



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

The music web application is a platform built using the Django Framework, designed to provide users with a seamless music streaming experience. Users can browse a vast library of songs, albums, and artists, create playlists, and discover new music based on their preferences. The application offers a user-friendly interface, responsive design, and efficient search functionality, making it easy for users to find and enjoy their favorite music. With features such as personalized recommendations and social sharing, the music web application aims to enhance the way users discover and engage with music online

Problem Statement

In a crowded digital music landscape, users struggle to find personalized music streaming platforms with user-friendly interfaces. This project aims to develop a Django-based music web application that offers a seamless experience, including a vast music library, personalized playlists, and smart recommendations. By filling this gap, the application seeks to enhance how users discover and enjoy music online.

Project Overview

Title: Musically

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.

Proposed Solution

Title: Musically

Description: Musically 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: Musically'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.

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.

Technology Used

Front-end



Back-end

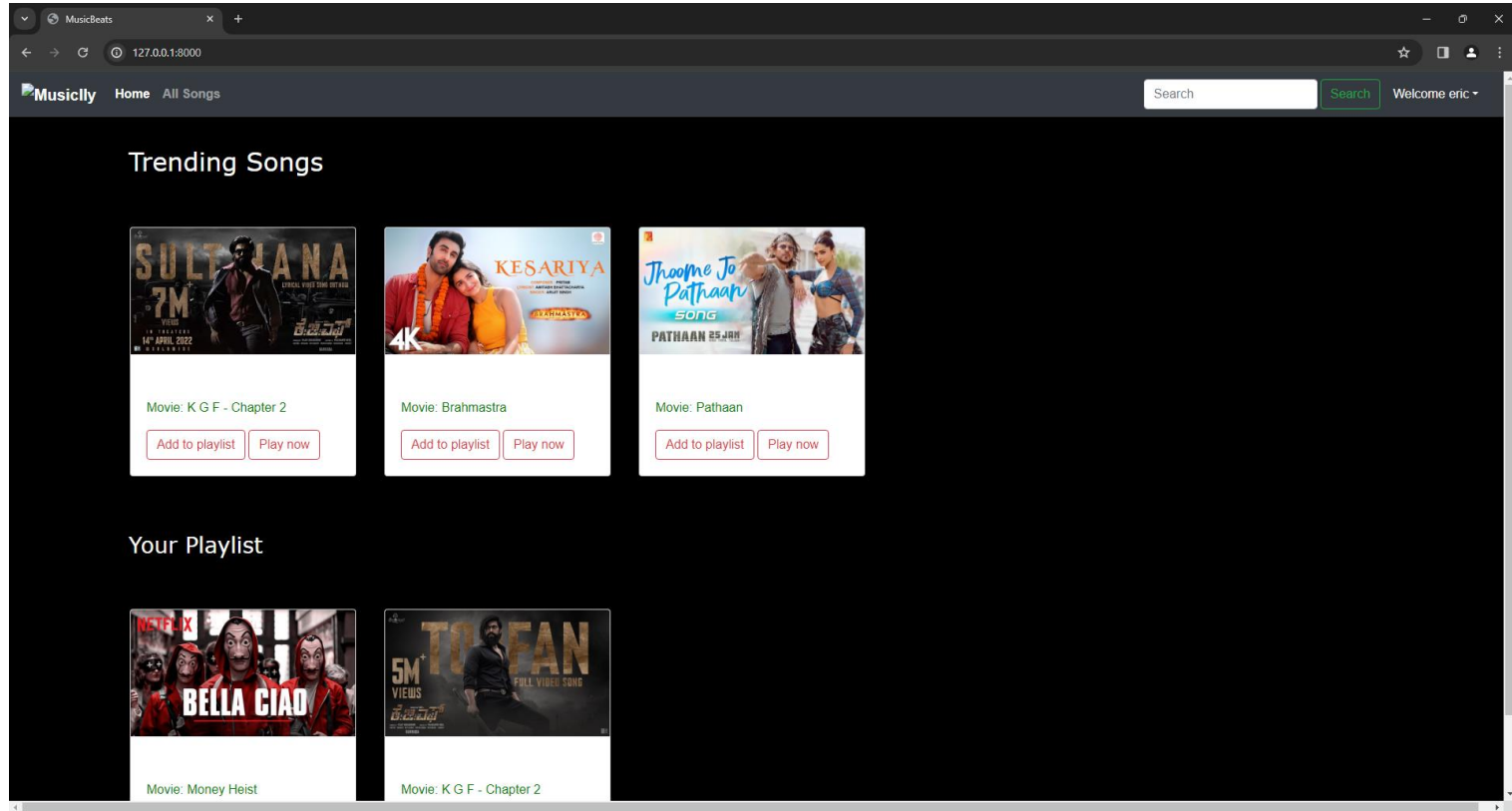


Modelling & Results

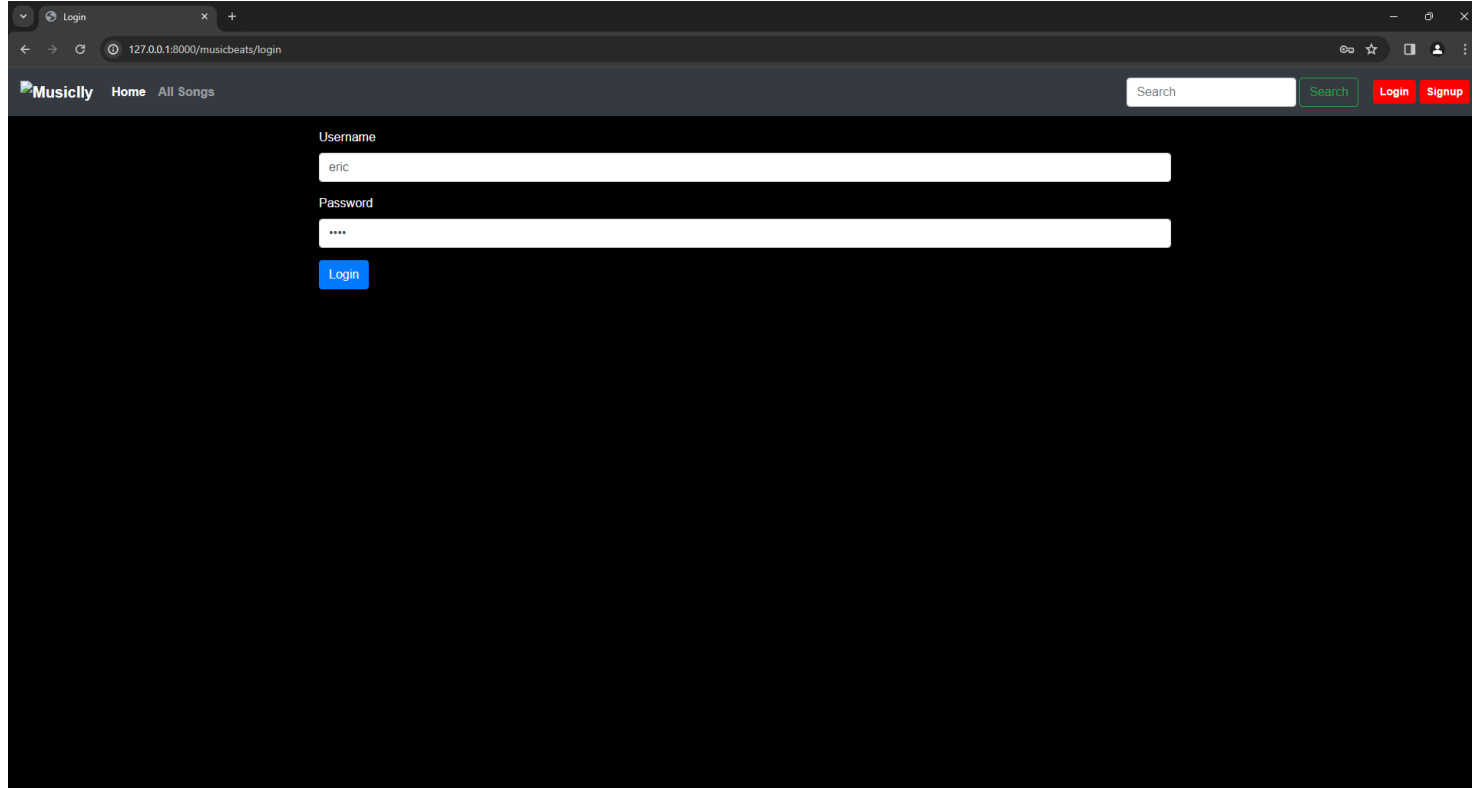
Modeling: Data Model: Utilize Django's ORM to define models for songs, albums, artists, playlists, and user interactions (e.g., likes, shares). **Machine Learning Model:** Use TensorFlow or scikit-learn to develop a recommendation engine based on user listening history and preferences.

