First Demo

for

Music Streaming System

Version 1.0 approved

Prepared by Group 5

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Revision History

Date	Version	Description	Author
May 3rd 2024	0.1	First draft with section titles	Nguyễn Đức Khánh
May 5th 2024	1.0	Complete all section in detail	Đỗ Minh Quang Trần Thế Mạnh

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1. Introduction

1.1. Purpose

The digital revolution has transformed the way we experience music, bringing the vast universe of songs from around the globe to our fingertips. MusicStreaming stands at the forefront of this transformation, offering a seamless and personalized music streaming service to millions of users. The primary purpose of this document is to provide an in-depth understanding of our Music Streaming system. It aims to elucidate the system's functionalities, features, and benefits, thereby enabling users to fully leverage its capabilities.

1.2. Scope

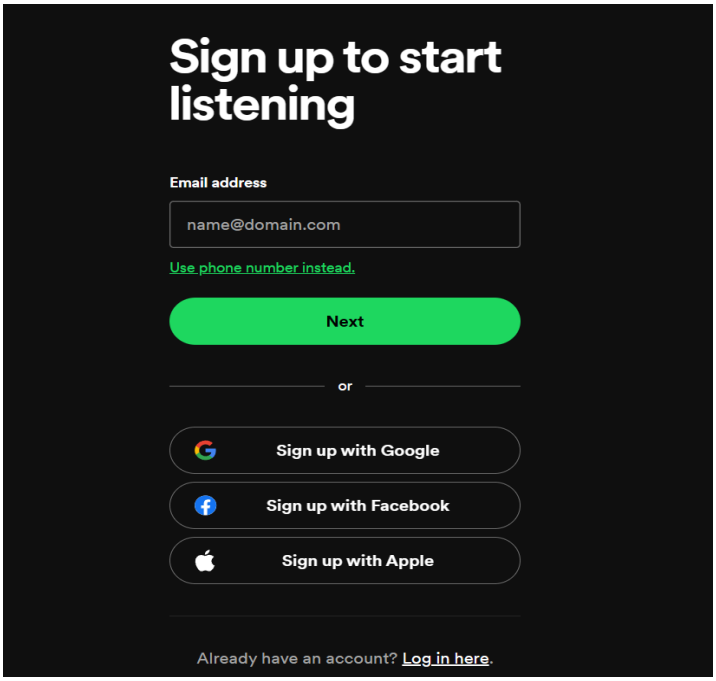
Welcome to our Music Streaming platform, a premier destination for an unparalleled online music experience. Our platform boasts a comprehensive music library, an intuitive user interface, and a sophisticated recommendation system. We are committed to providing a diverse and personalized music listening experience. We invite you to explore and immerse yourself in your favorite melodies with us.

