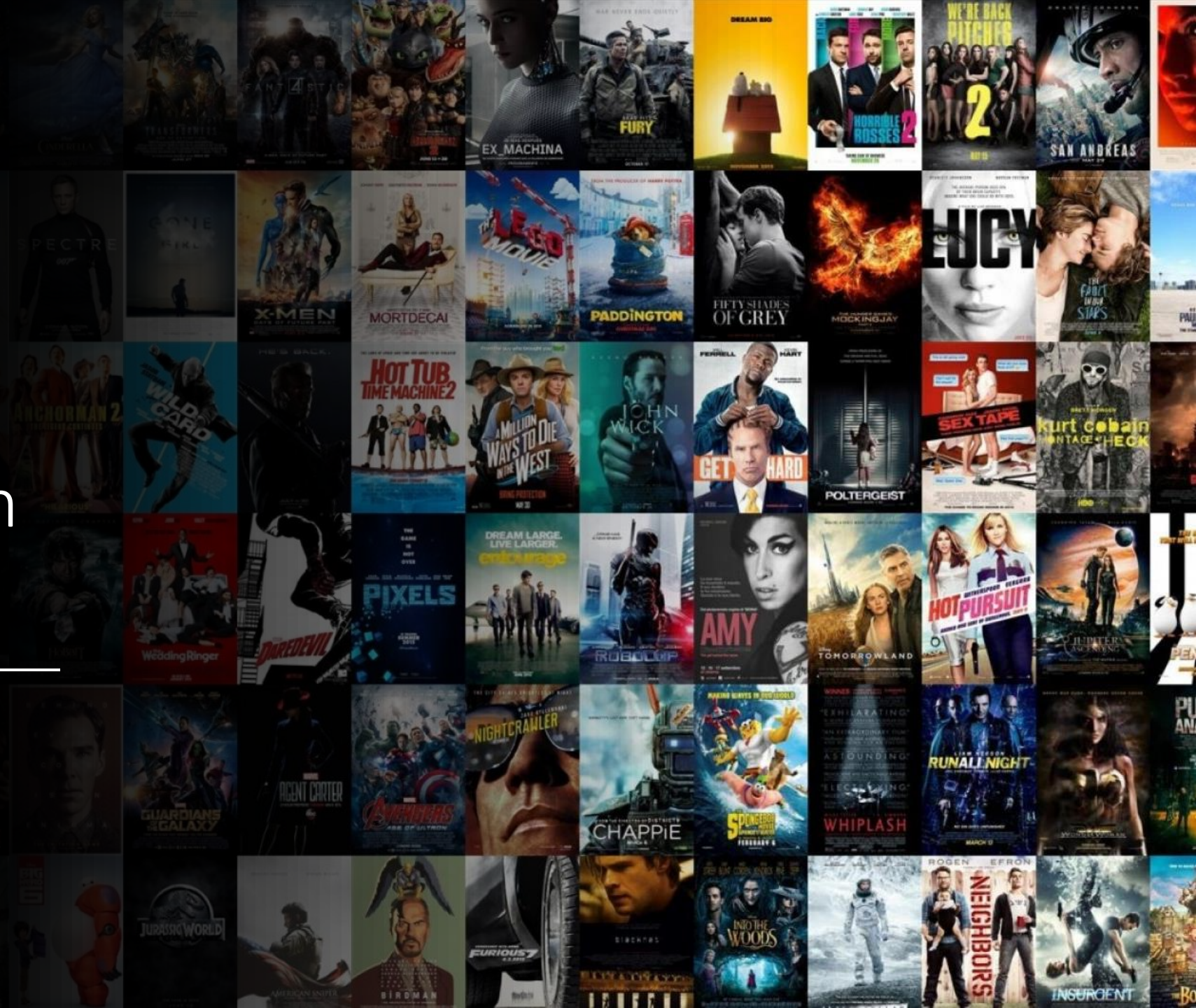




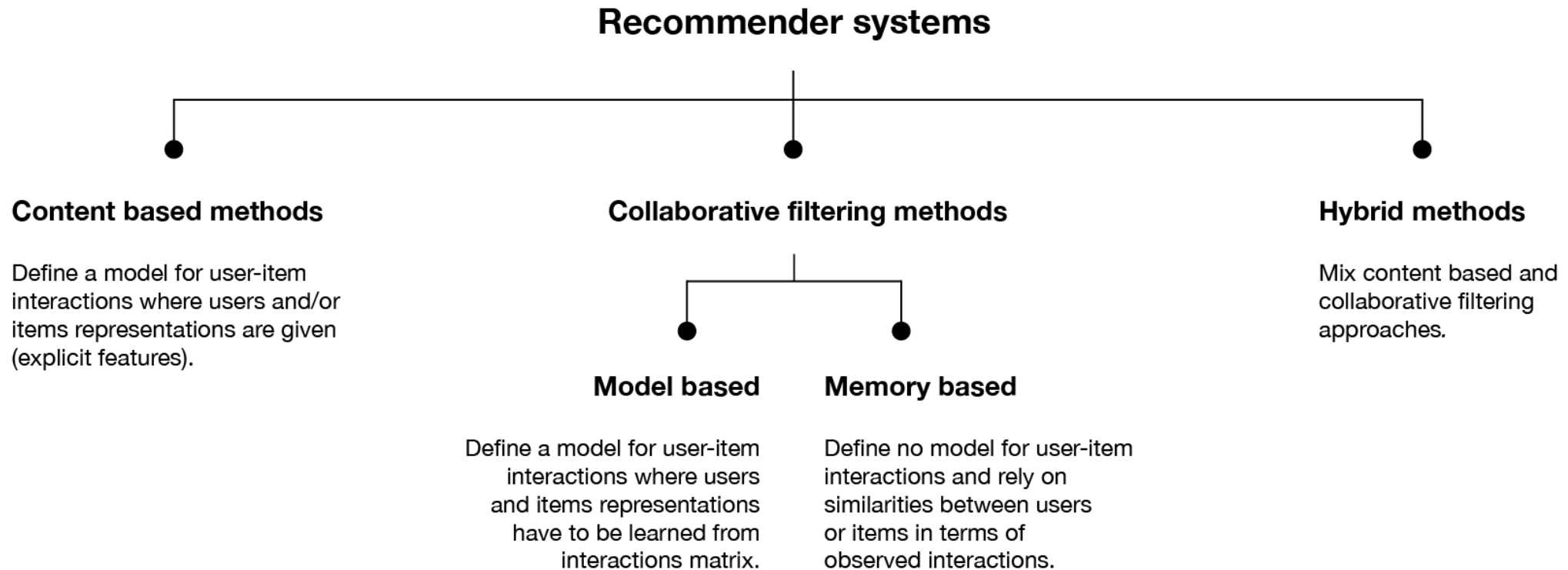
Movielens recommendation system



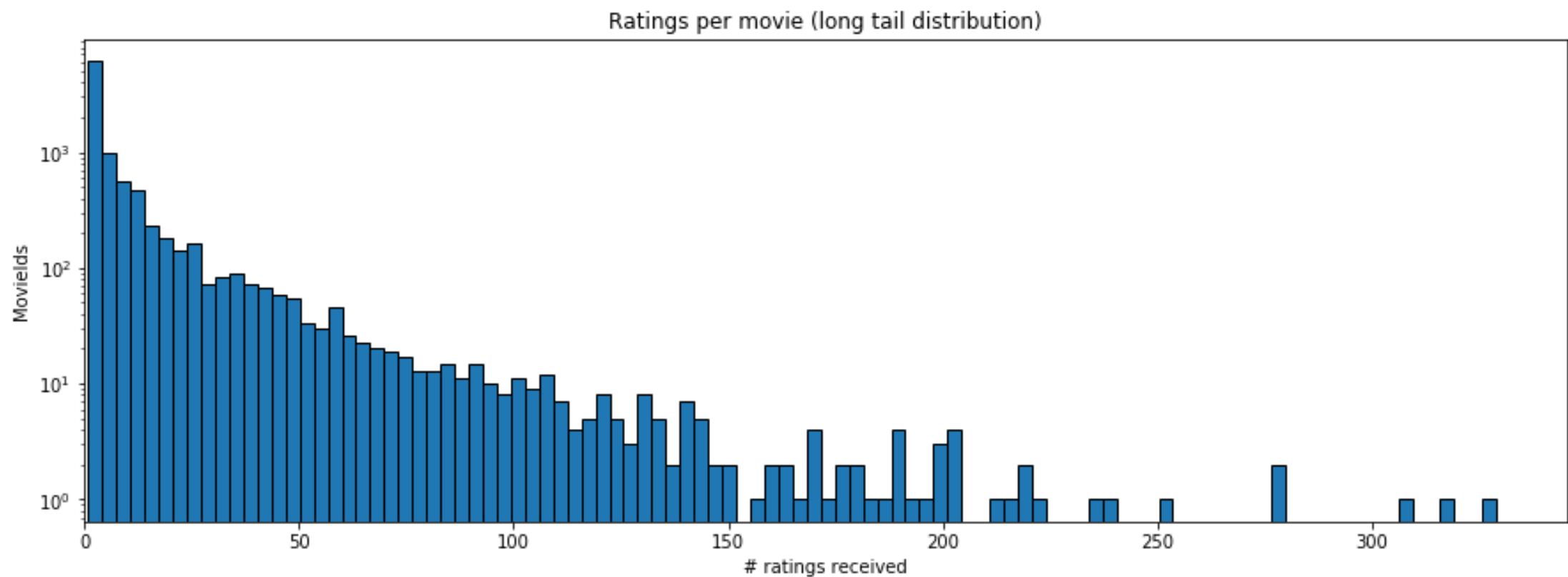
the dataset

- The dataset contains 100836 ratings and 3683 tag applications across 9742 movies. These data were created by 610 users between March 29, 1996 and September 24, 2018. The dataset consists of four csv files and a readme text file: links, movies, ratings, and tags with the following parameters:
- movies.csv
 - (9742, 3) rows/columns
 - 'movieId', 'title', 'genres'
- ratings.csv
 - (100836, 4) rows/columns
 - 'userId', 'movieId', 'rating', 'timestamp'
- tags.csv
 - (3683, 4) rows/columns
 - 'userId', 'movieId', 'tag', 'timestamp'
- links.csv
 - (9742, 3) rows/columns
 - 'movieId', 'imdbId', 'tmdbId'
- README.txt
 - much like a dictionary