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.

Homepage



Login-Page



The screenshot shows a web browser window with the address bar displaying "127.0.0.1:8000/musicbeats/login". The page has a dark theme. At the top, there is a navigation bar with the "Musicly" logo, links for "Home" and "All Songs", a search bar with a "Search" button, and "Login" and "Signup" buttons. The main content area contains a login form with two input fields: "Username" (containing "eric") and "Password" (containing "****"). Below the password field is a blue "Login" button.

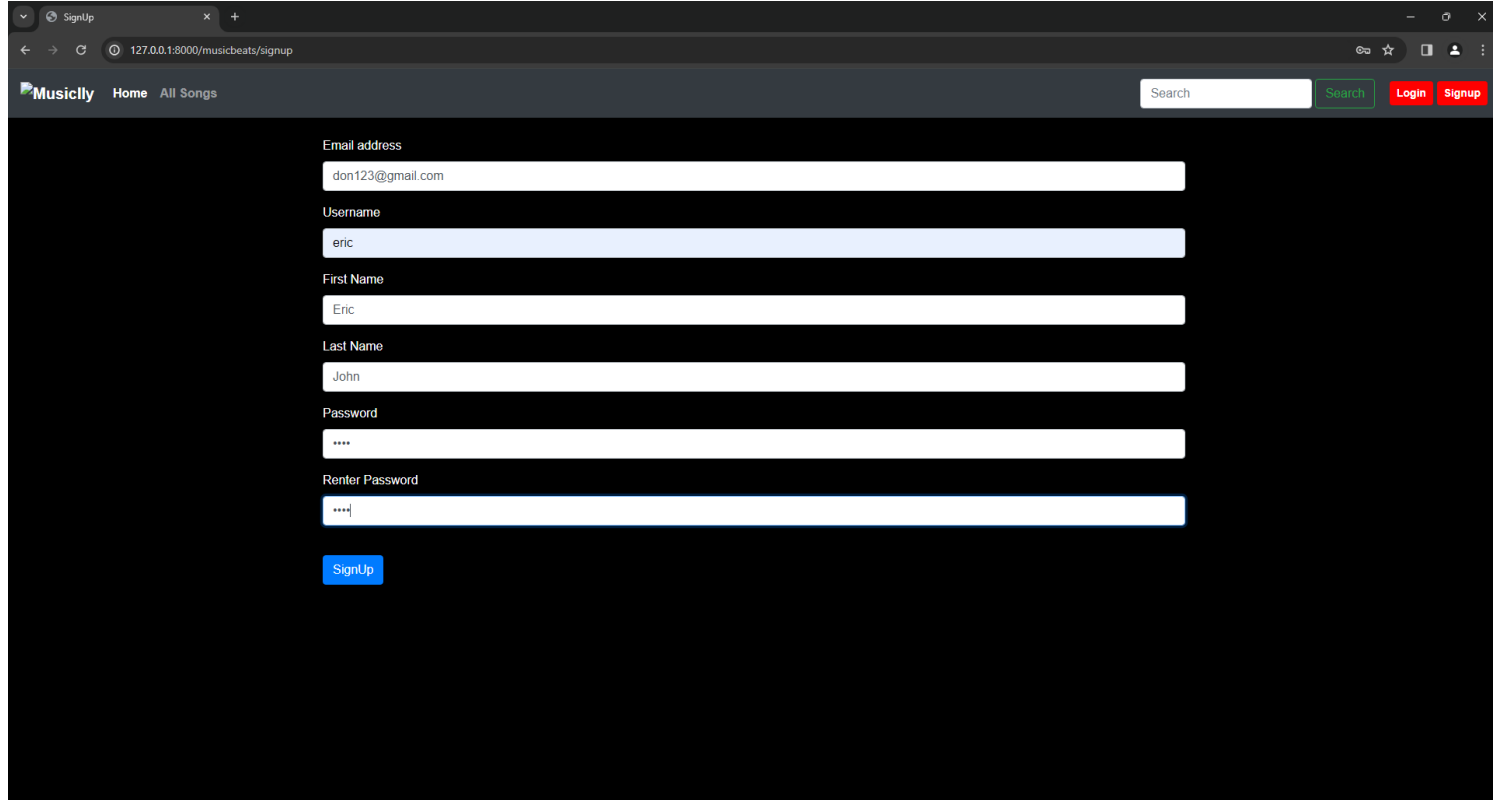
Musicly Home All Songs Search Login Signup

