

Homework 1: Relational database design

Video Streaming Service

A video streaming service wants to create a database for managing its subscribers and its content.

- The contents available on the platform are identified by identified by a unique code. Each content is characterized by the name, the year of production, the upload date, the user rating, and the list of actors. The contents can be movies or TV series. For movies, the duration and the list of Oscars won are known. For TV series, the number of episodes and the average duration per episode are known. For each actor, the name, surname, and stage name are known.
 - Users subscribed to the platform are identified by their email address. For each user, the name, surname, date of birth, and information of the credit card used for payment (owner, card number, and CVV) are also known.
 - To access streaming content, users must subscribe to one or more subscriptions, depending on the type of content they are interested in. Each subscription is identified by a name (horror, thriller, children, etc.) and it is characterized by the cost, whether it includes advertising, and the maximum resolution.
 - We want to keep track of the periods of time (start date and end date) during which users have subscribed to subscriptions. A user may subscribe to multiple subscriptions even at the same time. In addition, a user can subscribe to the same subscription multiple times, at different periods. Multiple users can subscribe to the same subscription, even at the same time.
 - We want to keep track of the content views made by users. Each view is identified by the user who made it and the start date and time of viewing, and it is characterized by the content viewed and the end time of viewing. Each content can be viewed multiple times, by the same user or by different users.
1. Describe the conceptual schema of a database for the above application by means of an ER diagram.
 2. Derive a normalized relational logical schema for the same database.
 3. Define referential integrity constraints for 3 relations of your choice among those defined in the conceptual schema.