



NEXT GEN EMPLOYABILITY PROGRAM

Creating a future-ready workforce

Team Members

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CAPSTONE PROJECT SHOWCASE

Project Title

Music Web Application using Django Framework

Abstract | Problem Statement | Project Overview | Proposed Solution |
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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

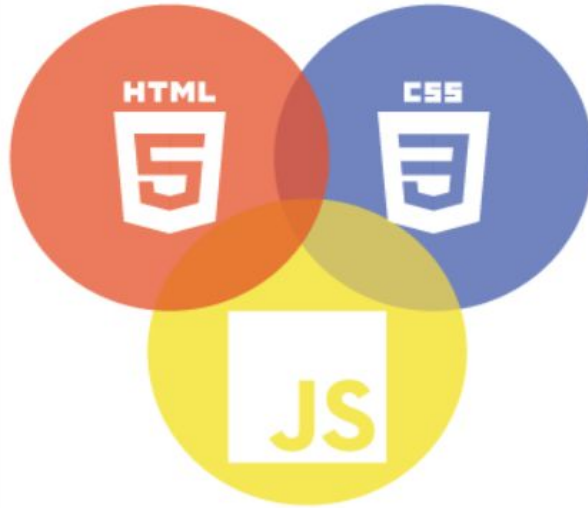
This project aims to develop a modern and user-friendly music streaming application using Django. The application will enable users to create personalized accounts, manage their music collections, and enjoy seamless streaming of their favorite tracks. Key features include user authentication, responsive 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



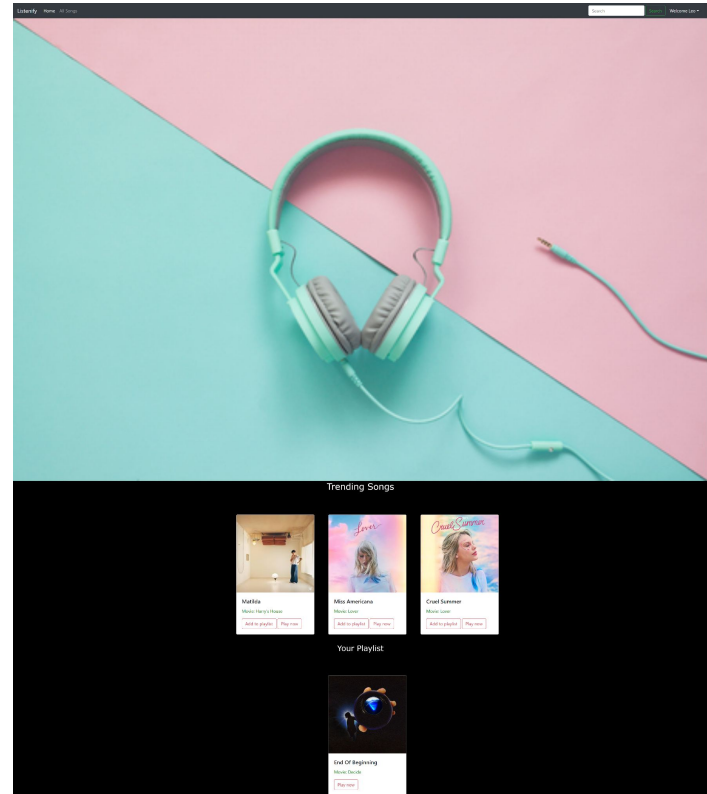
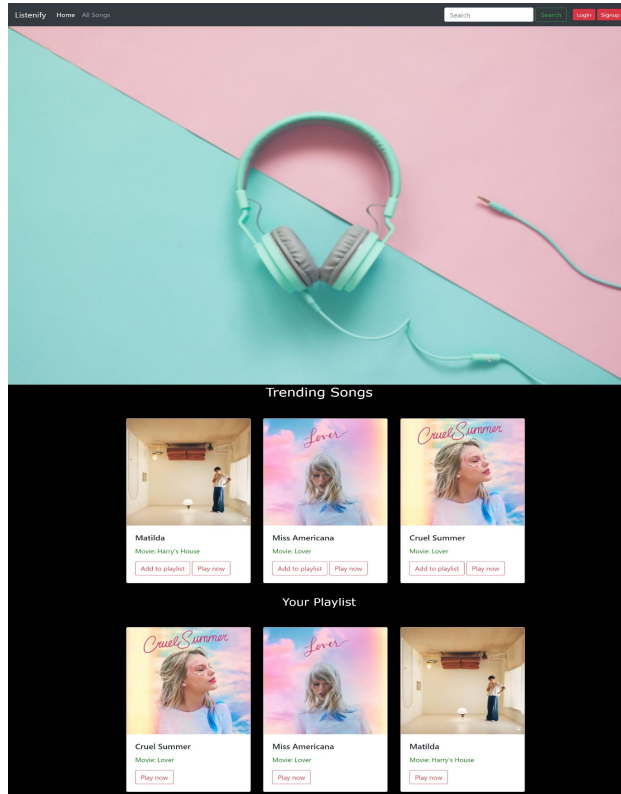
Back-end



