STREAMING SERVICE APPLICATION DATABASE

Team 11					
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1. OVERVIEW

The design of the database for our project caters to streaming service applications such as Prime, Netflix, and Disney+. These applications offer a vast selection of TV shows, movies, anime, and documentaries for users to enjoy. Users of the application will be able to watch movies online live and add them to their personal lists of shows and movies to watch later or their favorite list. This way, they can keep track of all their preferred content in one convenience. The database also plays a crucial role in maintaining information related to TV shows and movies. This information includes details such as the cast, director, genre, and other relevant data. Moreover, the database also stores user preferences, making it easy for the application to recommend content based on their viewing history and personal taste.

2. PROBLEM STATEMENT

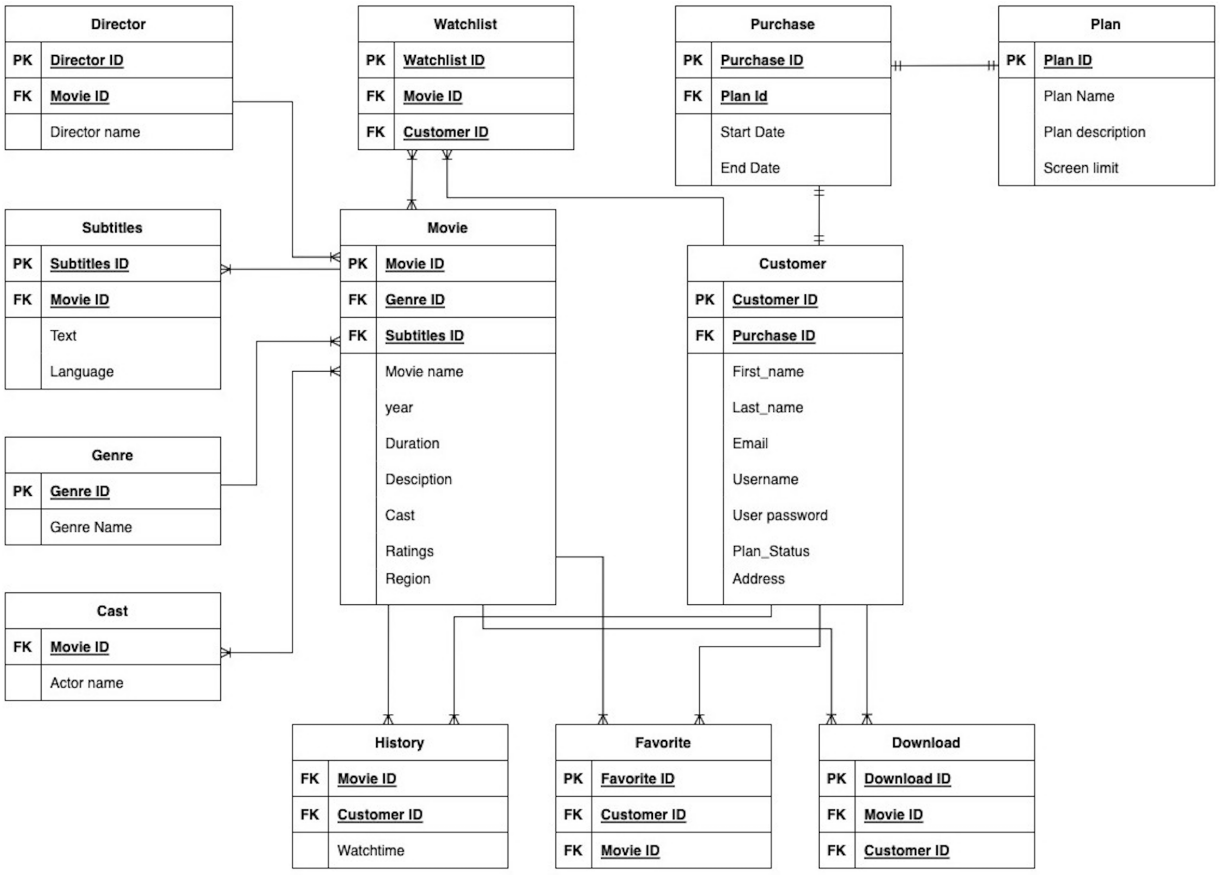
With the growing popularity of online streaming services, it's essential for streaming platforms to have a reliable and efficient database system capable of handling a large amount of data, including information on users, TV shows, movies, and viewing history. The database must effectively manage user profiles, watchlists, and viewing history, as well as maintain details on the cast, director, and genre of the content available. Additionally, the database must support the recommendation engine, which plays a crucial role in providing a personalized experience by making tailored suggestions to users based on their viewing history and preferences.

3. OBJECTIVES

- Maintain information on movies, tv shows including details on cast, director, genre.
- Match user data and preferences, including watch later, Favorite, and history.
- Keep a track of valid paid subscriptions.
- Control access based on subscription plan.
- Limit access to certain content based on the user’s location.

4. ENTITY RELATIONSHIP DIAGRAM

When it comes to designing a database, Entity Relationship (ER) diagrams play a big role. Based on the business idea, we have drafted a representation of the ER model containing tables with relations.



