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 | Technology Used | Modelling & Results | Conclusion

Abstract

Music has become an integral part of people's lives, with millions accessing and enjoying various genres through online platforms. To cater to this demand and provide a seamless experience for music enthusiasts, the development of a Music Web Application using the Django Framework is presented.This project aims to create a robust and user-friendly platform where users can discover, stream, and organize their favorite music tracks. Leveraging Django, a high-level Python web framework known for its efficiency and scalability, ensures the application's development is streamlined and maintainable.

Source :

Problem Statement

In the age of digital music consumption, there's a growing need for platforms that offer seamless access to a vast library of music. Building a Music Web Application using Django Framework aims to address this need by providing users with a platform to discover, stream, and organize their favorite music.

Source :

Project Overview

Title: Harmonix

Objective: Develop a Django-based music web application to provide users with a seamless music streaming experience, including personalized playlists and smart music recommendations. Key Features:

Vast music library: Provide access to a wide range of songs, albums, and artists.

Personalized playlists: Allow users to create and manage playlists based on their preferences.

User-friendly interface: Design an intuitive and responsive interface for easy navigation.

Social sharing: Enable users to share their favorite music with friends on social media platforms.

Target Audience: Music enthusiasts looking for a personalized and user-friendly music streaming platform.

Outcome: The project aims to revolutionize how users discover and enjoy music online by offering a seamless and personalized music streaming experience.

Source :

Proposed Solution

Title:TuneTrax

Description: Harmonix is a cutting-edge music web application built using the Django Framework, offering a next-level music streaming experience. The application boasts a vast library of songs, albums, and artists, enhanced by features such as personalized playlists, smart music recommendations, and a visually stunning user interface.

Key Features:

Dynamic Music Library: Harmonix's music library is continuously updated with the latest songs, albums, and artists from around the world.

Personalized Playlists: Users can create, customize, and share playlists based on their unique preferences and moods.

Intelligent Music Discovery: Harmonix utilizes machine learning algorithms to analyze user listening habits and provide tailored music recommendations.

Engaging User Interface: The application features a modern and responsive design, with interactive elements that enhance the user experience.

Social Integration: Users can connect with friends, share favorite tracks, and discover new music together through social media integration.

Source :

Technical Stack:

Frontend: HTML, CSS, JavaScript, React.js

Backend: Django Framework, Django REST framework

Database: PostgreSQL

Hosting: AWS EC2, S3 for media storage

Machine Learning: Python, TensorFlow for recommendation engine

Target Audience: MeloTune targets music enthusiasts who seek a sophisticated and personalized music streaming platform that goes beyond conventional offerings.

Outcome: MeloTune aims to set a new standard in music streaming by combining cutting-edge technology with a user-centric approach, providing a unique and immersive music experience for all users.

Source :

Technology Used

Front-end

Back-end

Source :

Modelling & Results

Modelling: Data Model: Utilize Django's ORM to define models for songs, albums, artists, playlists, and user interactions (e.g., likes, shares).

Machine Learning Model: Use TensorFlow or scikit-learn to develop a recommendation engine based on user listening history and preferences.

Results:

Dynamic Music Library: Users will have access to a diverse and continuously updated music library, ensuring a wide selection of songs, albums, and artists.

Personalized Playlists: The recommendation engine will enhance user experience by suggesting songs and artists based on their listening habits, leading to more personalized playlists.

Engaging User Interface: The modern and responsive design will provide a visually appealing and intuitive user interface, enhancing user engagement and satisfaction.

Social Integration: Users will be able to connect with friends, share favorite tracks, and discover new music together, fostering a sense of community within the application.

Source :