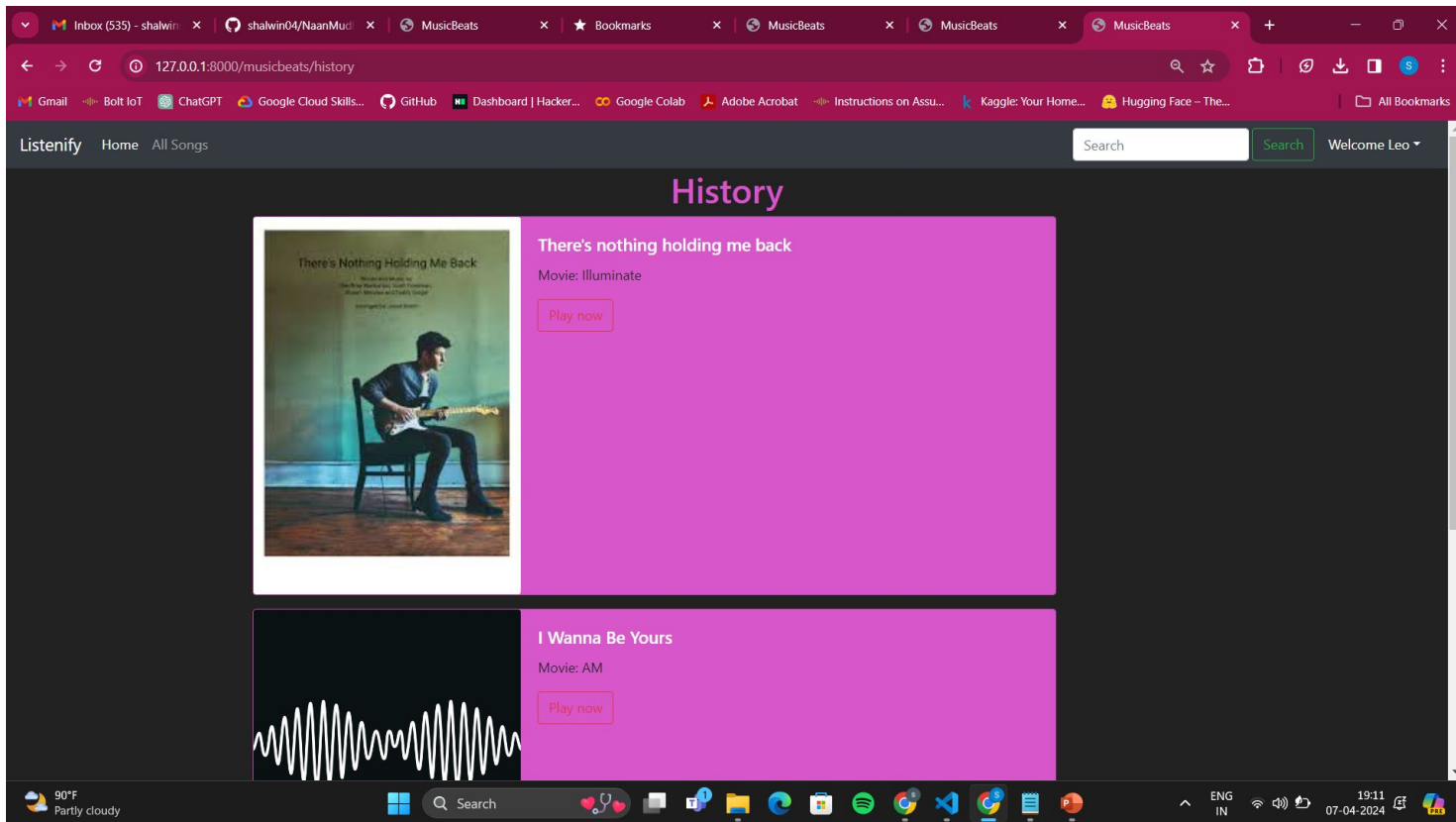
Modelling & Results

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



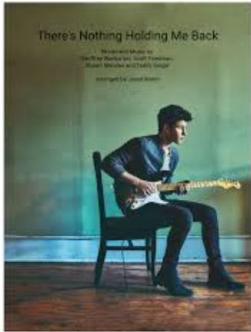
History Page




The screenshot shows a web browser window with multiple tabs open, including 'Inbox (535) - shalwin', 'shalwin04/NaanMud...', 'MusicBeats', and several 'MusicBeats' tabs. The address bar shows the URL '127.0.0.1:8000/musicbeats/history'. The browser's bookmark bar contains various links like 'Gmail', 'Bolt IoT', 'ChatGPT', 'Google Cloud Skills...', 'GitHub', 'Dashboard | Hacker...', 'Google Colab', 'Adobe Acrobat', 'Instructions on Assu...', 'Kaggle: Your Home...', 'Hugging Face - The...', and 'All Bookmarks'. The web application interface has a dark theme. At the top, there's a navigation bar with 'Listenify', 'Home', and 'All Songs' links, a search bar, and a 'Welcome Leo' message. The main content area is titled 'History' in a large, stylized