SE LAB PROJECT: Song Recommendation System

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Objective:

Design and implement a song recommendation system that can suggest songs to users based on their listening history, preferences, or mood.

Requirements:

1. Data Collection:

Use an existing dataset of songs (e.g., from Spotify, YouTube Music, or other music databases), or create playlist containing artists from various genres and moods.

Include attributes like genre, artist, album, release year, song length, and user ratings.

2. User Interaction:

Allow users to input their preferences (e.g., favourite genres, artists, or moods).

Implement a system that tracks user listening history and behaviour.

3. Recommendation Algorithm:

Develop a recommendation algorithm using one or more of the following methods:

o Collaborative Filtering: The system also has a filter song facility.

o Content-Based Filtering: Suggest songs similar to those the user has liked based on attributes like genre or artist.

4. Hybrid Approach:

Combine collaborative and content-based filtering for more accurate recommendations.

5. Evaluation:

Test the system with a set of users and measure the accuracy of the recommendations.

Collect feedback to assess user satisfaction and refine the recommendation algorithm.

6. User Interface:

Create a user-friendly interface that allows users to explore recommended songs.

Includes features like the ability to like or skip recommendations, it allows users to skip the songs while it is being played.

7. Optional Enhancements:

Implement mood-based recommendations by analysing lyrics or tempo.

Integrate social features where users can see what their friends are listening to and share recommendations.

8. Deliverables:

A working prototype of the song recommendation system.

A report detailing the design, implementation, and evaluation of the system.

A presentation demonstrating the functionality and results of your project.

9. Expected Outcome:

By the end of the project, you should have a functional song recommendation system that can accurately suggest songs based on user preferences and behaviour, along with a thorough analysis of its performance.

Functional Requirements:

1. **Search song**:

Input: User selects the filter option.

Output: The software will list out the song, based on the filter option.

2. Create Playlist

Input: Allows user to place his/her choice of song into a group (Create playlist button).

Output: The software will display a message that the particular song is added to the playlist.

3. Like Song:

Input: User clicks on heart button

Output: The software will notify you that you liked the songs.

4. Rating Songs:

Input: User selects the rate for that song.

Output: Message will be displayed and this detail will be fetched for song recommendation.