CPS510 - A1 Report

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Description

The online movie store will be a dynamic web application where users can sign up, log in, and access a comprehensive catalogue of movies. After successfully logging in, users can be presented with the full selection of films available on the site. The application will leverage multiple databases containing critical information contributing to the platform's functionality.

The first database will manage all movie-related data, including a unique ID for each film, a poster image (stored as a JPEG), the movie title, director, cast, description, price and rating. Additionally, users can rate movies they've watched, and their preferences will be used to recommend similar films.

The second database will be the user's information, which will be securely stored, including their name, date of birth, username, hash and salted password (for added security), and email address. This will ensure a personalized user experience while maintaining the highest level of protection for sensitive data.

The third database will include admin information, which consists of the admin's username, email address, and password. This is an import database because only the admin can make changes on the website using an authentication process. The admin will be able to add and delete movies and change the rating of the film and its description.

The fourth database will contain customer payment information, including encrypted credit card details and billing addresses. All transactions will be securely processed using industry-standard encryption protocols, protecting sensitive financial data.

This comprehensive design ensures a scalable, secure, and personalized user experience while providing the admin with full control over the movie catalogue.

Tables

The database will consist of tables with the following attributes and types:

- Customer info
    - Date of birth → DATE
    - Name → VARCHAR
    - Username → VARCHAR
    - Password → VARCHAR (hash and salt for protection)
    - Email → VARCHAR
- Movie Information
    - ID# → NUMBER
    - movie poster jpg → VARCHAR
    - Movie name → VARCHAR
    - Director name → VARCHAR

    - Cast → VARCHAR
    - movie description → VARCHAR
    - Price → Float
    - Ratings → Number
    - Genre names → VARCHAR
- Admin/Staff Info
    - Admin username → VARCHAR
    - Admin email → VARCHAR
    - Admin password → VARCHAR (hash and salt for protection)
- Customer Payment
    - Membership → Bool
    - Billing Address → VARCHAR
    - Payment Information → VARCHAR

Functionality

- Allow customers to manage personal accounts on the site
    - Customers will have personal accounts with details and payment information attached to them.
    - Customers can create and manage watchlists/shopping carts for future purchases.

- Manage movie inventory and advanced keyword searching
    - The site will store data about movies, such as (titles, genres, cast, directors, release dates, and descriptions).
    - Movies will be grouped into various genres and categories for advanced searching and browsing.

- Allow customers to stream movies
    - Customers will be able to order/rent movies on the site.
    - The database will track user permissions and allow verified customers access to content.

- Store payment and billing information securely
    - The site will track user memberships and expiry dates.
    - The site will track customer purchase history.
    - Customers will receive invoices and billing receipts for every purchase and membership renewal.

- Allow staff access to back-end features
    - Admins and staff can update movie entries and prices.
    - Admins will have access to customer support features such as customer accounts and refund management.
    - Admins will have access to the sales index for data-driven decision-making.

Volume of Data

- Movies
    - Number of movie files (varies depending on store offering)
    - The size of high-definition movie files may range from 1GB to 50GB
- Customers
    - Basic customer data (varies)
- Orders
    - Store roughly 5KB of data per order
- Payments
    - Payment records (roughly 5KB of data per payment made)
- Admin
    - Staff data (varies)