SMU
SINGAPORE MANAGEMENT UNIVERSITY

Group Project: Phase I
Netflix ER Diagram

Section G4
Team 2

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1. Brief Description of Netflix

Netflix is a subscription-based streaming platform that offers films and series in over 30 languages across more than 190 countries. Subscription members can watch content on demand, with a mix of licensed media and Netflix's own original productions. Its success in the competitive streaming market is largely due to its first mover's advantage and unique algorithm that provides personalised recommendations for its subscription members.

2. Business Rules

- Netflix users are called members. A member is uniquely identified by their member ID. When signing up for a Netflix account, members must input their first name, last name, email, and password.
- A member must purchase one subscription plan at a time, but may change the plan over time. There are three tiers of Netflix's subscription model (basic, standard, and premium), provided on a monthly basis at varying prices.
- Members can use at least one payment method to pay for their subscription plan.
- Netflix records each payment with a payment ID, details of the amount and payment date.
- A Netflix account is designed for people who live in a single household. Therefore, Netflix allows each member to create up to five profiles.
- A member must have at least one profile. Each profile is tied to one member.
- Each profile is partially identified by name and the member ID.
- Each profile has a profile type, denoting an adult account or a kids account.
- Each profile has a specific number of active watching devices (respective to the subscription plan: Basic - 1 device, Standard - 2 devices, Premium - 4 devices). Each device can access all the profiles.
- Each device can be active or inactive while watching Netflix. Each device has a type and is uniquely identified by their device ID.
- Netflix records the viewing history for each profile, with the date watched and duration watched of a piece of content. A piece of content can be viewed multiple times.
- The score for each content recommendation is stored after being generated by the recommendation algorithm.
- A profile can receive multiple recommendations, but each recommendation is only tied to one profile.
- Content on Netflix mainly falls under one of two categories. The first category, series, details content that have episodes and seasons. The second category, films, are content with a specified run-time.
- However, there are other types of special content that do not have a defined category. For example, past live shows that are recorded and re-released on Netflix.
- Each piece of content on Netflix is uniquely identified by their content ID and contains details on the date of release, maturity rating, description, creator(s), mood(s) of the content, and genre(s).
- An actor, uniquely identified by their first and last name, can be in one or more pieces of content.

3. Use Cases

For Netflix, some use cases of the system include:
(1) Creation of an account and the availability of what plans to purchase.
(2) Creation of different types of profiles for individuals after an account is successfully set up.
(3) Users can browse different types of content within each profile and access metadata such as view time, genre, etc.
(4) Users can view their browsing history within their profiles.
(5) Users can search for a particular actor to view all the content the actor is in.
(6) Netflix staff can analyse consumers' browsing history to develop algorithms and use machine learning to recommend related content.
(7) Netflix staff can track users' payment history and subscriptions to ensure accurate revenue accounting.
(8) Monitoring the number of active devices per profile helps enhance security, allowing management to detect password sharing and other potential risks.

4. Stakeholders & End Users

For (1), (2), (3), (4), and (5) the **consumers** are the users as well as the stakeholders.
For (6), **data scientists** from Netflix are the stakeholders as they maintain the algorithm, and manage the database.
For (7), Netflix's **accounting department** is a stakeholder, as transaction data is required for bookkeeping.
For (8), Netflix I**T security and management** is a stakeholder. As the number of active devices varies by subscription type, Netflix strictly allows members in the same household to use a member profile. Having information on the number of devices and profiles per subscription plan allows for ease of monitoring and enforcing anti-password sharing policies.

5. ER Diagram