

Project:	Music Share Application
Team No.:	Team 2
Class:	CSE 5324; Fall 2022
Module:	System Requirements Analysis (SRA)
Deliverable:	SRA Document

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Revision History

Version number	Date	Originator	Reason for change	High level description of changes
1.0	09/08/2022	Team 2	Initial draft	Initiating of the Report
2.0	10/14/2022	Team 2	Iteration 1	Prepared the detailed modules for the work completed.
3.0	11/11/2022	Team 2	Iteration 2	Updating Use cases, domain models, class diagrams, test cases, and additional design documentation
4.0	12/02/2022	Team 2	Iteration 3	Final report which includes the test plans, demo and SRA requirements.

HONOR CODE

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources.

I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

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1. Introduction

Music pervades daily life, and just as emotional health is essential to your humanity, so are music, sound, and vibration to your total well-being. However, sound does not even need to be organized to elicit emotional and physiological responses. Consider the last time you sat quietly, minding your own business, concentrating on a project. The sound of a glass or plate clattering on the ground splits the air out of nowhere. You spring to attention, adopting fight-or-flight mode for a moment.

However, by exposing oneself to more healthy and beautiful sounds, you may lessen the negative impacts of other noises.

On the other hand, Music contributes towards the social gatherings like get together, birthday parties etc. Hence, we are developing this application which provides generic functionalities with personalized dashboard.

Project Overview

An online application that allows you to upload and listen to all your favorite songs. Fill your collection with music, albums, and artists that represent you. Music Share App is a free music player that is simple and easy to use. It plays the most common audio file (mp3) in a straightforward manner.

2. Objective

2.1. Business Objective

Objective 1: User registration: All users will be able to register with google authentication.

Objective 2: Login: User must have a valid google email id registered.

Objective 3: Play songs simultaneously: A song played can be enjoyed on different devices at the same time.

2.2. System Objective

Objective 1: The system is based on web application

Objective 2: It is based on MERN Framework

Objective 3: MongoDB for Database.

Objective 4: API Usage, FireBase

2.2.1. Major Features

- Registration and login authentication
- Social media integrations
- Discovery (browsing)
- Navigation
- Music categorization
 - I. Featured name for each user
 - II. Play Music
 - III. Add Music
 - IV. Loop Music
- Music collections
- Homepage
- Social media connectivity

2.2.2. Major Tasks

- The playlist is created by the host.
- Song is played by the user on-demand.
- Users can play the song which is available on host network.

