Maharashtra Education Society's
Institute of Management and Career Courses (IMCC), Pune
AUTONOMOUS

PROJECT REPORT

ON

"SwarSetu-Classical Music streaming app"

FOR

CODITAS SOLUTIONS LLP

BY

AARYA TILAK

UNIVERSITY OF PUNE
MASTER OF COMPUTER APPLICATION

Maharashtra Education Society's
INSTITUTE OF MANGEMENT AND CAREER
COURSES (IMCC), Pune-411038

MAHARASHTRA EDUCATION SOCIETY'S
(SINCE 1860)

INSTITUTE OF MANAGEMENT & CAREER COURSES (IMCC)

(AUTONOMOUS)

Approved by AICTE and Recognized by Savitribai Phule Pune University, Pune
IMCC Campus, 131, Mayur Colony, Kothrud, Pune 411038, Maharashtra, India | Ph.: 020-2546 6271 / 73 | e-mail: info.imcc@mespune.in | https://imcc.mespune.in

NAAC Accredited with Grade A+

Ref. No. MES IMCC /442/2025-26 **Date:06/05/2026**

CERTIFICATE

This is to certify that the Project Report entitled

"SwarSetu – classical music streaming app"

is prepared by

Aarya Tilak

M.C.A. Semester IV Course for the Academic Year 2025-26 at M.E. Society's Institute of Management & Career Courses (IMCC), Pune - 411038. M.C.A Course is autonomous and affiliated to Savitribai Phule Pune University.

To the best of our knowledge, this is an original study done by the said student and important sources used by him/her have been duly acknowledged in this report.

The report is submitted in partial fulfillment of M.C.A Course for the Academic Year 2025-26 as per the rules and prescribed guidelines of Savitribai Phule Pune University.

SSParlikar

Dr Shilpa Parlikar
Project Coordinator

msy

Ms. Manasi Shirurkar
Programme Coordinator

Dr. Ravikant Zirmite
Head, Dept of MCA MES IMCC

Dr. Santosh Deshpande
Director, MES IMCC

External Examiner

Coditas Solutions LLP. | LLPIN:AAQ-6182

31/12/2025
Reference No: CS/HR/OFFER/AT/31122025

To,
Ms. Aarya Tilak

INTERNSHIP OFFER LETTER

Dear Aarya

We are happy to inform you that we would like to offer you the position of **Associate Software Engineer** at Coditas.

We would like to offer you a remuneration of **INR 11,000.00 per Month** (incl. TDS). You are expected to join us in our office in Pune on 19/01/2026

The internship will span 6 months, starting from **19/01/2026**. Your internship will automatically conclude at the end of this mentioned period unless Coditas formally extends your internship period in written communication. It is important to note that any informal/verbal discussions regarding an extension of your internship are not considered.

No additional compensation or benefits will be extended to you during this tenure apart from this consolidated stipend unless expressly written and communicated. The company's/ management's decision in this regard shall be final and binding on you.

The terms are as follows:

1. The remuneration shall be subject to tax deduction at source.
2. Coditas may offer outstanding performers a full-time position with a package of INR 4.5 LPA. This offer is subject to management's decision and the candidate's performance during the internship, with a 12-month service agreement.
3. This position would require you to join and work from the office compulsorily. Your training will last 8 hours daily, covering classroom sessions and mentorship programs. You are required to work a minimum of 40 hours per week.
4. You can avail of the holidays as per the scheduled holiday calendar.The validity of this internship offer is for 24 hours from the date of the release of this letter.
5. Your base location will be Pune. However, depending on the project requirement, you may have to travel to / work from the client office/location.
6. Coditas holds the authority to terminate the internship within the defined term. By agreeing, you

acknowledge and consent that you will not hold any claims against the Company in such scenarios.

7. The offered internship as a Project Trainee is not to be interpreted as an offer of employment, neither during the internship nor upon its conclusion.
8. You must maintain a 90% attendance rate during your internship to be eligible to get your experience certificate.
9. Regular performance reviews will be done to assess your suitability during your internship. If your performance is not as per the satisfaction of the management, it can lead to the termination of the internship before the completion of 6 months.
10. All software, systems, methods, products, and the like developed by you during your tenure with the company shall be transferred to the company. These shall remain the exclusive right and property of the company, and you shall not possess any rights concerning the same.
11. You are expected to share the below documents (whichever is applicable) on or before the date of joining:

    a. Photocopy of educational qualifications, i.e., SSC/HSC/Graduation/Post Graduation, etc.
    b. Photocopy of certificate, courses attended (if any) and any other professional certifications relevant to your role.
    c. Photocopy of your passport along with a photocopy of Visa stampings (if any).
    d. One passport-size photograph
    e. Age proof document
    f. Proof of permanent/local address
    g. PAN card, Aadhaar card

You are required to provide all mandatory documents on the day of joining, and the HR team will conduct the final document verification. The documents provided on the joining day must match the information disclosed during the internship process, specifically related to identification proof, address proof, and education. Any discrepancies or insufficiency in the documentation on the joining day will result in the immediate revocation of the internship offer.

The Government of India has approved The Digital Personal Data Protection Act, 2023 which helps organisations and individuals to protect their personal information which is in digital format.
The organisation asks for personal information (including but not limited to name, surname, personal email address, pan card number, aadhar card number, bank account number, etc.) from employees, consultants, or candidates to process salary and other remunerations. By accepting this the candidate/employee agrees to share the personal information with the organisation. Please be ensured that - the organisation shall ensure the protection of the confidentiality, integrity, and availability of your personal information.

Coditas Solutions LLP. | LLPIN:AAQ-6182

We look forward to your intimation on the date of joining **19/01/2026** to enable us to make necessary arrangements for your smooth induction.

Please note that this internship offer letter incorporates all commitments made to you and there are no other commitments other than these. Only written terms and conditions in this internship offer letter and subsequent signed agreements will be binding. Spoken promises or agreements have no legal effect.

If any of your furnished documents/information provided to Coditas during your tenure with the Company is found to be inaccurate, Coditas holds the right to terminate your internship on an immediate basis.

The employee acknowledges that Coditas will provide structured classroom and on-the-job training after joining the internship, for which the Coditas incurs direct and indirect costs. In consideration of such training, the employee agrees to serve and complete the internship period of six (6) months from the date of joining. In the event the employee voluntarily resigns before completion of the said minimum service period of internship, the employee shall be liable to reimburse Coditas the training cost of Rs. 60,000/- (Sixty Thousand Only).

During your internship with Coditas, you shall not be employed by or perform consulting or other services for any other business entity or party. If you are found to do so, your internship with Coditas shall be liable for termination.

Sincerely,

For Coditas Solutions LLP.

401, Gaia Apex, Viman Nagar, Pune, Maharashtra - 411014

Maharashtra Education Society's

Institute of Management and Career Courses (IMCC), Pune

AUTONOMOUS

A+ NAAC [CGPA-3.32] In Cycle 1

CERTIFICATE

This is to certify that Aarya Tilak has completed the project work entitled "***SwarSetu – classical music streaming app***" under my guidance. The report is submitted in partial fulfillment of M.C.A. Course for the Academic Year 2025-2026 as per the rules & prescribed guidelines.

His/her work is found to be satisfactory and complete in all respects.

Date: 09/05/2026

Guide Name

Dr. Ravikant Zirmite

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to everyone who supported and guided me throughout the development of this project, **"SwarSetu – Music Streaming and Sharing Platform."**

First and foremost, I would like to thank our respected **Director** and **Deputy Director** for providing an excellent academic environment and the necessary facilities to successfully complete this project. I express my heartfelt gratitude to the **Head of the MCA Department** for constant encouragement, valuable guidance, and continuous support throughout the project development process. I am deeply thankful to all the faculty members of the MCA department for their guidance, technical suggestions, and motivation, which helped me overcome various challenges during the project.

I would also like to extend special thanks to **Coditas Solutions LLP**, where I gained valuable industry exposure and practical knowledge during my internship. The learning experience and professional guidance significantly contributed to enhancing my technical understanding and project development skills.

This project has been a great learning experience, helping me improve my technical, problem-solving, and teamwork skills while gaining practical exposure to modern web development technologies.

Sincerely

Aarya Tilak

Roll no. 2401202

Maharashtra Education Society's

Institute of Management and Career Courses (IMCC), Pune

AUTONOMOUS

[CGPA-3.32] in Cycle 1

INDEX

Chapter No		Details	Page No
1		**Introduction**	**2**
	1.1	Company Profile	3
	1.2	Problem Statement	4
	1.3	Objectives of Proposed System	5
	1.4	Scope of the Proposed System	6
2		**Analysis and Design**	**8**
	3.1	Entity Relationship Diagram (ERD)	9
	3.2	Business Use Case Diagram	10
	3.3	Table Structure/Data Dictionary	11
3		**Testing**	**14**
	4.1	Test Cases with results	15
	4.2	Defect report / Test Log	19
4		**Limitations of Proposed System**	**23**
5		**Proposed Enhancements**	**26**
6		**References**	**29**
7		**User Manual (All input and output screens with consistent data)**	**32**

CHAPTER 1

1. Introduction

SwarSetu is a modern web-based music streaming and sharing platform developed to provide users with an interactive and personalized musical experience. The project combines the power of contemporary web technologies with an intuitive user interface to create a seamless environment where users can explore, upload, organize, and share music effortlessly.

