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TApplication Domain Description

Chosen Application Domain: TV Series Archival and Tracking System

This application is designed to help users document and track TV series they've watched, including details such as the series' name, genre, release date, and creators. It also allows users to rate the shows they've watched, track the services they use to watch them, and record whether they liked or disliked each series. The goal is to create a comprehensive and personalized archive that tracks users' viewing history, preferences, and the creators and services behind each show.

Usefulness:

The primary utility of this system is to provide users with a simple yet organized way to manage and track their TV series watching history. Users can search important details about the series they've watched, the creators behind the shows, and the streaming services they've used. Additionally, they can log whether they liked or disliked each show, creating a personalized record of their viewing preferences.

- **Comparison with Existing Systems:** Existing platforms like IMDb and Trakt offer similar functionalities, but this application stands out by offering a combination of series data (including ratings from multiple sources like IMDb and Rotten Tomatoes), creator details, and service information (price with and without ads). This gives the user a holistic view of their TV show habits and helps them make more informed decisions regarding what to watch and where to watch it.
- **Uniqueness and Advantage:** This system is more user-focused compared to other platforms by offering personalized tracking of likes/dislikes, streaming service price comparisons, and a relationship between shows and their creators. Unlike other platforms, users can directly see the services and creators associated with a series, providing them with more context about their viewing choices. Furthermore, the system integrates data from various sources like IMDb and Rotten Tomatoes to provide a broader understanding of each series.

Authenticity:

The data in this system will consist of:

- **Series Information:** Each series will have details such as the name, length, genre, release date, and ratings from IMDb and Rotten Tomatoes.
  Service Information: Each service (e.g., Netflix, Hulu) will include details about pricing for watching with ads and without ads.
- **Creator Information:** Data about the creators behind the TV shows, including social media handles (Twitter, Instagram).
- **User Data:** The application will store user details such as username and password to track individual user history, ratings, and preferences.

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The data will be manually entered into the database by users or imported from external sources. The sources for series and creator information could include APIs from IMDb, Rotten Tomatoes, or services like Trakt.

Functionality Description

Basic Functions:

1. **Track Series Information:** Users can track series in the system, entering details like the name, length, genre, and release date.
2. **Track Streaming Services:** Users can track services that offer the series and look up pricing details for watching with ads or without.
3. **Track Watch History:** Users can mark series as watched, along with a status (e.g., watched, currently watching, or want to watch), and record whether they liked or disliked the series.
4. **Rate Series:** After watching, users can rate the series, logging their opinion (like/dislike) and viewing history.
5. **User Registration and Login:** Users will register an account, providing a username and password for personalized tracking.

Advanced Functions:

1. **Creator Tracking:** Users can explore which creators are associated with a given TV series. The application will link series to creators (e.g., writers, directors) and their social media accounts (Twitter, Instagram).

2. **Service Comparison for Each Show:** Users can see which services offer a particular series and compare prices for watching with ads vs. without ads, helping them make more informed subscription choices.

3. **Watch History Analytics:** The application can provide users with visual reports or graphs based on their watching patterns, like the total number of series watched by genre, how many they liked vs. disliked, and their spending on services with/without ads.

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ER Diagram and Assumptions

Entities:

1. **Series**
    - Attributes: Series_ID, Series_Name, Series_Length, Genre, ReleaseDate
    - Primary Key: Series_ID
    - Relationships:
        - **Available on Services:** Many-to-many relationship with Service through the "Where to Watch" table.
        - **Has Creators:** Many-to-many relationship with Creator through the "SeriesCreators" table.
        - **Has Ratings:** One-to-one relationship with Ratings table.
2. **Service**
    - Attributes: Service_ID, Service_Name, Price_ADs, Price_NoADS
    - Primary Key: Service_ID
    - Relationships:
        - **Offers Series:** Many-to-many relationship with Series through the "Where to Watch" table.
3. **Creator**
    - Attributes: Creator_ID, Creator_Name, Twitter, Instagram
    - Primary Key: Creator_ID
    - Relationships:
        - **Associated with Series:** Many-to-many relationship with Series through the "SeriesCreators" table.
4. **Ratings**
    - Attributes: Series_ID (FK), IMDB Rating, Rotten Tomatoes Rating
    - Primary Key: Series_ID
    - Relationships:
        - **Belongs to Series:** One-to-one relationship with Series.
5. **Where to Watch**
    - Attributes: Series_ID (FK), Service_Name (FK)
    - Relationships:
        - **Links Series and Service:** Many-to-many relationship between Series and Service.
6. **SeriesCreators**
    - Attributes: Series_ID (FK), Creator_Name (FK)
    - Relationships:
        - **Links Series and Creator:** Many-to-many relationship between Series and Creator.
7. **UserHistory**
    - Attributes: UserHistory_ID, Series_ID (FK), Watch_Status, Like_Dislike
    - Relationships:

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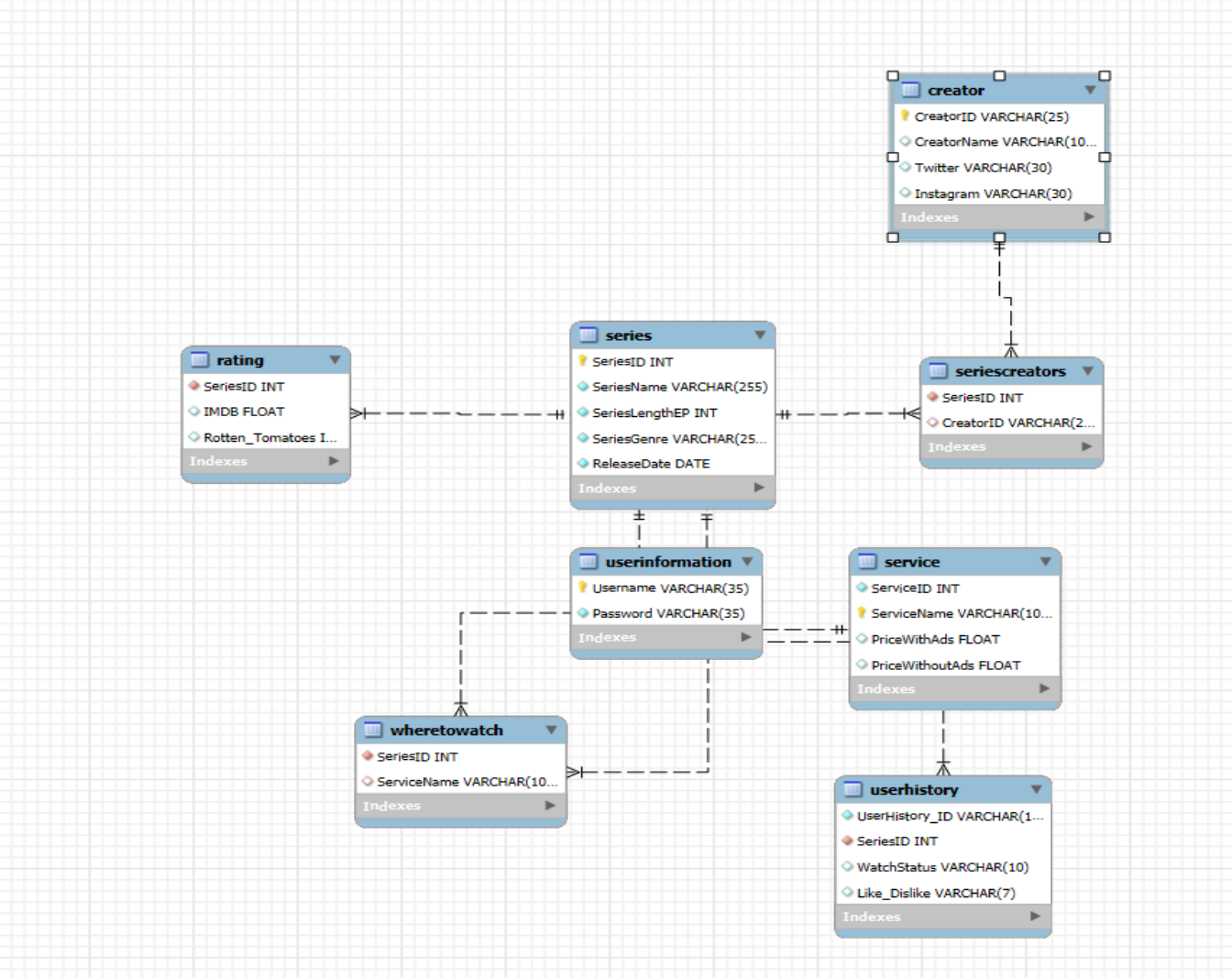
- **Belongs to User:** Many-to-one relationship with UserInformation.
- **Belongs to Series:** Many-to-one relationship with Series.

8. **UserInformation**
   - Attributes: Username, Password
   - Primary Key: Username
   - Relationships:
     - **Has Watch History:** One-to-many relationship with UserHistory.



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Relationships:

1. **Series - Service:** Many-to-many relationship (a series can be available on multiple services, and a service can offer multiple series).
2. **Series - Creator:** Many-to-many relationship (a series can have multiple creators, and a creator can be linked to multiple series).
3. **User - UserHistory:** One-to-many relationship (a user can have multiple watch history records).
4. **Series - UserHistory:** One-to-many relationship (a series can appear in multiple user histories).
5. **Service - Where to Watch:** Many-to-many relationship (a service can offer many series, and a series can be available on many services).
6. **Creator - SeriesCreators:** Many-to-many relationship (a creator can be associated with multiple series).

Assumptions:

1. **Series and Services:** A series can be available on multiple services, and each service can offer many series.
2. **User History:** Users can have multiple entries in their watch history, each corresponding to a different series.
3. **Creator Data:** The data about creators is relatively static but could change if new creators are added to the system.
4. **Ratings:** Ratings are one-to-one with the series, pulling data from sources like IMDb and Rotten Tomatoes.
5. **Service Pricing:** Each service has two price points: one for ad-supported viewing and one for ad-free viewing.
6. **User Authentication:** Users must authenticate with a username and password before accessing personalized history.

Conclusion

This SQL-Python application will offer users an efficient and structured way to track TV series they've watched, rate them, and compare services where they are available. By including detailed information about creators, ratings, and service options, the system will provide a personalized experience for each user. Advanced features like service comparison, watch history analytics, and creator tracking will enhance the user experience and allow for more informed decisions about what to watch and where to watch it.