Netflix Suggestion Database

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1 Project Details

1.1 Name of the Project

Netflix Movie Searching Website

1.2 Team

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2 Problem Statement

2.1 Context

Netflix wants to improve their search service suggestions based on their customer watching habits and behaviour.

Databases provide a stable structure, controlling access permissions and user restrictions. One person can make a change that is visible to everybody instantly. This feature increases efficiency and data consistency when using databases. Hence we choose to opt with databases instead of an excel sheet.

2.2 Illustration

Customer behaviour can be tracked using their watching history and types of content they frequently visit or content that they add to their favourites. Analyzing this type of data will allow Netflix to improve their suggestions for any particular user. Our database will maintain records of all these metrics for every user along with their preferences.

3 Target User

The target audience would be all the users of this popular streaming service Netflix.

The role of the database administrator is to make sure the database is maintained well and made available to use when needed. The database administrator or DBA in our system will be the ones creating the database i.e. us.

In real life the company or organization that is maintaining the records will be in charge of the database administration. For example Neflix will be assigning as the database administrator for this database.

4 List of Relations

List of Tables and their Schemas

- User (userID,firstName,lastName,emailID,country,userDob,paymentPlan)
- Movie (movieID,title,userID,leadCast,relaseDate,language)
- Stream (streamID,movieID,pixelQuality,paymentPlan,streamRating,totalView)
- Cast (castID,castName,movieID,country,castDob,address)
- Category(genreID,genre,duration,imdbRating,totalRevenue)
- Payment (paymentPlan,paymentAmount,lateCharge)

Keys of each Relation

Table Name	Primary Key	Foreign Key	Referential Integrity Constraint
User	userID	paymentPlan	set null
Movie	movieID	userID	delete cascade
Stream	streamID	movieID, paymentPlan	set null
Cast	castID	movieID	delete cascade
Category	genreID	movieID	delete cascade
Payment	paymentPlan	none	none

Justification of Key Selection

Table Name	Primary Key Justification	Foreign Key Justification
User	userID will be unique for each customer	paymentPlan is set as a foreign key to keep track of the each customer's payment details and once a paymentPlan is deleted from the Payment Table the payment for that corresponding user will be set to null
Movie	movieID will be unique for each movie	userID is set as a foreign key to keep track of the most watched movie by an user and once a userID is deleted from the User table then all of his watched movie will also got deleted from the movie table
Stream	streamID will be unique for each type of stream (for example: HD will have a id of 100)	movieID is set as a foreign key to keep track of every streaming options and paymentPlan is set as a foreign key to keep track of payment amount associated with each streaming option and once the movieID and paymentPlan is deleted from their corresponding table they will be set as null for a stream in the Stream table
Cast	castID will be unique for each cast	movieID is set as a foreign key to keep track of the movie where this cast is a lead character.Once a movieID is deleted then automatically the lead character of that movie will be deleted.
Category	genreID will be unique eg. Action is one genre, Thriller is one genre. Each movie will have one or more genres it belongs to.	Every movie will have its respective set of genre. Hence movieID will be the foreign key for category table. Once a movie is deleted all the associated category of that particular will be deleted automatically
Payment	paymentPlan will be unique and for each unique paymentID there will be a paymentPlan associated with it	None

Detailed Description of Each Attribute

User Table

Attribute Name	Data Type	Purpose	Default value	Can be Null ?
userID	INT(10)	Unique ID for each user	NONE	FALSE
firstName	CHAR(50)	First Name of a user	NONE	TRUE
lastName	CHAR(50)	Last Name of a user	NONE	TRUE
emailID	VARCHAR(50)	emailID of a user	NONE	FALSE
country	CHAR(50)	country of a user	NONE	FALSE
userDob	DATE	Date of Birth of a user	NONE	FALSE
paymentPlan	CHAR(50)	Subscritption Payment Plan of a user	NONE	FALSE

Movie Table

Attribute Name	Data Type	Purpose	Default value	Can be Null ?
movieID	INT(10)	Unique ID for each movie	NONE	FALSE
title	CHAR(50)	Title of the movie	NONE	FALSE
userID	INT(10)	Unique ID for each user	NONE	FALSE
leadCast	CHAR(50)	Main Cast of the movie	NONE	TRUE
releaseDate	DATE	release Date of the movie	NONE	FALSE
language	CHAR(50)	primary communication language of the movie	NONE	FALSE

