

Data Builders

Project 2

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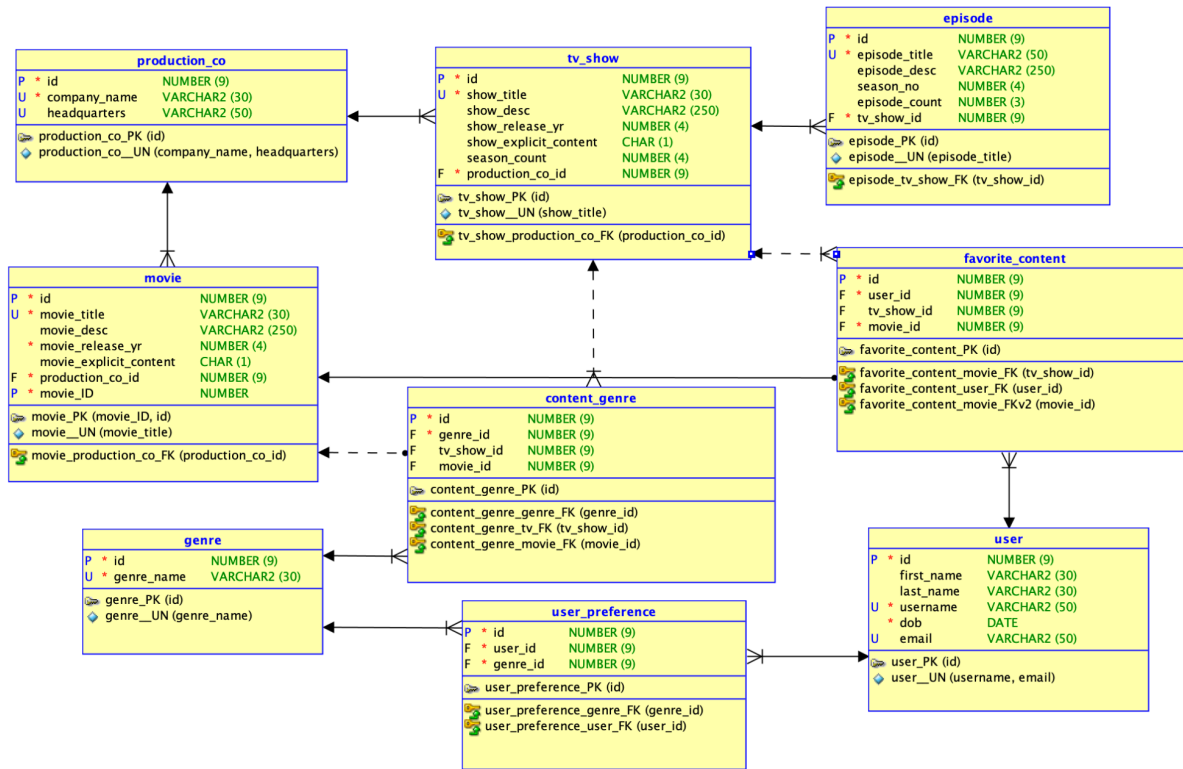
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Project Topic: Video Streaming Application Database

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Revised ERD (Final Version)



Changes Made:

Table: content_genre:

- Removed **content_id** and **content_type** attributes.
- Added attribute **tv_show_id** a foreign key, that references the **id** attribute of **tv_show** table.
- Added attribute **movie_id** a foreign key, that references the **id** attribute of **movie** table.

Table: favorite_content:

- Removed **content_id** and **content_type** attributes.
- Added attribute **tv_show_id** a foreign key, that references the **id** attribute of **tv_show** table.
- Added attribute **movie_id** a foreign key, that references the **id** attribute of **movie** table.

Business Rules

production_co:

Each time a new production company is on boarded onto the platform:

- Business Rule 1: The **company_name** must be set and it must be unique, ensuring that no two production companies can have the same name.
- Business Rule 2: The **headquarters** should be unique, meaning that each production company has a distinct headquarters location.

tv_show & movie:

Each time a new TV show or movie is produced and added onto the platform:

- Business Rule 1: The **title** of a TV show or movie must be set and must be unique to avoid two TV shows having the same title.
- Business Rule 2: The **explicit_content** field can only contain boolean values to indicate whether a show has explicit content or not.
- Business Rule 3: The **production_co_id** is a foreign key that references the **production_co** table, ensuring that each TV show or movie is associated with a valid production company.

episode:

Each time a new episode is added to a TV show and added onto the platform:

- Business Rule 1: The **tv_show_id** is a foreign key that references the **tv_show** table, ensuring episodes are associated with a valid TV show.
- Business Rule 2: no entry in the **episode** table can have a **season_no** set to a value greater than the **season_count** of its associated TV show.

content_genre & favorite_content:

Each time a new entry is added to the above tables:

- Business Rule 1: Both **tv_show_id** and **movie_id** cannot be null or both cannot be set simultaneously. This ensures that each entry in the table is associated with either a TV show or a movie, but not both.
- Business Rule 2: The **genre_id** is a foreign key that references the **genre** table, ensuring that each content genre is associated with a valid genre.
- Business Rule 3: The **user_id** is a foreign key that references the **user** table, ensuring that each favorite content entry is associated with a valid user.

- Business Rule 4: A user cannot have a favorite content with **explicit_content** set to true if their age is younger than 18.

user:

Each time a new user is on boarded onto the platform:

- Business Rule 1: The **username** must be set and must be unique, ensuring that each user has a distinct username.
- Business Rule 2: The **email** must be unique, ensuring that each user has a unique email address.

user_preference:

Each time a user adds preferences to their list:

- Business Rule 1: The **user_id** is a foreign key that references the **user** table, ensuring that each user preference is associated with a valid user.
- Business Rule 2: The **genre_id** is a foreign key that references the **genre** table, ensuring that each user preference is associated with a valid genre.

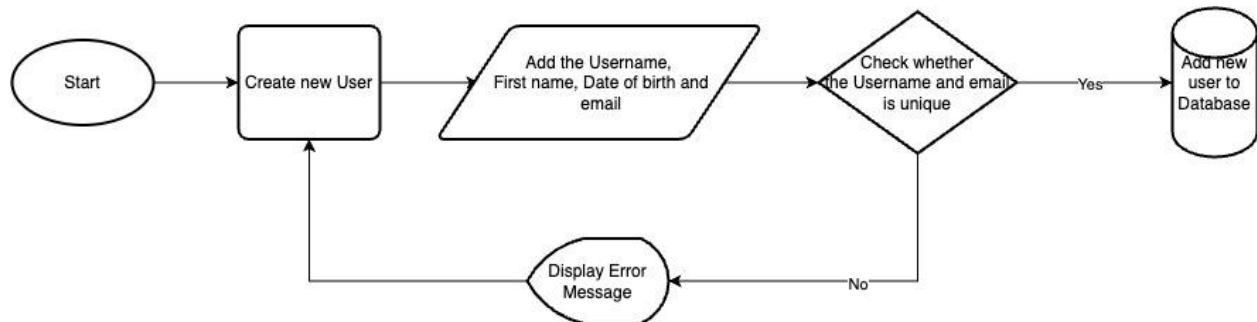
genre:

Each time a genre is added to the database:

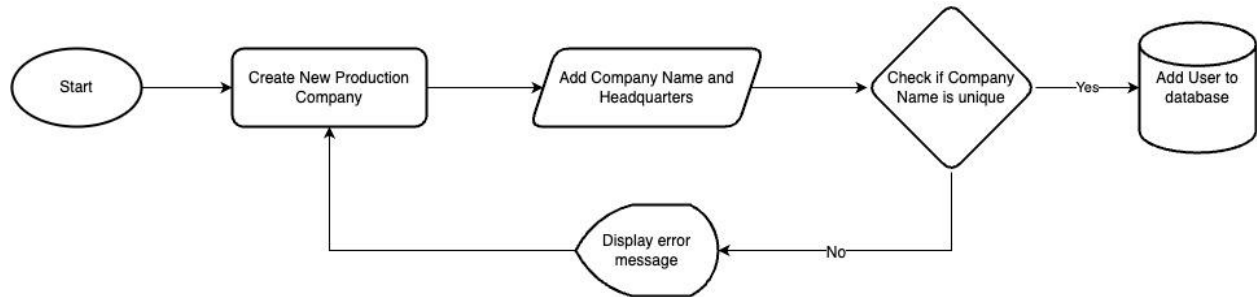
- Business Rule 1: The **genre_name** must be unique, ensuring that each genre has a distinct name.

