

Movie Recommendation System

Vishwa Gosalia¹, Bhavesh Chatnani², Aman Gupta³, Pranal Soni⁴

¹²³⁴ Dept. of Computer Engineering, Thakur Polytechnic, Maharashtra, India

Abstract - Now-a-days recommender systems are used in our day to day life. Yet, they are far from perfection. In this project, we will try to understand the various types of recommendation systems also comparing their output with other smaller datasets. We will be trying to develop a scalable model to perform statistics. We commence by developing and comparing the different kinds of prototypes on a smaller dataset of 1000 ratings. Then, we try to gauge the system so that it is able to handle 200 ratings by using MS SQL server. We come to know that for a concise dataset, implementing user-based collaborative filtering results with better and efficient outputs.

Key Words: Recommendations systems, dataset, collaborative filtering, prototype, SQL server.

1. INTRODUCTION

A recommendation system is a type of information filtering system which challenges to assume the priorities of a user, and make recommendations on the basis of user's priorities. Huge range of applications of recommendation systems are provided to the user. The popularity of recommendation systems have gradually increased and are recently implemented in almost all online platforms that people use. The content of such system differs from films, podcasts, books and videos, to colleagues and stories on social media, to commodities on e-commerce websites, to people on commercial and dating websites. Often, these systems are able to retrieve and filter data about a user's preferences, and can use this intel to advance their suggestions in the upcoming period. For an instance, Twitter can analyze your collaboration with several stories on your wall so as to comprehend what types of stories please you. Many a times, these systems can be improvised on the basis of activities of a large number of people. For example, if Flipkart notices that a large number of users who buy the modern laptop also buy a laptop bag. They can commend the laptop bag to a new customer who has just added a laptop to his cart. Due to the advances in recommender systems, users continuously expect good results. They have a low edge for services that are not able to make suitable recommendations. If a music streaming application is not able to foresee and play song that the user prefers, then the user will just stop using it. This has led to a high importance by technical corporations on refining their recommendation structures. However, the problem is more complicated than it appears.

Every user has different likes and dislikes. In addition, even the taste of a single customer can differ depending on a large number of aspects, such as mood, season, or type of activity the user is performing. For an instance, the type of music one

would prefer to listen during exercising varies critically from the type of music he would listen to while preparing dinner. They must discover new areas to determine more about the customer, whilst still determining almost all of what is already known about of the customer. Two critically important methods are widely used for recommender systems. One is content-based filtering, where we attempt to shape the users preferences using data retrieved, and suggest items based on that profile. The other is collaborative filtering, where in we try to cluster alike users together and use data about the group to make recommendations to the customer.

1.1 Introduction to Collaborative Filtering

The basic methodology of collaborative filtering systems is that these undetermined ratings can be credited since the noticed ratings are often highly linked across several users and items. For an instance, assume two users named Ramu and Shamu, who have very comparable tastes. If the ratings, which both have stated, are very similar, then their resemblance can be determined by the fundamental algorithm. In such cases, there is a high probability that the ratings where in just one of them has definite value, are also likely to be similar. This similarity can be used to make interpretations about partly stated values. Almost all the projects for collaborative filtering emphasis on leveraging either item associations or user associations for the calculation procedure. Many of the models implement both kinds of correlations. Additionally, some mock-ups use judiciously designed optimization procedures to generate a training model in much the similar way a classifier generates a training model from the mentioned or specified information. This model is later used for assigning the absent values in the matrix, in the similar way that a classifier assigns the absent test tags. There are two types of methods which are frequently implemented in collaborative filtering that are denoted to as memory-dependent procedures and model-dependent procedures.

1.2 Introduction to Content Based Filtering

Content Based Recommendation procedure checks for the adores and aversions of the user and creates a User-based Profile. For producing a user profile, we check for the item profiles and their equivalent user rating. The user profile is the combination of sum of the item profiles where combination being the ratings customer or user has evaluated. After profile of the user has been generated, we estimate the resemblance of the user profile with all the items in the database, which is considered using cosine resemblance between the user generated profile and item

profile. Benefits of Content oriented procedure is that other user's information or data is not essential, and the recommender system can commend new commodities or anything which are not evaluated presently, nevertheless the recommender system will not recommend the items outside the type of items the user has given ratings of.