The primary objective of SwarSetu is to bridge the gap between music lovers and digital accessibility by offering a centralized platform for music discovery and management. The application allows users to browse songs by categories, create and manage playlists, upload their own music, interact with friends, and enjoy uninterrupted music playback through an integrated music player. Additionally, the platform includes advanced features such as QR-based song sharing, user profile management, authentication, and personalized libraries, making the overall experience more engaging and user-friendly.

The project is developed using modern frontend technologies such as **React.js**, **Vite**, **Bootstrap**, and related JavaScript libraries to ensure high performance, responsiveness, and scalability. The application follows a component-based architecture, enabling modular development, code reusability, and efficient maintenance.

SwarSetu not only focuses on functionality but also emphasizes visual appeal and user experience through responsive design, smooth navigation, and interactive UI elements. The platform demonstrates the practical implementation of modern web development concepts including state management, API integration, responsive design principles, reusable components, and real-time user interaction.

Overall, SwarSetu serves as an innovative and feature-rich music

management platform that showcases the integration of modern web technologies to deliver a dynamic, scalable, and user-centric digital music experience.

1.1 Company Profile – Coditas Solutions LLP

Coditas Solutions LLP is a leading AI-first digital engineering and software development company headquartered in Pune. Established in 2014, the company specializes in delivering innovative, scalable, and user-centric digital solutions for enterprises across various industries including healthcare, banking, finance, retail, and e-commerce.

The organization focuses on modern technologies such as **Artificial Intelligence, Generative AI, Web Development, Mobile Application Development, Cloud Services, DevOps, Data Science, and UI/UX Design**. With a strong engineering-driven culture and commitment to clean coding practices, Coditas has built a reputation for developing high-quality digital products and enterprise solutions for globally recognized clients.

Coditas operates with a people-first approach and promotes innovation, collaboration, and continuous learning among its employees and interns. The company has a team of hundreds of skilled engineers and designers working together to create impactful software solutions while maintaining exceptional user experience and product quality. It has also been recognized as a certified "Great Place to Work" organization. The company's mission is to empower businesses through technology by building intelligent, scalable, and future-ready digital systems. Through its expertise in Agile methodologies, modern software architectures, and AI-driven technologies, Coditas continues to contribute significantly to the

digital transformation of enterprises worldwide.

1.2 Problem Statement

In today's digital era, music streaming platforms have become an essential part of entertainment and communication. However, many existing platforms are either overloaded with unnecessary complexity, lack personalization, or do not provide users with an interactive and user-friendly environment for managing and sharing music efficiently. Independent artists and regular users often face difficulties in organizing playlists, sharing songs quickly, and accessing a smooth and responsive music experience on a single platform.

Additionally, most traditional music applications focus only on streaming services and provide limited customization, social interaction, and user-centric features. Users require a platform where they can not only listen to music but also upload songs, manage personal libraries, create playlists, and share music seamlessly with others through modern sharing mechanisms.

To address these challenges, the project **"SwarSetu"** is developed as a web-based music streaming and management platform that provides an integrated solution for music discovery, playlist management, song uploads, user interaction, and QR-based sharing. The system aims to deliver a responsive, secure, scalable, and visually engaging platform that enhances the overall user experience while utilizing modern web technologies and efficient frontend architecture.

The project focuses on creating a centralized digital ecosystem for music enthusiasts where accessibility, usability, personalization, and performance are prioritized to provide a smooth and enjoyable music experience for all users.

1.3Objectives of Proposed System

1. **To develop a user-friendly music streaming platform** that provides smooth navigation, responsive design, and an interactive user experience for music lovers.
2. **To enable users to upload, manage, and organize music files** efficiently through personalized libraries and playlist management features.
3. **To provide seamless music playback functionality** with integrated controls such as play, pause, next, previous, volume control, and queue management.
4. **To implement secure user authentication and profile management** for maintaining personalized user data and enhancing platform security.
5. **To facilitate easy music sharing** using modern mechanisms such as QR-based sharing and direct sharing features.
6. **To create a scalable and modular web application architecture** using modern frontend technologies like React.js and Vite for better performance and maintainability.
7. **To improve user engagement** by offering categorized music browsing, search functionality, and personalized recommendations or collections.
8. **To ensure cross-device compatibility and responsiveness** so that users can access the platform smoothly on desktops, tablets, and mobile devices.
9. **To apply modern web development concepts** such as reusable components, state management, API integration, and responsive UI/UX design in a real-world project.
10. **To build a centralized digital platform for music enthusiasts** where users can explore, enjoy, and share music conveniently in a secure and efficient environment.

1.4 Scope of the Proposed System

The proposed system, **SwarSetu**, is designed to provide a comprehensive and interactive web-based platform for music streaming, management, and sharing. The scope of the system includes various functionalities that enhance the overall music listening experience while ensuring ease of use, scalability, and responsiveness.

The system allows users to create personal accounts, log in securely, and manage their profiles. Registered users can upload songs, create and organize playlists, browse music collections, and access an integrated music player for uninterrupted playback. The platform also supports modern sharing mechanisms such as QR-based sharing, enabling users to share songs quickly and efficiently.

The application is developed using modern frontend technologies including React.js, Vite, Bootstrap, and JavaScript libraries, which ensures high performance, responsive design, and smooth user interaction across multiple devices such as desktops, tablets, and smartphones.

The scope of the project also includes:

- Music playback and playlist management
- User authentication and profile management
- Song uploading and library organization
- Search and categorized browsing features
- Responsive and interactive user interface
- QR-based music sharing functionality
- Scalable and modular component-based architecture

The proposed system can further be extended in the future by integrating advanced features such as:

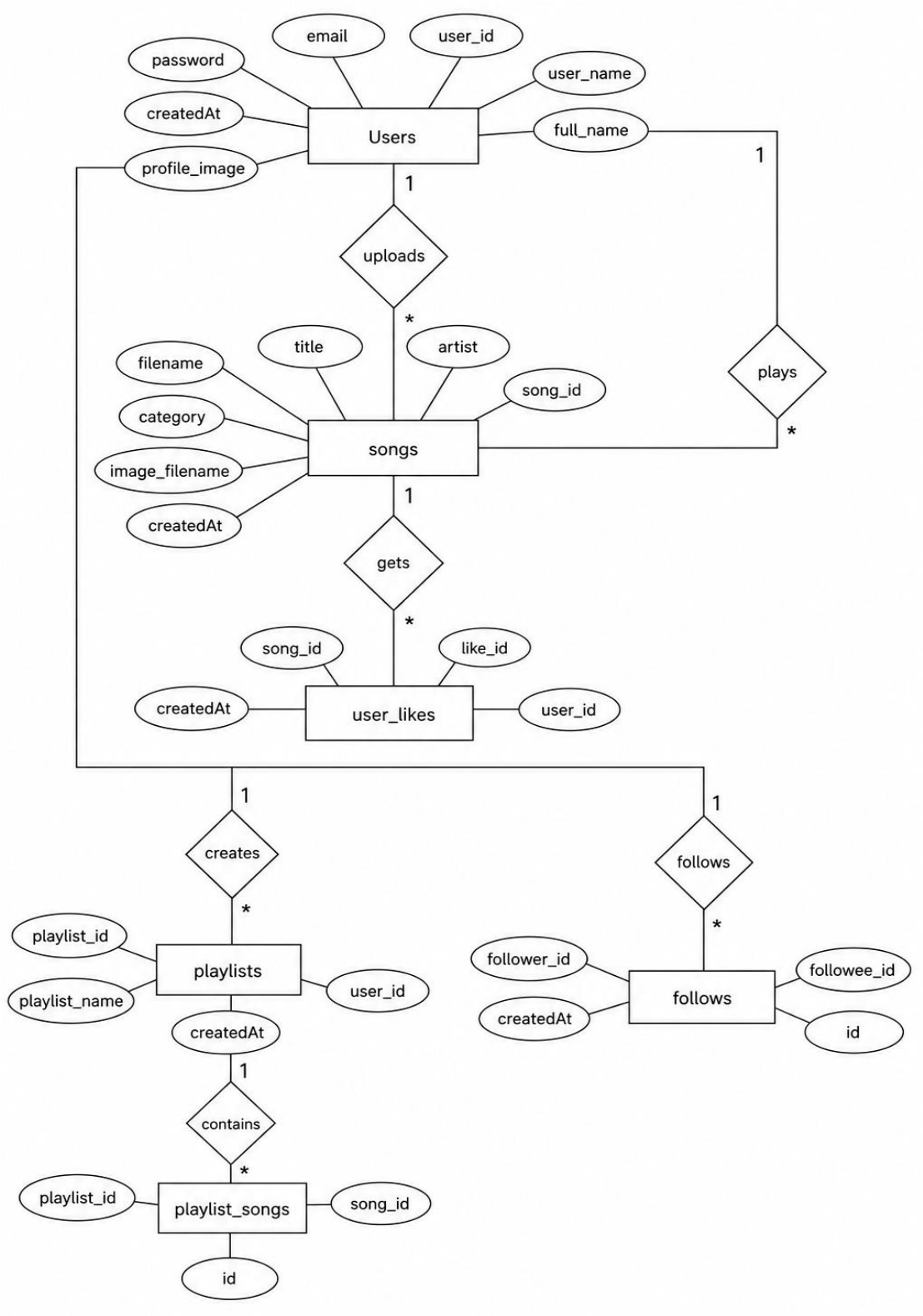
- AI-based music recommendations
- Real-time chat and social interaction
- Subscription and premium membership systems
- Cloud storage integration
- Offline music access
- Multi-language support
- Admin dashboard and analytics
- Mobile application support

Thus, SwarSetu provides a strong foundation for a modern digital music ecosystem and has the potential for continuous enhancement and large-scale deployment in the future.

