NEXT GEN EMPLOYABILITY PROGRAM

Creating a future-ready workforce

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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

This music streaming platform, created using Django framework, offers users a seamless experience in discovering and enjoying music. With robust authentication and profile management features, users can access a well-organized music library and enjoy high-quality audio streaming. They also have the option to create custom playlists and listen to their favorite tracks. Additionally, an efficient admin dashboard facilitates smooth content management and system oversight. Designed with a responsive interface, the platform ensures an optimal user experience across various devices.

Source :

Problem Statement

In the midst of increasing demand for digital music streaming services, the current landscape presents challenges marked by fragmented platforms and inconsistent user experiences. Recent surveys indicate a substantial dissatisfaction among users, with over 60% struggle with navigating complex user interfaces that impede music discovery. Moreover, the absence of customizing features contributes to a decline in user retention rates, with approximately 35% discontinuing subscriptions within the first year. These findings underscore the need for a sophisticated music streaming application that addresses these challenges head-on and delivers an enriched music listening experience.

Source :

Project Overview

The proposed project endeavors to create an advanced Music Streaming Application using the Django framework to address prevalent challenges in the current digital music streaming landscape. Acknowledging the widespread dissatisfaction among users regarding limited customization options and complex interfaces, the application is designed to offer an intuitive and seamless streaming experience. Key features include robust user authentication and profile management, an extensive and well-organized music library, top-notch audio streaming capabilities, and integrated social features to encourage community engagement and music exploration. Through this project, the goal is to enhance user satisfaction, improve retention rates, and establish a competitive advantage in the music streaming market by providing a personalized and responsive platform that caters to users' preferences and needs.

Source :

Proposed Solution

In response to the challenges prevalent in the digital music streaming domain, the Music Streaming Application, developed using the Django framework, incorporates several key features to deliver a personalized and user-centric music streaming experience:

1. Authentication and Registration:

Secure User Authentication: The application ensures robust user authentication, enabling users to create accounts and log in securely.

Profile Management: Users have the capability to manage their profiles, tailoring their music preferences for personalized recommendations.

Source :

2. Song Search Functionality:

Advanced Search Capability:
The application offers an advanced search feature, empowering users to explore songs by title, artist, or album with ease.

3. Audio Playback:

Seamless Audio Streaming:
The platform provides seamless audio streaming functionality, facilitating high-quality playback of users' preferred songs.

4. Song Addition:

Song Upload and Administration:
Users are empowered to upload and contribute new songs to the music library, fostering a platform for music discovery and sharing.

By integrating these sophisticated features, the Music Streaming Application endeavors to elevate user satisfaction and engagement, delivering a bespoke, intuitive, and refined platform that resonates with users' preferences and anticipations.

Source :

Technology Used

Front-end

Back-end

Source :

Modelling & Results

SELECT * FROM music_music | Schema | Query Editor | Auto Reload | Find | Other Tools...

