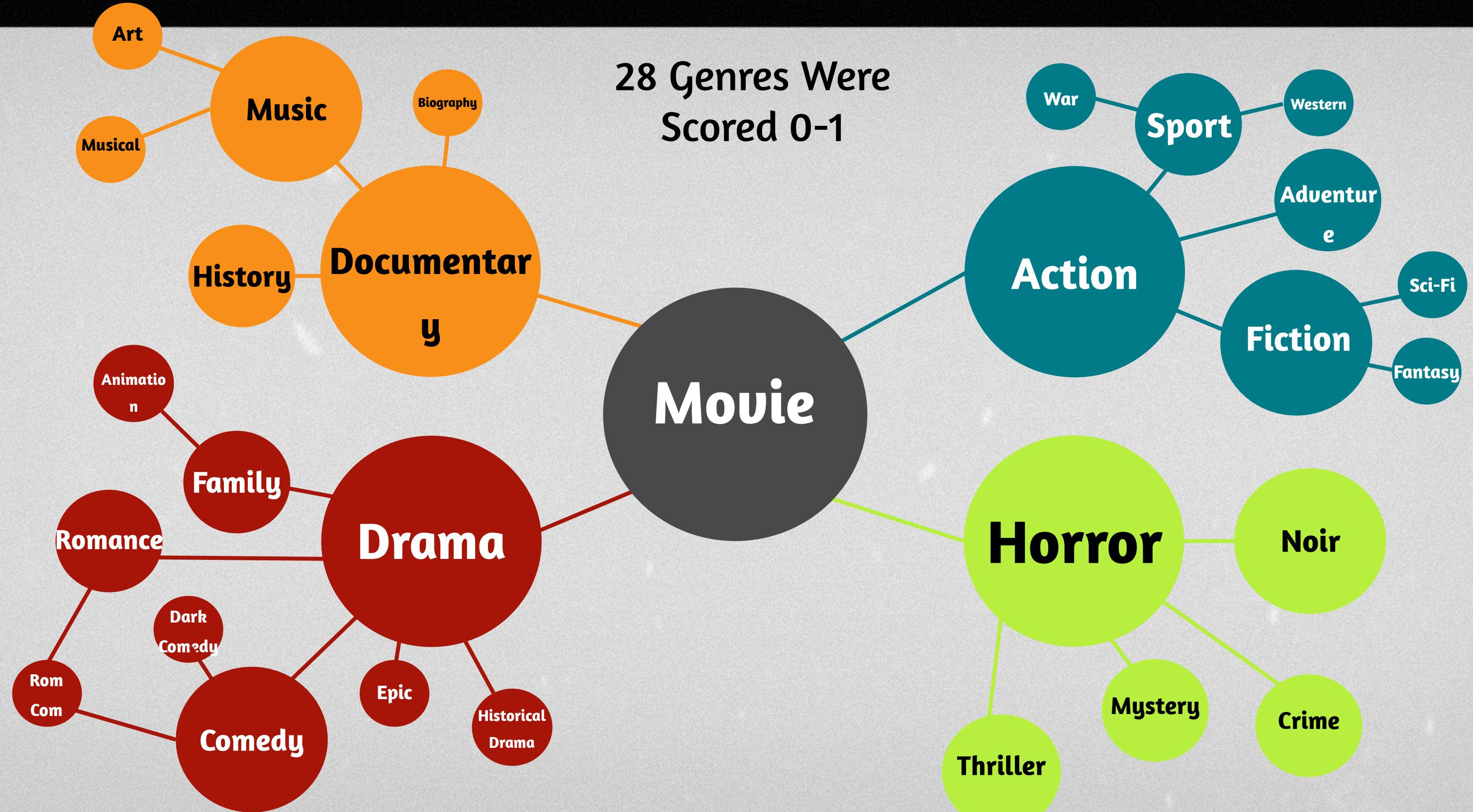


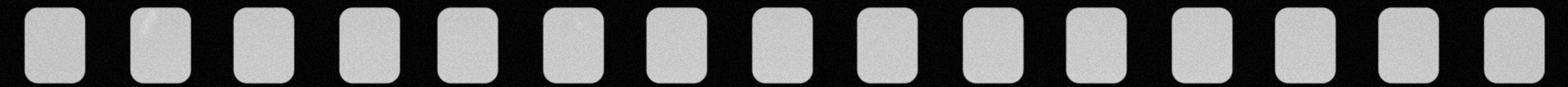
Data Cleaning and Normalizing



Vector Representation