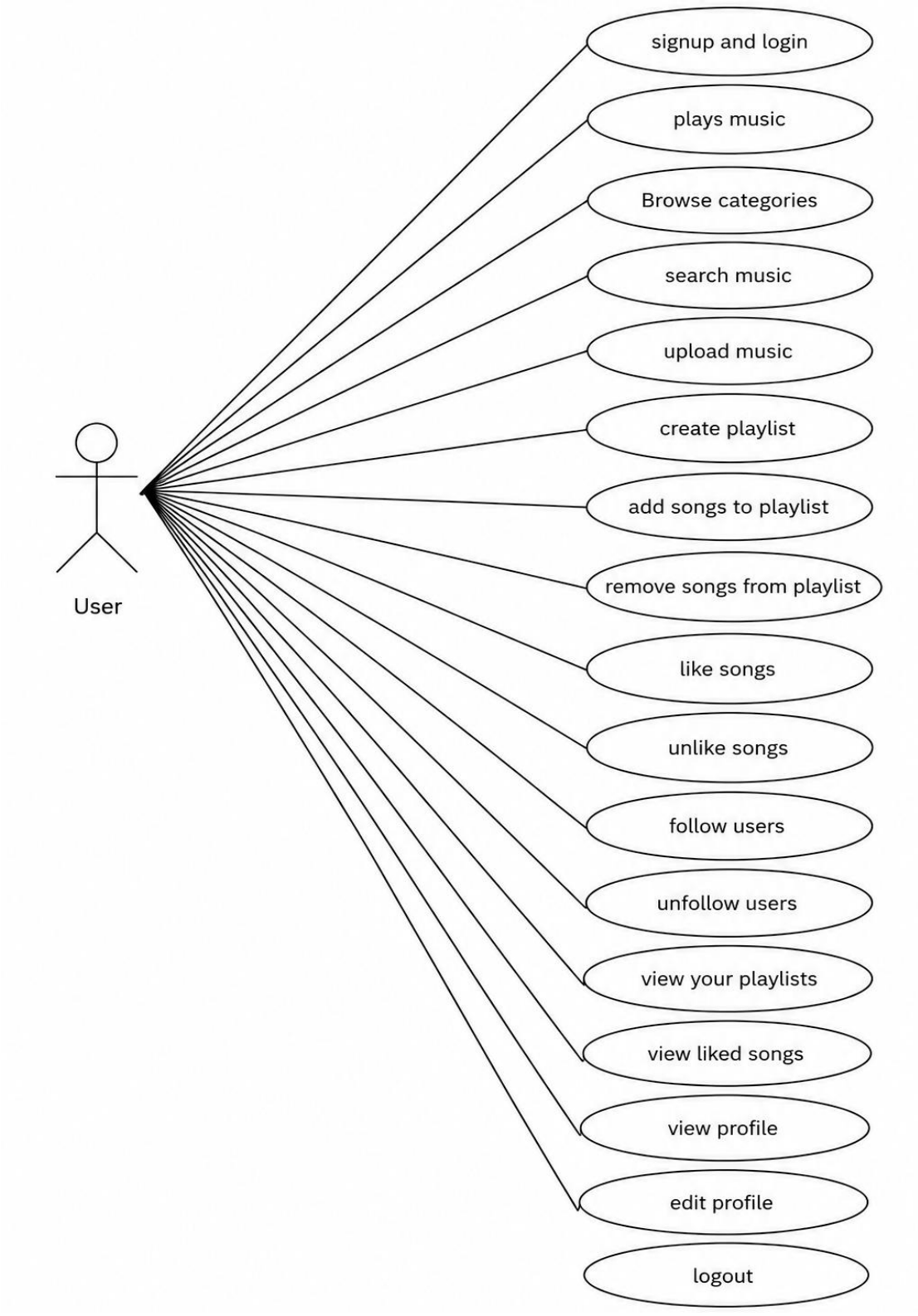
CHAPTER 2

2. Analysis and Design

2.1 Entity Relationship Diagram (ERD)



2.2 Business Use case diagram



2.3 Table structure/ Data dictionary

1. User Table

Field Name	Data Type	Size	Constraints	Description
user_id	Integer		Primary Key	Unique identifier for each user
full_name	Varchar	100	Not Null	Name of the user
email	Varchar	100	Unique, Not Null	User email address
password	Varchar	255	Not Null	Encrypted user password
profile_image	Varchar	255	Null	User profile image path
mobile_no	Varchar	15	Null	Contact number of user
created_at	Timestamp		Default Current Time	Account creation date and time

2. Songs Table

Field Name	Data Type	Size	Constraints	Description
song_id	Integer		Primary Key	Unique identifier for each song
song_name	Varchar	150	Not Null	Name of the song
artist_name	Varchar	100	Not Null	Artist or singer name
album_name	Varchar	100	Null	Album name
genre	Varchar	50	Null	Song category or genre
song_file	Varchar	255	Not Null	Path of uploaded song file
thumbnail	Varchar	255	Null	Song thumbnail image
duration	Time	—	Null	Duration of song

uploaded_by	Integer	—	Foreign Key	User who uploaded the song
upload_date	Timestamp	—	Default Current Time	Date of upload

3. Playlist Table

Field Name	Data Type	Size	Constraints	Description
playlist_id	Integer		Primary Key	Unique playlist identifier
playlist_name	Varchar	100	Not Null	Name of playlist
user_id	Integer		Foreign Key	Owner of playlist
created_at	Timestamp		Default Current Time	Playlist creation date

4. Playlist Songs Table

Field Name	Data Type	Constraints	Description
id	Integer	Primary Key	Unique identifier
playlist_id	Integer	Foreign Key	Related playlist ID
song_id	Integer	Foreign Key	Related song ID

5. Favorites Table

Field Name	Data Type	Constraints	Description
favorite_id	Integer	Primary Key	Unique favorite record ID
user_id	Integer	Foreign Key	User who liked the song
song_id	Integer	Foreign Key	Favorite song ID
added_at	Timestamp	Default Current Time	Date added to

			favorites

6. QR Sharing Table

Field Name	Data Type	Constraints	Description
qr_id	Integer	Primary Key	Unique QR identifier
song_id	Integer	Foreign Key	Shared song ID
qr_code_path	Varchar	Not Null	Generated QR image path
generated_at	Timestamp	Default Current Time	QR generation date

7. Admin Table

Field Name	Data Type	Size	Constraints	Description
admin_id	Integer		Primary Key	Unique admin identifier
admin_name	Varchar	100	Not Null	Name of admin
email	Varchar	100	Unique, Not Null	Admin email
password	Varchar	255	Not Null	Encrypted admin password

CHAPTER 3

3 Testing

3.1 Test cases with results

Module: User Registration

Test Case ID	Test Scenario	Input	Expected Result	Actual Result	Status
TC_01	Register with valid details	Valid username, email, password	User account should be created successfully	User registered successfully	Pass
TC_02	Register with existing email	Existing email ID	System should show duplicate email error	Error message displayed	Pass
TC_03	Register with empty fields	Blank form submission	Validation message should appear	Validation message displayed	Pass
TC_04	Invalid email format	Invalid email input	System should reject invalid email	Error displayed	Pass

Module: User Login

Test Case ID	Test Scenario	Input	Expected Result	Actual Result	Status
TC_05	Login with valid	Correct email and	User should login	Login successful	Pass

	credentials	password	successfully		
TC_06	Login with invalid password	Wrong password	System should show error message	Error displayed	Pass
TC_07	Login with unregistered email	Invalid email	User should not login	Login denied	Pass
TC_08	Empty login form	Blank email and password	Validation message should appear	Validation message displayed	Pass

Module: Song Upload

Test Case ID	**Test Scenario**	**Input**	**Expected Result**	**Actual Result**	**Status**
TC_09	Upload valid song file	MP3 file with details	Song should upload successfully	Song uploaded	Pass
TC_10	Upload unsupported file type	.txt file	System should reject file	Error displayed	Pass
TC_11	Upload without song title	Empty song title	Validation error should appear	Error displayed	Pass

Module: Music Playback

Test Case ID	**Test Scenario**	**Input**	**Expected Result**	**Actual Result**	**Status**

TC_12	Play selected song	Click play button	Song should start playing	Song played successfully	Pass
TC_13	Pause playing song	Click pause button	Song should pause	Song paused	Pass
TC_14	Next song functionality	Click next button	Next song should play	Next song played	Pass
TC_15	Volume control	Increase/decrease volume	Volume should adjust properly	Volume adjusted	Pass