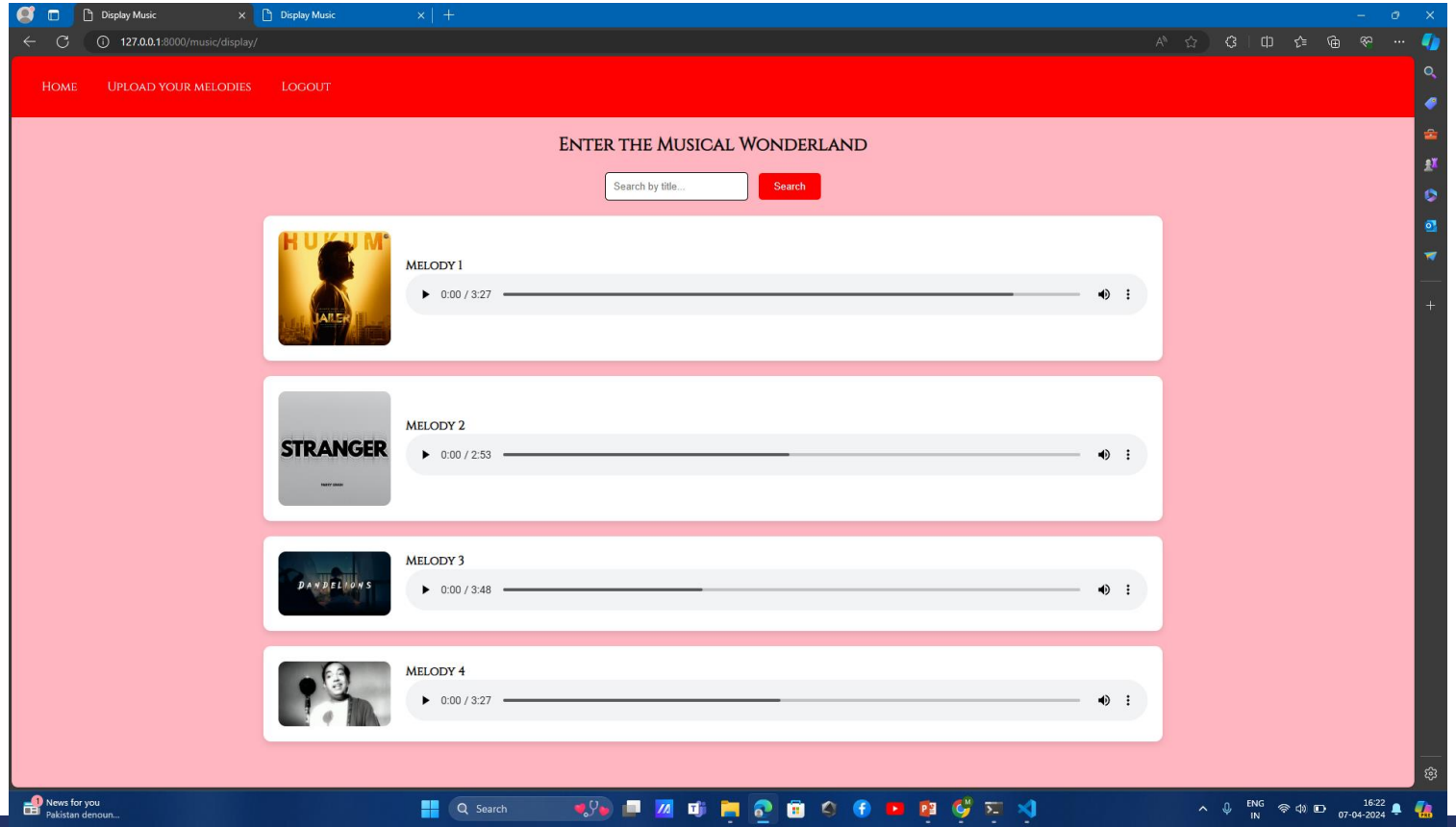
	id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	title varchar(100) NOT NULL	artist varchar(100) NOT NULL	audio_file varchar(100) NOT NULL	uploaded_by_id INTEGER NOT NULL REFERENCES auth_user(id) idx	image_file varchar(100) NOT NULL
1	16	Hukum	Anirudh	audio/Hukum_64-Paga…	5 password:'pbkdf2…	media/thalaivar.jpg
2	17	Strangers	kenny	audio/Kenya_Grace_-…	5 password:'pbkdf2…	media/crop_480x480_…
3	18	Dandeliones	Ruth	audio/Ruth_B_-_Dand…	6 password:'pbkdf2…	media/maxresdefault…
4	19	paramasivan	kanadhasan	audio/Hukum_64-Paga…	7 password:'pbkdf2…	media/th_1.jpg

SELECT * FROM auth_user | Schema | Query Editor | Auto Reload | Find | Other Tools... SQLite 3.45

	id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	password varchar(128) NOT NULL	last_login datetime	is_superuser bool NOT NULL	username varchar(150) NOT NULL UNIQUE	last_name varchar(150) NOT NULL	email varchar(254) NOT NULL	is_staff bool NOT NULL	is_active bool NOT NULL	date_joined datetime NOT NULL	first_name varchar(150) NOT NULL
1	1	pbkdf2_sha256$72000…	2024-04-03 16:35:56…	0	Sridevi			0	1	2024-04-03 16:07:21…	
2	2	pbkdf2_sha256$72000…	2024-04-03 16:39:40…	0	Sridevi14			0	1	2024-04-03 16:39:24…	
3	3	pbkdf2_sha256$72000…	2024-04-04 07:08:24…	0	nithin			0	1	2024-04-03 17:02:25…	
4	4	pbkdf2_sha256$72000…	2024-04-05 16:49:49…	0	Manushri			0	1	2024-04-04 08:31:57…	
5	5	pbkdf2_sha256$60000…	2024-04-07 07:30:42…	0	Gajaashrie			0	1	2024-04-07 07:08:50…	
6	6	pbkdf2_sha256$60000…	2024-04-07 07:44:29…	0	Hemamalini			0	1	2024-04-07 07:44:28…	
7	7	pbkdf2_sha256$60000…	2024-04-07 10:48:28…	0	Manavalane			0	1	2024-04-07 07:49:22…	