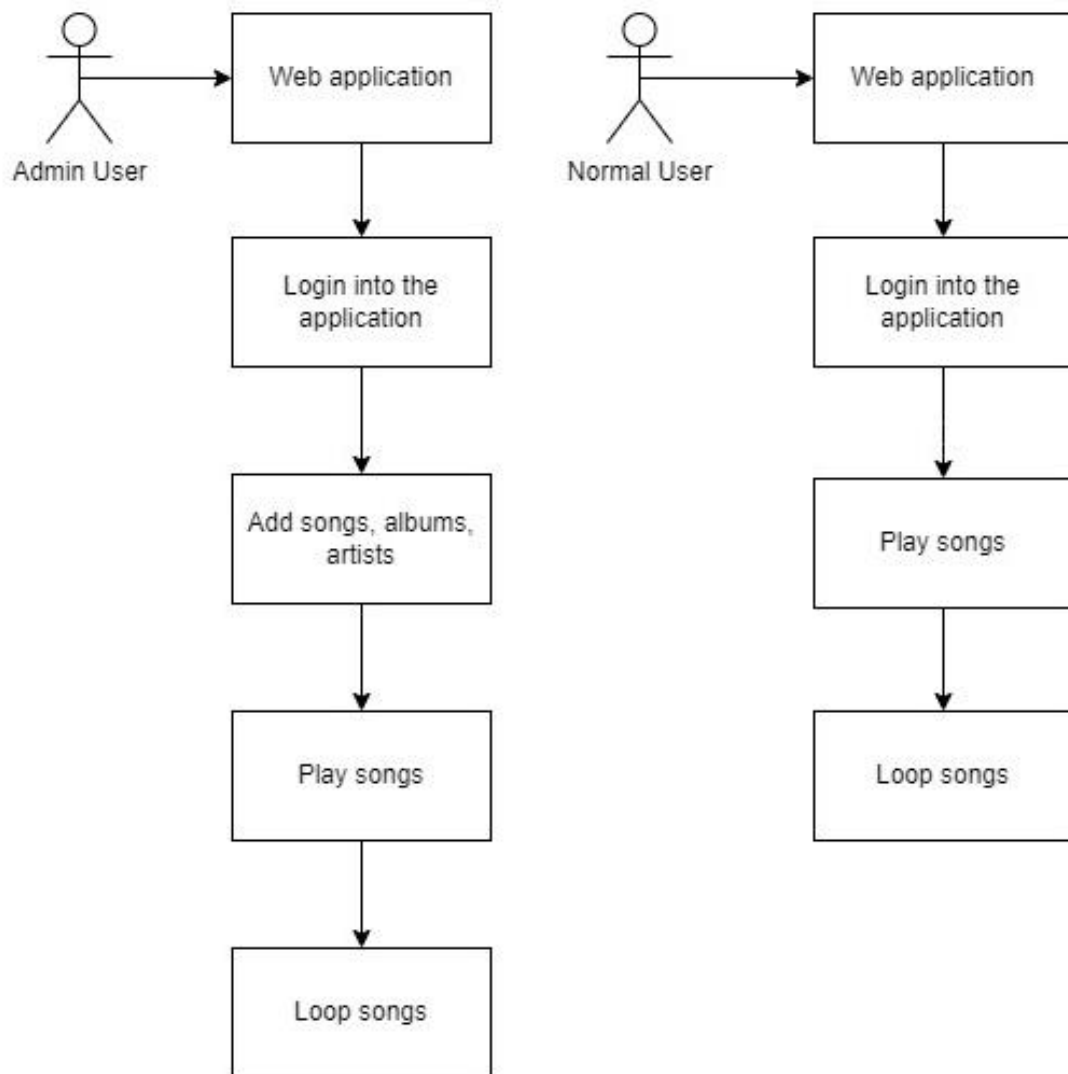
2.3. Member Responsibilities

Member	Tasks
Gaurav Chajjed Mahaveer	Frontend Designing and rendering
Manoj Kumar Reddy Bayyapureddy	Back end and Data collection
Priyanka Patil	User dashboard and Admin portal
Shubham Arun Malankar	Testing and apk designing

2.4. Collaboration Plan

- Define responsibilities for each member
- Mode of collaboration for the week is on Microsoft teams and in person meeting on weekends
- Every Monday, we will set up agenda for the week
- Each team member will share equal accountability for the group's performance.

3. Project Context Diagram



4. System requirements

4.1. “Home Screen” Requirements

Requirement Title:	Home Screen
Description:	New User/existing user will be able to see all the functionality on the home screen. It is a landing page.
Functional Requirements:	<ul style="list-style-type: none">• The system should hide sensitive data.• User friendly interface to increase user accessibility.
Non-functional Requirements:	<ul style="list-style-type: none">• It ought to correctly carry out the requested tasks from the Use.

4.2. “Login” Requirement

Requirement Title:	Login
Description:	New user/existing use should be able to login in with Pop up feature of Firebase authenticator method.
Functional Requirements:	<ul style="list-style-type: none">• Allow the user to access the login page.• If the user is a new user, then allow user to login with his/her google account and system will perform authentication at Firebase• Users should be able to click on the Login button to enter the system.
Non-functional Requirements:	<ul style="list-style-type: none">• System should hide sensitive data when entering the data• Check for the existing user.

4.3. “Search” Requirements

Requirement Title:	Search
Description:	Search will help user to find the type of music they are looking for.
Functional Requirements:	<ul style="list-style-type: none">• The application should be able to find the song with the help of artist name and song name• The application should be able to play the selected music.
Non-functional Requirements:	<ul style="list-style-type: none">• Search history is invisible

4.4. “Registration” Requirements

Requirement Title:	Registration
Description:	New User can register into the system
Functional Requirements:	<ul style="list-style-type: none">• The system should be able to use SignInWithPopUp• The system should hide sensitive data.
Non-functional Requirements:	<ul style="list-style-type: none">• The system should be able to check for valid usernam.• The system should check for existing users.

5. Software processes and infrastructure

Frontend: React, HTML, CSS, JavaScript

Backend: MongoDB, Firebase, NodeJS

5.1. Hardware and Infrastructure

Intel i7 Processor

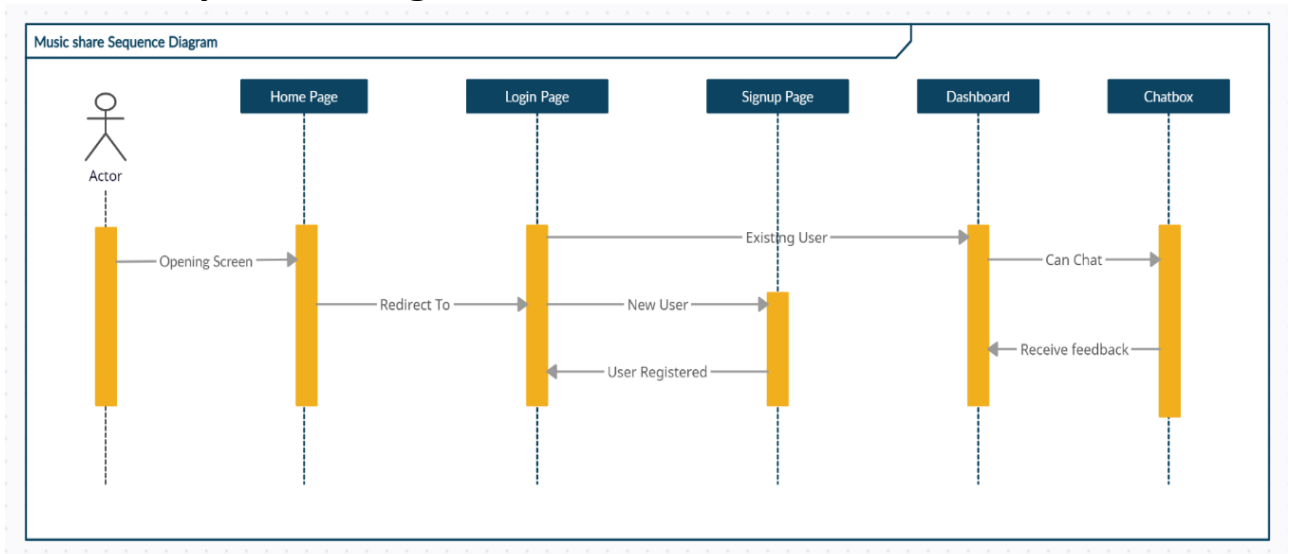
Hard Disk & SSD: 1TB.