Module: Playlist Management

Test Case ID	**Test Scenario**	**Input**	**Expected Result**	**Actual Result**	**Status**
TC_16	Create new playlist	Valid playlist name	Playlist should be created	Playlist created	Pass
TC_17	Add song to playlist	Select song and playlist	Song should be added	Song added successfully	Pass
TC_18	Remove song from playlist	Remove selected song	Song should be removed	Song removed	Pass

Module: Search Functionality

Test Case ID	Test Scenario	Input	Expected Result	Actual Result	Status
TC_19	Search existing song	Valid song name	Matching songs should appear	Results displayed	Pass
TC_20	Search unavailable song	Invalid song name	No results message should appear	No results displayed	Pass

Module: Like/Favorite Songs

Test Case ID	Test Scenario	Input	Expected Result	Actual Result	Status
TC_21	Like a song	Click like button	Song should be added to favorites	Song added to favorites	Pass
TC_22	Remove liked song	Click unlike button	Song should be removed from favorites	Song removed	Pass

Module: Follow Users

Test Case ID	Test Scenario	Input	Expected Result	Actual Result	Status
TC_23	Follow another user	Click follow button	User should be followed	Follow successful	Pass
TC_24	Unfollow user	Click unfollow button	User should be unfollowed	Unfollow successful	Pass

Overall System Testing Result

Testing Type	Result
Functional Testing	Successful
UI Testing	Successful
Validation Testing	Successful
Database Connectivity Testing	Successful
Responsive Design Testing	Successful
Integration Testing	Successful

Final Result:

The system was tested under multiple scenarios, and all major functionalities worked successfully as expected. The proposed system is stable, responsive, and user-friendly.

3.2 Defect Log / Test Log

Defect Log

Defect ID	Module Name	Defect Description	Severity	Status	Resolution
DEF_01	User Registration	Duplicate email registration allowed initially	Medium	Resolved	Added unique email validation
DEF_02	Login Module	Incorrect error message displayed for invalid	Low	Resolved	Updated validation handling

		credentials			
DEF_03	Song Upload	Unsupported file formats were uploading	High	Resolved	Added file type validation
DEF_04	Music Player	Pause button not responding properly on first click	Medium	Resolved	Fixed player state management
DEF_05	Playlist Module	Duplicate songs could be added to same playlist	Medium	Resolved	Added duplicate entry check
DEF_06	Search Functionality	Search results not updating dynamically	Low	Resolved	Improved search filtering logic
DEF_07	Favorites Module	Favorite songs not refreshing instantly	Low	Resolved	Added real-time state update
DEF_08	Follow System	Follow count not updating correctly	Medium	Resolved	Corrected backend synchronization
DEF_0	Responsive	Navbar	Medium	Resolve	Improved

9	UI	overlapping on smaller screens		d	responsive CSS styling
DEF_10	QR Sharing	QR code generation failed for invalid song IDs	High	Resolved	Added backend validation

Test Log

Test Log ID	Test Date	Module Tested	Tester Name	Test Description	Result
TL_01	01-05-2026	User Registration	Project Team	Tested new user registration functionality	Pass
TL_02	01-05-2026	Login Module	Project Team	Tested login with valid and invalid credentials	Pass
TL_03	02-05-2026	Song Upload	Project Team	Tested upload of audio files	Pass
TL_04	02-05-2026	Music Playback	Project Team	Tested play, pause, and next controls	Pass
TL_05	03-05-2026	Playlist Management	Project Team	Tested playlist creation and song addition	Pass
TL_06	03-	Search Feature	Project	Tested search results	Pass

	05-2026		Team	and filtering	
TL_07	04-05-2026	Favorites Module	Project Team	Tested adding and removing favorite songs	Pass
TL_08	04-05-2026	Follow System	Project Team	Tested follow and unfollow functionality	Pass
TL_09	05-05-2026	Responsive Design	Project Team	Tested application on mobile and desktop devices	Pass
TL_10	05-05-2026	Integration Testing	Project Team	Tested interaction between all modules	Pass

Final Testing Summary

Parameter	**Status**
Functional Testing	Completed Successfully
UI/UX Testing	Completed Successfully
Validation Testing	Completed Successfully
Performance Testing	Completed Successfully
Integration Testing	Completed Successfully
Overall System Status	Stable and Ready for Deployment

CHAPTER 4

4 Limitations of Proposed System

1. **Offline Playback Support**

   Users cannot download songs or access music offline in the current version of the application.

2. **Limited Recommendation System**

   The platform currently does not include AI-based or personalized music recommendation features based on user listening behavior.

3. **Basic Security Implementation**

   Although authentication is implemented, advanced security mechanisms such as two-factor authentication, encryption layers, and advanced threat protection are not included.

4. **Real-Time Communication Features**

   The system does not currently support real-time chat, comments, or direct interaction between users.

5. **Scalability Constraints**

   The current deployment and architecture are suitable for small to medium-scale usage and may require optimization for handling very large user traffic and data volumes.

6. **Limited Admin Functionalities**

   The existing system provides minimal administrative controls and advanced analytics, monitoring, and content moderation tools.

7. **Mobile Application Support**

   The project is currently developed as a web application only and does not provide dedicated Android or iOS mobile applications.

8. **Limited Audio Format Support**

   The system primarily supports standard audio formats and may not handle all audio file types efficiently.

9. **Cloud Integration**

   The current system does not include cloud-based backup or distributed media storage services for enhanced reliability and scalability.

CHAPTER 5

5 Proposed Enhancements

1. **AI-Based Music Recommendation System**
   Implement machine learning and AI algorithms to provide personalized song recommendations based on user listening history, preferences, and behavior.
2. **Offline Music Access**
   Add functionality for downloading songs and accessing playlists offline to improve user convenience and accessibility.
3. **Mobile Application Development**
   Develop dedicated Android and iOS mobile applications for better accessibility, performance, and user engagement.
4. **Real-Time Chat and Social Features**
   Introduce chat functionality, comments, user interactions, and social sharing features to create a more interactive music community.
5. **Advanced Search and Voice Search**
   Enhance the search system with filters, smart suggestions, and voice-based search functionality for improved usability.
6. **Cloud Storage Integration**
   Integrate cloud services for scalable media storage, faster content delivery, and secure backup management.
7. **Admin Dashboard and Analytics**
   Develop an advanced admin panel for managing users, monitoring uploaded content, analysing user activity, and generating reports.
8. **Multi-Language Support**
   Add support for multiple regional and international languages to improve accessibility for a wider audience.
9. **Enhanced Security Features**
   Implement advanced security mechanisms such as two-factor

authentication, encrypted media handling, secure APIs, and role-based access control.

10. **Live Streaming and Podcasts**
    Expand the platform to support live audio streaming, podcasts, and creator channels for diversified entertainment content.
11. **Integration with External APIs**
    Integrate third-party music APIs, payment gateways, and social media platforms to enhance functionality and user experience.
12. **Notification System**
    Add push notifications and email alerts for playlist updates, new followers, uploaded songs, and user activities.
13. **Cross-Platform Synchronization**
    Enable synchronization of playlists, favorites, and listening history across multiple devices and platforms for a seamless user experience.

CHAPTER 6

6 References

1. React.js Official Documentation

   Used for frontend component development, state management, and UI creation.
2. Vite Official Documentation

   Used as the frontend build tool and development environment.
3. Bootstrap Documentation

   Used for responsive design and UI styling components.
4. MDN Web Docs

   Used for understanding JavaScript, HTML, CSS, and web development concepts.
5. Node.js Official Documentation

   Used for backend runtime environment and server-side development.
6. Express.js Documentation

   Used for API creation and backend routing functionality.
7. MongoDB Documentation

   Used for database management and data storage.
8. Mongoose Documentation

   Used for MongoDB object modelling and schema handling.
9. GitHub

   Used for project version control, code references, and repository management.
10. Stack Overflow

    Used for debugging, error handling, and development support.
11. JWT Authentication Documentation

    Used for implementing secure authentication and authorization.
12. QR Code Generator Library Documentation

    Used for implementing QR-based song sharing functionality.

13. Axios Documentation

    Used for API requests and client-server communication.

14. Canva

    Used for designing project assets, presentation elements, and UI references.

