



NEXT GEN EMPLOYABILITY PROGRAM

Creating a future-ready workforce

Team Members

Student Name : Shalwin Sanju S
Student ID : 311121104051

College Name

Loyola ICAM College of
Engineering and Technology

CAPSTONE PROJECT SHOWCASE

Project Title

Music Web Application using Django Framework

Abstract | Problem Statement | Project Overview | Proposed Solution |
Technology Used | Modelling & Results | Conclusion



Abstract:

This project involves development of a music application using Django. This application will allow users to create accounts, manage music libraries and stream music. Key features include user authentication, a responsive user interface, secure file storage, and a dynamic music player interface. Additionally, the application will utilize Django's built-in ORM for database management and RESTful APIs for seamless integration with frontend technologies.

Problem Statement

Creation of Music Web Application using Django Framework

Project Overview

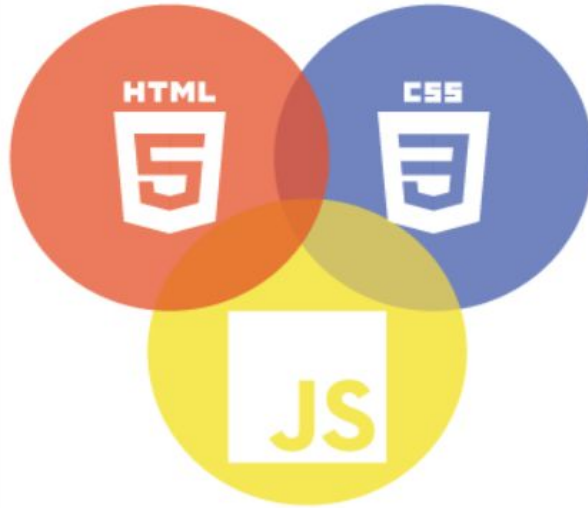
This project aims to develop a modern and user-friendly music streaming application using Django. The application will enable users to create personalized accounts, manage their music collections, and enjoy seamless streaming of their favorite tracks. Key features include user authentication, responsive design for various devices, secure file storage, and an intuitive music player interface. Leveraging Django's ORM and RESTful APIs, our goal is to deliver a reliable platform that enhances the music listening experience for all users.

Proposed Solution

Our solution involves building a music streaming application using Django, integrating essential features like user authentication, music upload and management, and a responsive music player. We will implement secure file storage for user uploads and ensure compatibility across different devices through responsive design. The use of Django's ORM will facilitate efficient database management, while RESTful APIs will enable seamless communication with the frontend. Our aim is to create a streamlined and enjoyable music streaming experience for users, emphasizing simplicity and functionality.

Technology Used

Front-end



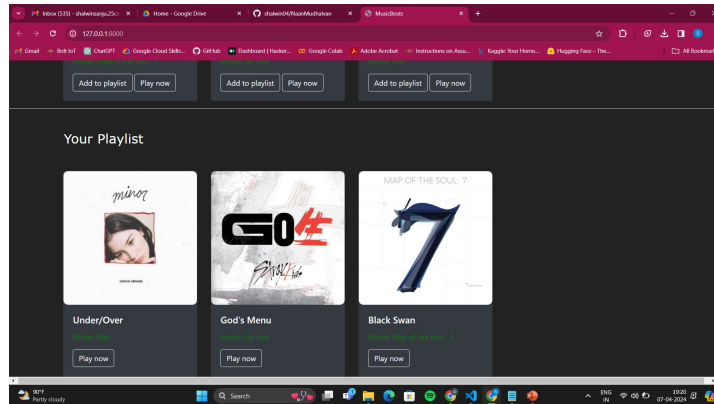
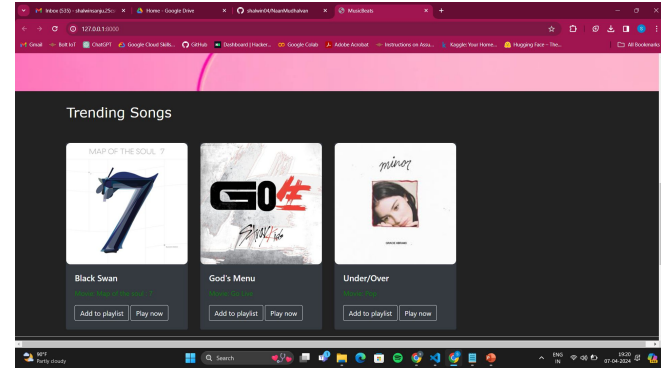
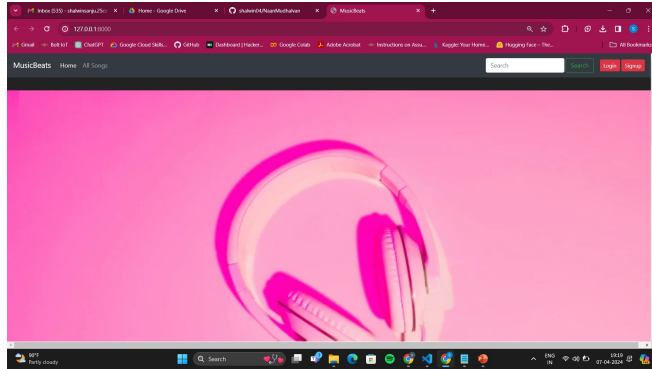
Back-end