Recommendation systems in general



The need for recommendation systems



| | |
|---------------------------------------|----------|
| 2001: A Space Odyssey (1968) | 1.280072 |
| Blade Runner (1982) | 0.671624 |
| African Queen, The (1951) | 0.627018 |
| Lawrence of Arabia (1962) | 0.622976 |
| 2010: The Year We Make Contact (1984) | 0.616504 |
| North by Northwest (1959) | 0.596037 |
| Abyss, The (1989) | 0.587159 |
| Untouchables, The (1987) | 0.586499 |
| Clockwork Orange, A (1971) | 0.570817 |
| Chinatown (1974) | 0.568316 |

Ratings based recommendations


```
1 # genre based recommendations
2 genre_based_recommendations('Zombieland (2009)')

7154                                Zombieland (2009)
8434                                Zombeavers (2014)
8565                    Dead Snow 2: Red vs. Dead (2014)
9035    Scouts Guide to the Zombie Apocalypse (2015)
62                                From Dusk Till Dawn (1996)
6251                    Snakes on a Plane (2006)
6324                                Feast (2005)
11                    Dracula: Dead and Loving It (1995)
654    Tales from the Crypt Presents: Bordello of Blo...
1478                                Gremlins (1984)
Name: title, dtype: object
```

Genre based recommendations

Hybrid based recommendation

```
1 # make predictions for user based on userId
2 sample_recommendation(model, data, [6, 8, 11])
```

User 6

known positives:

Get Shorty (1995)

Twelve Monkeys (1995)

Babe (1995)

Recommended:

Raiders of the Lost Ark (1981)

Butch Cassidy and the Sundance Kid (1969)

Alien (1979)

M*A*S*H (1970)

Sting, The (1973)

Indiana Jones and the Last Crusade (1989)

Blade Runner (1982)