Homepage

127.0.0.1:8000

Gmail YouTube Maps

MusicBeats Home All Songs Search Search Login Signup

Trending Songs

Teri-Baatone

Movie: Teri-Baatone ulja kiya

Add to playlist Play now

Abrar bgm

Movie: Animal

Add to playlist Play now

Whistle Theme

Movie: Animal

Add to playlist Play now

127.0.0.1:8000

Type here to search

29°C Partly cloudy ENG 22:22 07-04-2024

edunet foundation

All Songs

127.0.0.1:8000/musicbeats/songs/

Gmail YouTube Maps

MusicBeats Home All Songs

Search Search Login Signup

Aziz Haque bgm

Movie: Animal

play now

Whistle Theme

Movie: Animal

play now

Abrar bgm

Movie: Animal

play now

Teri-Baatone

Movie: Teri-Baatone ulja kiya

play now

127.0.0.1:8000/musicbeats/songs/

Type here to search

29°C Partly cloudy ENG 22:30 07-04-2024

Song

127.0.0.1:8000/musicbeats/songs/52

Gmail YouTube Maps

MusicBeats Home All Songs Search Search Login Signup

Title: Aziz Haque bgm

Category: nil

Movie: Animal

Singer: NIL

Watch video song: Click here

0:00 / 0:46

Add to Playlist Download Song

Type here to search 29°C Partly cloudy ENG 22:29 07-04-2024

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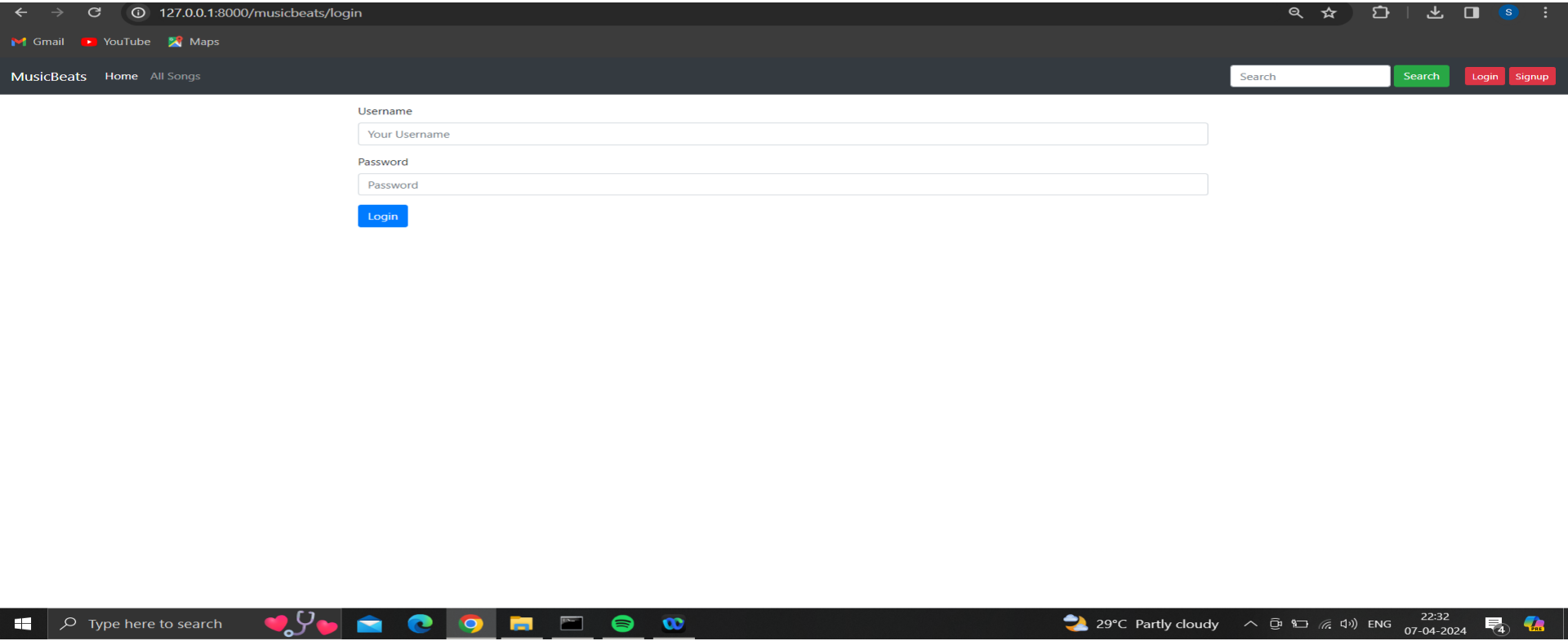
Login