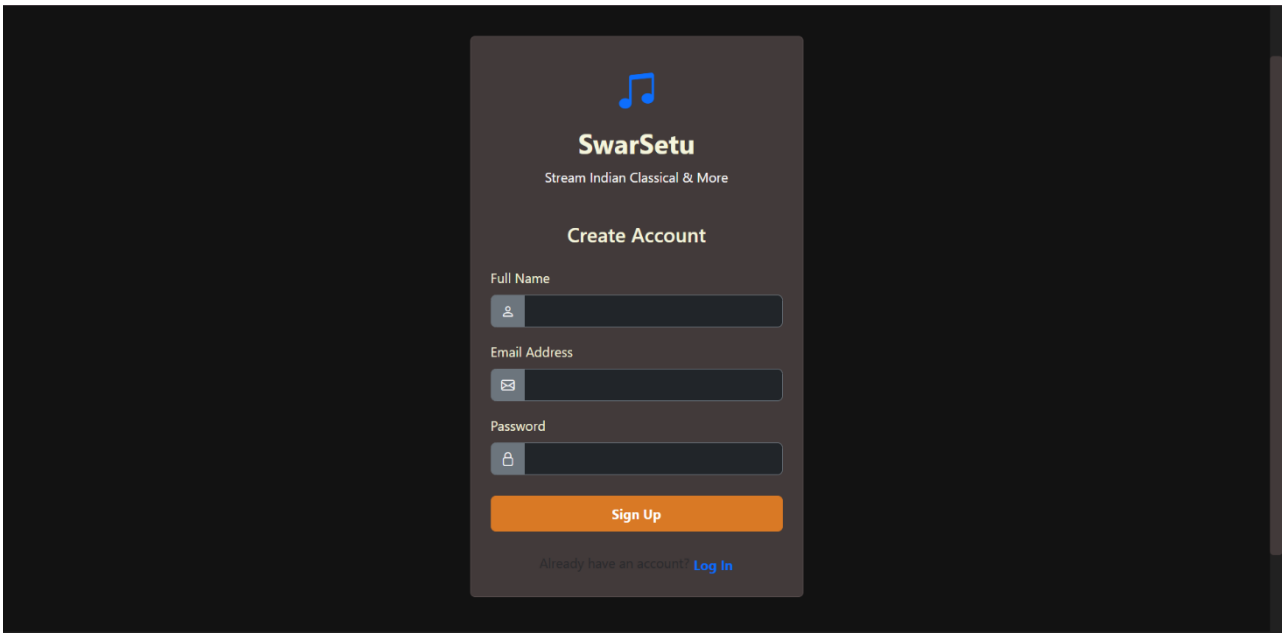
15. Visual Studio Code

    Used as the primary development environment for coding and debugging.

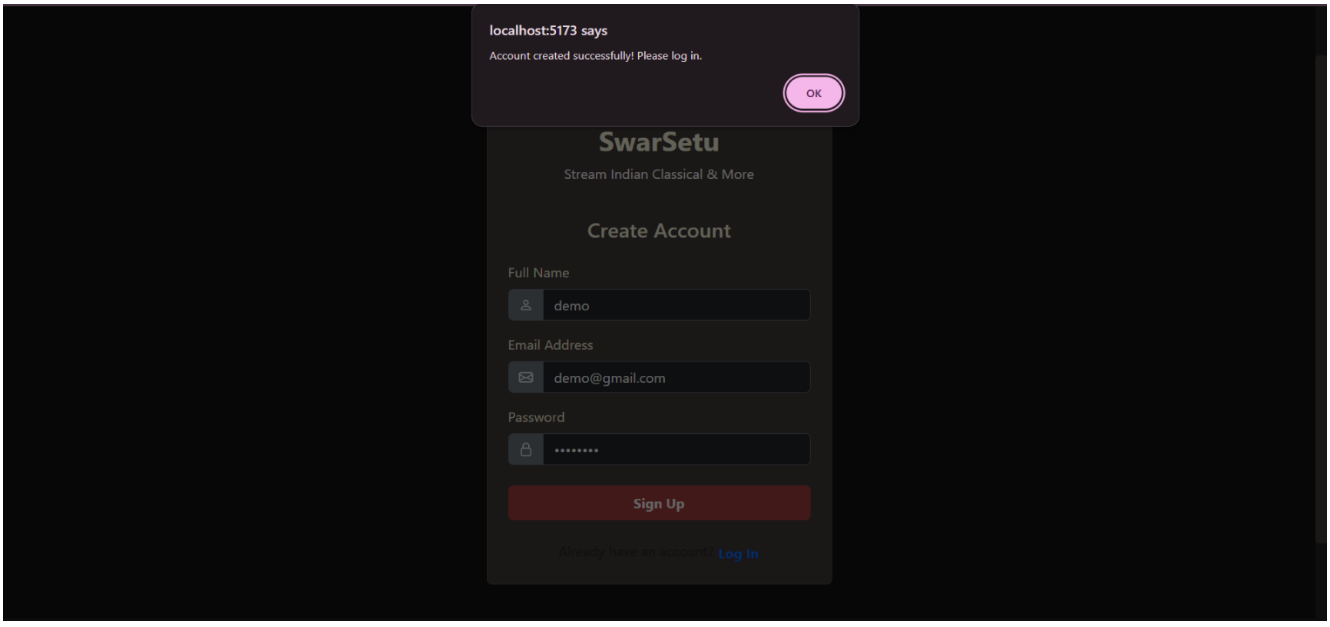
CHAPTER 7

7.User Manual (All input and output screens with consistent data)

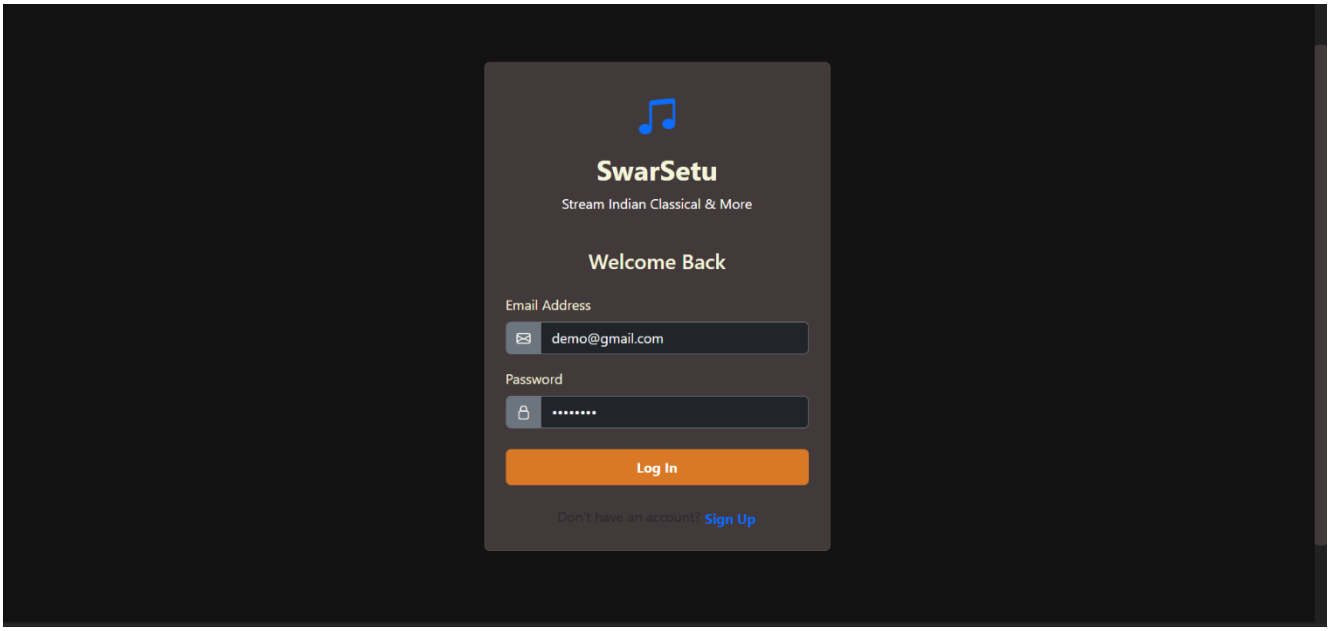
Signup page – user can sign in using this form. This form is secured with validations for user to be specific about the details.



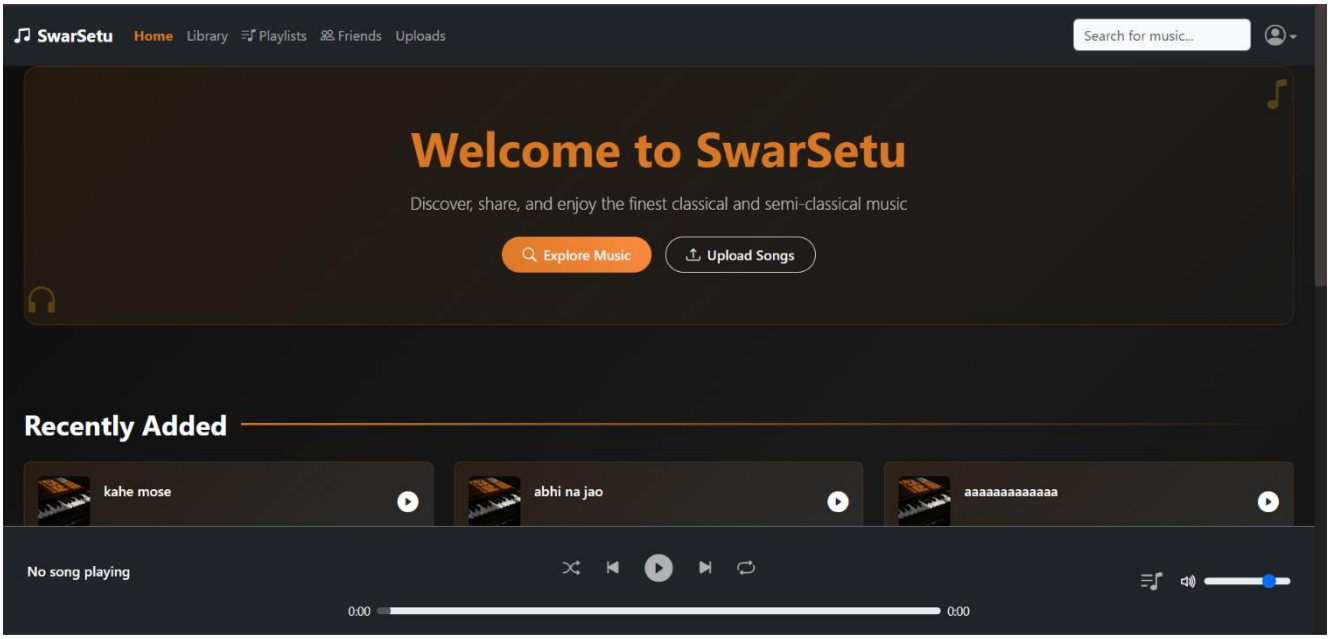
User signup successful – user gets signed in