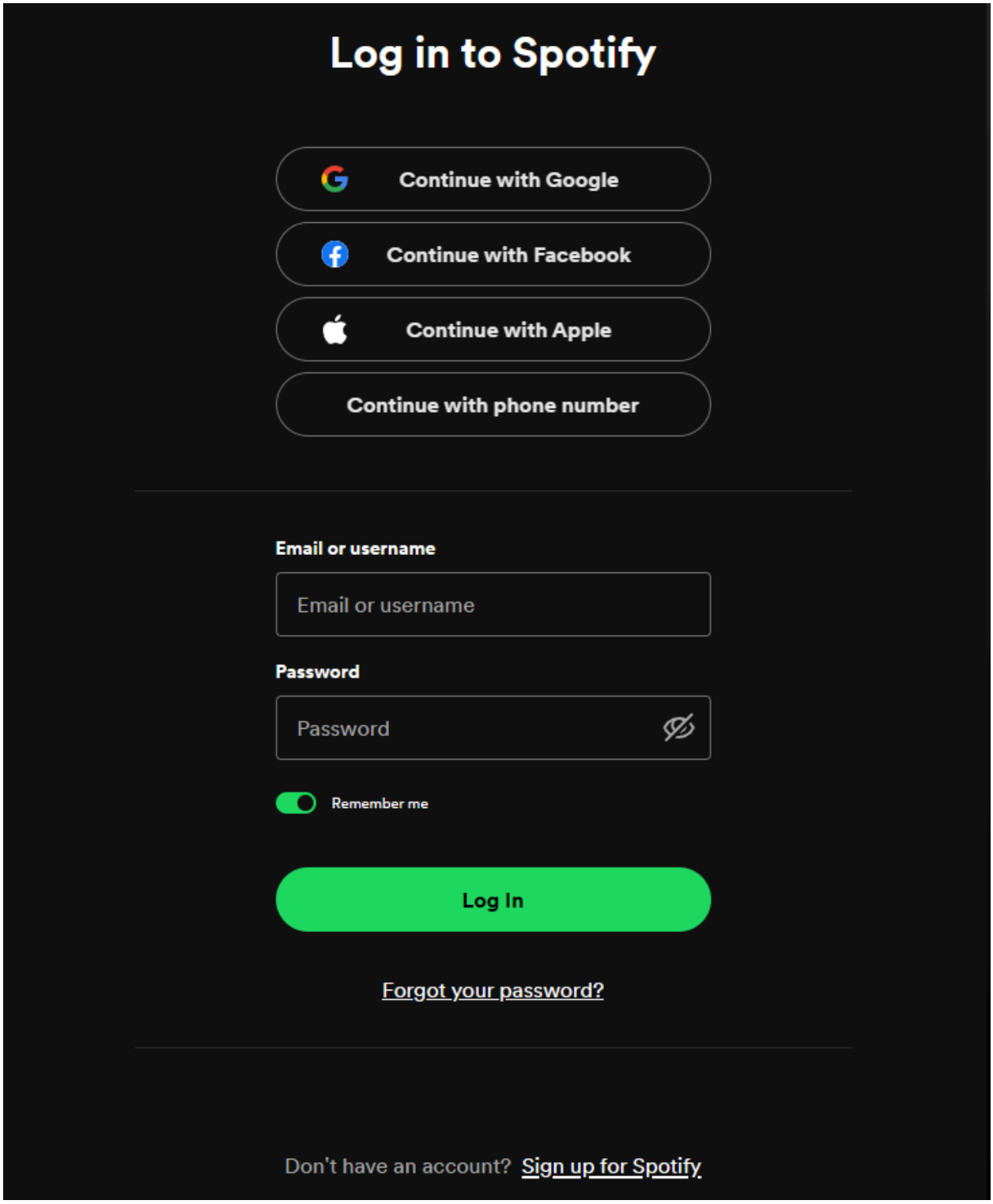
2. Screenshots and video demo for main function

