

(CS 425-02) DATABASE ORGANISATION

Project Deliverable - 1

Group Members Details

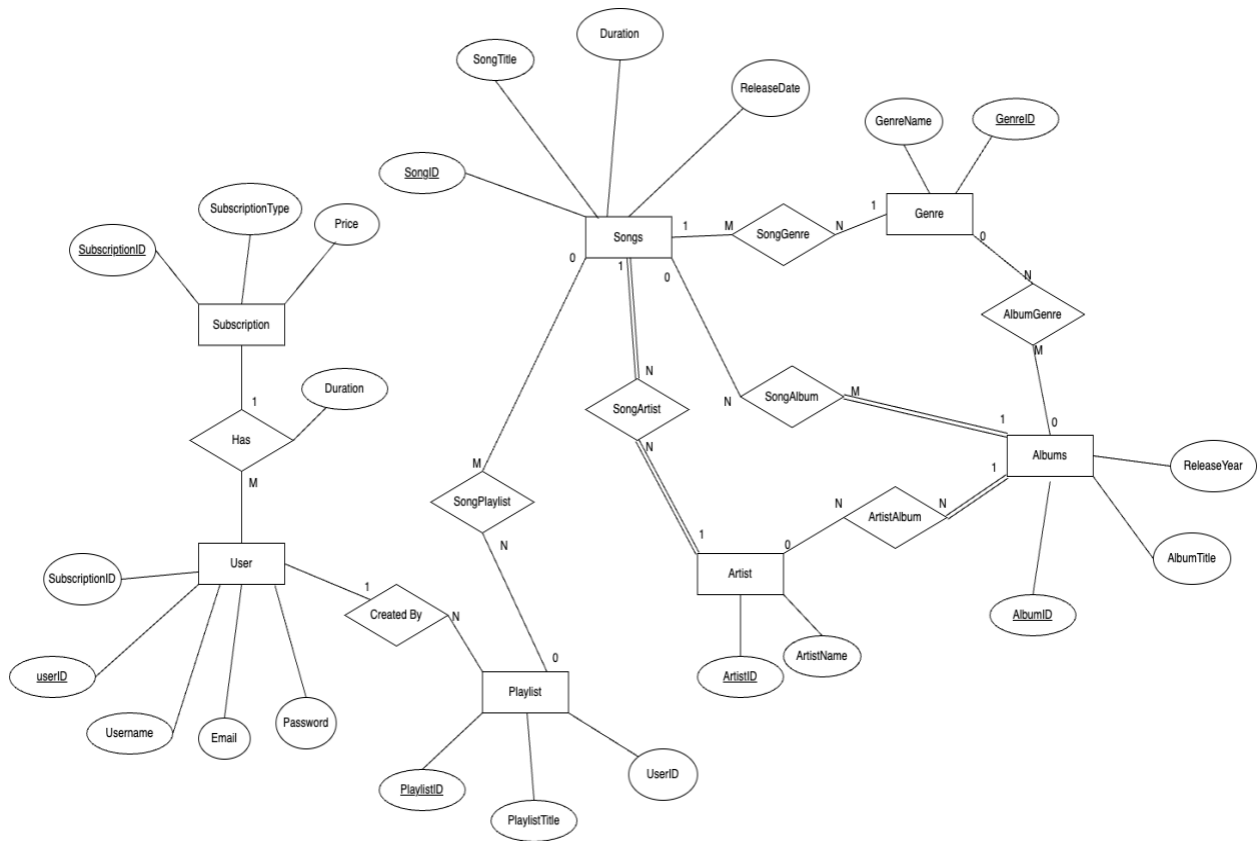
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Equal Contribution

Deliverable 1

(ERD + Relation schema + Business rules)

ER Diagram for Apple Music



Relation Schema translated from the ERD

- User (UserID, Username, Email, Password, SubscriptionID, Subscription_Duration)
- Artist (ArtistID, ArtistName)
- Album (AlbumID, AlbumTitle, ReleaseYear)
- Songs (SongID, SongTitle, Duration, ReleaseDate)
- Playlist (PlaylistID, PlaylistTitle, UserID)
- Genre (GenreID, GenreName)
- Subscription (SubscriptionID, SubscriptionType, price)
- SongPlaylist (SongID, PlaylistID)
- SongArtist (SongID, ArtistID)
- AlbumGenre (AlbumID, GenreID)
- SongGenre (SongID, GenreID)
- SongAlbum (SongID, AlbumID)
- ArtistAlbum (ArtistID, AlbumID)

Business Rules translated from the ERD

1. User and Subscription

User to Subscription: Each User has exactly one Subscription.

Subscription to User: Each Subscription can be associated with many Users.

2. User and Playlist

User to Playlist: Each User can create many Playlists.

Playlist to User: Each Playlist is created by exactly one User.

3. Artist and Song (via SongArtist)

Artist to Song: Each Artist can perform many Songs.

Song to Artist: Each Song can be performed by many Artists.

4. Album and Genre (via AlbumGenre)

Album to Genre: Each Album can belong to many Genres.

Genre to Album: Each Genre can include many Albums.

5. Song and Genre (via SongGenre)

Song to Genre: Each Song can belong to many Genres.

Genre to Song: Each Genre can include many Songs.

6. Song and Album (via SongAlbum)

Song to Album: Each Song is included in exactly one Album.

Album to Song: Each Album can contain many Songs.

7. Artist and Album (via ArtistAlbum)

Artist to Album: Each Artist can release many Albums.

Album to Artist: Each Album can be released by many Artists.

8. Song and Playlist (via SongPlaylist)

Song to Playlist: Each Song can be included in many Playlists.

Playlist to Song: Each Playlist can contain many Songs.

Additional Rules:

Songs

Songs have a title, duration, and release date. They can be associated with Artists, Albums, Genres, and Playlists.

Albums

Albums have a title and release year. They are associated with Artists, Songs, and Genres.

Artists

Artists can perform multiple songs, be part of multiple albums, and their work spans across various genres indirectly through their songs and albums.

Playlists

Playlists are collections of songs curated by users. Each playlist is linked to a specific user but can contain songs from various artists and albums.

Genres

Genres categorize songs and albums. A song or album can belong to multiple genres.

Users

Users are identified by a unique UserID and have personal credentials such as Username, Email, and Password. They engage with the platform through a Subscription, which dictates their access level and privileges. Each User is associated with exactly one Subscription at any given time.

Subscription

Subscription: Subscriptions define the service level accessed by Users, categorized by SubscriptionType and price. Each Subscription can be associated with multiple Users, indicating the variety of users opting for the same subscription plan.