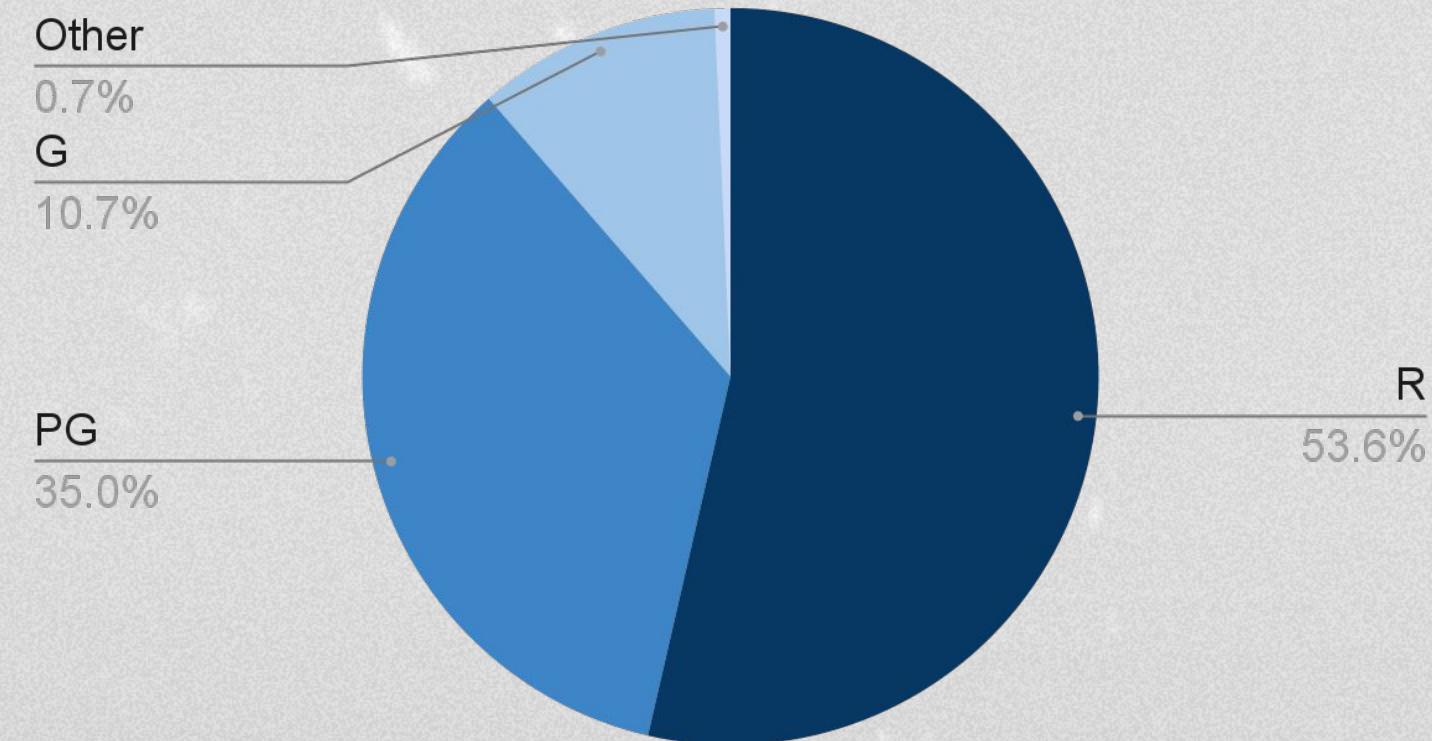




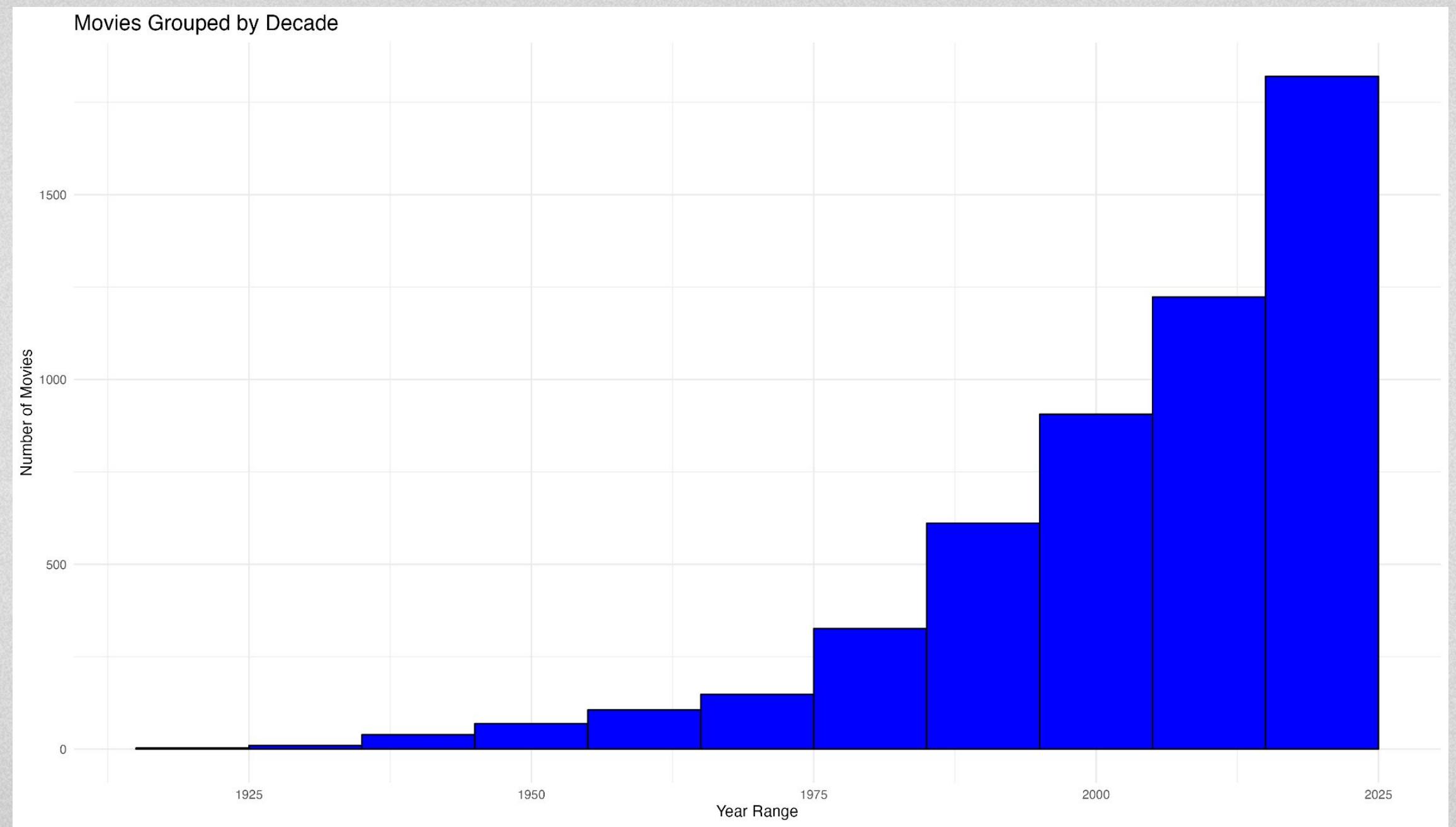


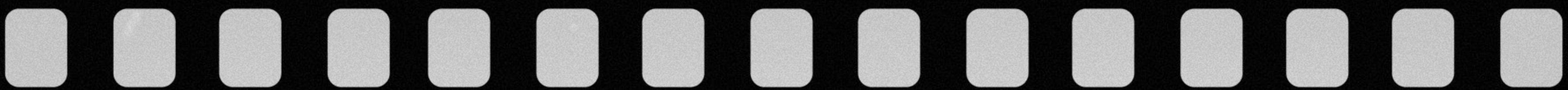