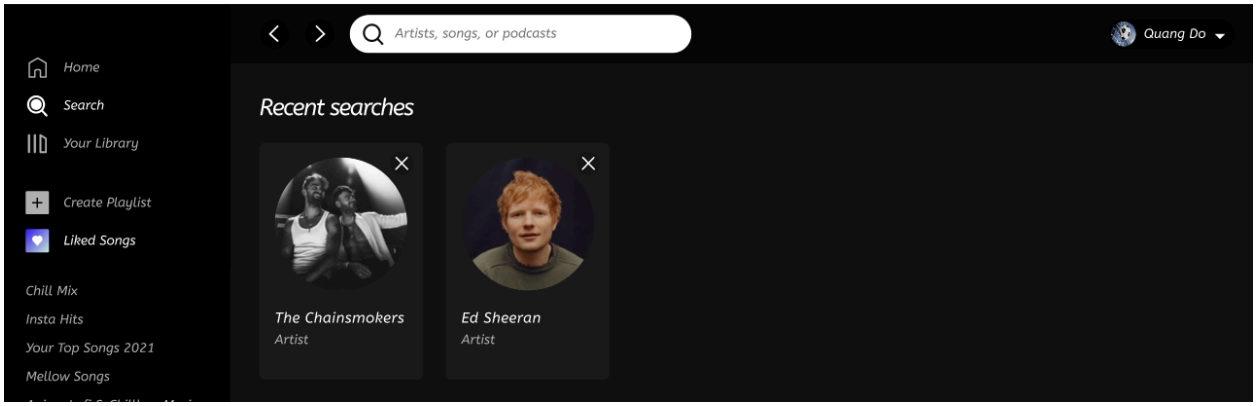
2.1. Video demo

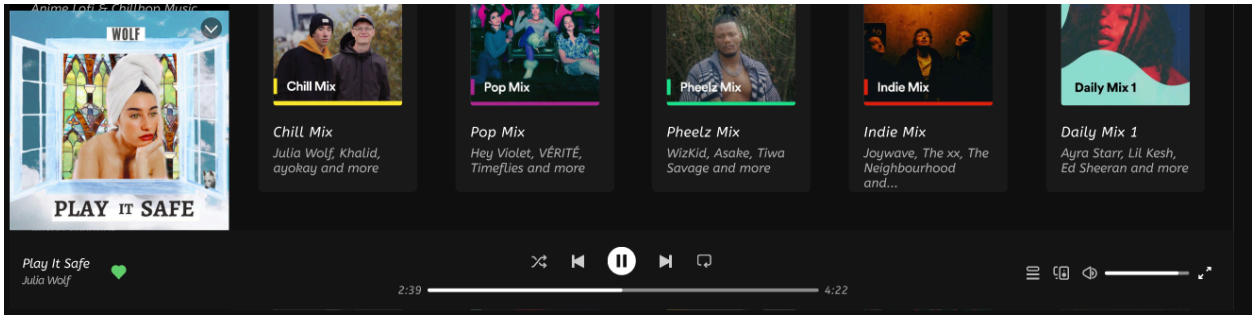
Link video:Untitled video - Made with Clipchamp.mp4 - Google Drive