Username
eric

Password

Login

Sign-up-Page

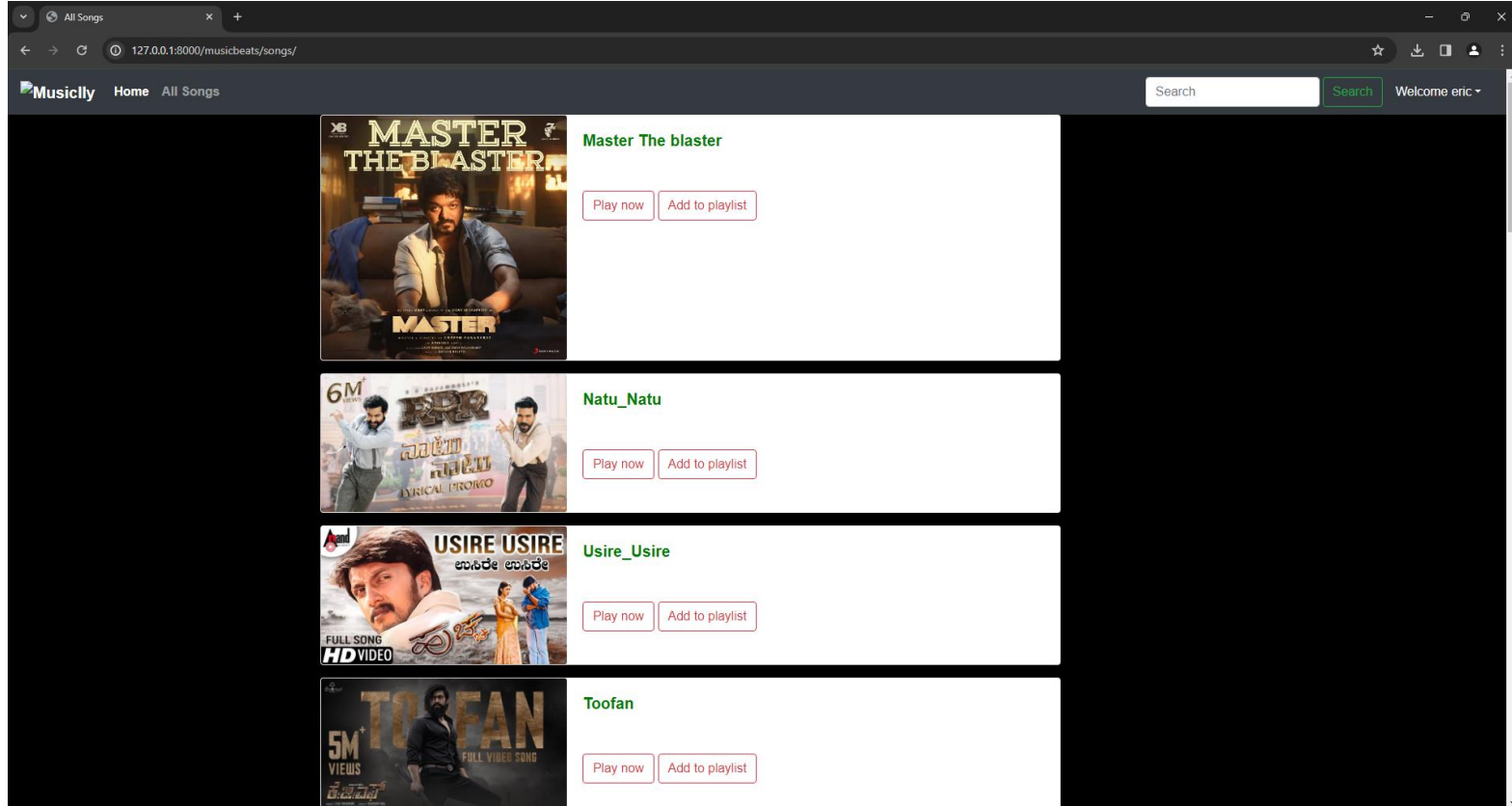


The screenshot shows a web browser window with a single tab titled "SignUp". The address bar displays the URL "127.0.0.1:8000/musicbeats/signup". The page header includes the "Musiclly" logo, navigation links for "Home" and "All Songs", a search bar with the placeholder text "Search", and two buttons: "Search" (green) and "Login" (red). A "Signup" button (red) is also present in the top right corner. The main content area is dark-themed and contains a sign-up form with the following fields and labels:

- Email address:
- Username:
- First Name:
- Last Name:
- Password:
- Reenter Password:

Below the password fields is a blue "SignUp" button.