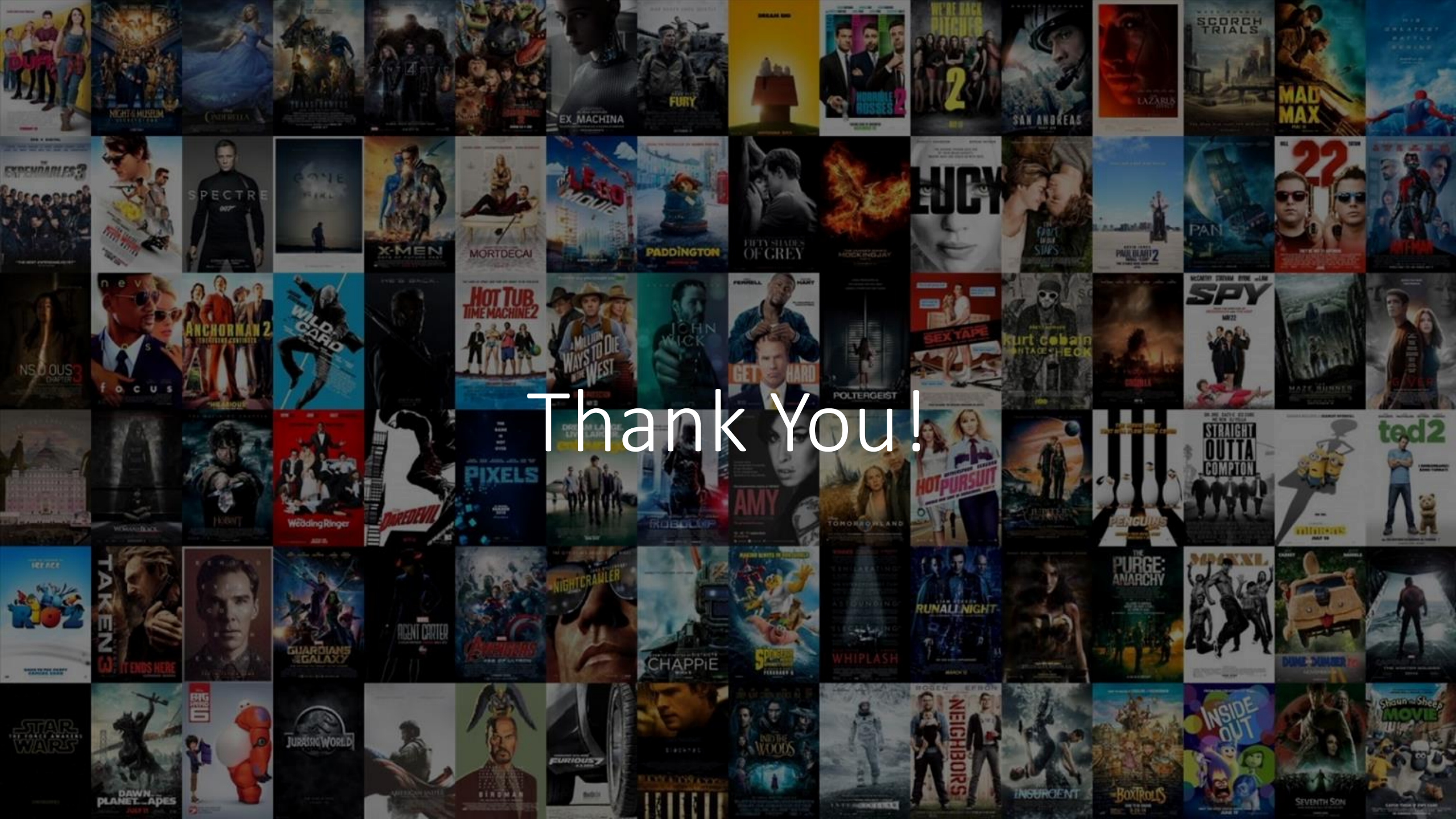
Jaws (1975)

Terminator, The (1984)

Blues Brothers, The (1980)

The benefits of a recommendation system

- 'Alibaba achieved growth of 20% conversion rate using personalized landing pages' (Alizila)
- 70% of YouTube videos are based on their recommendation implementation.
- Netflix saves nearly a billion each year thanks to their recommendation system(ACM.org)
- The Amazon Recommendations Secret to Selling More Online.
"Judging by Amazon's success, the recommendation system works. The company reported a 29% sales increase to \$12.83 billion during its second fiscal quarter, up from \$9.9 billion during the same time last year. (rejoiner.com)



Thank You!