Bonus Project - Phase 1

Databases - Fall 2024

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Overview

In this project, you will design and build a database for a **Media Streaming Service**. The database must store critical information, such as user profiles, subscription details, payment histories, and personalized watch lists. It should also manage media assets, including movies and series with multiple episodes while tracking their storage locations and associated production companies.

The system will ensure that all data is efficiently organized to support user activities like leaving comments, rating media, and curating a watch list for future viewing.

Specifications:

- Each user can subscribe to the service for a period of time. The start and end date of their subscription (including the subscription tier) must be stored.
- The users' payment history, including the related subscription and transaction details, must be stored as well.
- A media entity can be a movie or a series, and it includes a genre, a production year, an average rating score, a director, a list of actors, a list of producers, and a list of comments left by users.
- Users can leave multiple comments for a media entity but can rate each item once.
- A series consists of multiple episodes. Each movie or episode of a series must have a storage location, which stores the corresponding server and path of the media file.
- Each movie or series must belong to a production company. Each company's details, such as its name, year of establishment, and contact information, must be stored in the database.
- Each user has a 'Watch Later' list to which specific movies or episodes of a series can be added.

Tasks

1. Requirements Analysis

- Identify the project's main entities and their attributes based on the specifications provided.
- Determine the relationships and constraints required to model a streaming service accurately.
- You are encouraged to add creative features or enhancements, as long as the core requirements are met.

2. Conceptual Database Design

- Design an Enhanced Entity-Relationship (EER) and a Unified Modeling Language (UML) diagram to represent the database.
- Clearly define the relationships between entities, including cardinalities and any hierarchical structures.

3. Report

Compile a complete and clean report in **PDF format**. Provide the following:

- **Introduction**: Brief overview of the project objectives and your chosen approach.
- **Design Diagrams**: EER and UML diagrams with clear labeling and structure.
- **Step-by-Step Explanation**: Breakdown of each entity and relationship, with details supporting your choices.
- **Constraints:** Description of all constraints, such as primary keys, foreign keys, unique constraints, and data types.

Submission

The deadline for submitting this phase of the project is **Friday, December 13 (23rd of Azar)**. You must upload your report plus any additional relevant materials to the Google Classroom page of the course. Note that the usage of Generative AI is strictly prohibited for this project.

Best of luck!