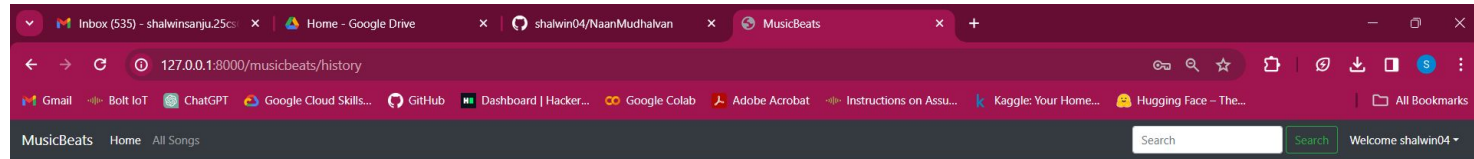
Modelling & Results

The project will involve designing a Django data model to represent users, music tracks, and playlists. Utilizing Django's ORM, we'll ensure efficient data storage and retrieval. User authentication will be implemented using Django's built-in authentication system. For the frontend, responsive templates will be created using HTML, CSS and JavaScript for seamless user interaction. The music streaming functionality will be achieved using Django's file handling capabilities and a custom music player interface.

Homepage



History Page



History



End Of Beginning

Movie: Decide

Play now



Everything Everywhere

Movie: Stick Season

Play now

Audio Player Page



Title: Matilda

Category: R&B

Movie: Harry's House

Singer: Harry Styles

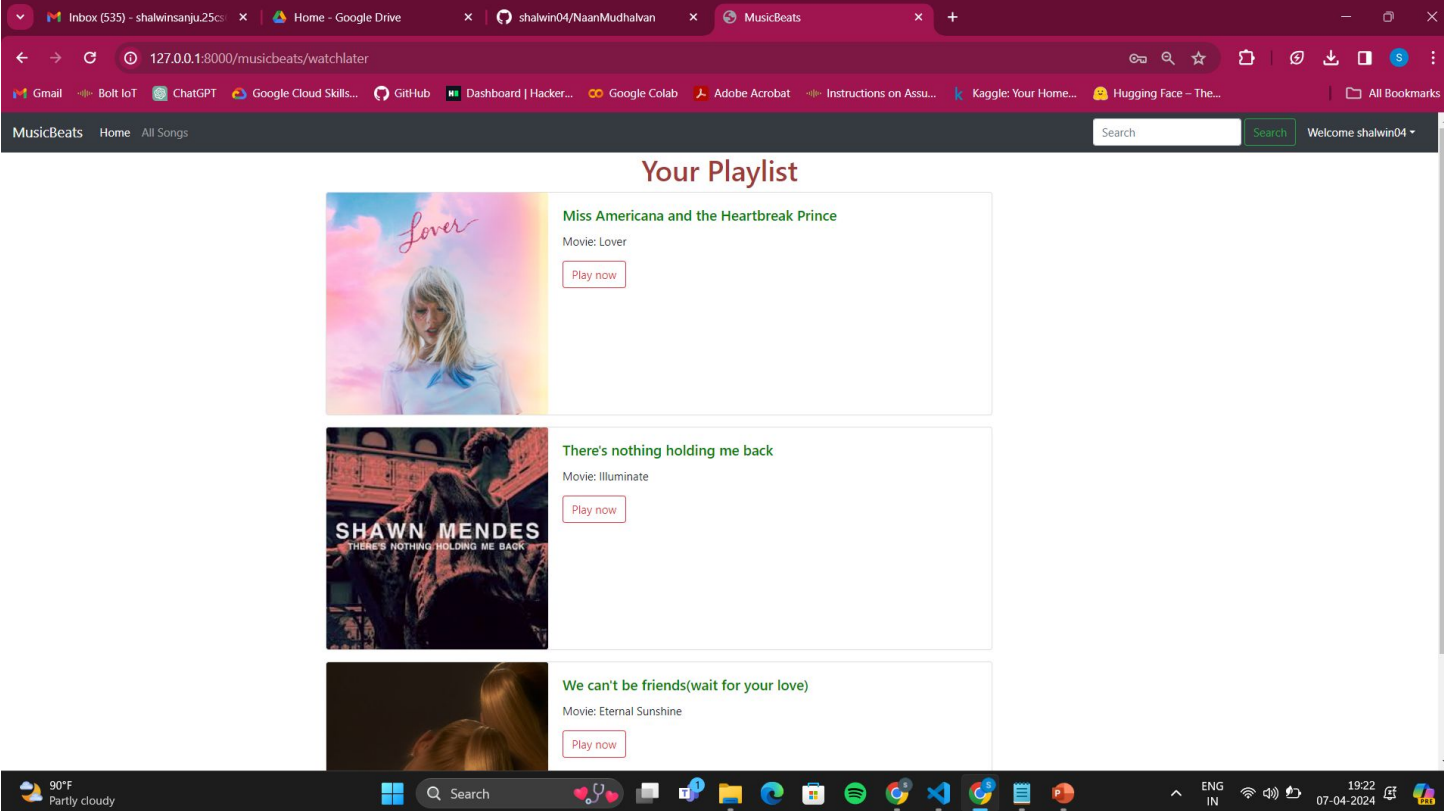
Watch video song: [Click here](#)