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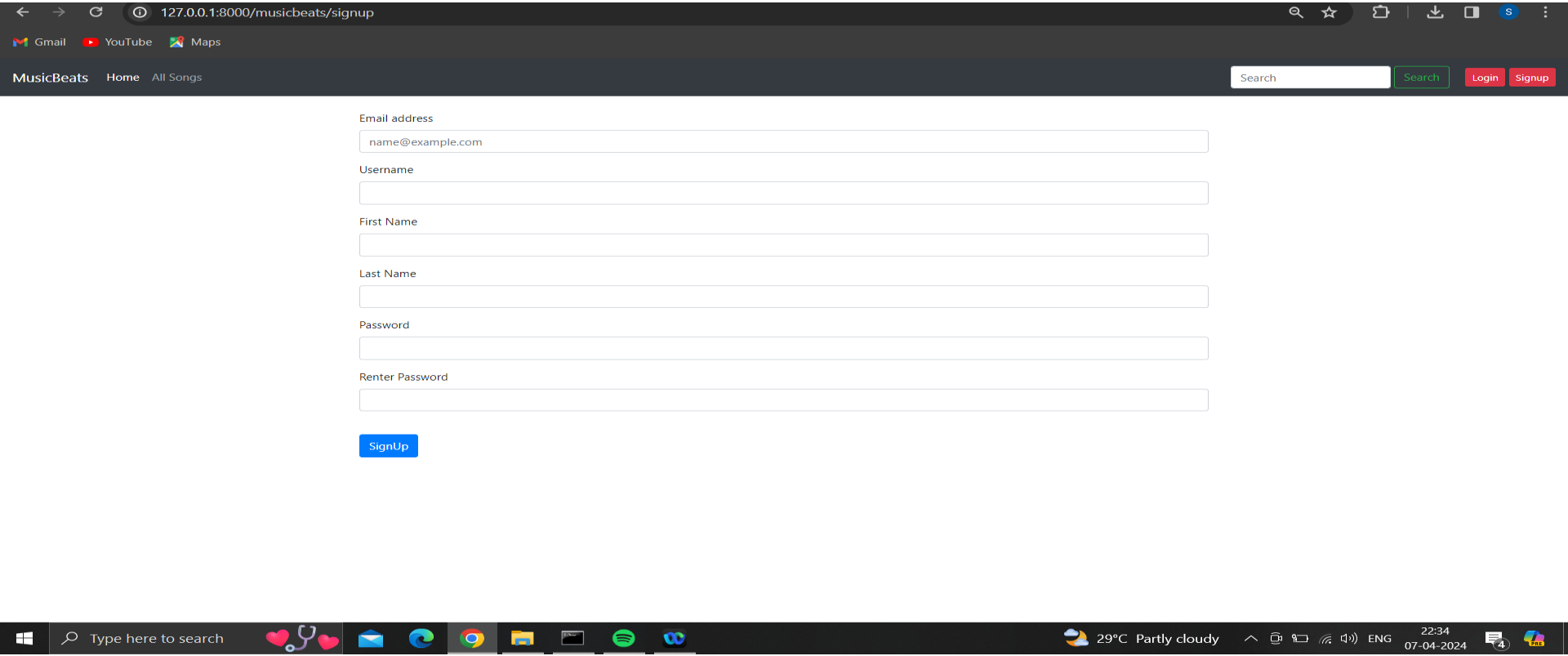
Sign-Up



Future Enhancements:

Advanced Recommendation System:
Implement more advanced machine learning algorithms to improve the accuracy of music recommendations based on user preferences, listening history, and behavior.

- Social Features: Expand social integration by allowing users to follow each other, create public playlists, and see what their friends are listening to in real-time.
- Lyrics Integration: Add a feature to display lyrics for songs, enhancing the overall music listening experience.
- Artist and Album Insights: Provide users with more information about artists and albums, such as biographies, discographies, and related content.

Conclusion

TuneTrax is poised to revolutionize the music streaming experience with its sophisticated features and user-centric design. By offering a dynamic music library, personalized playlists, an engaging user interface, and social integration, Harmonix caters to the diverse needs of music enthusiasts. The application's technical stack, including HTML, Bootstrap, Django Framework, Django REST framework, and sqlite, ensures a robust and scalable platform. Harmonix's target audience, comprising music enthusiasts seeking a personalized music streaming experience, is well served by its innovative features and user-friendly interface. With potential future enhancements such as advanced recommendation systems, social features, and integration with smart devices, Harmonix is positioned to remain at the forefront of the music streaming industry. Overall, Harmonix is not just a music streaming platform but a destination for music lovers to discover, share, and enjoy music in a whole new way

Source :

Thank You!