Data Flow Diagrams

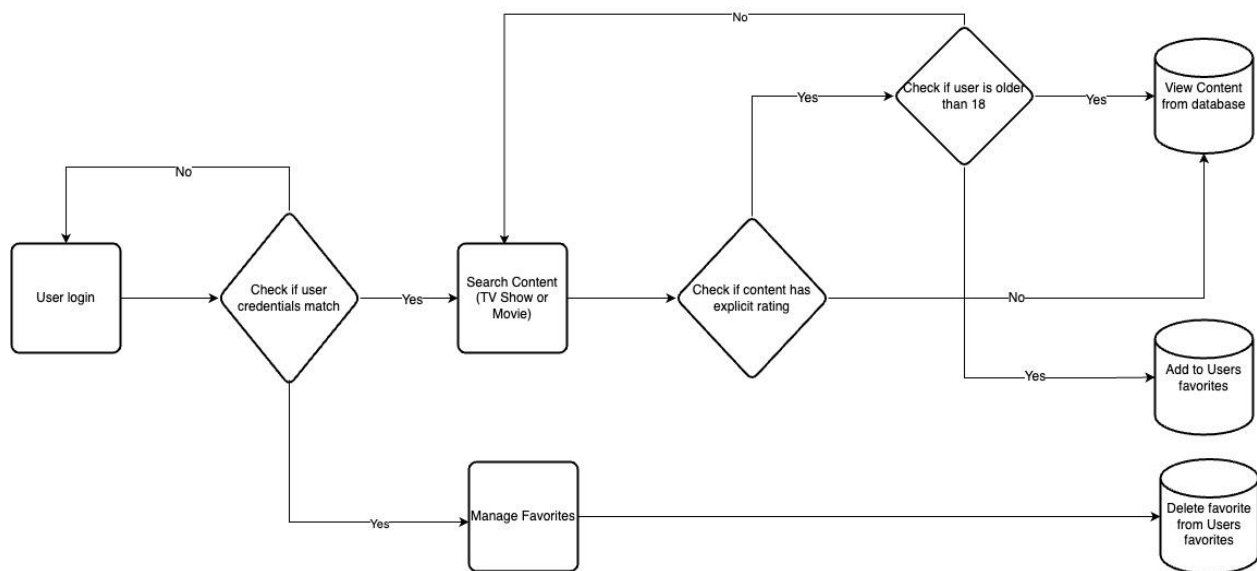
Create User Flow:



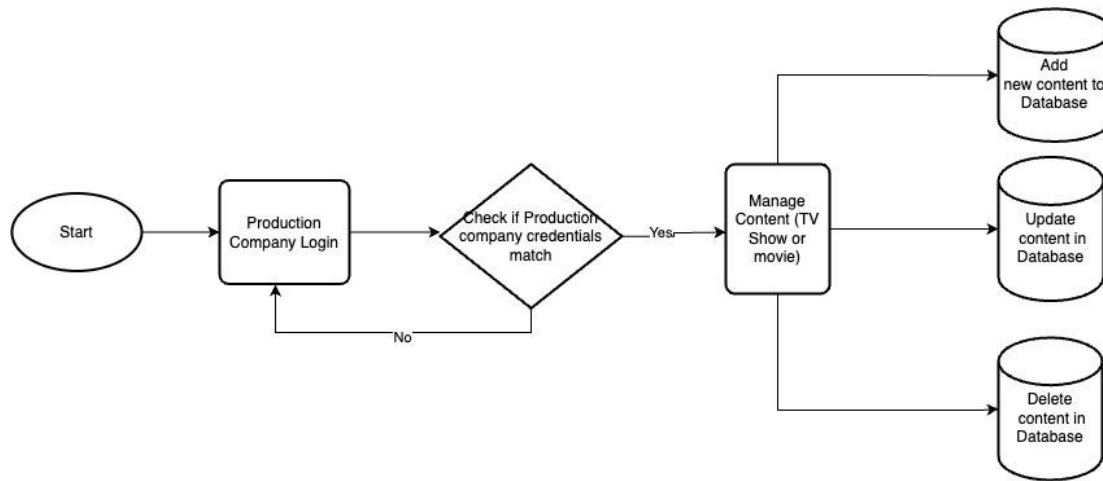
Create Production Company Flow:



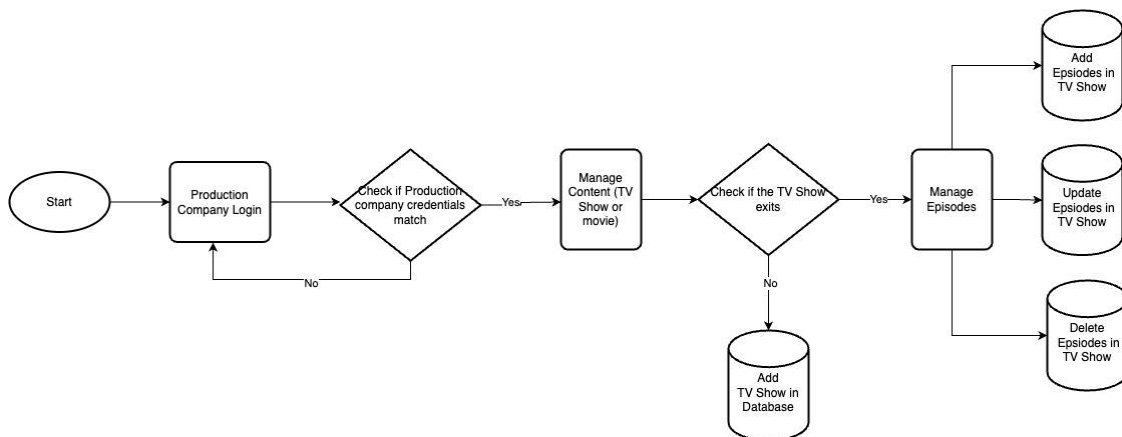
User Interaction Flow (View Content, Manage Favorites):



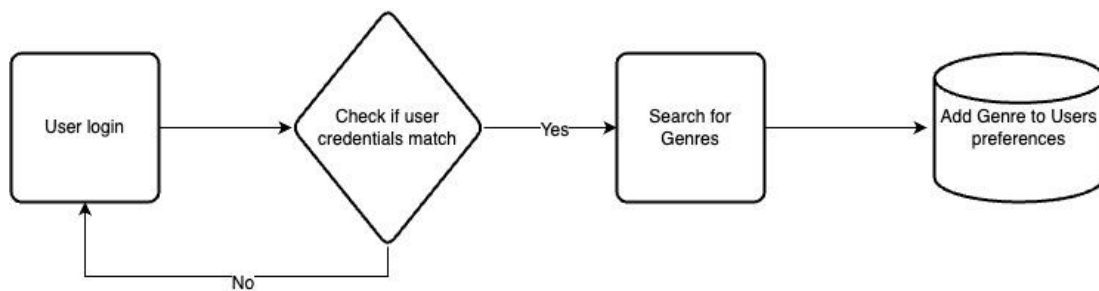
Content Management Flow (By Production Company):



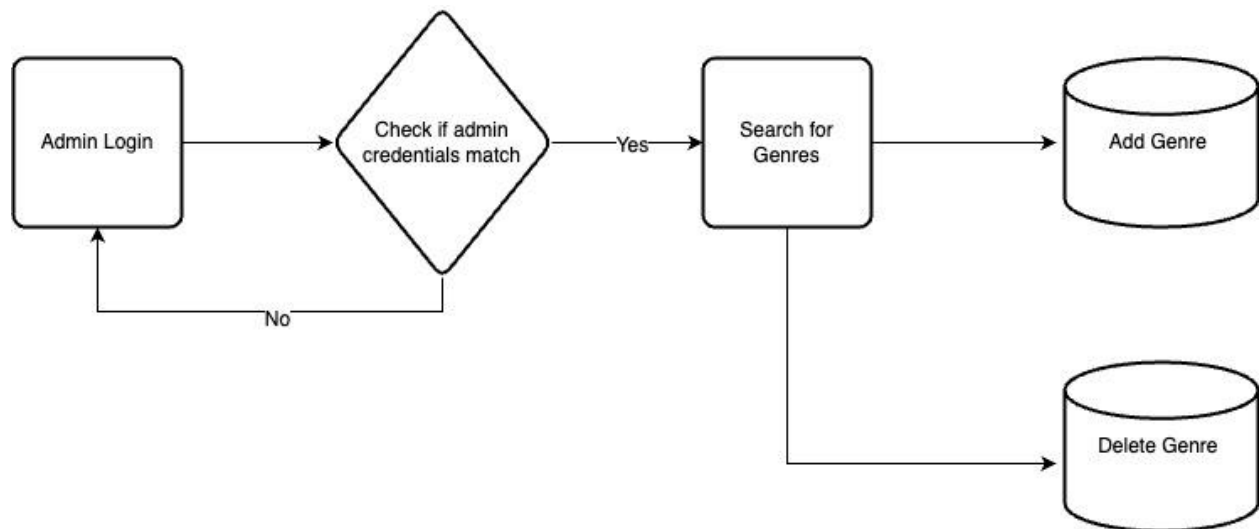
Episode Management (By Production Company):