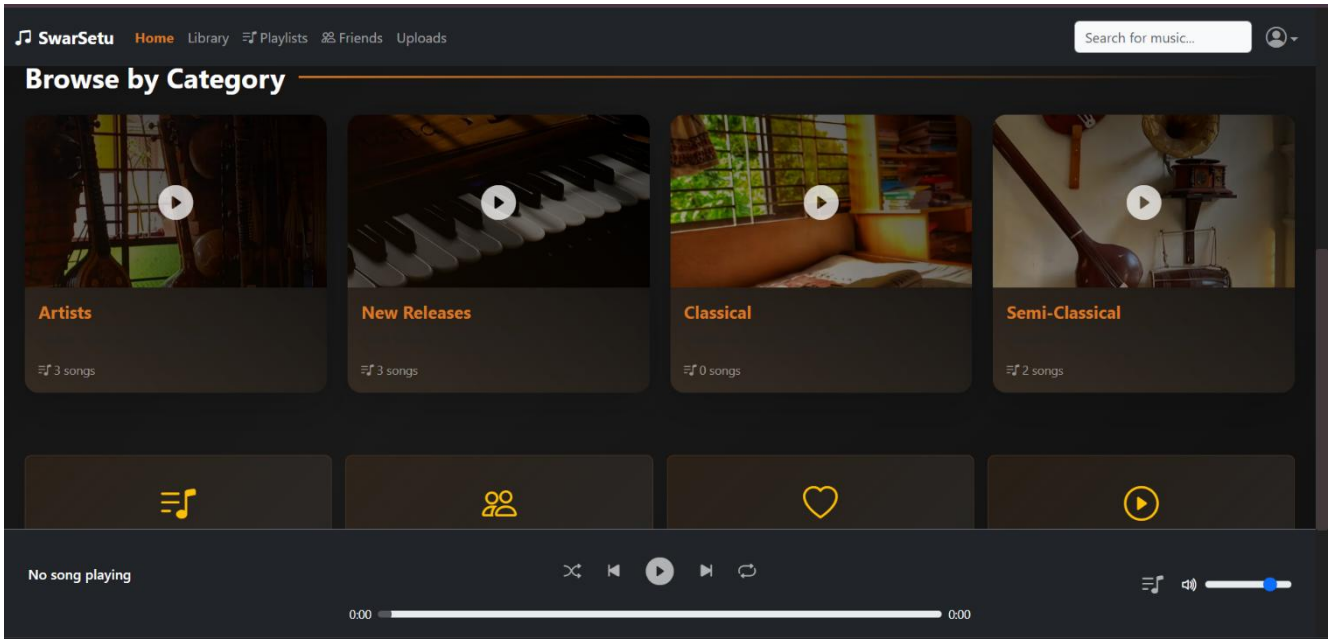
Login page- user can login through this form if it has already been signed up.



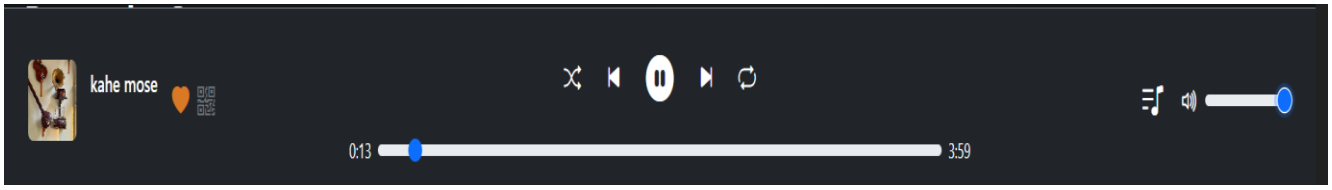
Home page – This is the home page of the site where user can explore music.



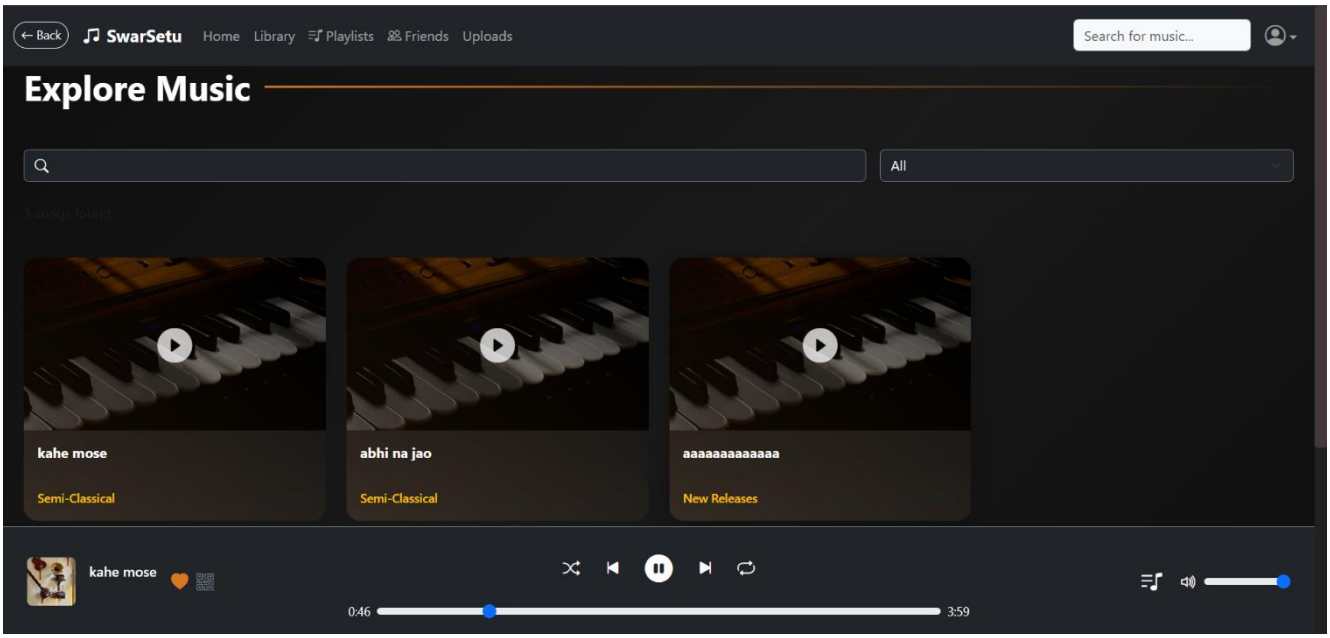
Home page – home page also consists of the collections based on the categories.



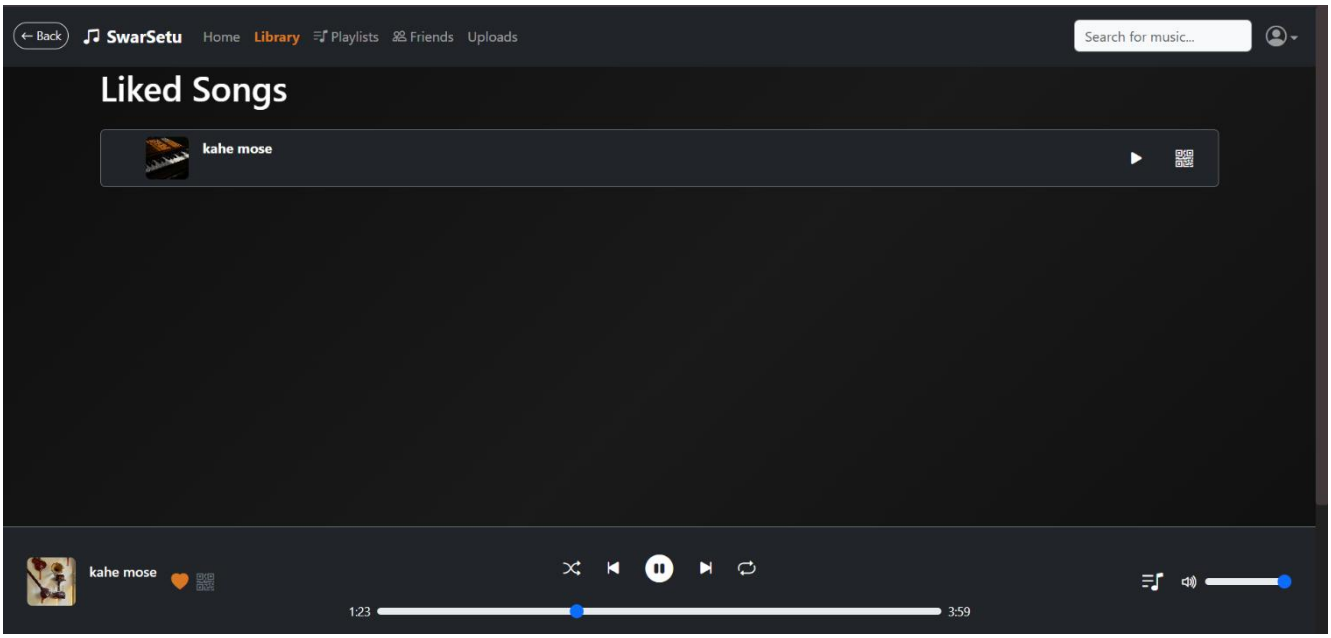
Music player – this is the music player with like button, sharable QR code, play button, shuffle button, forward and backward button, repeat song button, songs list button and a volume bar to set volume.



