

PROJECT TOPIC

Group No 16

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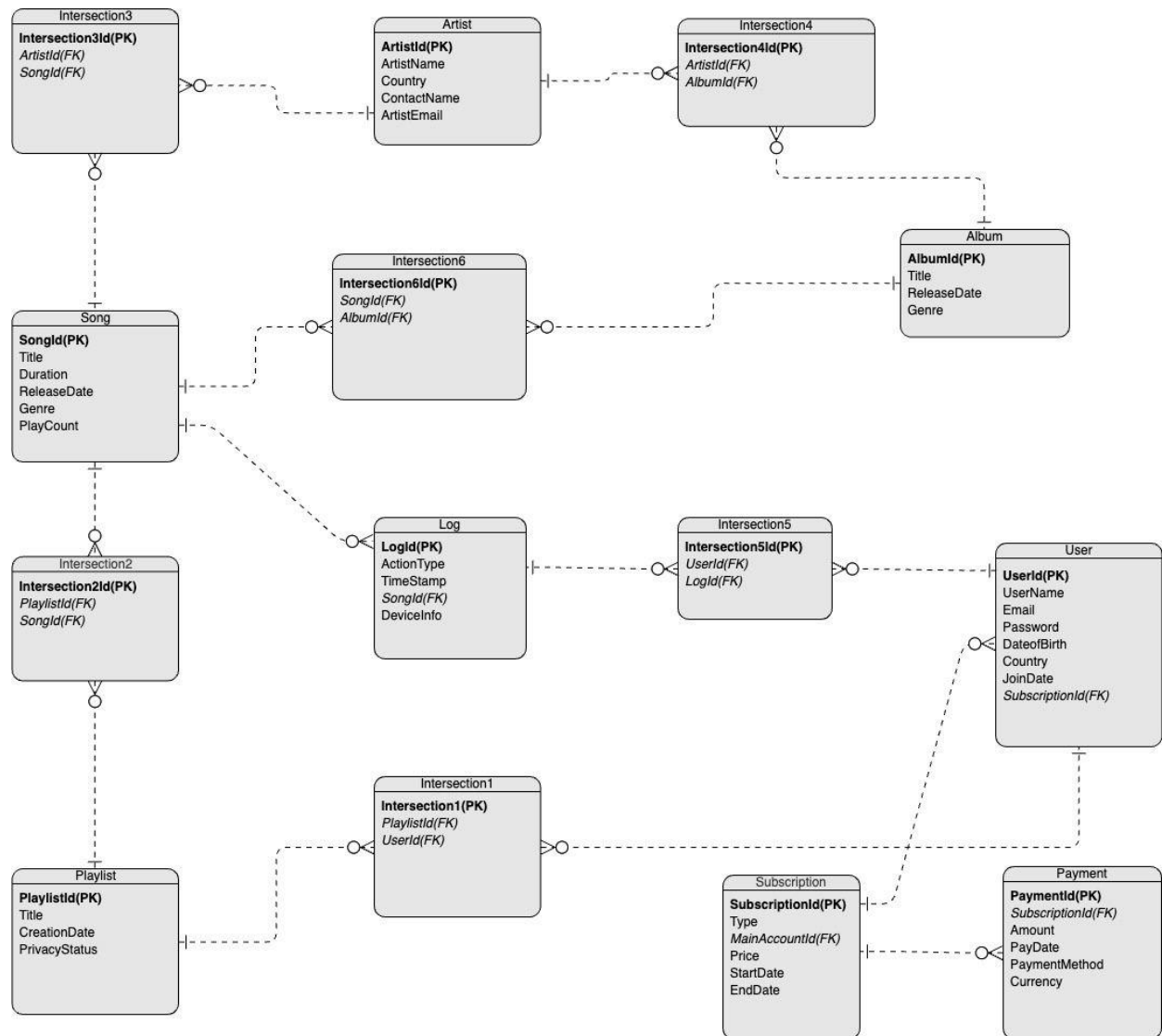
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1) ERD Diagram of the Project



2) Tables of the Project

2.1 Album Table

Column Name	Data Type and Constraints
AlbumId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
Title	VARCHAR(255), NOT NULL
ReleaseDate	YEAR, NOT NULL
Genre	VARCHAR(100)

2.2 Artist Table

Column Name	Data Type and Constraints
ArtistId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
ArtistName	VARCHAR (255), NOT NULL
Country	VARCHAR (255)
ContactName	VARCHAR (255)
ArtistEmail	VARCHAR (255), NOT NULL

2.3 Playlist Table

Column Name	Data Type and Constraints
PlaylistId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
Title	VARCHAR (255), NOT NULL
CreationDate	DATE, NOT NULL
PrivacyStatus	VARCHAR(50)