5. BUSINESS PROBLEMS ADDRESSED (Draft Version for Project_1)

1. Some users tend to share their accounts with multiple people which is a violation of the company's policy. This will cause the company a loss of revenue.

   Solution: Based on the users subscription plan, limit the number of active screens per account.

2. Users have to browse through several options before finding content that they enjoy. Users that have a hard time finding content that they like are less likely to use our platform

   Solution: Track user's watchlist, likes, and recommend content based on genre.

3. Each region has regulations on data consumed and several regions have content that is exclusive to them.

   Solution: Build a content list based on the region and limit access to certain content based on the user's location.

6. TABLES

Based on the business, we have created an idea of how many tables this system will consist of. These tables will define the database through column name, data type, constraints, and the description of those entities.

1. CUSTOMER:

Column Name	Data Type	Constraints	Description
1. Customer ID	NUMBER	PRIMARY	Unique ID of user
2.Purchase ID	NUMBER	FOREIGN	Purchase identifier for purchase history
3.First_Name	VARCHAR	NOT NULL	Stores First name
4.Last_Name	VARCHAR	NOT NULL	Stores Last name
5.Email	VARCHAR	UNIQUE	User Email id he used to log in
6.Username	VARCHAR	UNIQUE	Personal identity created by user
7.User Password	VARCHAR	NOT NULL	Stores Password
8.Plan_Status	BOOLEAN	CHECK	Plan status if Active or Inactive
9. Address	VARCHAR	NOT NULL	Stores address of the customer

2. PURCHASE:

Column Name	Data Type	Constraints	Description
1.Purchase ID	NUMBER	PRIMARY	Purchase identifier for purchase history
2.Plan ID	NUMBER	FOREIGN	Plan identifier for purchase history
3.Start Date	DATE	NOT NULL	Date when plan activates

4.End Date	DATE	NOT NULL	Date when plan expires

3. PLAN:

Column Name	Data Type	Constraints	Description
1.Plan ID	NUMBER	PRIMARY	Plan identifier for purchase history
2.Plan Name	VARCHAR	UNIQUE	Type of plans
3.Plan description	VARCHAR	UNIQUE	Benefits and services included in the plans
4.Screen limit	NUMBER	NOT NULL	Number of accessible screens

4. FAVORITE:

Column Name	Data Type	Constraints	Description
1.Favorite ID	NUMBER	PRIMARY	Unique ID to identify favorite movie
2.Customer ID	NUMBER	FOREIGN	Unique ID of user

5. DOWNLOAD:

Column Name	Data Type	Constraints	Description
1.Download ID	NUMBER	PRIMARY	Unique ID to identify downloaded movie
2.Movie ID	NUMBER	FOREIGN	Unique ID to identify movie
3.Customer ID	NUMBER	FOREIGN	Unique ID of user

6. HISTORY:

Column Name	Data Type	Constraints	Description
1. Movie ID	NUMBER	FOREIGN	Unique ID to identify movie
2. Customer ID	NUMBER	FOREIGN	Unique ID of user
3. Watchtime	TIMESTAMP	DEFAULT	Duration of movie watched by user

7. MOVIE:

Column Name	Data Type	Constraints	Description
1. Movie ID	NUMBER	PRIMARY	Unique ID to identify movie
2. Genre ID	NUMBER	FOREIGN	Unique ID to identify Genre
3. Subtitles ID	VARCHAR	FOREIGN	Unique ID to identify Subtitles of movie
4. Cast	VARCHAR	FOREIGN	Store name of cast members
5. Movie Name	VARCHAR	UNIQUE	Stores title of movie
6. Year	DATE	NOT NULL	Date when movie released
7. Duration	TIME	NOT NULL	Length of movie
8. Description	VARCHAR	UNIQUE	Overview of movie

8. WATCHLIST:

Column Name	Data Type	Constraints	Description
1. Watchlist ID	NUMBER	PRIMARY	Unique ID to identify watchlist
2. Movie ID	NUMBER	FOREIGN	Unique ID to identify movie
3. Customer ID	NUMBER	FOREIGN	Unique ID of user

9. CAST:

Column Name	Data Type	Constraints	Description
1. Movie ID	NUMBER	FOREIGN	Unique ID to identify movie
2. Actor Name	VARCHAR	NOT NULL	Stores name of actor, actress, and supporting cast

10. GENRE:

Column Name	Data Type	Constraints	Description
1. Genre ID	NUMBER	PRIMARY	Unique ID to identify Genre
2. Genre Name	VARCHAR	UNIQUE	Type of genre

11. SUBTITLES:

Column Name	Data Type	Constraints	Description
1. Movie ID	NUMBER	FOREIGN	Unique ID to identify movie
2. Text	VARCHAR	NOT NULL	script in the language
3. Language	VARCHAR	NOT NULL	The language subtitle text holds

12. DIRECTOR:

Column Name	Data Type	Constraints	Description
1. Director ID	NUMBER	PRIMARY	Unique ID to identify director
2. Movie ID	NUMBER	FOREIGN	Unique ID to identify movie
3. Director Name	VARCHAR	NOT NULL	Stores name of director