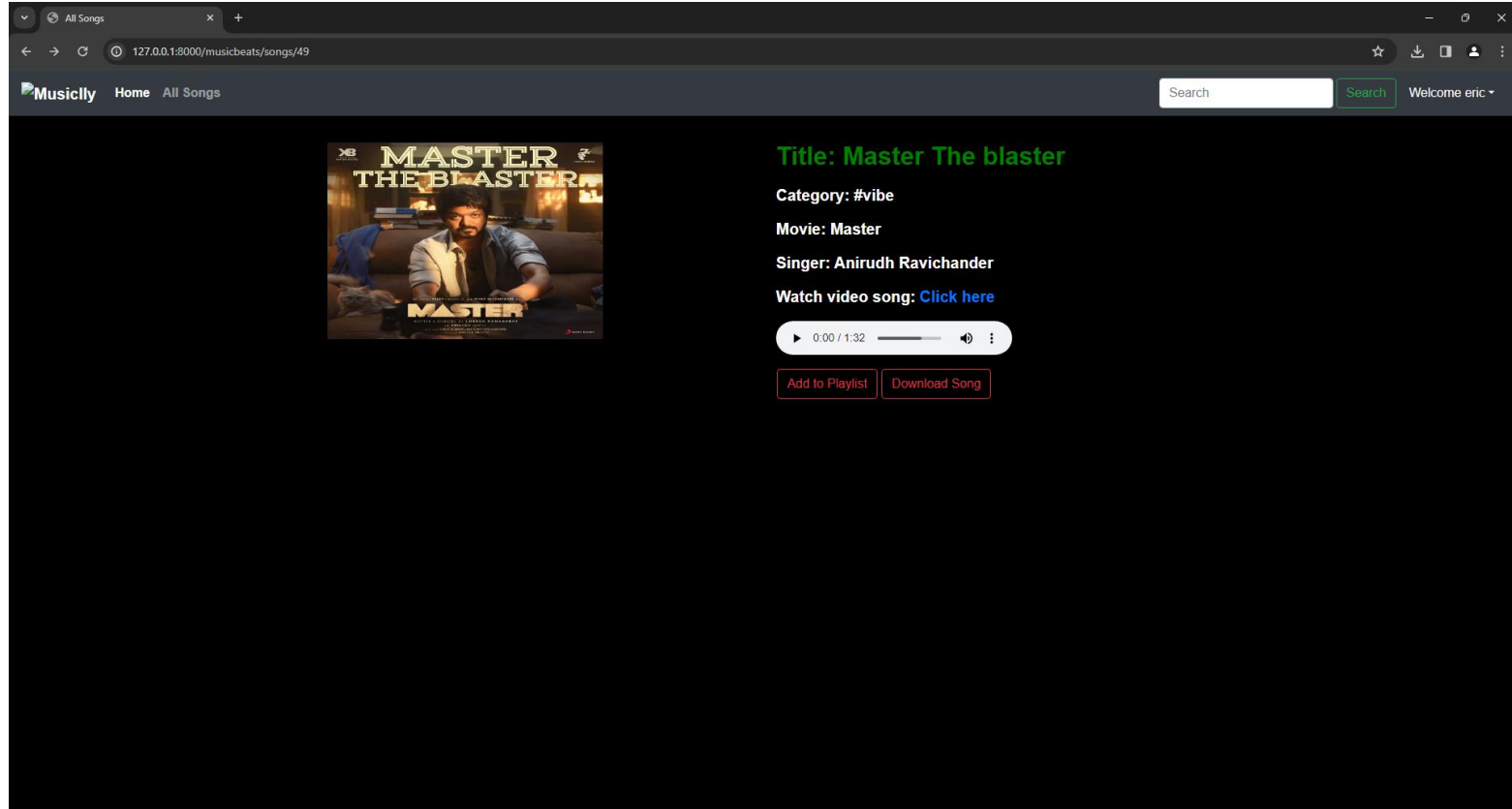
All_Songs-Page



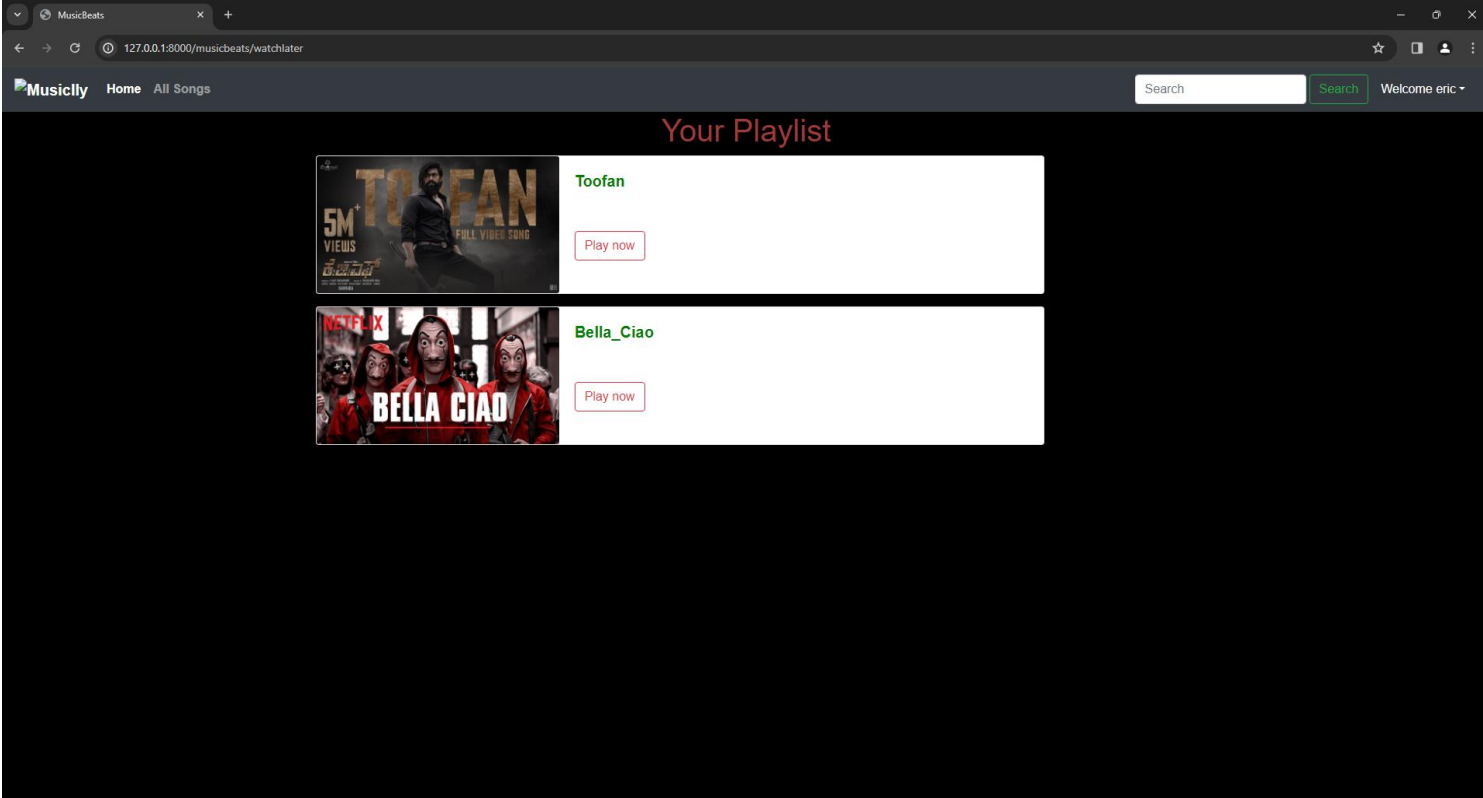
The screenshot shows a web browser window with the URL `127.0.0.1:8000/musicbeats/songs/`. The page is titled "All Songs" and features a navigation bar with "Musiclly", "Home", and "All Songs" links. A search bar with a "Search" button and a user greeting "Welcome eric" is located in the top right. The main content area displays four song cards, each with a video thumbnail, title, and action buttons.