Ram: 16 GB.

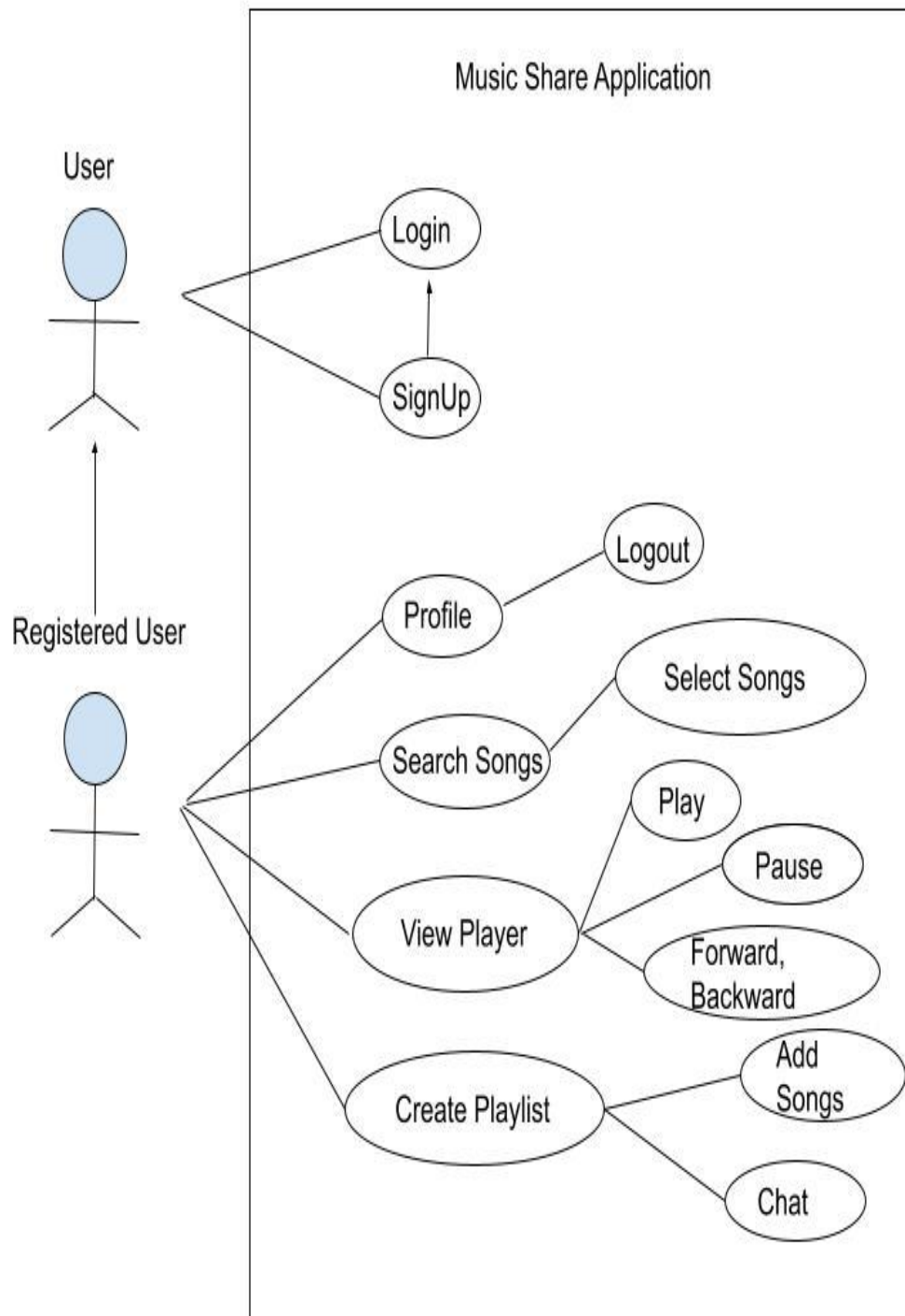
5.2. UML Diagram

The following UML diagrams are the complete representation of the application decided in the initial phase of development.

