

# DBMS - Experiment 1

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## **AIM:**

Identify the case study and detail statement of problem.

Design an Entity-Relationship (ER) / Extended Entity-Relationship (EER) Model.

## **Theory of ER Diagram:**

ER diagram-An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among people, objects, places, concepts or events within an information technology (IT) system.

Entity- an entity is a table or attribute of a table in database, so by showing relationship among tables and their attributes, ER diagram shows the complete logical structure of a database.

Attributes-attribute refers to a database component, such as a table. It also may refer to a database field. Attributes describe the instances in the column of a database. Participation constraint specifies the existence of an entity when it is related to another entity in a relationship type.

It is also called minimum cardinality constraint. This constraint specifies the number of instances of an entity that can participate in a relationship type.

## **Theory of Case Study :**

This is a Music App Database. This database is for users to play and access songs. The user profile will contain details such as user\_id, user\_name, email, mobile\_number, password. The user can have a premium subscription which allows to access premium content without ads. User can play item (podcast or album) or even can create custom playlists according to the need. Item has release\_date, duration which contains subclasses Podcast and Album. Further Podcast contains type, title, description, id and artist. Album has title, an id which has the above attributes of the Item as well. Album, Playlist both contain Song which is created by Artist has id, title, also has a Genre which contains name and description. Artist has name, id and rating.

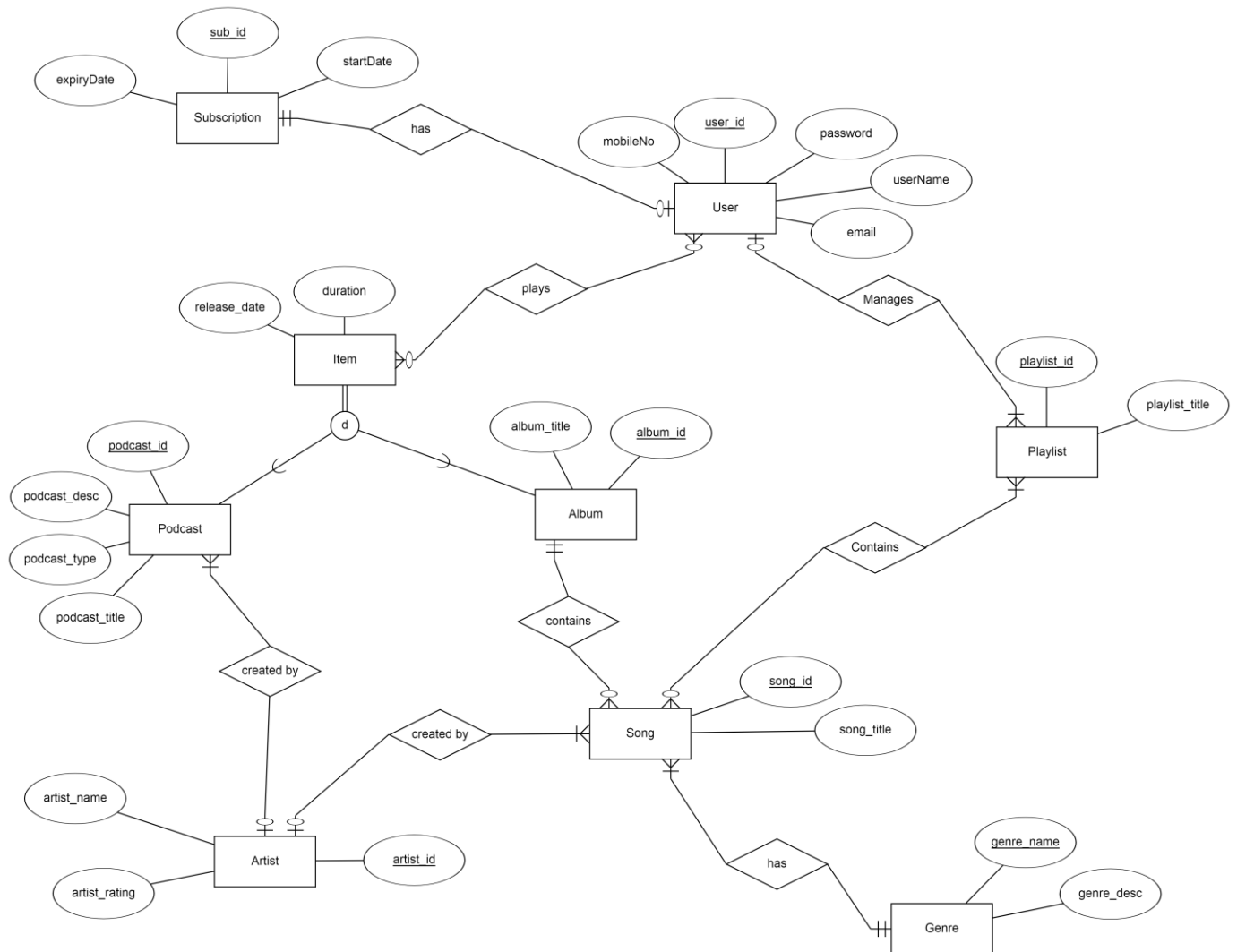
## **List of Entities:**

1. User
2. Subscription
3. Item
4. Playlist
5. Podcast
6. Album
7. Song
8. Artist
9. Genre

## **List of Relationships:**

1. User has subscription (one to one)
2. User plays item (many to many)
3. User manages playlist (one to many)
4. Item has Podcast or Album (Distinct relationship)
5. Playlist contains Song (many to many)
6. Album contains Song (one to many)
7. Podcast created by Artist (many to one)
8. Song created by Artist (many to one)
9. Song has Genre (many to one)

## Diagram:



## Conclusion:

The above ER diagram perfectly represents the Music App Database.