

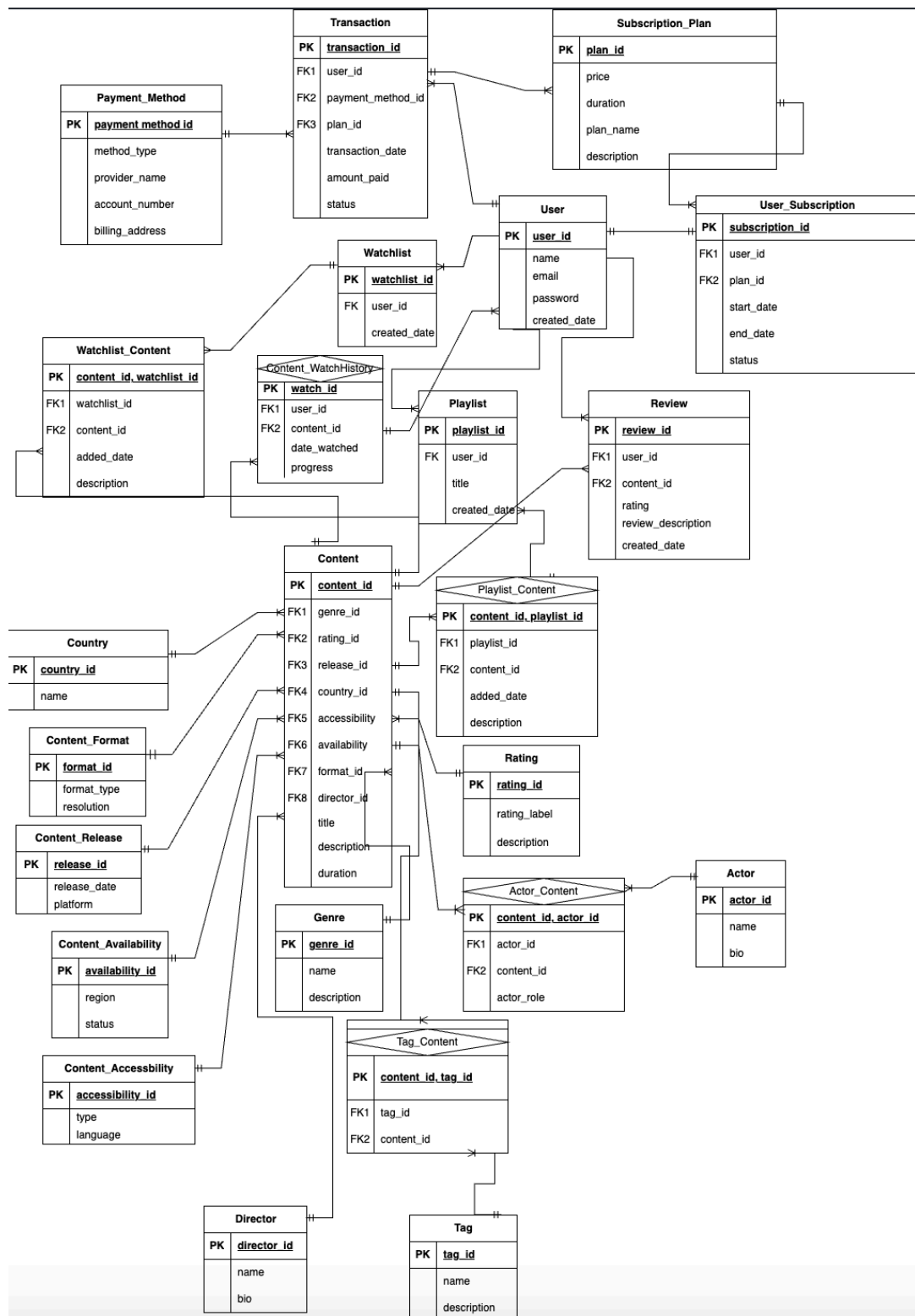
## **Section I: Database Design**

In this section, you are required to create the database structure and relationships based on the entities listed below. Ensure that you carefully analyze and model the relationships between these entities to design an efficient and logical database schema.

