

Author

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I am a student currently enrolled in the diploma level of the bs Data Science degree in IIT Madras. Looking forward to learn Data Science aspects from the degree and benefit myself and others from the skills acquired in the best ways possible.

Description

A Multi-user Music Streaming Application which provides streaming songs, registration as a creator and playlist CRUD functionalities to the user, CRUD functionalities on songs and albums to creators and Application Monitoring functionality to the Admin.

Technologies used

- Flask for application code
- Jinja2 Templates + Bootstrap for HTML generation and styling
- SQLite for data storage

DB Schema Design

users

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
user_id	Integer	Primary key
username	String	Unique, not null
email_id	String	Unique, not null
password	String	Not null
creators	Boolean	

creators

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
creator_id	Integer	Primary key
user_id	Integer	Foreign key(users.user_id)
blacklist	Boolean	

songs

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
song_id	Integer	Primary key
song_title	String	Unique, not null
artist	String	Not null
release_date	String	
flag	Boolean	
creator_id	Integer	Foreign key(creators.creator_id)
album_id	Integer	Foreign key(albums.album_id)

average_rating	Float	
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albums

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
album_id	Integer	Primary key
album_title	String	Unique, not null
creator_id	Integer	Foreign key(creators.creator_id)
genre	String	Not null

playlists

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
playlist_id	Integer	Primary key
playlist_name	String	Not null
user_id	Integer	Foreign key(users.user_id)

playlistsong

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
song_id	Integer	Primary key, Foreign key(songs.song_id)
playlist_id	Integer	Primary key, Foreign key(playlists.playlist_id)

albumsong

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
song_id	Integer	Primary key, Foreign key(songs.song_id)
album_id	Integer	Primary key, Foreign key(albums.album_id)

admin

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
admin_id	Integer	Primary key
username	String	Unique, not null
password	String	Not null

rating

COLUMN NAME	COLUMN TYPE	CONSTRAINTS
rating_id	Integer	Primary key
value	Integer	
user_id	Integer	Foreign key(users.user_id)
song_id	Integer	Foreign key(songs.song_id)

Architecture and Features

The project code is organized into:

- Instance folder containing the database file.
- Static folder containing audios folder and App logo.
- Templates folder containing all the required HTML files.
- A python file containing all the controllers and app configurations.
- A python file containing the models.

The views are handled by the HTML files such as userlogin.html for user login page. The routes are designed according to the requirements for the app. Functions are defined to carry out CRUD functionalities and to make changes in the database by accepting inputs from the user through forms.

Video

<https://drive.google.com/file/d/1DtK1Xupo5ovGvehmoSRSVa4la4eQEgtG/view?usp=sharing>