Movie Rental Service Database Design

Overview

The database design implements a comprehensive movie rental service platform with:

- User profile and authentication management

- Subscription handling with different plan types

- Complete movie catalog with metadata

- User interaction tracking

- Advanced analytics capabilities

Database Schema

Key Tables:

1. Users: Profile information and authentication

2. Movies: Movie catalog with metadata

3. Genres: Movie categorization

4. Reviews & Ratings: User feedback system

5. Watch History: Viewing patterns

6. Subscription Plans: Tiered access levels

Key Features

- Join operations and window functions

- Common Table Expressions (CTEs)

- Complex aggregations

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- Subquery optimization

- Conditional filtering

Sample Queries

1. Popular Movies Analysis:

   - Track top-rated movies

   - Monitor viewing patterns

   - Analyze user preferences

2. Recommendation System:

   - Generate personalized suggestions

   - Based on watch history

   - Consider user ratings

3. Subscription Analytics:

   - Track plan usage

   - Monitor revenue

   - Analyze user engagement

Implementation Guidelines

1. Import schema to preferred SQL database

2. Configure user authentication

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3. Set up monitoring systems

4. Implement backup procedures

5. Regular maintenance and optimization