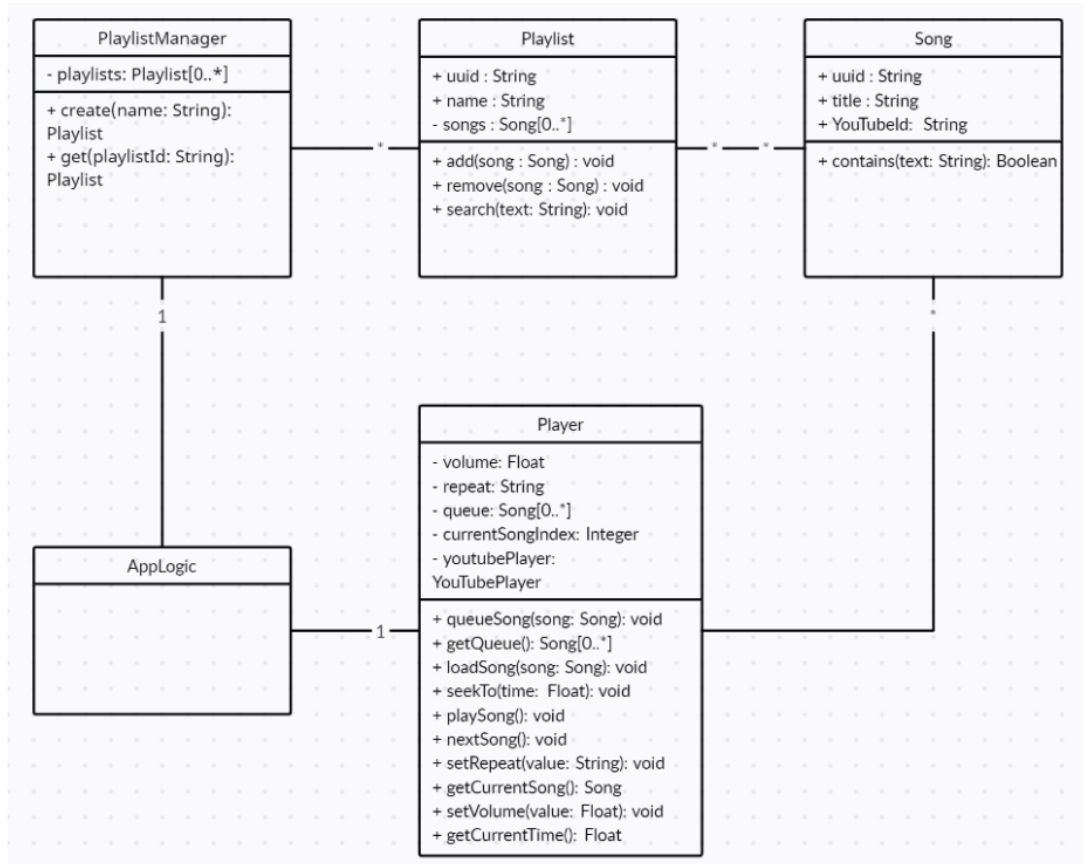
- **Sequence Diagram**



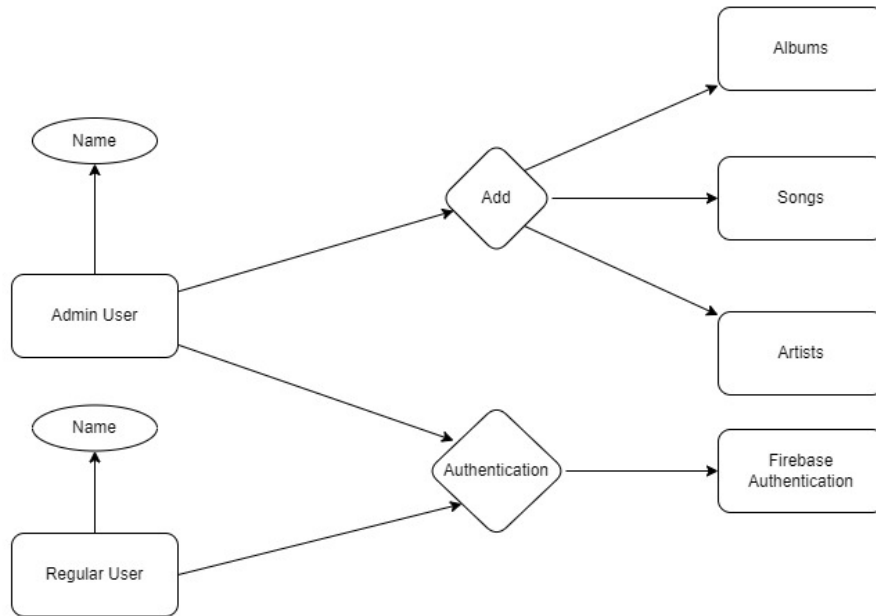
- **Use Case Diagram**



• Class Diagram

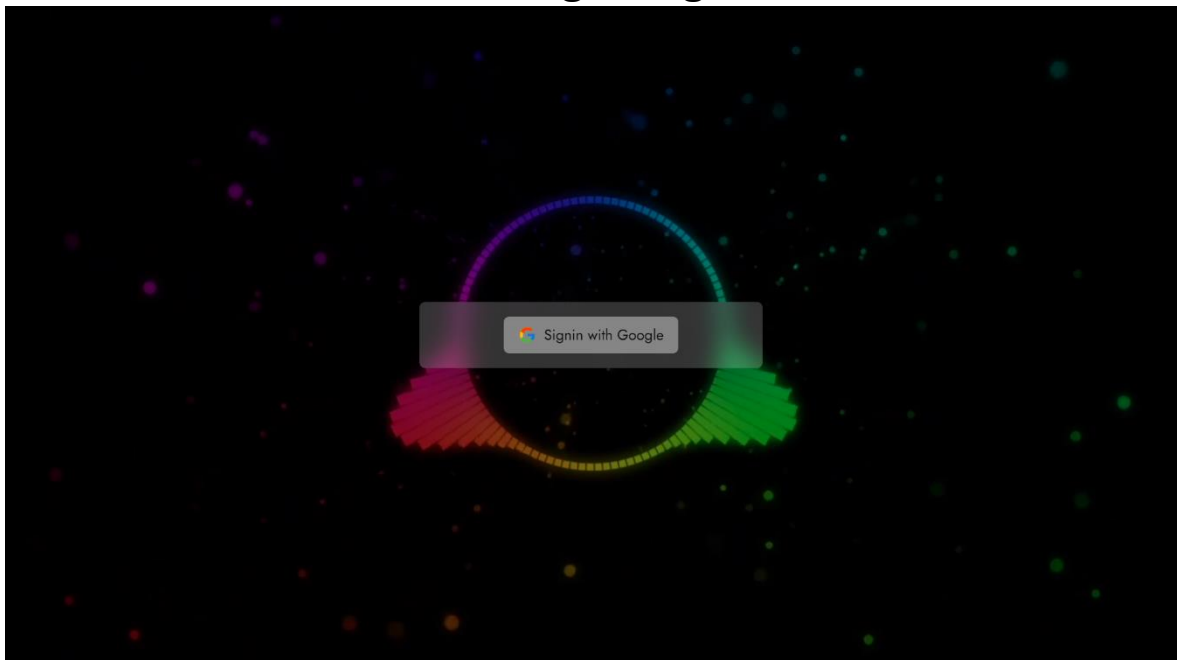


5.3. Conceptual Data Model – Database

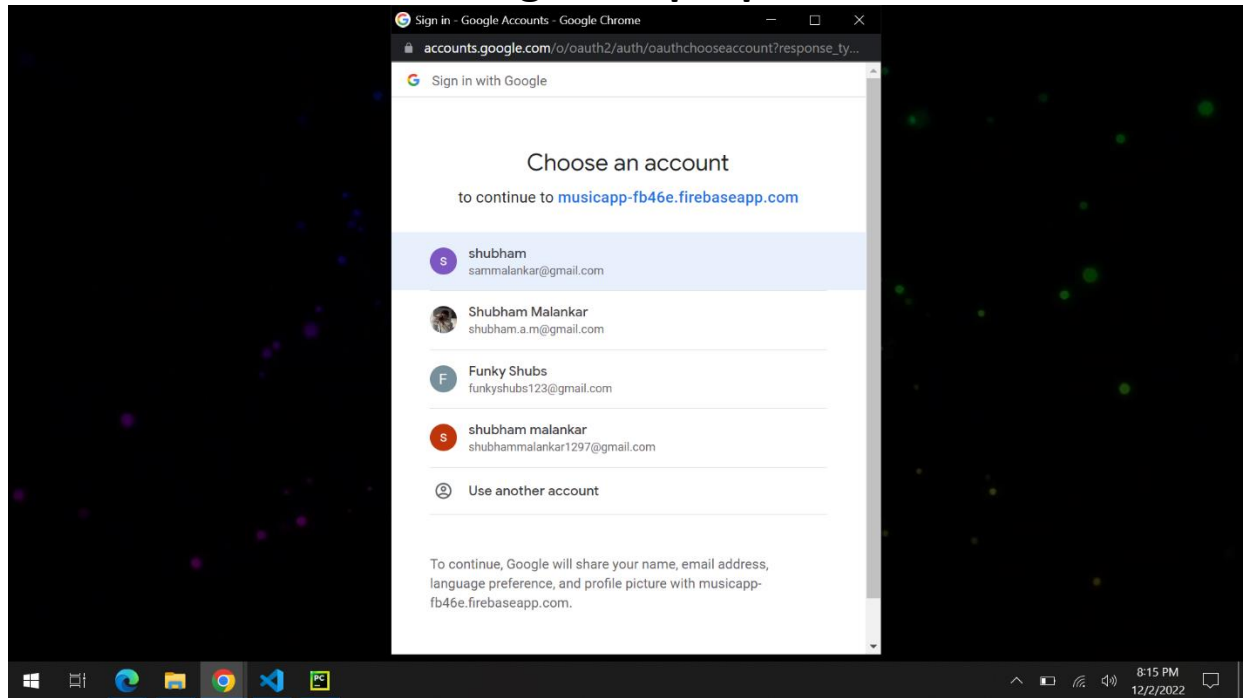


5.4. Screenshots

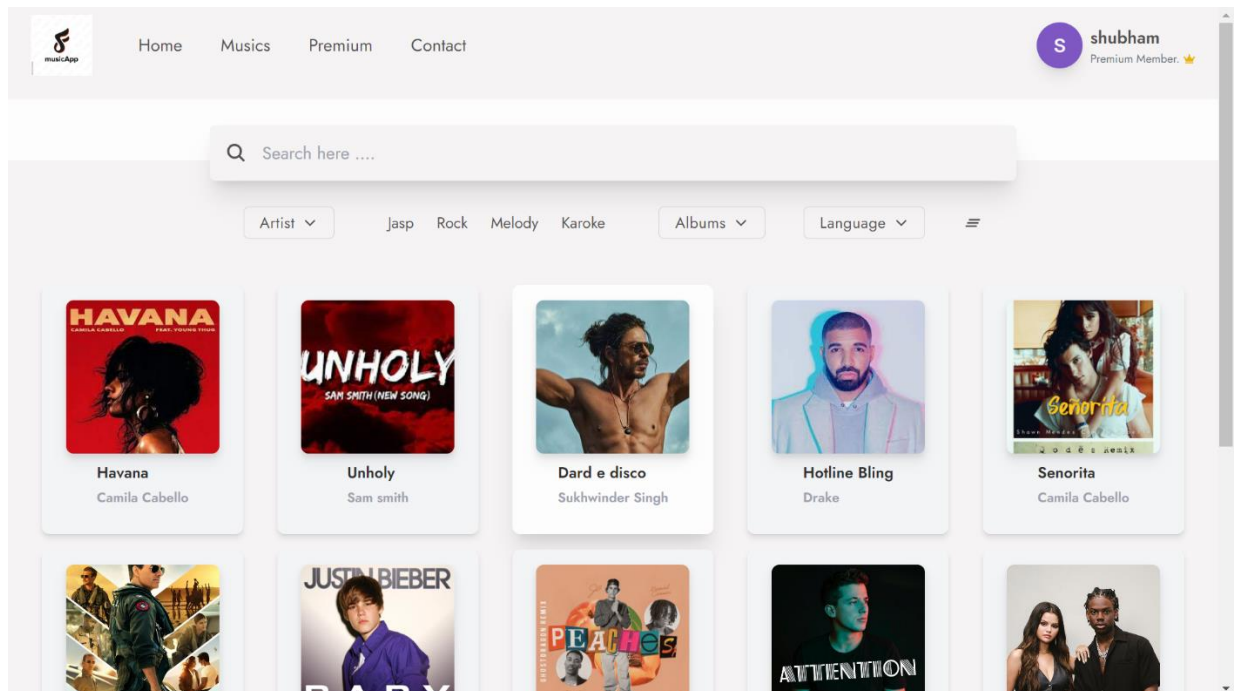
Login Page



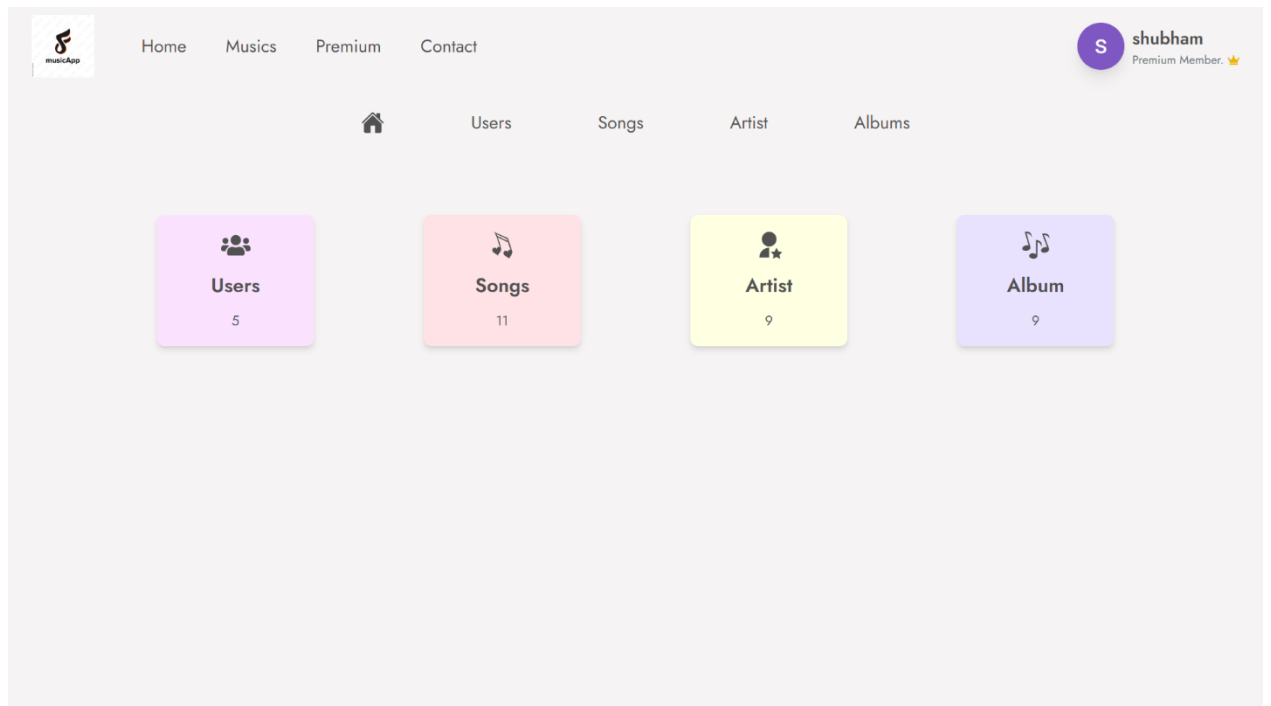
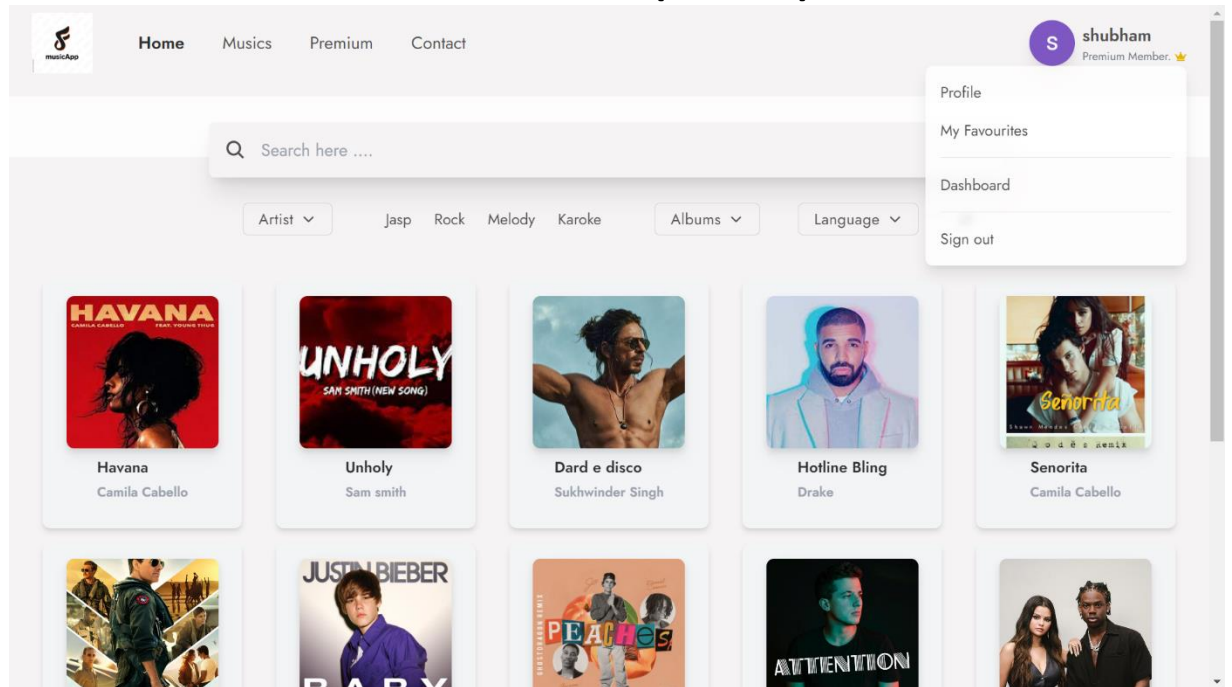
SignIn Pop-Up



Home Screen



Dashboard (Admin)



Dashboard (Member)


