PROJECT TITLE :

SONICSPHERE AUDIOSTREAMING APP

GROUP MEMBERS :

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Objective:

- **Enhanced User Experience:** Improve user satisfaction by providing more accurate music and podcasts recommendations, personalized playlists, and smoother navigation through the platform.

- **Optimized Performance:** Ensure the database can handle large volumes of data efficiently, reducing latency in searches, playlist creation, and playback.

- **Data Security:** Implement robust security measures to protect user information and prevent unauthorized access or data breaches.

Users:

1. **End Users:** Regular Spotify listeners who use the platform to discover music, create playlists, and interact with social features.
2. **Administrators:** Database administrators and developers responsible for maintaining, optimizing, and securing the database infrastructure.

Use cases:

[1] Personalized Recommendations: Analyse user listening history and preferences to suggest better music recommendations.

[2] Playlist Management: Allow users to create, edit, and share playlists seamlessly, with the database storing playlist metadata and track information.

[3] <u>**Search Functionality:**</u> Enable users to search for songs, albums, and artists quickly using the database's indexing and search capabilities.

[4] <u>**User Profiles:**</u> Store user profiles containing preferences, playlists, and listening history to customize the Spotify experience for each user.

[5] <u>**Social Integration:**</u> Facilitate social interactions such as following friends, sharing music, and seeing what others are listening to, leveraging the database to manage social connections and activity feeds.

<u>Tentative Description:</u>

1. Users: This table will include attributes such as user_id, username, email, password, registration_date, last_login, subscription. The user_id attribute will serve as the primary key.

2. Artists: This table will contain details about music artists such as artist ID, name, genre, nationality, etc.

3. Albums: This table will Stores information about music albums including album ID, title, release date, artist ID (foreign key), genre, etc.

4. Tracks: Contains details about individual tracks such as track ID, title, duration, album ID (foreign key), artist ID (foreign key), genre, popularity score, etc.

5. Playlists: Stores information about user-created playlists such as playlist ID, title, description, creation date, user ID (foreign key), etc.

6. **PlaylistTracks:** A junction table to establish a many-to-many relationship between playlists and tracks, containing playlist ID and track ID pairs.

7. **UserInteractions:** Records user interactions with tracks such as play history, likes, dislikes, skips, timestamps, etc.

8. **UserFollows:** Tracks user following relationships, storing follower user ID and followed user ID pairs.

9. **SocialActivity:** Stores social interactions such as shares, comments, and likes on user activities.

10. **Genres:** Contains a list of music genres for categorization purposes.

11. **Podcasts:** It will contain podcast_id, description, publisher, genre, release_date, duration of podcast.

12. **Subscriptions:** It will contain subscription_id, user_id, subscription_type, start_date, end_date, payment_status.

Tentative list of reports (Queries) :

1. Given name of the song, give name of the artist/signer who has sung that song.
2. Give the most played song on a given date.
3. Name the Indian artist whose song is in the top 50 most played songs worldwide.
4. Recommend me the most liked and played song recently.
5. Find the total revenue from the given song considering the total number of plays and likes .
6. Give me remaining days of my subscription from today .
7. Update my favourite songs playlist , add songs , delete songs etc .
8. Name the recently added song in the given playlist .
9. List the names of songs of given genre sung by a given singer .

10. suggest me the best subscription based on how many users have taken that subscription .

11. List the recently uploaded podcasts and also give the name of the podcaster .

12 . List the podcast of given genre by given podcaster on the given date .

13. Name the artist whose is trending , given the language .

14 . Give the details about the cheapest subscription plan and its

   Benefits .

15 . Given the name of the artist who has sung songs of all given genres .

16 . Search the name of the song , podcast topic , audio book with

   Just key word .

17 . List top short duration songs , audio books , podcasts etc .

18 . Name all the users using my account under benefit of

   Subscription .