▶ 0:00 / 4:05 ————— 🔊 ⋮

Add to Playlist

Download Song

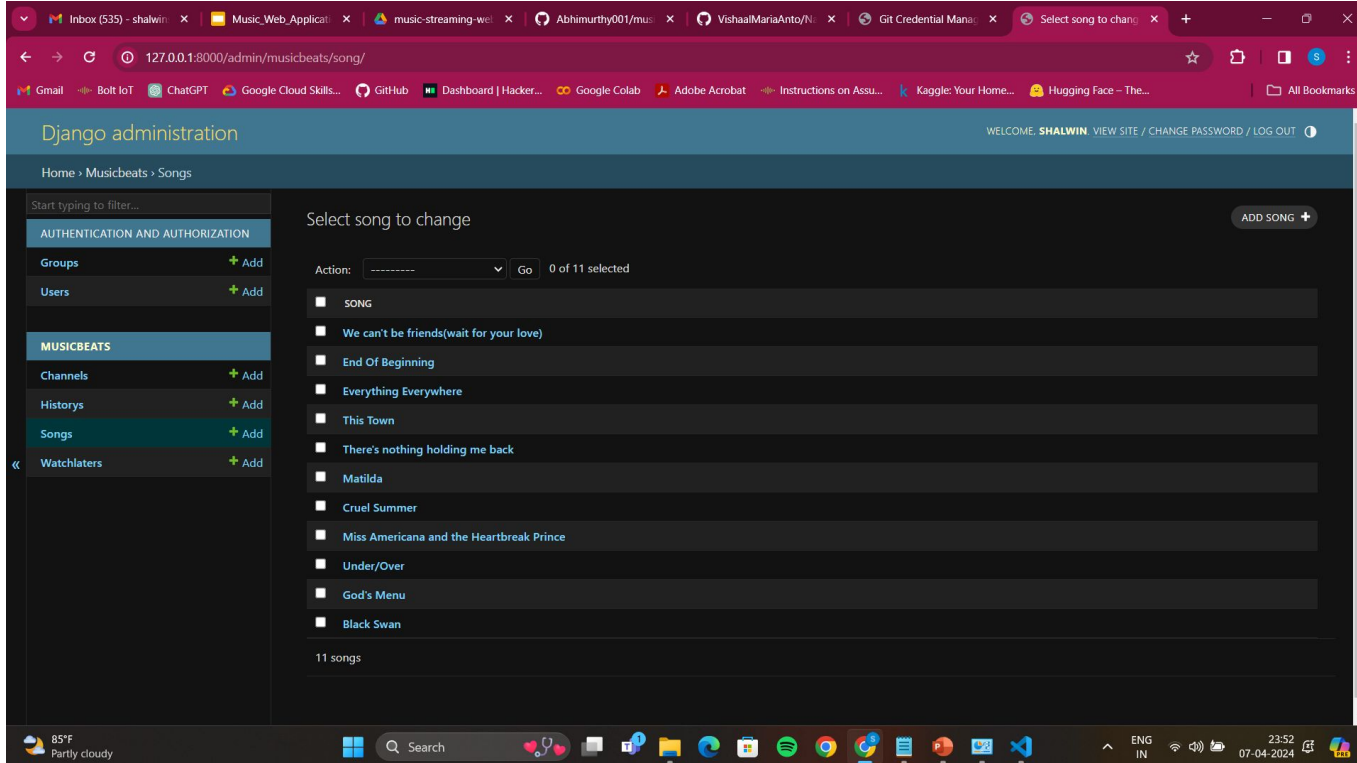
Playlist Page



The screenshot shows a web browser window with the following elements:

- Browser Tabs:** Includes 'Inbox (535) - shalwinsanju.25cs...', 'Home - Google Drive', 'shalwin04/NaanMudhalvan', and 'MusicBeats'.
- Address Bar:** Displays the URL '127.0.0.1:8000/musicbeats/watchlater'.
- Page Header:** Features navigation links 'MusicBeats', 'Home', and 'All Songs', a search bar, and a 'Welcome shalwin04' message.
- Section Header:** The page is titled 'Your Playlist' in a large, dark font.
- Playlist Items:** Three items are listed, each with a movie poster image, a title, a subtitle, and a 'Play now' button:
 - Item 1:** Image of Taylor Swift's 'Lover' album. Title: 'Miss Americana and the Heartbreak Prince'. Movie: 'Lover'. Button: 'Play now'.
 - Item 2:** Image of Shawn Mendes' 'There's Nothing Holding Me Back' album. Title: 'There's nothing holding me back'. Movie: 'Illuminate'. Button: 'Play now'.
 - Item 3:** Image of a scene from the movie 'Eternal Sunshine of the Spotless Mind'. Title: 'We can't be friends(wait for your love)'. Movie: 'Eternal Sunshine'. Button: 'Play now'.
- Taskbar:** The bottom of the screen shows a Windows taskbar with the date '07-04-2024', time '19:22', and weather '90°F Partly cloudy'.

Backend Admin Page



The screenshot displays the Django administration interface for the 'Musicbeats' application. The browser window shows the URL `127.0.0.1:8000/admin/musicbeats/song/`. The page header includes the Django administration logo and a welcome message for 'SHALWIN' with links to 'VIEW SITE', 'CHANGE PASSWORD', and 'LOG OUT'.

The left sidebar contains a navigation menu with the following sections:

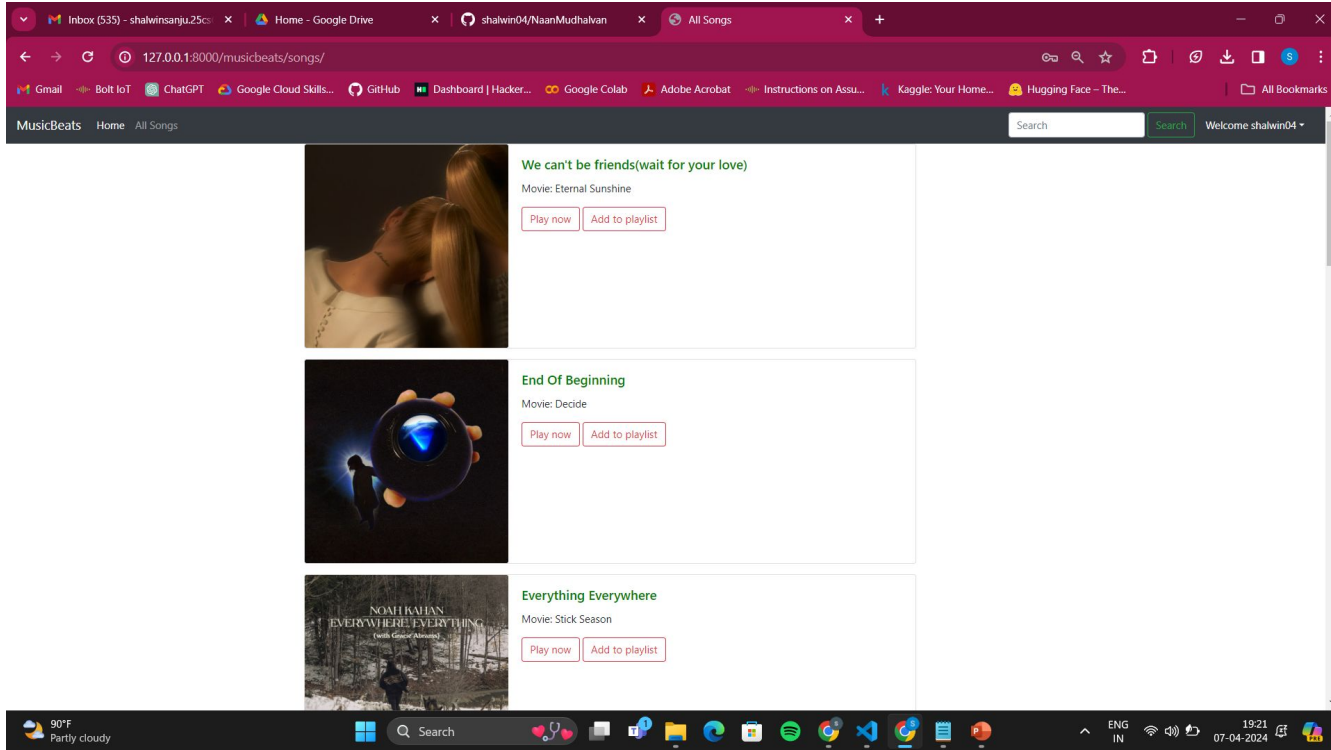
- AUTHENTICATION AND AUTHORIZATION**
 - Groups (+ Add)
 - Users (+ Add)
- MUSICBEATS**
 - Channels (+ Add)
 - Historys (+ Add)
 - Songs (+ Add)**
 - Watchlaters (+ Add)

The main content area is titled 'Select song to change' and features an 'ADD SONG +' button. Below this, there is a table of songs with checkboxes for selection. The table lists 11 songs:


SONG
We can't be friends(wait for your love)
End Of Beginning
Everything Everywhere
This Town
There's nothing holding me back
Matilda
Cruel Summer
Miss Americana and the Heartbreak Prince
Under/Over
God's Menu
Black Swan


At the bottom of the page, a status bar indicates the weather as '85°F Partly cloudy' and the system clock shows '23:52 07-04-2024'.


Songs List



MusicBeats Home All Songs Welcome shalin04

- 

We can't be friends(wait for your love)
Movie: Eternal Sunshine
- 

End Of Beginning
Movie: Decide
- 

Everything Everywhere
Movie: Stick Season

90°F Partly cloudy Search ENG IN 19:21 07-04-2024

Future Enhancements:

In the future, we could implement features such as personalized recommendations based on listening history, social sharing of playlists, integration with external music APIs for expanded content access, and support for offline playback. We could also enhance the user interface with more interactive elements. Continuous performance optimization and scalability improvements could also be done for growing user base.

Conclusion:

In conclusion, this Django-based music streaming application presents a scalable and feature-rich platform for music enthusiasts. By leveraging Django's robust framework, I have developed a responsive and secure solution that prioritizes user experience. With planned future enhancements, we are committed to evolving this application to meet the dynamic demands of music streaming while maintaining a seamless and enjoyable experience for our users.

Thank You!