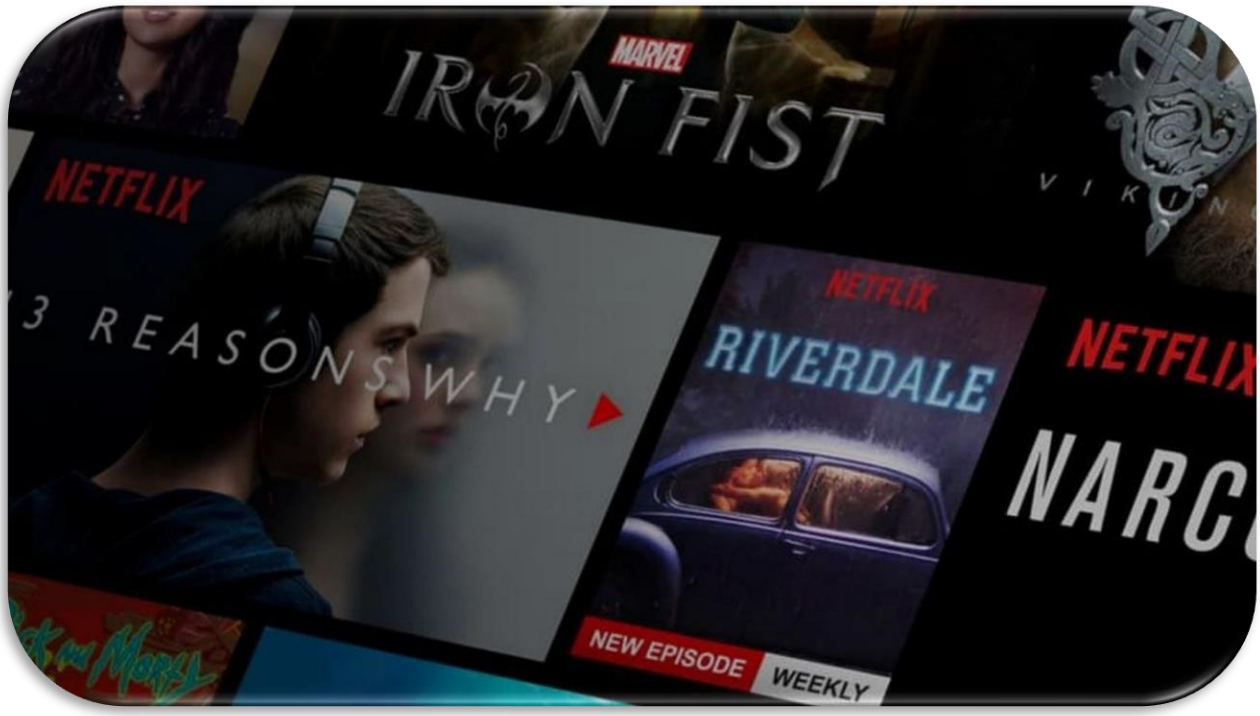
Data Structures

MOVIE RECOMMENDER



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PROJECT DESCRIPTION:

EXECUTIVE SUMMARY:

Our goal is to offer you with useful information about the film you wish to see. Because time is money, our primary purpose is to save your time by giving relevant and accurate information about the movie/film before you view it.

FUNCTIONALITY :

Our software mainly works on Data Extraction and Data filtering.
The main functionalities of our software are:

- » It is recommending top movies of each genre to the users according to the ratings of the movie.
- » Users can also search for movies with respect to their titles.
- » Displays all the movies details according to their release year.
- » Deleting any movie.

ARTIFACTiS :

We are inserting our data in AVL Trees according to their movie ID. This allows the software to insert delete and search data efficiently and faster in O(logn) speed. We have extracted the data by the following functions in our application:

1. **Search by Movie's ID**.
   By entering movie's Id number, details of that movie will be displayed.

2. **Search by Name.**
   By entering movie's name, details of that movie will be displayed.

3. **Search by Movie Release Date**
   By entering movie's realse date, details of that movie will be displayed.

4. **Search by Movie Imbd ID**
   By entering movie's Imbd Id, details of that movie will be displayed.

5. **Search by Movie Genre**
   By entering movie's Id number, details of all movies will be displayed with respect to entered genre.

6. **Search Top Rated Movies**
   This function will display top rated movies in sorted order.

7. **Search by your Prefered Rating**
   In this function user can enter his preferred ratings and with respect to that all movie's display will be shown

8. **Search each Genre for Top Rated Movies**
   This function will show all top rated movies of each genre.

9. **Display all the movies**
   Users will see all the movies in this option.

10. **Delete a movie**
    Authorized users can also delete a Movie by entering a security password.

BENEFITS TO THE USERS :

This software will benefit our users in multiple ways.

- Before watching a movie, they can see the rating of their desired movie which will save them their precious watch time and it will make their watch time more enjoyable.

- Software will also provide the users with a preliminary overview of the movie they want to watch. This will give them more information about the movie and help them to develop their interest in viewing the movie.

- Users can browse through various genres of movies. This will give them information about their favorite genre of movies.

- User can get an overview(description/summary) of the movies which would help them in understanding the plot of the story before watching it.

DATA SET:

For this software, we are using three datasets that contain more than a million movie details. Combined together, these data set have attributes like the unique ID, the name of the movie, release date, IMDB ID, Rating, Duration, Director name and, an overview of a particular movie. This data is randomly sorted and the user cannot look up any useful information in this dataset without filtering so our software filters the data for the users and only displays the information which they want.

DATA STRUCTURE:

For this software, we have used Binary Search Tree.

1) INSERTION:

All the movies are inserted in the BST. We have implemented AVL in BST which works on a self-balancing Binary Search Tree it reduced the time complexity of all the operations which will be performed on the BST like insertion, deletion, and searching. All of these operations will work on O(logn) speed.

2) DELETION:

This functionality can only be used by authorized users. The users will first have to type in a password. If the password is correct then only the application will allow them to delete any movie based on its unique ID.

3) SEARCHING:

Users are allowed to search in the data set via multiple options which are all stated in the Artifacts section. Due to the AVL tree, users can search data at a speed of O(logn).