The dataset contains 5,285 movies

Percentage of Films by MPAA Rating

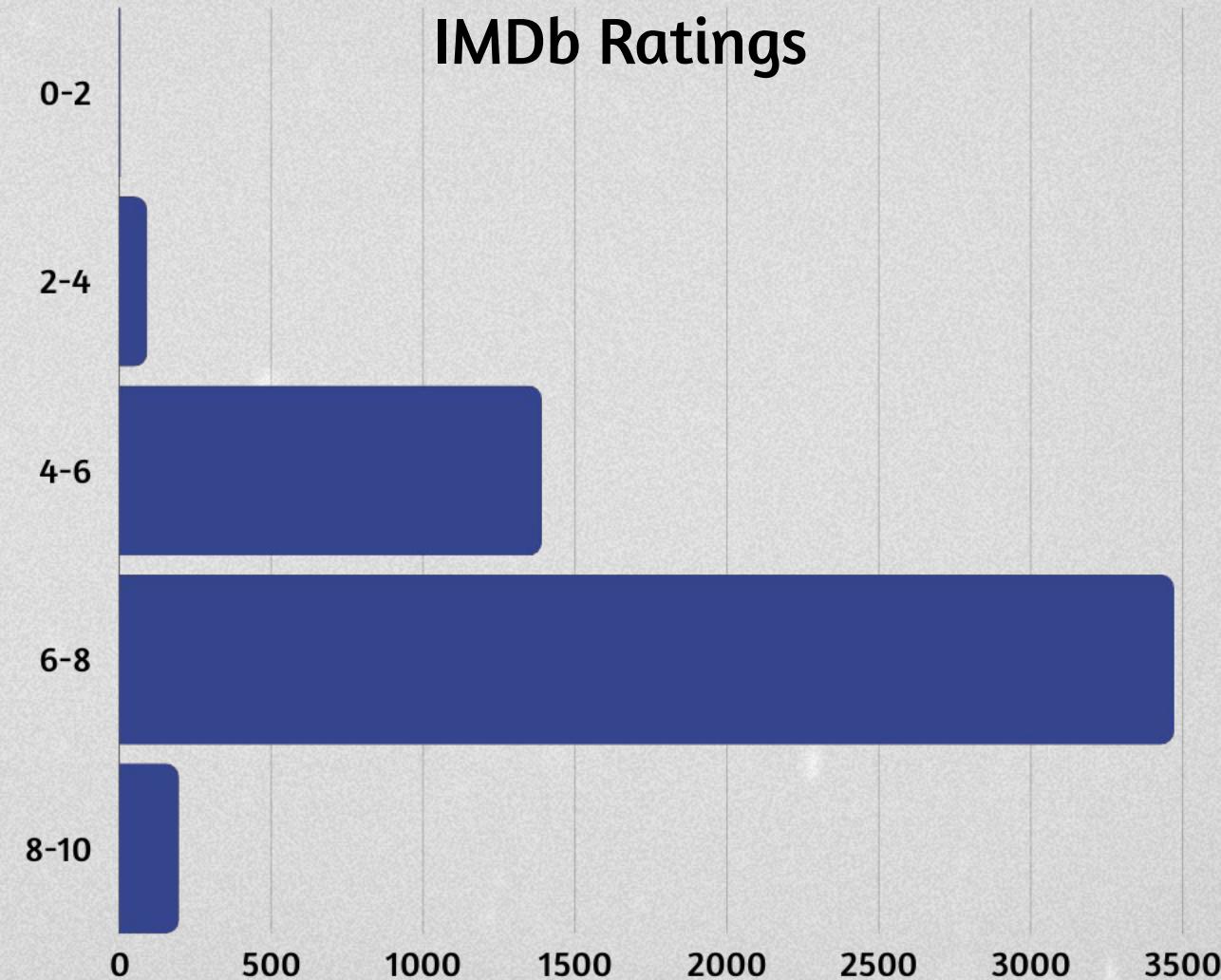
