Music Streaming App

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Description

This project features a multi-user music streaming application FlukeFlute where users can interact with a vast collection of tracks and albums. They can maintain their own playlists and provide feedback in the form of ratings to tracks. A user can also proceed to register as a creator to showcase their albums and tracks to public. Lastly, there's admin who regulates the application and it's entities. He may choose to remvoe tracks or flag users if they do not adhere to guidelines.

Tech Stack

1. Flask & Extensions for Logic
2. HTML, Jinja2, Bootstrap & CSS for templates
3. SQLite and SQLAlchemy for Database storage & management

Architecture and Features

1. The project follows the Model-View-Controller (MVC) paradigm.
2. Flask Login & RBAC are implemented for authentication & authorization
3. WTF forms for forms and validations
4. Storing hashed passwords thus enforcing security
5. Play tracks & read lyrics
6. Advanced search functionality for easier search
7. Users have the option to manage their own playlists
8. CRUD on creator tracks and albums
9. Profile page for users, creators
10. Admin functionality to remove songs, flag users, add genre, song
11. Stats using plots such as pie chart and bar chart

DB Schema Design

UserRole: Represents many-many relationships between users and roles.

Role: Defines user roles such as 'Creator', 'Admin' and 'Basic'

User: Stores user details including name, username, email, and password. Additionaly, it has attributes like stage_name, bio, profile_path and is_flagged which is accessible to users who're creators. Relationships with roles, tracks, albums, playlists etc.

Track: It has attributes like title, lyrics, audio path, and release date. Popularity of a track is calculated using playback_count attribute. Includes relationships with the user , album, language, genre, and ratings.

Rating: Records user ratings for tracks.

Playlist: Represents user-created playlists with a name and associated tracks.

PlaylistTrack: Many-to-many relationship between playlists & tracks.

Album: It has attributes like title, description, cover path, creator, and creation date.
Includes a relationship with tracks.

Language: Represents the language of tracks.

Genre: Represents the genre of tracks.

Video Demonstration Link

Google Drive Link

https://drive.google.com/file/d/1LBmqrf9UlJgtr7bqvrk8hVEEfp1E0m5Q/view?usp=sharing