

DATA STRUCTURES CS-2001

PROJECT:

MOVIE RECOMMENDATION SYSTEM



SUBMITTED TO:

DR SYED ALI RAZA

GROUP MEMBERS:

INSHA SAMNANI **K20-0247**

ISMAIL AHMED ANSARI **K20-0228**

YUSRA ADAM **K20-0207**

INTRODUCTION:

Why need a recommendation system to watch movies? Recommendation system arises due to preferences based on user's choices and opinions. Some people like genre specific movies while others prefer to watch according to what the ratings say. Taking all this into account, it is unfear to say that a particular movie would be liked by many. There comes need of a movie recommendation system which is what we have achieved using data structures. This feature of recommendation to general public is being fulfilled by our project but apart from this, we have also provided facility to help movie makers or those which face difficulty in their starting years.

DATA SET:

Data set for our movie recommendation system is based on movies and it is extracted from IMDb's official website. Data size is approximately 1.5GB. Data set is divided into two chunks. One fully describes information about movie names, their unique id's, ratings, genres, release date, end date (for seasons), whether it is adult or not, whether it is subjected short or long. The other one is regarding the ratings and number of voters for that particular movie highlighted by the movie ID.

PROBLEM STATEMENT:

Websites recommending movies to public are bound with vast public opinions and ratings. They don't ask for user choices, their interests instead they suggest recommendations that are favorable to large public. This vast range of suggestions may distract a user to select and go for best among all. Apart from this, young producers in their starting career may face confusion to select any specific field of title type (long, short) of producing movies.

FUNCTIONALITIES:

FOR MOVIE PRODUCERS:

- IDEAL RUNNING TIME OF TOP_RATED MOVIES FOR TOP REFERENCING

PROBLEM STATEMENT: Suppose that my newbie producer wants to produce a movie for which he has selected the genres than what will be the ideal time for that movie with those genres so that it can rule the box office.

SOLUTION: makerRecommendation() function will basically do that based on the genres it will go to those trees in which the Node with that genres were placed at the time of insertion, and will find those genres and start to insert in a doubly linked list and then by using the Insertion Sort the head of the DLL will now contain the highest movie of that genre with the ideal time, then average is calculated for that all genres head's and displayed that ideal condition would be this, it's just like clustering all the Node of the genres entered by the user then circling only those which have highest rating respective to their minutes.

- WANT SUGGESTION FOR THE TITLE TYPE AS AN INITIAL MOVIE MAKER?

PROBLEM STATEMENT: The initial producers are usually not active to take into consideration, the proper suggestions to choose the correct career path.

SOLUTION: In this function, the producer is supposed to enter the genre on which they are interested to work on. After that, the ASCII of that genre will be calculated and within that particular tree (Corresponding to that ASCII value), the records matching with the genre that producer has entered will be inserted in the max heap. The max heap will be generated based on the number of voters. Later extraction will enable the initial producers to gain the attention of voters in order to be famous in few time. Once all the records will be pushed in the max heap, a loop of length 5 will call extract max 5 times to extract those movies whose number of voters are very high.

OUTPUT: The mapping for the number of voters to access the corresponding movie ID and title type will help the producer to choose a correct career path.

FOR MOVIE USERS:

- A SEARCH ENGINE BASED ON USER'S TASTE

PROBLEM STATEMENT: When recommending movies to a user a more general approach is to display the best movies according to its ratings and then classifying it based on top-notch genres 99% user likes but that is not seen on any of the online movie search engines.

SOLUTION: In the function of defaultGenrePrinting() and movieAccToCustomer(), the theme which we try to clone is that we suggest the user the All-time best rated specific genre movies and then also ask if he is okay with recommendation or wants to search a movie attributes, for which he or she knows only a little about it, we also try to find it using BFS within the specified genre tree.

- WANT MOVIES RECOMMENDATION?

PROBLEM STATEMENT: The appropriate recommendation based on high ratings are rarely found.

SOLUTION: In this function, the user will be supposed to enter the genre which he or she likes to watch. After that, the ASCII of that genre will be calculated and within that particular tree (Corresponding to that ASCII value), the records matching with the genre that producer has entered will be inserted in a doubly linked list. Then the linked list will be sorted based on ratings in descending order through insertion sort. In the end, the first 5 records will be shown to user.

OUTPUT: The resulting 5 records will be the top-rated shows for the particular genre that user has entered.