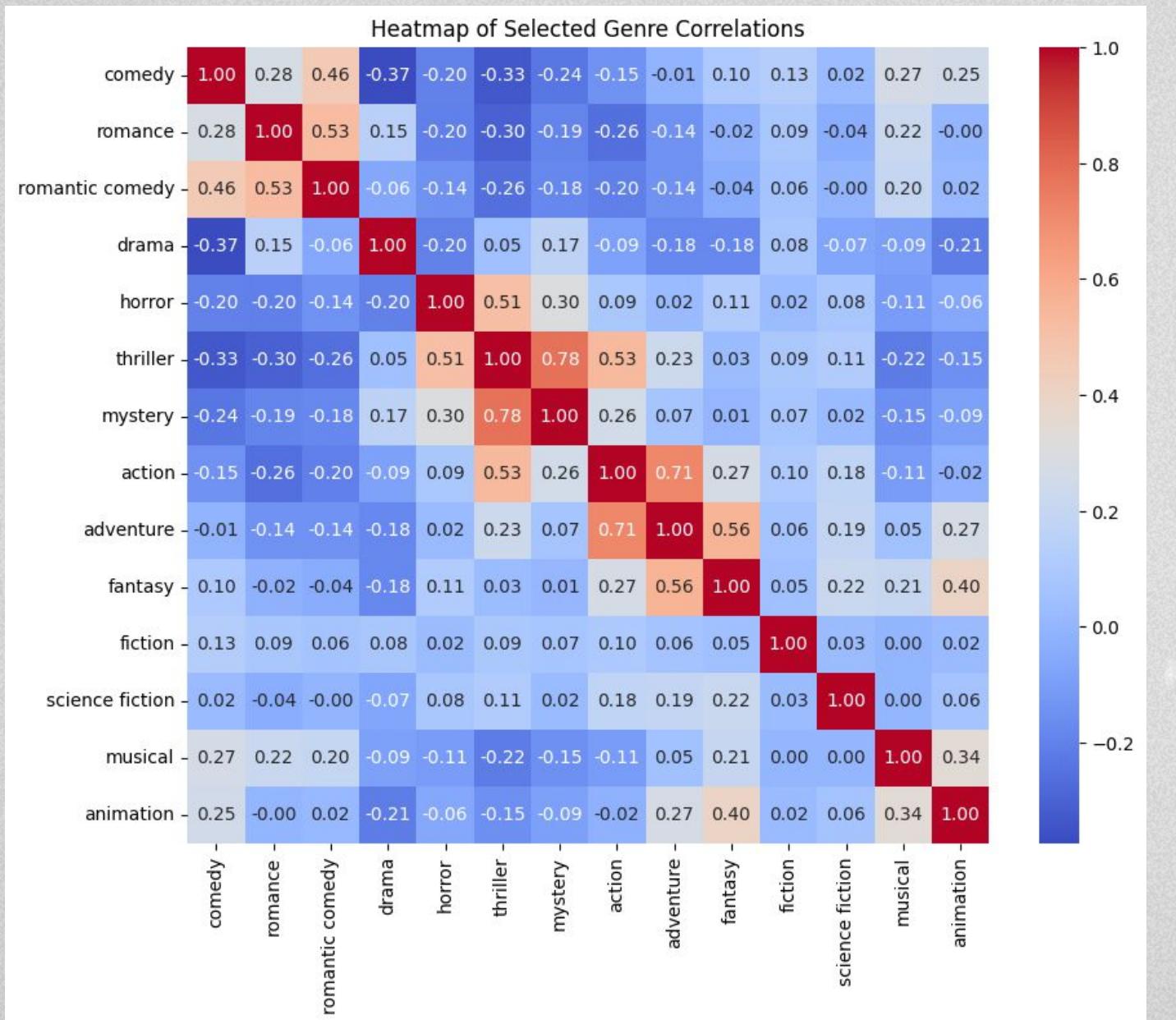


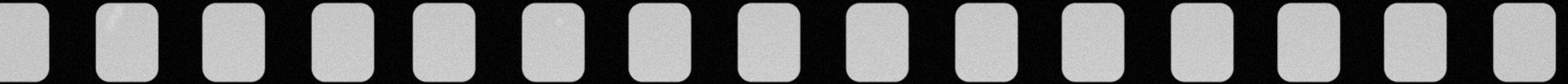
Most of the movies are from the 21st century