font. It displays two music entries. The first entry is for the song 'There's nothing holding me back' by 'Movie: Illuminate', featuring an album cover of a man playing a guitar. The second entry is for the song 'I Wanna Be Yours' by 'Movie: AM', featuring a waveform visualization. Both entries have a 'Play now' button. The bottom of the screen shows a Windows taskbar with various icons, including the Start button, search bar, and system tray showing the time as 19:11 on 07-04-2024.

Listenify Home All Songs Search Welcome Leo

History



There's nothing holding me back
Movie: Illuminate
[Play now](#)



I Wanna Be Yours
Movie: AM
[Play now](#)

90°F Partly cloudy Search 19:11 07-04-2024

Audio Player Page

Listenify Home All Songs

Search

Welcome Leo ▾



Title: Matilda

Category: R&B

Movie: Harry's House

Singer: Harry Styles

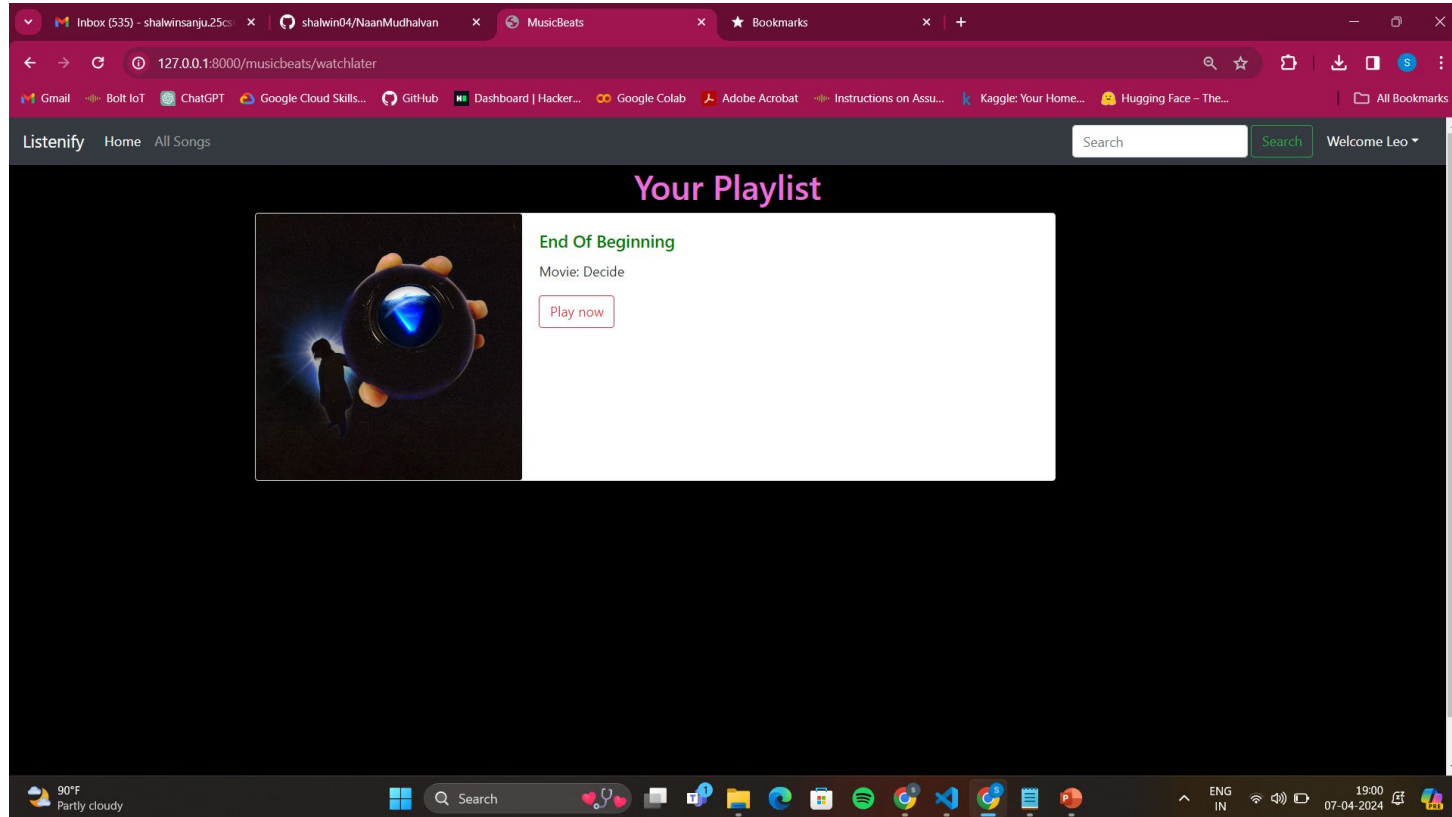
Watch video song: [Click here](#)