Song Title	Views	Thumbnail Description	Action Buttons
Master The blaster	8	Movie poster for Master The Blaster featuring a man in a suit	Play now, Add to playlist
Natu_Natu	6M	Movie poster for Natu Natu featuring two men in a dance pose	Play now, Add to playlist
Usire_Usire	Agad	Movie poster for Usire Usire featuring a man in a white shirt	Play now, Add to playlist
Toofan	5M VIEWS	Movie poster for Toofan featuring a man in a dark shirt	Play now, Add to playlist

All_Songs-Page





Playlist-Page

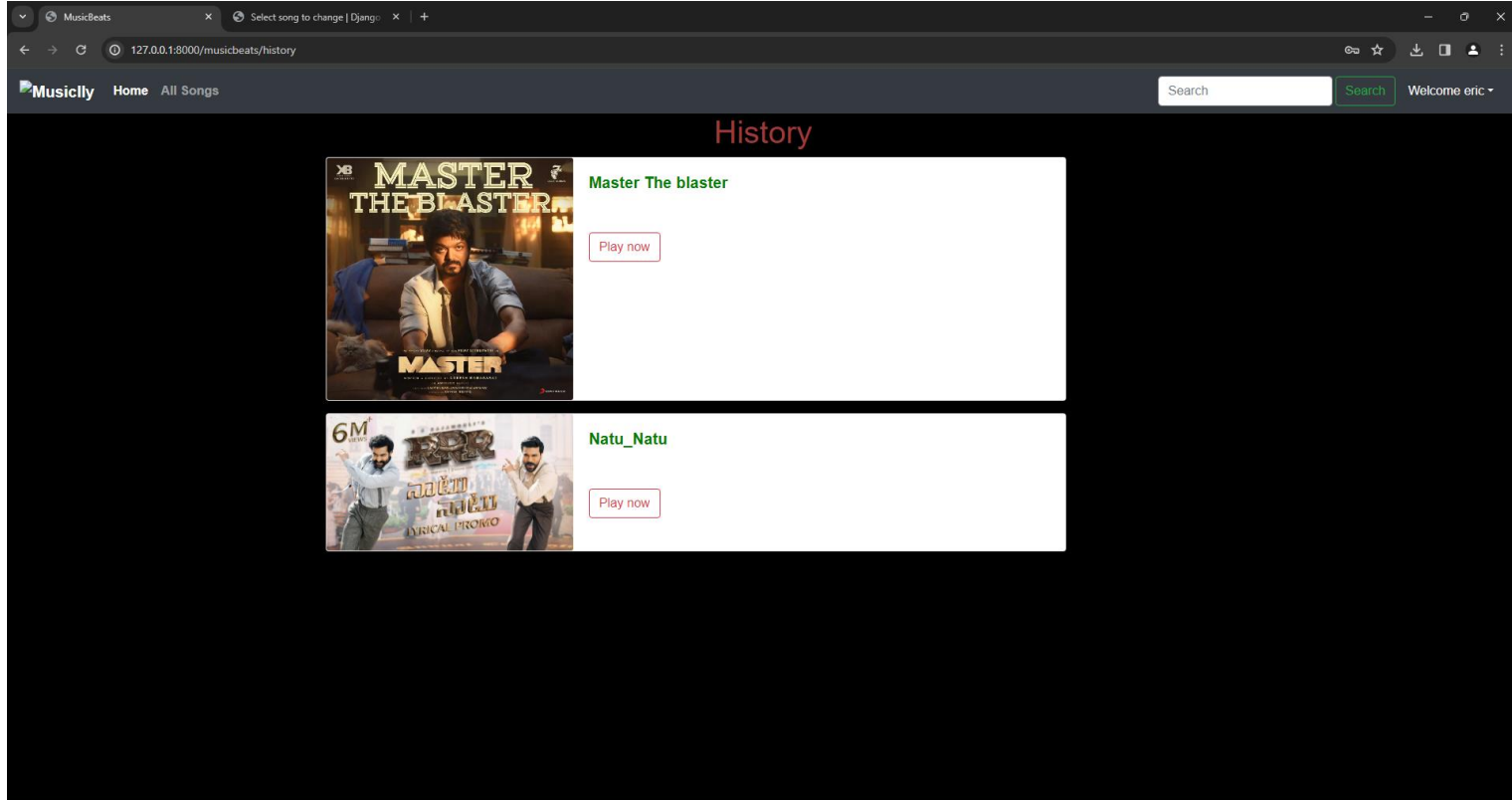


Musiclly Home All Songs Search Welcome eric

Your Playlist

-  **Toofan** [Play now](#)
-  **Bella_Ciao** [Play now](#)

History-Page



The screenshot shows a web browser window with the URL `127.0.0.1:8000/musicbeats/history`. The page features a dark theme with a navigation bar at the top containing the "MusicBeats" logo, "Home", and "All Songs" links. A search bar with a "Search" button and a user greeting "Welcome eric" are also present. The main content area is titled "History" in a large, stylized font. It displays two items from the user's history:

- Master The blaster**: Accompanied by a movie poster for "Master" featuring a man in a suit. A "Play now" button is located to the right of the poster.
- Natu_Natu**: Accompanied by a promotional image for the song "Natu Natu" showing two men dancing. A "Play now" button is located to the right of the image.

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.
 - **Podcast and Audiobook Support:** Extend the platform to include podcasts and audiobooks, offering users a wider range of audio content.
- **Music Discovery Tools:** Develop tools for users to discover new music based on genres, moods, or themes, helping them explore a broader range of music.
- **Integration with Smart Devices:** Allow users to access MeloTune on smart speakers, TVs, and other connected devices for a seamless music listening experience across different platforms.

Conclusion

In conclusion, Musically 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, Musically 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. Musically'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, Musically is not just a music streaming platform but a destination for music lovers to discover, share, and enjoy music in a whole new way.

Thank You!