The movies are wide ranging across ratings and genres





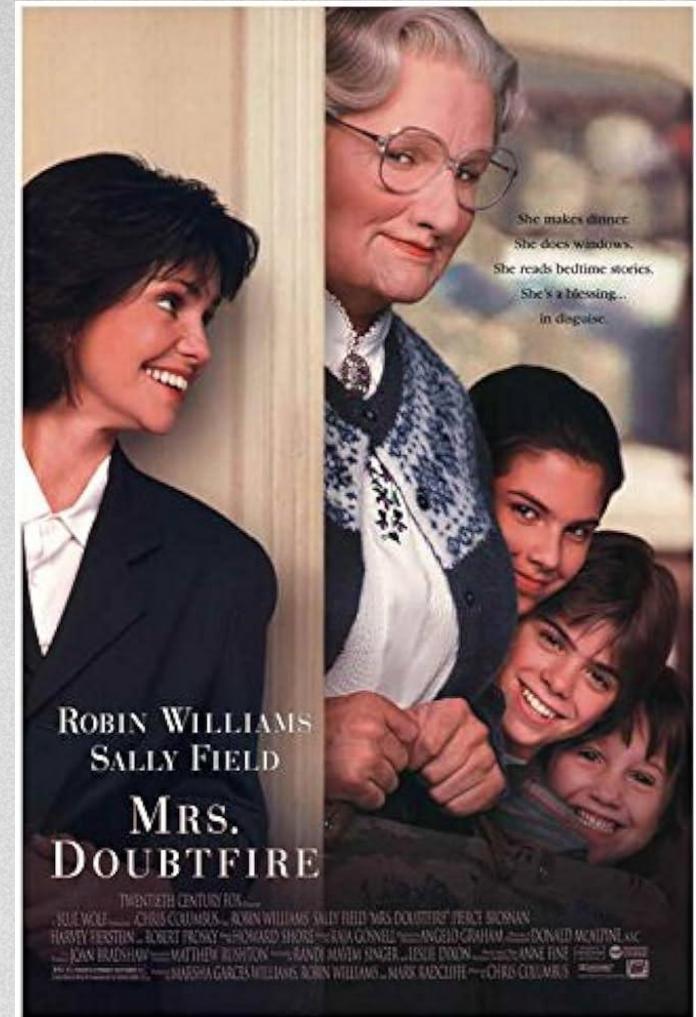
STEVE MARTIN



Year: 0.459184
Duration: 0.461255
Rated: 0.333333
IMDb Rating: 0.763441
Number of Ratings: 0.099667
action: 0.05
adventure: 0.1
animation: 0.0

art: 0.15
biography: 0.0
comedy: 0.9
crime: 0.0
dark comedy: 0.0
documentary: 0.0
drama: 0.5
epic: 0.0
family: 0.95
fantasy: 0.1
fiction: 1.0
history: 0.0
historical drama: 0.0
horror: 0.0
music: 0.1
musical: 0.1
mystery: 0.0
noir: 0.0
romance: 0.2
romantic comedy: 0.0
science fiction: 0.0
sport: 0.0
thriller: 0.1
war: 0.0
western: 0.0

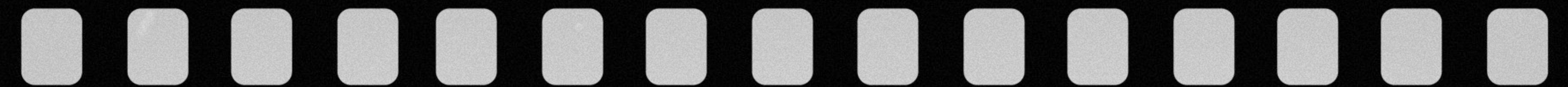
X



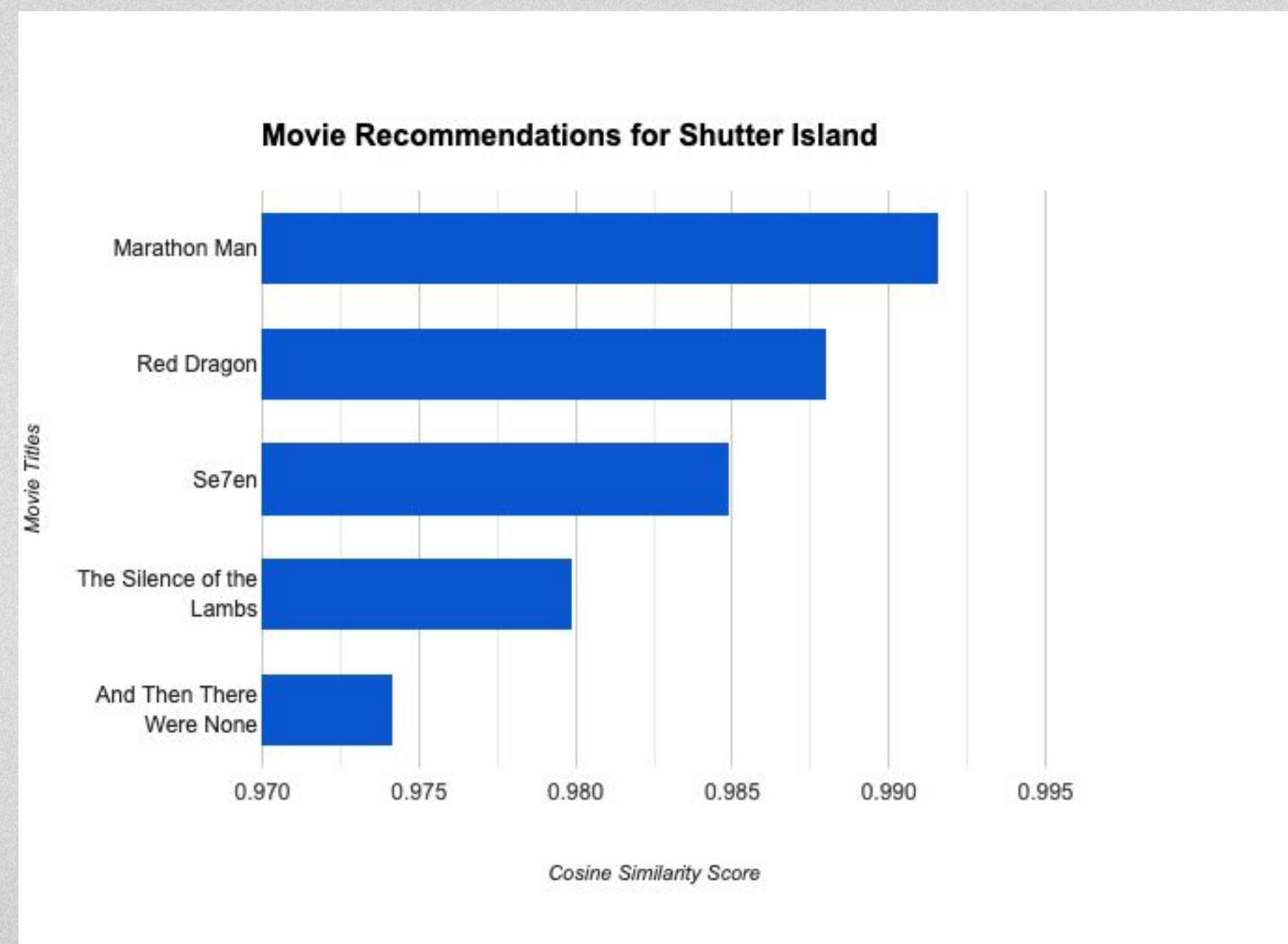
Year: 0.464554
Duration: 0.361624
Rated: 0.333333
IMDb Rating: 0.634409
Number of Ratings: 0.037
action: 0.01
adventure: 0.05
animation: 0.0