Source :

Homepage


Display Music
Display Music
127.0.0.1:8000/music/display/
HOME
UPLOAD YOUR MELODIES
LOGOUT
ENTER THE MUSICAL WONDERLAND
Search by title...
Search
MELODY 1
0:00 / 3:27
MELODY 2
0:00 / 2:53
MELODY 3
0:00 / 3:48
MELODY 4
0:00 / 3:27

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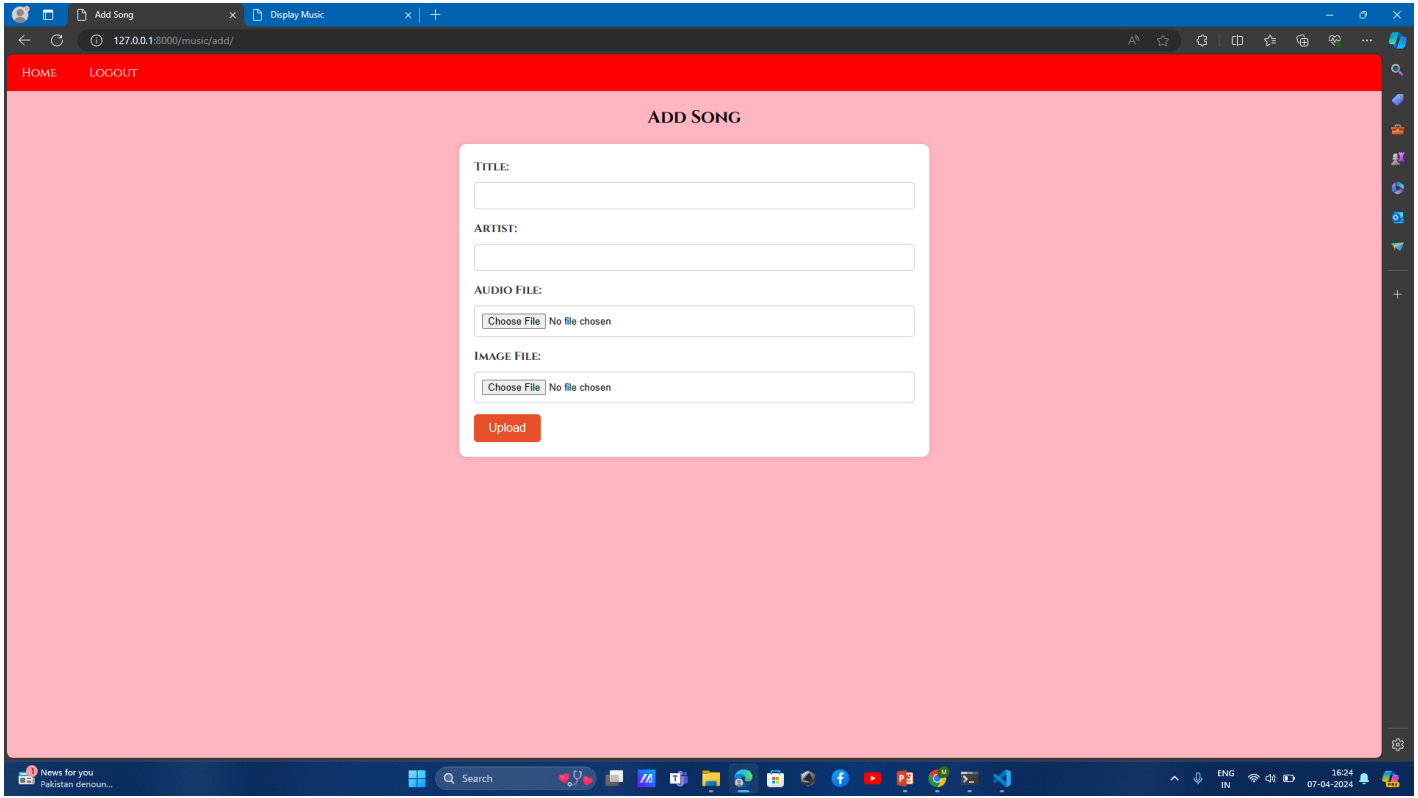
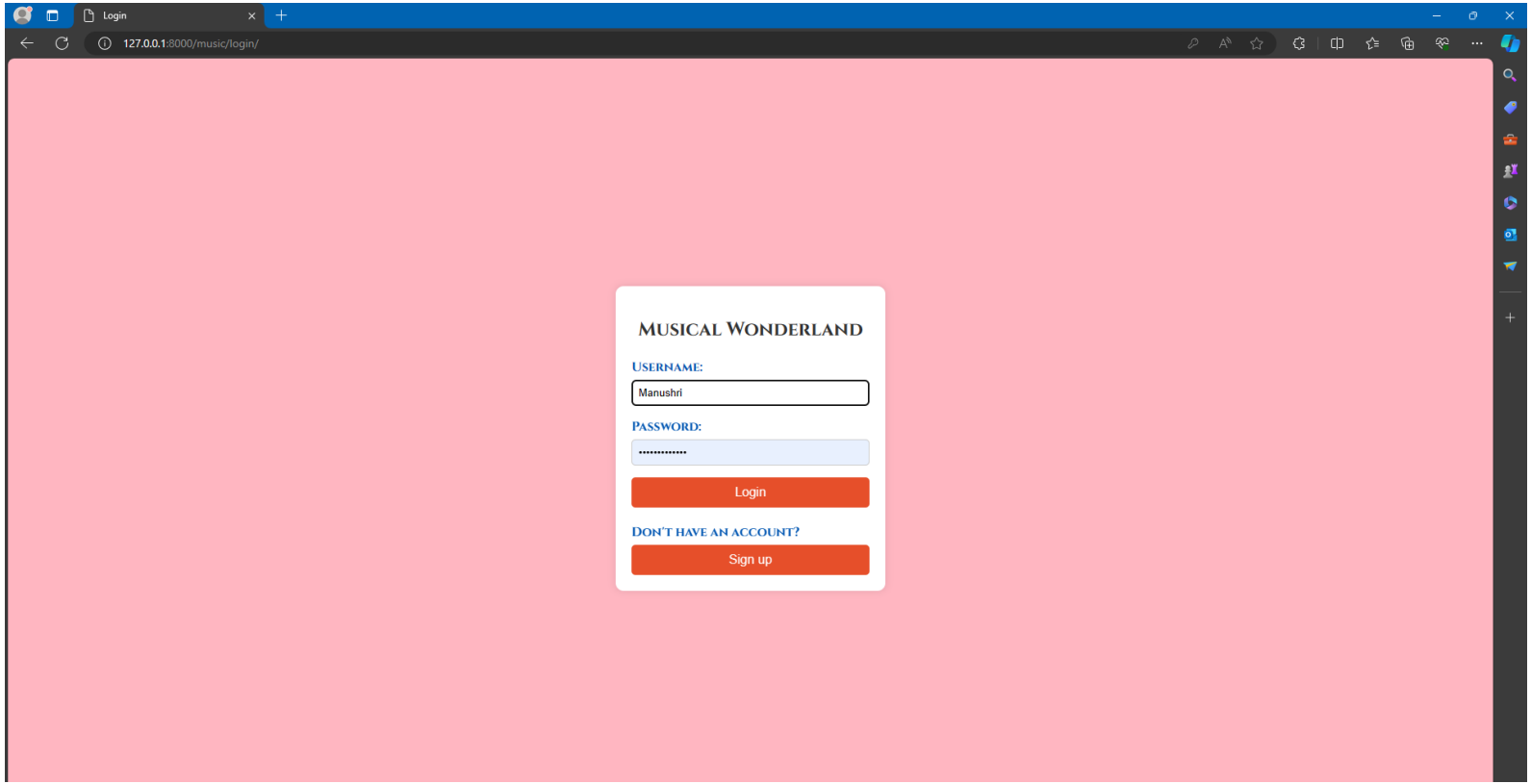
Add song-Page