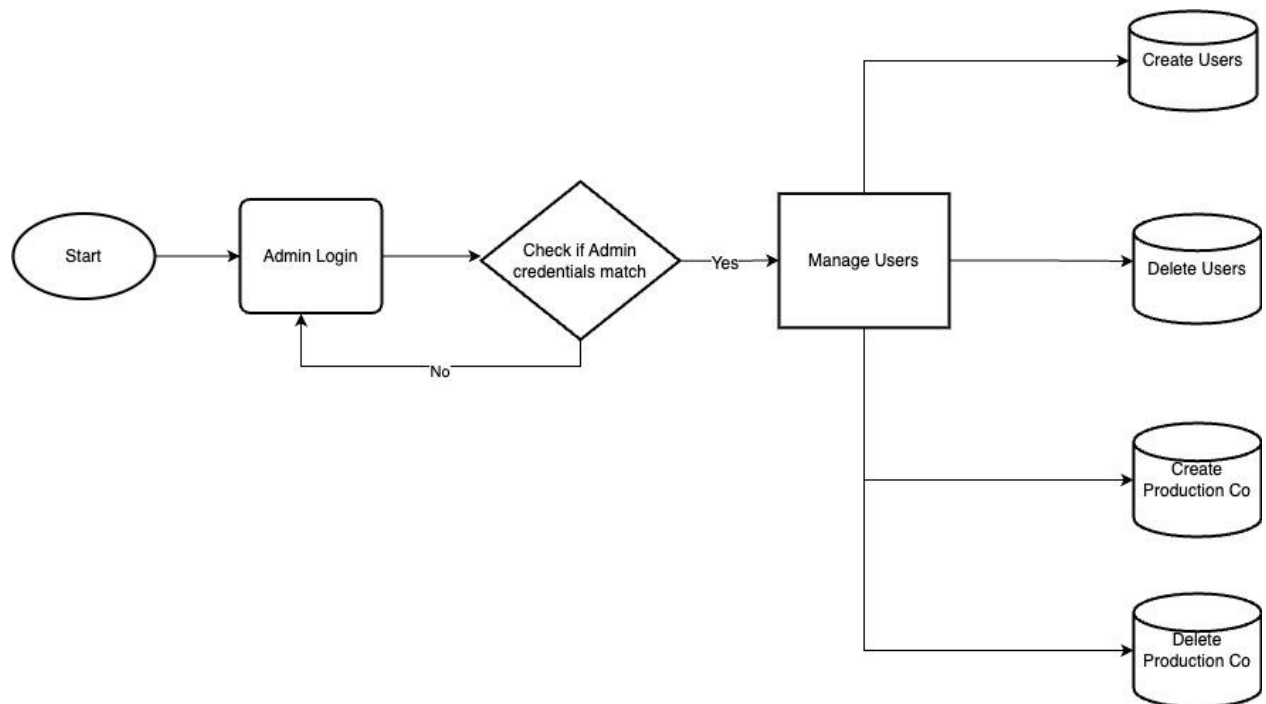
User Preference Management Flow:



Genre Management (By Admin):



Admin Management:



Security and Roles

Roles

We have outlined the roles of 'Admin,' 'User,' and 'Production Company,' along with their associated permissions. These roles are designed to ensure that each user group has the appropriate level of access, allowing for efficient content management, user preferences, and data security.

1. **Admin** - A super user.
2. **User** - The end user who uses the platform to stream content.
3. **Production Company** - The entity responsible for uploading content onto the platform.

Admin

Admin is a super user who has access to all parent tables in the database. Below are the permissions that admin has when it comes to the video streaming application:

- **Select Permissions:** Admin can view all data available in the database.
- **Insert Permissions:** Admin can insert users, production companies and genres.
- **Update Permissions:** Admin has update permissions on genres.
- **Delete Permissions:** Admin has delete permissions on all tables in the database except user_preference and favorite_content.

User

Users are restricted to view content uploaded by production companies. Below are the permissions of the user when it comes to the video streaming application:

- **Select Permissions:** Users can view all tables except the production company table.
- **Insert Permissions:** Users can insert user's preferences and favorites table.
- **Update Permissions:** Users have update permissions on users, favorites, and user preferences.
- **Delete Permissions:** Users have delete permissions on favorites and user preferences.

Production Company

Production companies are restricted to adding content to the database. Below are the permissions of the production company when it comes to the video streaming application:

- **Select Permissions:** Production companies can view all tables except the user, favorites and user preference table.
- **Insert Permissions:** Production companies can insert into TV shows, movies, episodes and associate genre with a content.
- **Update Permissions:** Production companies can update TV shows, movies, episodes and associate genre with a content.
- **Delete Permissions:** Production companies have delete permissions on TV shows, episodes and movies.