The dashboard for a member named Manoj Reddy (Premium Member) features a search bar and navigation tabs. The song grid includes:

- Havana - Camila Cabello
- Unholy - Sam Smith
- Dard e disco - Sukhwinder Singh
- Hotline Bling - Drake
- Senorita - Camila Cabello
- I ain't worried - Top Gun OneRepublic
- Baby - Justin Bieber
- Peaches - Justin Bieber
- Attention - Charlie Puth
- Calm Down - Rema
- New Rules - Dua Lipa


A second, faded view of the dashboard is shown below, featuring a music player at the bottom:


Unholy (Sam Smith) 00:04 / 02:38
Sam Smith (Rock)

Adding new song



HomeMusicsPremiumContact

shubham
Premium Member


UsersSongsArtistAlbums


Artist ▾

Albums ▾

Language ▾

Category ▾


click to upload image


click to upload image

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5.5. Test Plan

1. Login Page:

Project Name: Music Share Application
Test Case Name: Login
Test Case Id: CSE5324/Fall2022/Team2/Login

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1	Tab into the User and password fields and enter a valid user id/password (a test id should be created and provided to testers)	System should let you in	Pass
TC2	Tab into the User and password fields and enter an invalid user id/password	System should not accept and prevent you from entry	Pass
TC3	Enter a valid User Id and press "forgot password".	System should prompt you with a security question and text you a reset password.	Pass
TC4	Enter an invalid User Id and press "forgot password".	System should prompt you with a security question and text you with an "invalid User Id" message.	Pass
TC5	Describe Test case	Describe expected result	Pass