Stream Table

Attribute Name	Data Type	Purpose	Default value	Can be Null ?
streamID	INT(10)	Unique ID for each stream type	NONE	FALSE
movieID	INT(10)	Unique ID for each movie	NONE	FALSE
pixelQuality	VARCHAR(10)	pixel range for each stream type	480p	FALSE
paymentPlan	CHAR(50)	Subscritption Payment Plan of a user	NONE	FALSE
streamRating	INT(10)	Rating of each stream type	NONE	TRUE
totalView	INT(1000)	number of views of each string type	0	FALSE

Cast Table

Attribute Name	Data Type	Purpose	Default value	Can be Null ?
castID	INT(10)	Unique ID for each cast	NONE	FALSE
castName	CHAR(50)	Name of the cast	NONE	FALSE
movieID	INT(10)	Unique ID for each movie	NONE	FALSE
country	CHAR(50)	country where the cast is currently living	NONE	FALSE
castDob	DATE	Date of Birth of the cast	NONE	FALSE
address	CHAR(100)	current address of the cast	NONE	FALSE

Category Table

Attribute Name	Data Type	Purpose	Default value	Can be Null ?
genreID	INT(10)	Unique ID for each genre type	NONE	FALSE
genre	CHAR(50)	Name of the genre	NONE	FALSE
duration	INT(100)	Length of the movie	NONE	FALSE
imdbRating	INT(50)	IMDB rating of a movie	0	FALSE
totalRevenue	INT(50)	Total Revenue the movie has made	0	FALSE

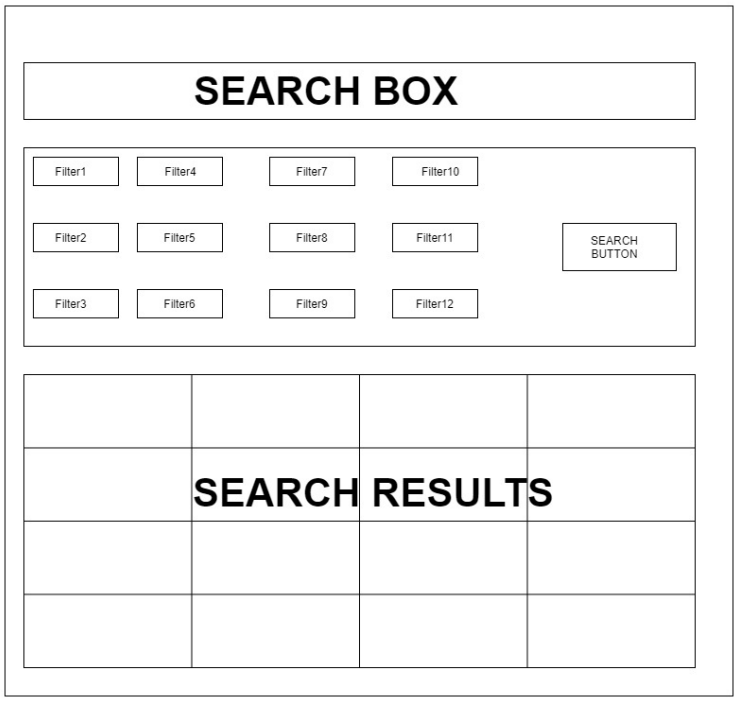
Payment Table

Attribute Name	Data Type	Purpose	Default value	Can be Null ?
paymentPlan	CHAR(10)	Payment plan of each user	NONE	FALSE
paymentAmount	INT(100)	payment Amount	$10	FALSE
lateCharge	INT(100)	Charge for late payment	$10	FALSE

5 Web Interface

This is the basic elementary layout of what out website will look like. The elements are explained from top to bottom below.

- A search box that the user will use to type the movie to search.
- If the user wishes to apply any filters to the search viz. Genre, movie length, actor or cast etc. then those should be selected and it will be applied while searching the results.
- The results will be shown as a thumbnail in a grid format. All these items can be further made clickable when integration is done with the front end.



6 Data

The data that we are using for our project will be fetched by making an API call to the Netflix service. Another option is by creating our own movie Dataset. This can be done by using a random data generator available on the internet.