

Project Report

Modern Application Development - I

Introduction

The project was aimed at creating a multiuser music streaming application to meet the given requirements.

Requirements

The following are the key requirements for the music streaming application:

- Support multiple users with role based access.
- Provide administrator access and controls
- Provide a user-friendly interface for music browsing and playback
- Enable users to create and edit playlists
- Implement search functionality
- SQLite for data storage

Design

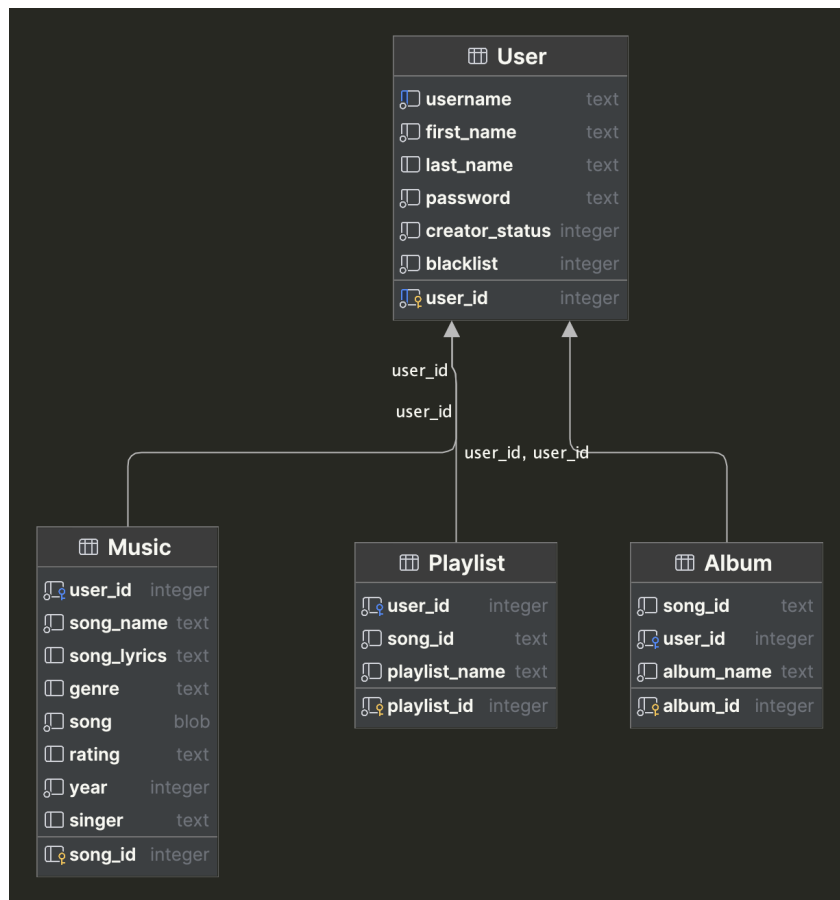
The application consists of a client-server architecture, with the client application running on the user's device and the server application responsible for managing user data and music files. The client application will communicate with the server using APIs to perform various operations, such as user authentication, music search, and playlist management. SQLite will be used on the server-side to store user profiles, playlists, and music data.

The user table consists of username and user id which is unique to every user, it also contains first name, last name and password.

The album table contains user id of the creator who created the album, a unique album id, album name and a list of songs which make up the album.

The music table consists of song name, a unique song id, song lyrics, generating, year, singer/artist, the mp3 song file is stored in database as blob.

The playlist table contains user id of the user who created the playlist, a list of song_id which makes up that playlist, playlist name and a unique playlist id.



Database Schematic Diagram

Implementation

The application is developed using a HTML 5 and bootstrap as a CSS framework. The server-side application is built using FLASK (Python web framework) .SQLite is integrated into the server-side application using FlaskSQLAlchemy. The graphs are created using Matplotlib. Session is maintained using Flask Session. Jinja framework is used for templating of the HTML.

Presentation video : <https://drive.google.com/file/d/1WP-nYjQDDWpGRsZVwinrQbaHxH417GLf/view?usp=sharing>