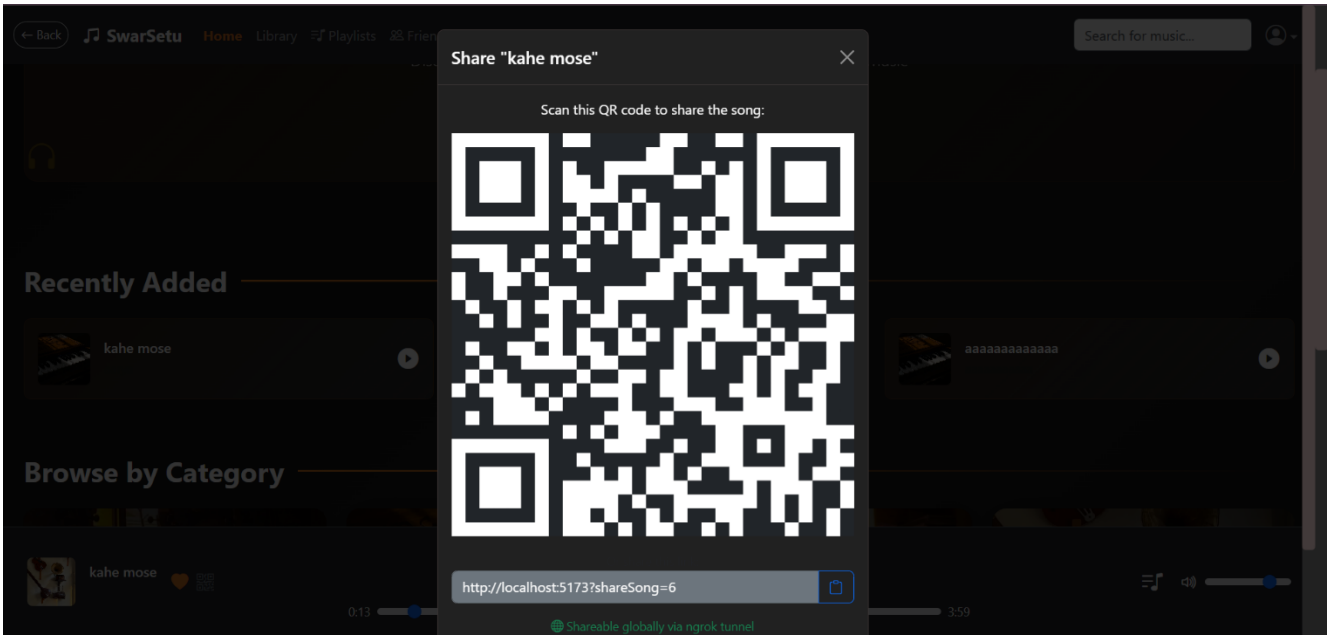
Explore music page – this is the page where all the audio's are stored.



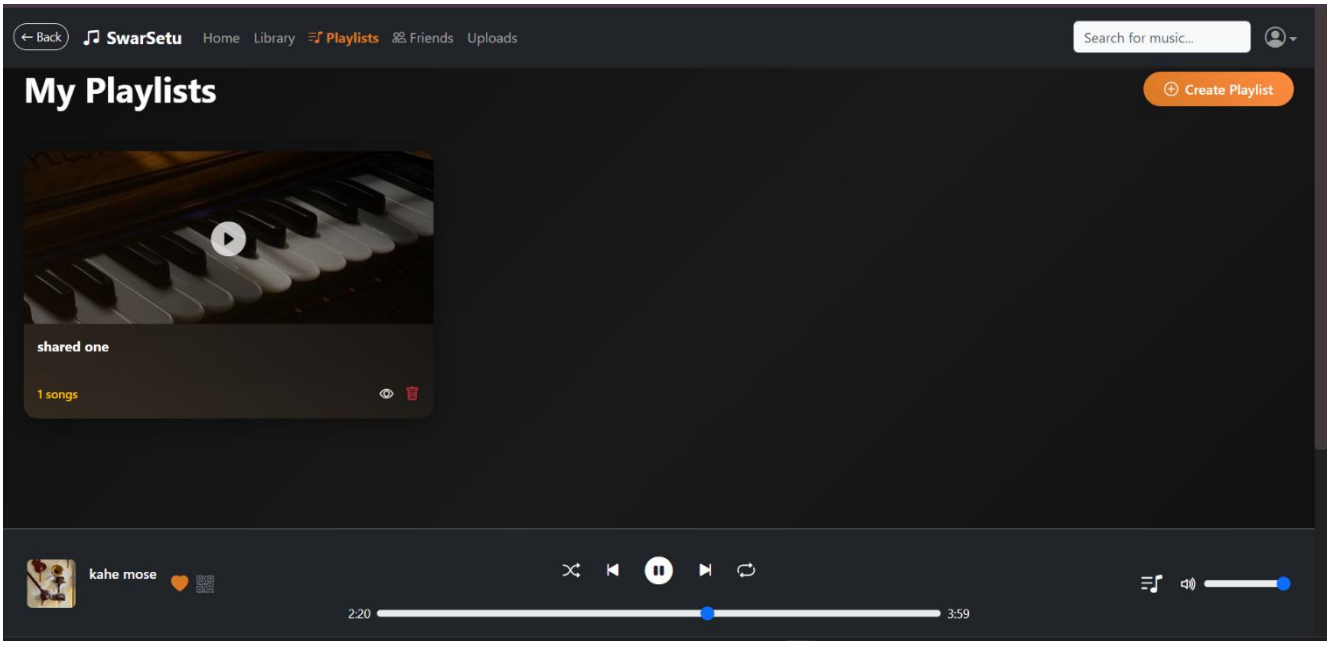
Liked songs page – user liked songs are seen in liked songs page.



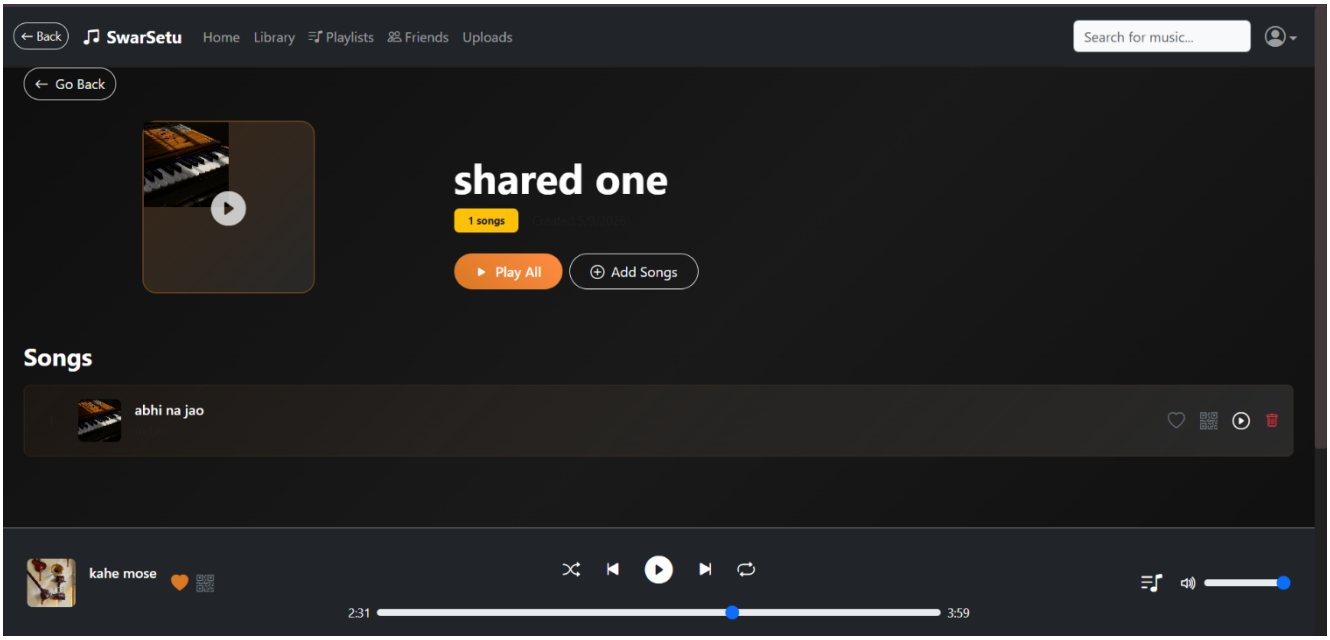
Song's QR – this is the sharable QR of the song. It also has a link of the song.