2.4 User Table

Column Name	Data Type and Constraints
UserId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
SubscriptionId (FK)	INT, FOREIGN KEY, NOT NULL
UserName	VARCHAR(255), NOT NULL
Email	VARCHAR(255), NOT NULL, UNIQUE
Password	VARCHAR(255), NOT NULL
DateofBirth	DATE, NOT NULL

Country	VARCHAR(255), NOT NULL
JoinDate	DATE, NOT NULL

2.5 Log Table

Column Name	Data Type and Constraints
LogId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
SongId (FK)	INT, FOREIGN KEY, NOT NULL
TimeStamp	TIMESTAMP, NOT NULL
ActionType	VARCHAR(255), NOT NULL
DeviceInfo	VARCHAR (255)

2.6 Subscription Table

Column Name	Data Type and Constraints
SubscriptionId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
MainAccountId	INT, FOREIGN KEY
Type	VARCHAR(100)
Price	DECIMAL (8,2)
StartDate	DATE
EndDate	DATE

2.7 Payment Table

Column Name	Data Type and Constraints
PaymentId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
SubscriptionId (FK)	INT, FOREIGN KEY, NOT NULL
Amount	DECIMAL (8,2), NOT NULL
PayDate	DATE
PaymentMethod	VARCHAR(255)
Currency	VARCHAR(100)

2.8 Song Table

Column Name	Data Type and Constraints
SongId (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
Title	VARCHAR(255) , NOT NULL
Duration	INT , NOT NULL
ReleaseDate	YEAR, NOT NULL
Genre	VARCHAR (100)
PlayCount	INT,NOT NULL

2.9 Intersection1 Table

Column Name	Data Type and Constraints
Intersection1Id (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
PlaylistId (FK)	INT, FOREIGN KEY
UserId (FK)	INT, FOREIGN KEY

2.10 Intersection2 Table

Column Name	Data Type and Constraints
Intersection2Id (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
PlaylistId (FK)	INT, FOREIGN KEY, NOT NULL
SongId(FK)	INT, FOREIGN KEY, NOT NULL

2.11 Intersection3 Table

Column Name	Data Type and Constraints
Intersection3Id (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
ArtisId(FK)	INT, FOREIGN KEY, NOT NULL
SongId(FK)	INT, FOREIGN KEY, NOT NULL

2.12 Intersection4 Table

Column Name	Data Type and Constraints
Intersection4Id (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
ArtisId(FK)	INT, FOREIGN KEY, NOT NULL
AlbumId(FK)	INT, FOREIGN KEY, NOT NULL

2.13 Intersection5 Table

Column Name	Data Type and Constraints
Intersection5Id (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
LogId(FK)	INT, FOREIGN KEY, NOT NULL
UserId(FK)	INT, FOREIGN KEY, NOT NULL

2.14 Intersection6 Table

Column Name	Data Type and Constraints
Intersection6Id (PK)	INT, AUTO_INCREMENT, PRIMARY KEY
SongId(FK)	INT, FOREIGN KEY
AlbumId(FK)	INT, FOREIGN KEY

3) Stored Procedures of the Project

3.1 AuthenticateUserProcedure

This procedure verifies the user's credentials (email and password) for login, returning a success or failure message. Takes 2 parameters inputEmail and inputPassword.

3.2 .UserActivityLogProcedure

This is a procedure that shows the log entries related to a specific user by taking the value of UserId, filtering by actions they've performed. This could include timestamps, action type, and details about the action. Takes NewUserId as parameter.

3.3 The GetUserPaymentHistory

This procedure retrieves a user's name and their payment history based on a provided UserId. It returns a detailed list of all payments made by the user. The results are ordered by the date of the payment for chronological display. Takes inputUserId as parameter.

4) Views of the Project

4.1 MostListenedSongs

The MostListenedSongs view displays the top 5 songs with the highest play counts, including their title, artist, album name, play count, duration, and release date, ordered by popularity. Using Artist, Song, Album and their intersection tables respectively.

4.2 LikedSongs

The LikedSongs view lists all songs liked by users, showing the song title, album name, duration, and the username of the person who liked them. Using User, Song, Album, Log and their intersection tables respectively.

4.3 UserCountryStatus

The UserCountryStatus view displays the number of users per country along with the associated currency, ordered by user count in descending order. Using User, Payment and Subscription tables.

5) Indexes of the Project

5.1 Mail Index (for Users)

Indexed Column: Email column of User Table

Purpose: Optimizes queries that search for users based on their email, such as login attempts or email lookups.

5.2 Genre Index (for Songs)

Indexed Column: Genre column of Song Table

Purpose: Enhances the speed of queries filtering songs by genre, useful for playlist generation or song recommendations.

5.3 PlaylistName Index (for Playlists)

Indexed Column: Title column of Playlist Table

Purpose: Improves query performance for playlist name searches, helping users find playlists quickly.

6) Responsibilities in the Project

We all contributed to this project together.