2. WORKING

The movie recommendation system basically works by providing suggestions to the users by using the two renowned algorithms explained above. This movie recommendation system recommends movies to a user or client by evaluating IMDB ratings. The software and language which we have used for designing our interface and front end is Visual Basic Asp.Net. For creating database, we have used SQL Server since it is convenient.

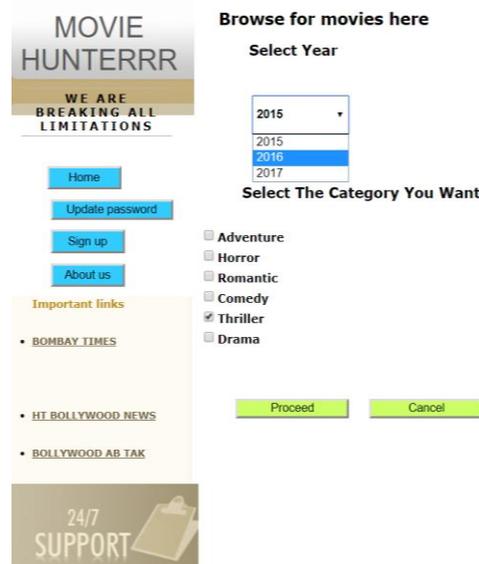


Fig -3 : Inputs from user

This system collaborates with IMDB ratings and displays a list of movies which are highly rated by a user based on category of the movie. This approach asks the user to provide 2 inputs –

1. Category of the movie (for e.g. comedy)
2. Year in which the movie is released (for e.g. 2016)

The algorithm segregates the list of movies from the dataset according to the inputs provided by user and finally displays the list of movies. The algorithm compares the inputs with the traits of the dataset and formulates the list. A user may select more than one category according to his fancies. A bright feature of allowing the user to rate movies has enhanced the beauty of this recommender system. This is achieved by using collaborative filtering approach, wherein the system will provide recommendations to other like-minded users which have the same taste.

Example-User XYZ watches Movie “Bajirao Mastani” of category “Romance” (1 movie may fall in more than one category) and rates 8.5/10 (8.5 is considered to be a good rating). A like-minded person which has the same taste and is searching for the same category, then he may receive “Bajirao Mastani” as one of the suggestions. The only problem in this prototype is that a user can't upload/view movies online on this website.

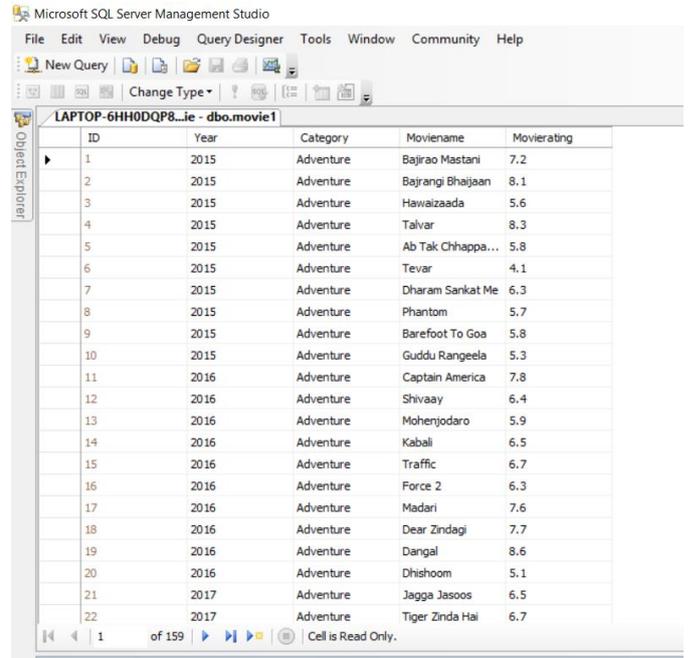


Fig -2 : Database

3. CONCLUSIONS

Movie recommendation systems which are existing have poor efficiency due to which movies are suggested in view of aspects for example - movie rated & evaluated by the User. They have almost same viewing tastes, by means of data mining and insisting movies based on juncture of the three methods mentioned above that is - User Based Collaborative filtering, Content-based algorithm & data mining because of which the user will not only be recommended movies but this scheme also delivers the user with additionally advanced and sophisticated endorsements as movies which have a poor rating score in any of the Movie features produced based on data mining will be refined out during the significant allocation platform of the expected three way hybrid movie recommendation system.

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