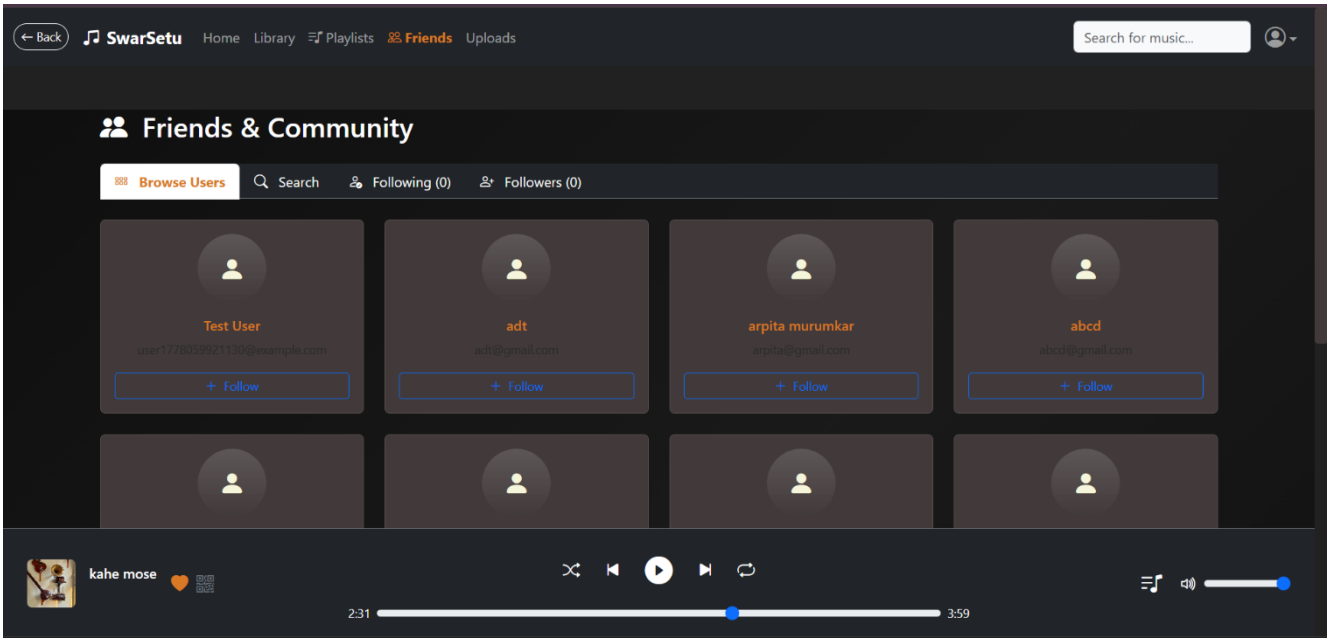
Playlists page - on this page the user can create playlists and add existing songs to their created playlist.



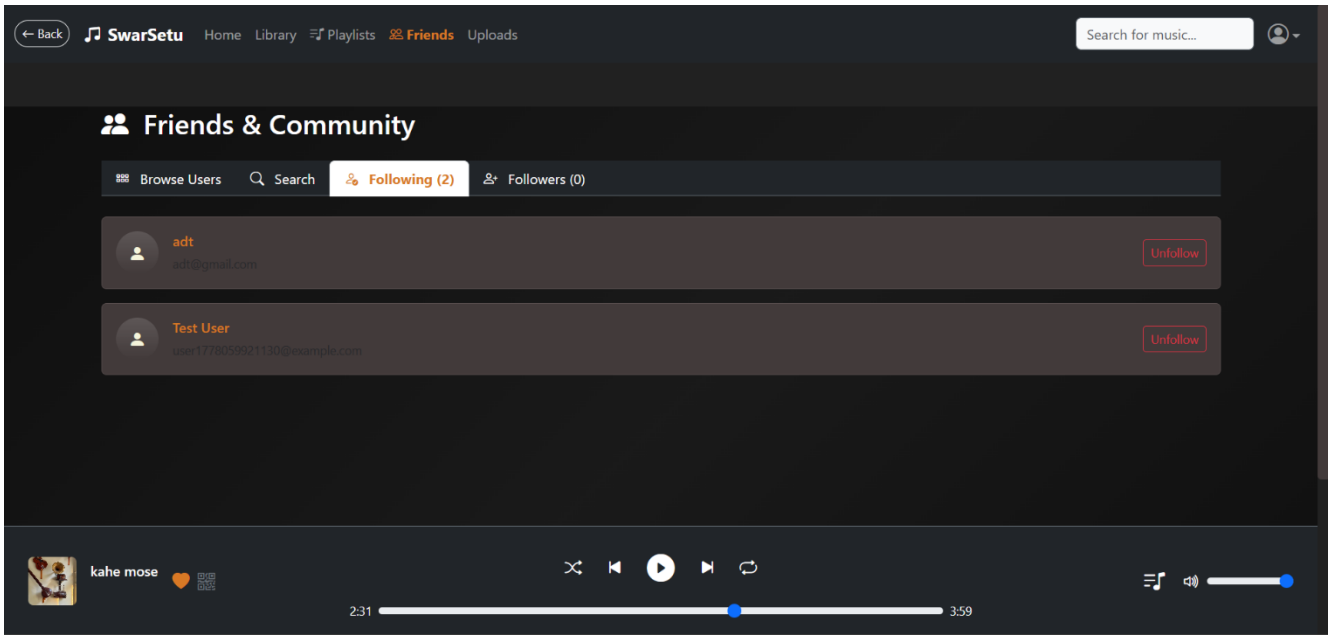
User created playlist – this is the sample playlist created by a user.



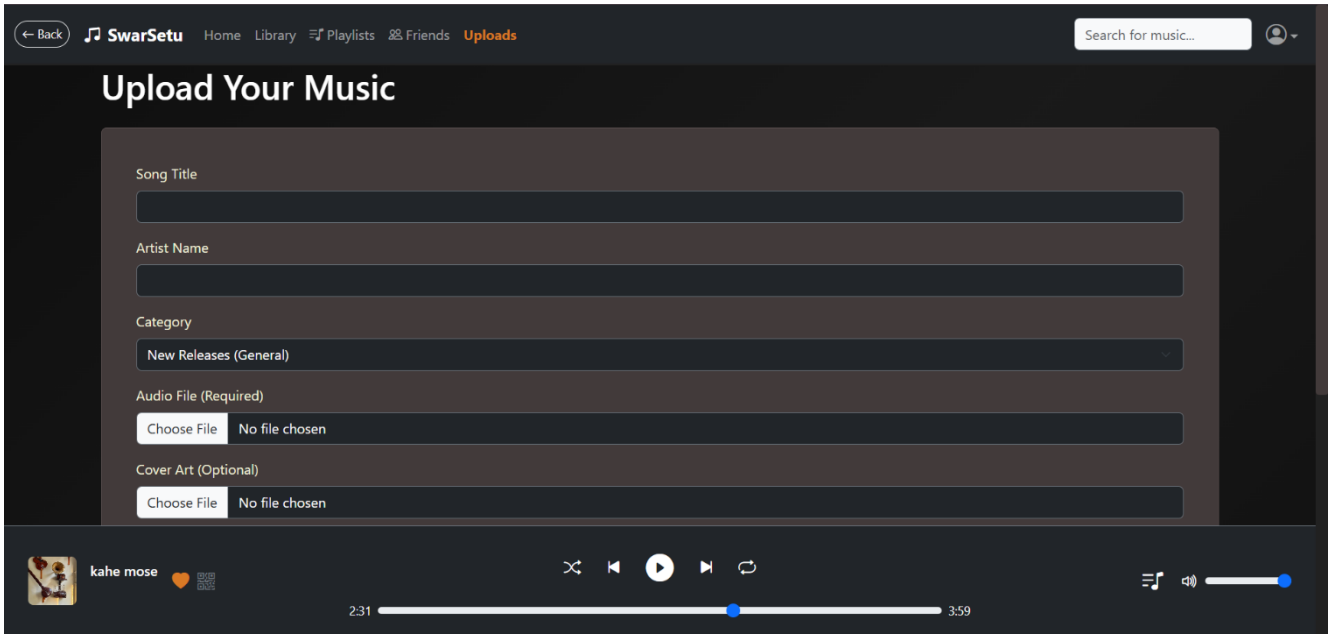
Friends page – this is the page where user can find music enthusiast and connect with them by following them.



Added followers – this is the list of users one is following



Upload music page – this is the form to upload any mp3 files user might have.



Settings page – In settings page user can update its profile.