### **Entities**

1. Actor
2. Actor\_Content
3. Content
4. Content\_Accessibility
5. Content\_Availability
6. Content\_Format
7. Content\_Release
8. Content\_WatchHistory
9. Country
10. Director
11. Genre
12. Payment\_Method
13. Playlist
14. Playlist\_Content
15. Rating
16. Review
17. Subscription\_Plan
18. Tag
19. Tag\_Content
20. Transaction
21. User
22. User\_Subscription
23. Watchlist
24. Watchlist\_Content

## Entity Relationship Diagram (ERD)



**\*this diagram represents associative entities with a diamond-box shape to show many-to-many relations becoming an entity itself**

**Entities w/ relationships, cardinalities, and primary/foreign keys (PKs and FKs):**

**1. Actor**

PK: actor\_id  
name, bio  
many-to-many w/ **Content**

**2. Actor\_Content**

PK: content\_id, actor\_id  
  
FK: content\_id, actor\_id  
  
actor\_role  
  
relationships

**3. Content**

PK: content\_id  
FK: genre\_id, rating\_id, country\_id, format\_id, release\_id, availability\_id,  
accessibility\_id, director\_id  
many-to-many w/ **Actor, Tag**  
one-to-many w/ **Review**  
one-to-many w/ **Content\_WatchHistory**  
many-to-one w/ **Director, Genre, country**

**4. Content\_Accessibility**

PK: accessibility\_id  
type, language  
One-to-many with **Content**

**5. Content\_Availability**

PK: availability\_id  
  
region, status  
  
One-to-many with **Content**

**6. Content\_Format**

PK: format\_id  
format\_type  
resolution  
one-to-many w/ **Content**

## 7. Content\_Release

PK: release\_id  
release\_date  
platform  
one-to-many w/ **Content**

## 8. Content\_WatchHistory

PK: watch\_id  
FK: user\_id, content\_id  
many-to-many w/ **User, Content**

## 9. Country

PK: country\_id  
name  
one-to-many w/ **Content**

## 10. Director

PK: director\_id  
name, bio  
one-to-many w/ **Content**

## 11. Genre

PK: genre\_id  
name, description  
one-to-many w/ **Content**

## 12. Payment\_Method

PK: payment\_method\_id  
method\_type, provider\_name, account\_number, billing\_address  
one-to-many w/ **Transactions**

## 13. Playlist

PK: playlist\_id  
FK: user\_id  
title, created\_date  
one-to-many w/ **User**  
many-to-many w/

## 14. Playlist\_Content

PK: playlist\_id, content\_id  
FK: playlist\_id, content\_id  
added\_date, description

### 15. Rating

PK: rating\_id  
rating\_label, description  
one-to-many w/ **Content**

### 16. Review

PK: review\_id  
FK: user\_id, content\_id  
rating, review\_description, created\_date  
one-to-many w/ **User**  
one-to-many w/ **content**

### 17. Subscription\_Plan

PK: plan\_id  
price, duration, plan\_name, description  
one-to-many w/ **User\_subscription**

### 18. Tag

PK: tag\_id  
tag\_name  
many-to-many w/ **Content**

### 19. Tag\_Content

PK: content\_id, tag\_id  
  
FK: content\_id, tag\_id  
  
relations

### 20. Transaction

PK: transaction\_id  
FK: user\_id, payment\_method\_id, plan\_id  
transaction\_date, amount\_paid, status  
many-to-one w/ **User, Subscription\_plan, payment\_method**

### 21. User

PK: user\_id  
name, email, password, created\_date  
one-to-many w/ **Playlist, Watchlist, Reviews, Transactions**  
one-to-one w/ **User\_Subscription**  
many-to-many w/ **Content, Content\_WatchHistory**

## 22. User\_Subscription

PK: subscription\_id  
FK: user\_id, plan\_id  
start\_date, end\_date, status  
one-to-one w/ **User**  
many-to-one w/ **subscription\_plan**

## 23. Watchlist

PK: watchlist\_id  
FK: user\_id  
create\_date  
one-to-many w/ **User**  
many-to-many w/ **Content**

## 24. Watchlist\_Content

PK: watchlist\_id, content\_id  
FK: watchlist\_id, content\_id  
  
added\_date  
description  
check relationships