2. SignUp:

Project Name: MSA
Test Case Name: SignUp
Test Case Id: CSE5324/Fall 2022/Team2/ SignUp

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1	Tab into User and Password fields and click SignUp button.	System should register a user.	Pass
TC2	User and Password should be saved in the Database.	Database connection should initiate in this case.	Pass
TC3	Alert message of "Successfully registered"	System should give alert pop up.	Pass

3. Dashboard:

Project Name: MSA
Test Case Name: Dashboard
Test Case Id: CSE5324/Fall 2022/Team2/ Dashboard

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1	Redirection of webpages	System should properly navigate to the appropriate webpages	Pass
TC2	On-click music play	System should pull the proper music from the API after clicking and play the same in the player	Pass
TC3	API Authentication	System should validate the API with the secret key generated.	Pass
TC4	Search Feature	System should find the music according to the users	Pass

		request	
TC5	Pause play shuffle	System should pause and play according to the choice of the user	Pass

4. Search:

Project Name: MSA
Test Case Name: Search
Test Case Id: CSE5324/Fall 2022/Team2/ Search

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1	Check whether the search field, Icon is present and aligned.	Search field and icon should be present and aligned.	Pass
TC2	Check search working by adding keyword and on click on the search button.	Able to search and see songs	Pass
TC3	Error message display by entering invalid keywords	Search field should throw error message in case of invalid keywords	Pass
TC4	Search feature – Database connection	Search field should correctly display information from Database	Pass
TC5	Error message should display for blank input.	Search field should throw error message in case of blank input.	Pass

5. Chat:

Project Name: MSA
Test Case Name: Communication
Test Case Id: CSE5324/Fall 2022/Team2/ Communication

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1	Creation of chat group	Users should be able to create a Chat group	Fail
TC2	Check that Users are able to Chat with their group or not.	Users should be able to Chat	Fail
TC3	Check that Users are able to see current Chat in the group.	Users should be able to see current Chat/discussion in the group.	Fail
TC4	Check that Users are able join chat in their group.	Users should be able to join current Chat in their group.	Fail
TC5	Check that name of the User should be displaying to others in Chat application while chatting with other Users or group.	User name should be displaying to others in Chat application while chatting with other Users.	Fail

6. Assumption and constraints

6.1. Assumption

- Tagging users is easy in chatbox.
- Sharing playlist using the link which will be designed for respective playlist.
- Compliance issues have been ignored.

6.2. Constraints

- The team lacks Android experience. Hence, shifted to web applications.
- Schedule conflicts change the estimated end date.

6.3. Out of Scope material

- Chat Feature

7. Delivery and schedule

Task/Milestone Description	Anticipated Start Date	Anticipated End Date	Status	Comments
Initial draft project proposal	09/14/2022	10/10/2022	Completed	Delivered SRA Document with Business Case, Scope, and Scheduling Estimates
SRA document (Includes project objectives, Requirements and UML diagrams)	09/14/2022	10/10/2022	Completed	Deliverable will be the SRA document. All Iteration 1 deliverable
Home screen design and implementation	09/20/2022	10/20/2022	Completed	Home Screen with Music Share Application Logo (Enabled navigation) and Welcome text.
Login and registration design and implementation	09/30/2022	10/25/2022	Completed	Creating login and Signup pages. Iteration 2 Deliverable
Documentation for all deliverables including functions.	09/30/2022	11/01/2022	Completed	Creating efficient model which can work with dashboard.
Test cases	11/04/2022	11/14/2022	Completed	Performed with random test cases
Documentation	11/20/2022	11/24/2022	Completed	Creating manual to use our application
Final SRA document	11/24/2022	12/02/2022	Completed	

8. Stakeholder approval form

Stakeholder Name	Stakeholder Role	Stakeholder Comments	Stakeholder ApprovalSignature and Date
Prof. Nadra Guizani	Project Manager		
Priyanka Patil	Developer/Tester	User friendly front-end.	12/02/2022 (PMP)
Shubham Malankar	Developer/Tester	Easy access to application with navigation functionality.	12/02/2022 (SAM)
Gaurav Chajjed Mahaveer	Developer/Tester	Disappointed with chat interface might include in further enhancement	12/02/2022 (MGC)
Manoj Kumar Reddy Bayyapureddy	Developer/Tester	Backend integration with MongoDB gives smooth login.	12/02/2022 (MBR)

Demo Link

https://mavsuta-my.sharepoint.com/:v:/g/personal/sxm1033_mavs_uta_edu/EWAnADpzOnRGvn-Cv2iXQDoB6vr04rQLHrNFwwFrmuuvTw

9. APPENDIX

Reference:

<https://github.com/Vetrivel-VP/musicapp-mernstack>

<https://www.youtube.com/watch?v=2HvISWe9ArM&list=LL&index=8>

<https://www.youtube.com/watch?v=fOtCxD3AodY&list=LL&index=10>