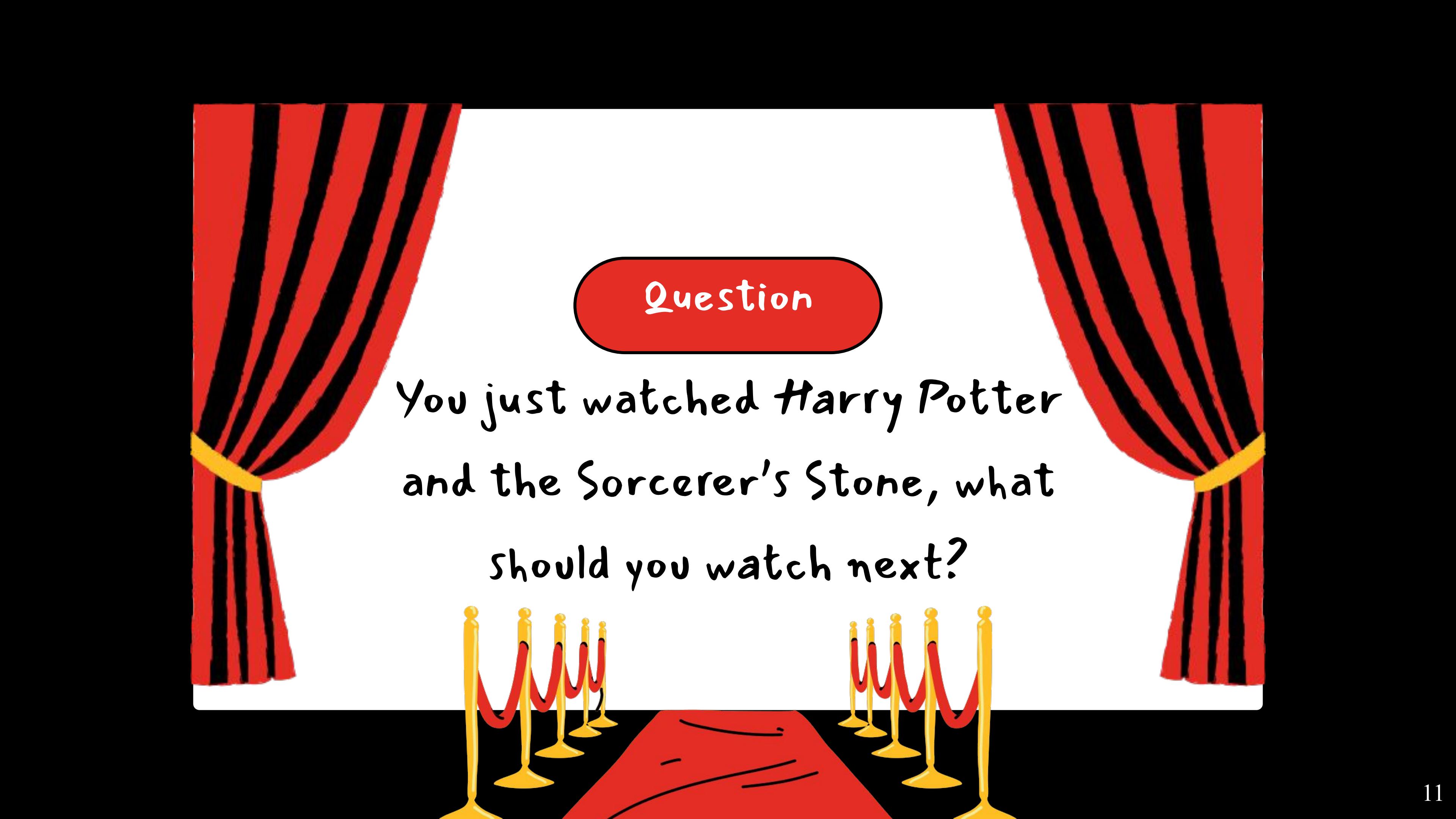
art: 0.01
biography: 0.1
comedy: 0.95
crime: 0.0
dark comedy: 0.15
documentary: 0.0
drama: 0.5
epic: 0.05
family: 0.9
fantasy: 0.0
fiction: 1.0
history: 0.05
historical drama: 0.05
horror: 0.0
music: 0.1
musical: 0.1
mystery: 0.0
noir: 0.0
romance: 0.1
romantic comedy: 0.2
science fiction: 0.0
sport: 0.0
thriller: 0.0
war: 0.0
western: 0.0