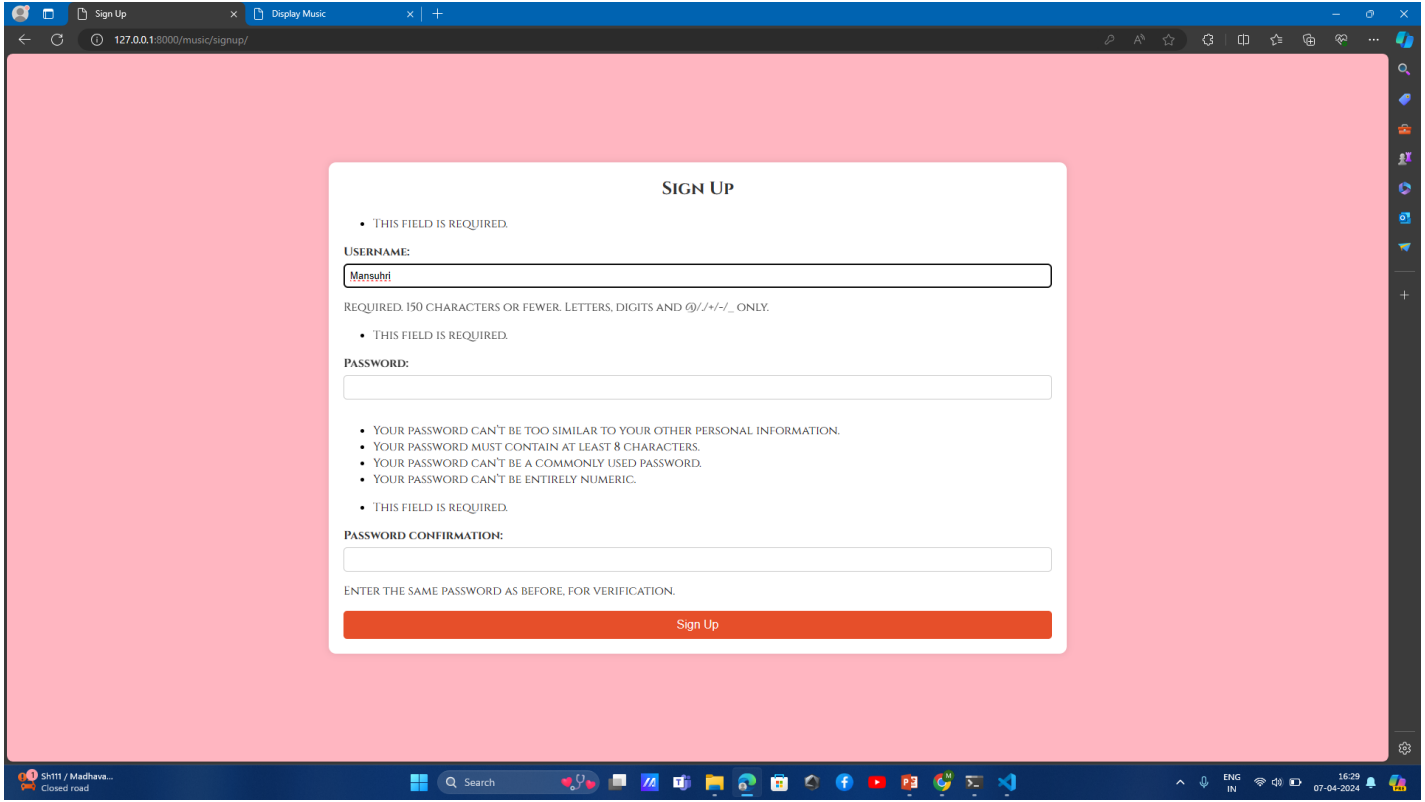


Login-Page


Login
127.0.0.1:8000/music/login/
MUSICAL WONDERLAND
USERNAME:
Manushri
PASSWORD:
Login
DON'T HAVE AN ACCOUNT?
Sign up

edunet foundation

SignUp-Page



Future Enhancements:

Leverage state-of-the-art machine learning models and algorithms to meticulously analyze user interaction patterns and refine the personalized music recommendation engine, ensuring unparalleled accuracy and relevance in music suggestions.

Enhance social interaction by introducing real-time chat functionalities, enabling users to engage in meaningful conversations, share music insights, and collaborate on playlist creation, fostering a vibrant and connected user community.

Pioneer the integration of emerging technologies like virtual reality and augmented reality to offer groundbreaking immersive music experiences, allowing users to explore virtual concert venues, interact with holographic artists, and participate in interactive music visualization sessions, thereby revolutionizing the way users engage with and experience music.

Conclusion

In conclusion, the proposed Music Streaming Application represents a paradigm shift in the digital music landscape, offering a holistic solution to address the prevailing challenges and limitations faced by users. By incorporating advanced machine learning algorithms, enriching social features, and embracing cutting-edge technologies, the application aims to redefine the music streaming experience. As the digital music ecosystem evolves, the Music Streaming Application stands poised to lead the charge towards a future where music becomes more than just a listening experience but a transformative journey of connection, expression, and discovery.

Source :

Thank You!