▶ 0:00 / 4:05 ————— 🔊 ⋮

Add to Playlist

Download Song

Playlist Page



Backend Admin Page

Django administration

Home » Musicbeats » Songs

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

MUSICBEATS

Channels + Add

Historys + Add

Songs + Add

Watchlaters + Add

Select song to change

Action: Go 0 of 8 selected

☐ SONG

☐ End Of Beginning

☐ I Wanna Be Yours

☐ This Town

☐ There's nothing holding me back

☐ Dusk 'till dawn

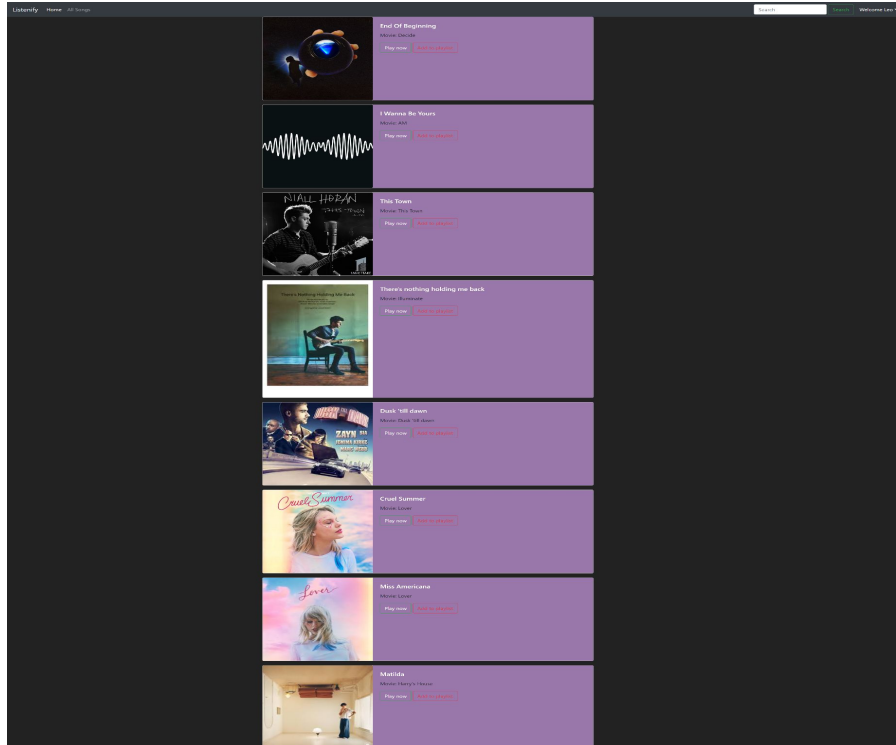
☐ Cruel Summer

☐ Miss Americana

☐ Matilda

8 songs

Songs List



The screenshot displays a music player interface with a dark background. On the left, there is a vertical list of song covers. On the right, the details for the selected song, "End Of Beginning" by "The Sound of Silence", are shown. The interface includes a search bar at the top right and a list of songs in the center.

Song Title	Artist	Album	Play Icon	Download Icon
End Of Beginning	The Sound of Silence	End Of Beginning		
I Wanna Be Yours	Arctic Monkeys	I Wanna Be Yours		
This Town	Arctic Monkeys	This Town		
There's nothing holding me back	Arctic Monkeys	There's nothing holding me back		
Dark 'n' Stormy	Arctic Monkeys	Dark 'n' Stormy		
Cool Summer	Arctic Monkeys	Cool Summer		
Miss Americana	Arctic Monkeys	Miss Americana		
Madness	Arctic Monkeys	Madness		

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!