= 0.9797462323883
(cosine sim)



The cosine similarity score dictates the recommendations





Question

You just watched Harry Potter
and the Sorcerer's Stone, what
should you watch next?



Answer

Pete's Dragon, Inkheart, The Indian in
the Cupboard, Harry Potter and the
Order of the Phoenix, the NeverEnding
Story

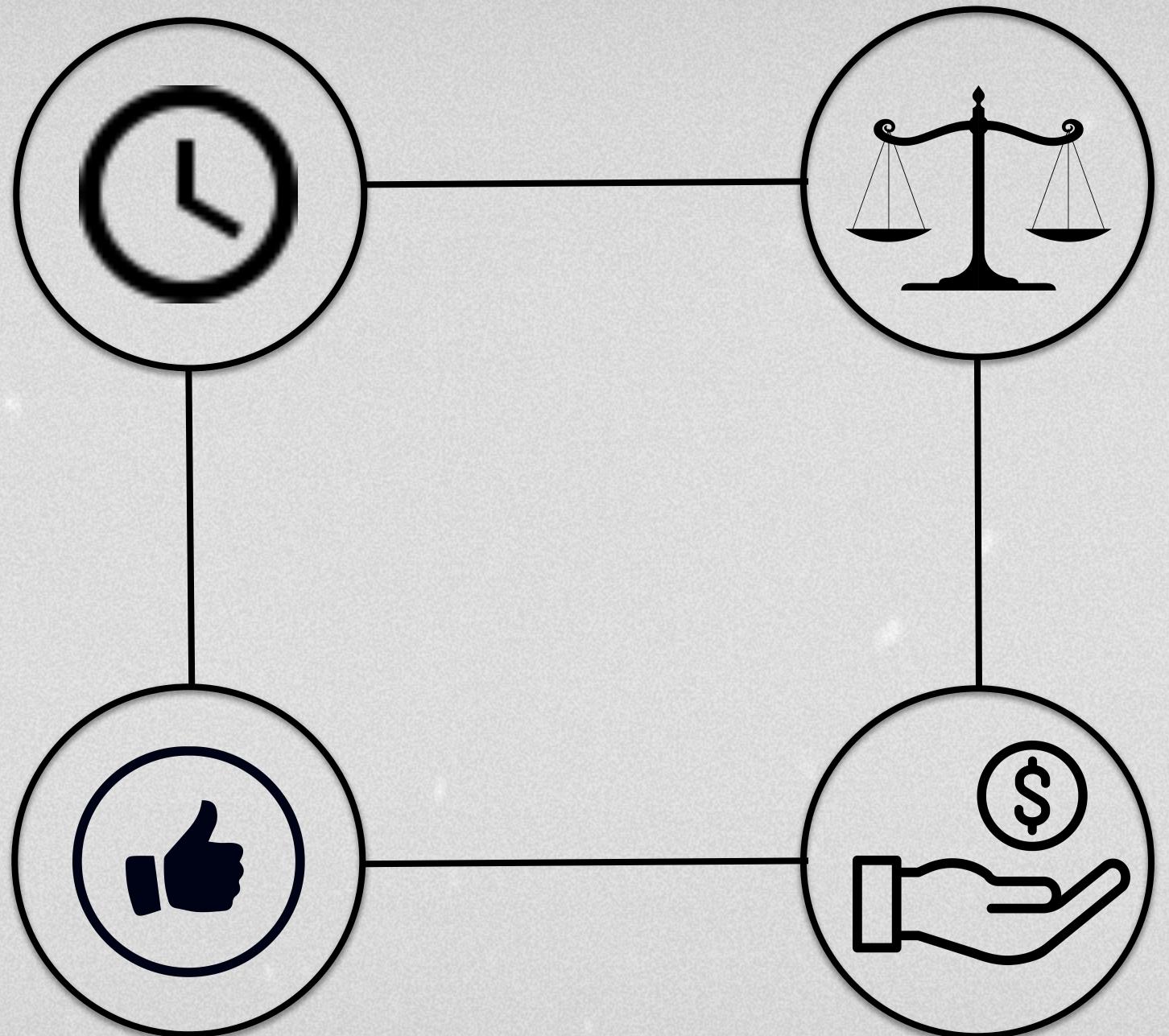


Efficiency:
Saving Time and
Reducing Search Fatigue

Customer Satisfaction:
More accurate recommendations,
better watch experience

Defeating Bias:
Avoiding algorithm bias
from large companies

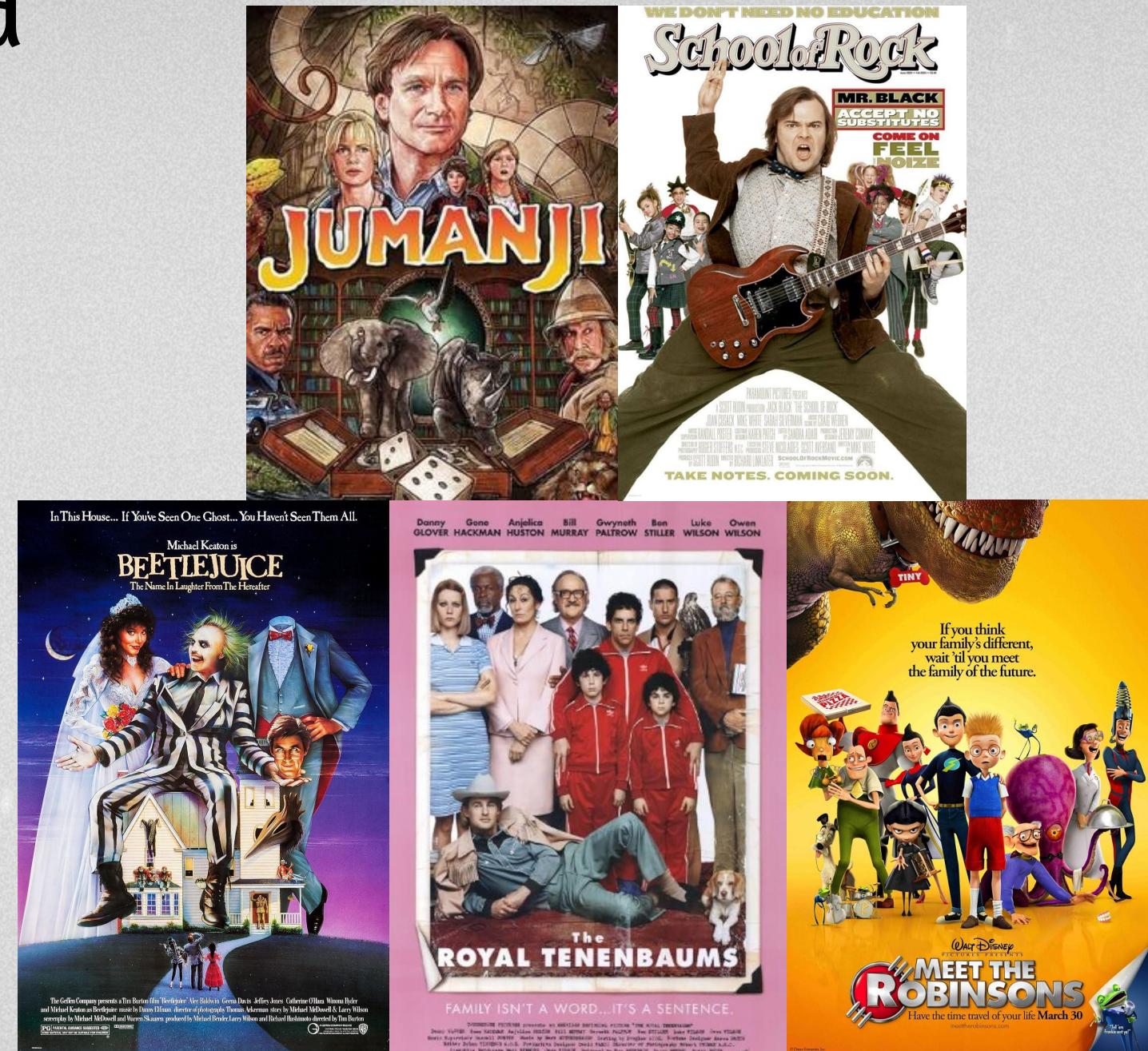
Company Profits:
Longer watch times, user
loyalty, boosted subscriptions



The system can be further improved



User's Streaming Service Subscriptions



More Movies
+
Scoring
Metrics



**THANK
YOU**





References

Bogers, Toine. "Searching for Movies: An Exploratory Analysis of Movie-Related Information Needs." *Aalborg University's Research Portal*, iSchools, 11 June 2015, ubn.aau.dk/en/publications/searching-for-movies-an-exploratory-analysis-of-movie-related-inf.

Eberhard, Lukas, et al. "Computing Recommendations from Free-Form Text." *Expert Systems with Applications*, Pergamon, 27 Aug. 2023, www.sciencedirect.com/science/article/pii/S0957417423017700.

Kalyan, Pavan. "IMDB Movie Scraper." GitHub, <https://github.com/pavan412kalyan/imdb-movie-scraper>. Accessed 12/09/2024.

Nickinson, P. (2023, October 27). *Everyone is missing the point on streaming video*. Digital Trends. <https://www.digitaltrends.com/home-theater/missing-point-on-streaming-video/>

Nguyen, Trung. "Bert One-Shot Movie Recommender System." *StandfordUniversity.Org*, web.stanford.edu/class/archive/cs/cs224n/cs224n.1244/final-projects/ChiTrungNguyen.pdf. Accessed 10 Dec. 2024.

Suganyakala, R., and R. R. Rajalaxmi. "Movie related information retrieval using ontology based Semantic Search." *2013 International Conference on Information Communication and Embedded Systems (ICICES)*, Feb. 2013, pp. 421–424, <https://doi.org/10.1109/icices.2013.6508320>. *OMDb API - The Open Movie Database* (2000). Omdbapi.com. <https://www.omdbapi.com/>