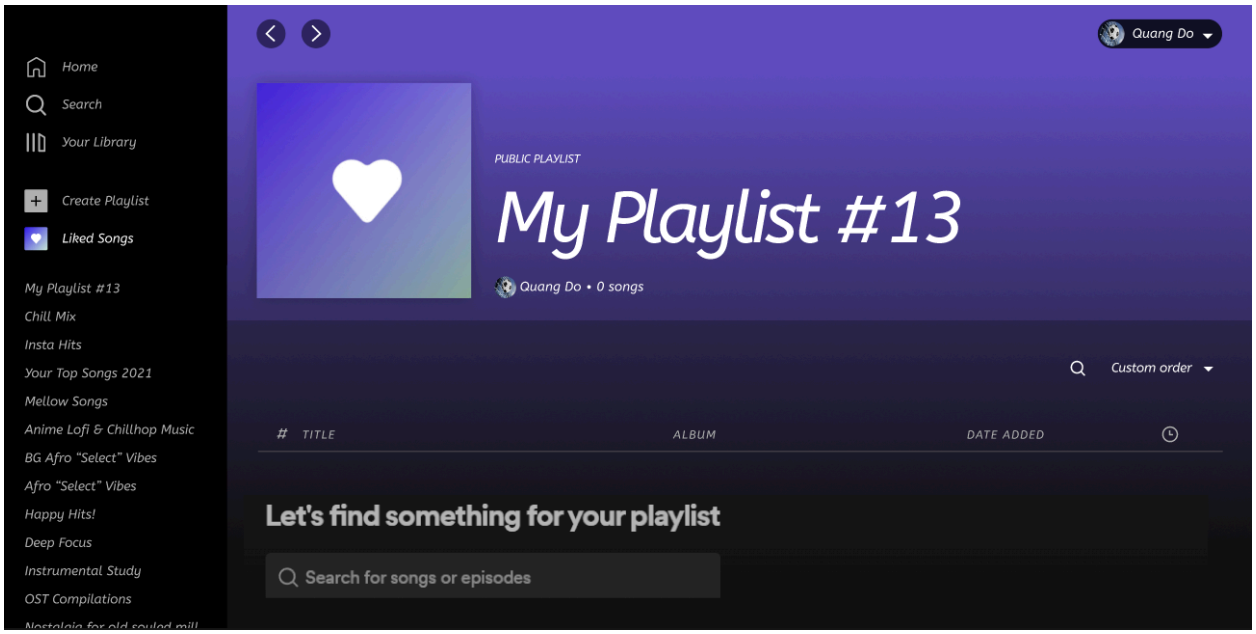
2.2. Screenshots

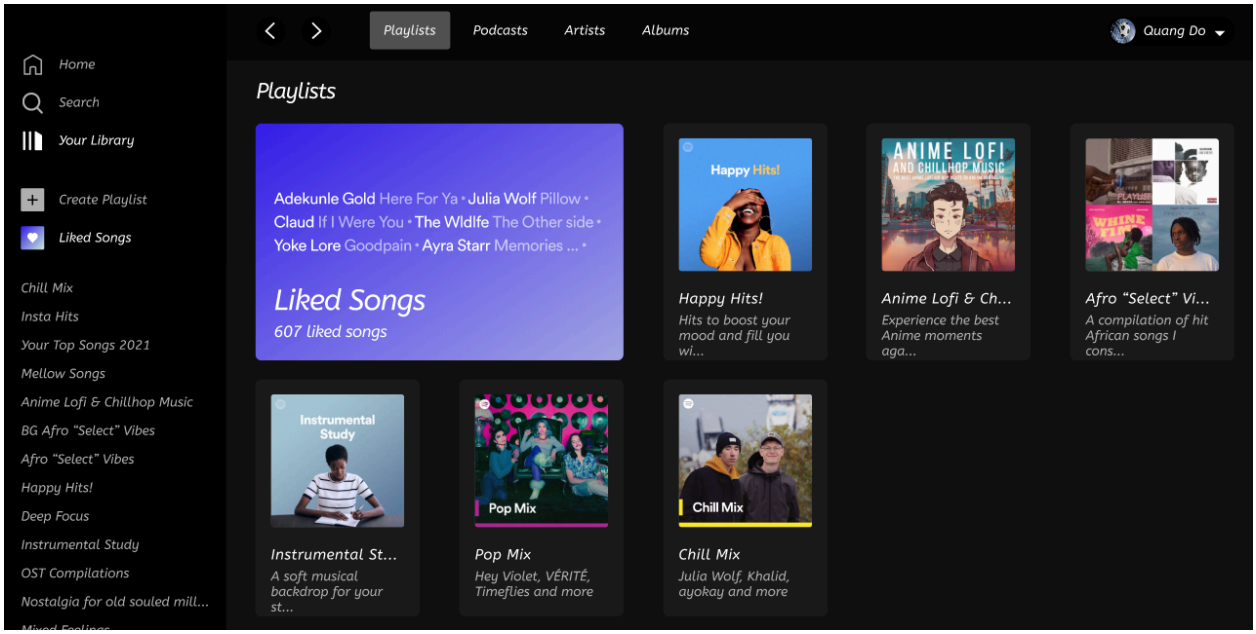


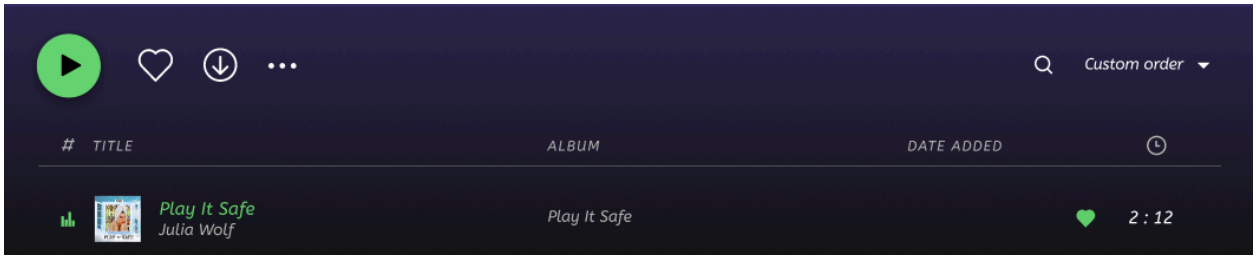

Log in to Spotify
Continue with Google
Continue with Facebook
Continue with Apple
Continue with phone number
Email or username
Email or username
Password
Password
Remember me
Log In
Forgot your password?
Don't have an account? Sign up for Spotify


Artists, songs, or podcasts
Quang Do
Home
Search
Your Library
Create Playlist
Liked Songs
Chill Mix
Insta Hits
Your Top Songs 2021
Mellow Songs
Recent searches
The Chainsmokers
Artist
Ed Sheeran
Artist


WOLF
PLAY IT SAFE
Chill Mix
Julia Wolf, Khalid, ayokay and more
Pop Mix
Hey Violet, VÉRITÉ, Timeflies and more
Pheelz Mix
WizKid, Asake, Tiwa Savage and more
Indie Mix
Joywave, The xx, The Neighbourhood and...
Daily Mix 1
Ayra Starr, Lil Kesh, Ed Sheeran and more
Play It Safe
Julia Wolf
2:39
4:22


Home
Search
Your Library
Create Playlist
Liked Songs
My Playlist #13
Chill Mix
Insta Hits
Your Top Songs 2021
Mellow Songs
Anime Lofi & Chillhop Music
BG Afro "Select" Vibes
Afro "Select" Vibes
Happy Hits!
Deep Focus
Instrumental Study
OST Compilations
Quang Do
PUBLIC PLAYLIST
My Playlist #13
Quang Do • 0 songs
Custom order
TITLE
ALBUM
DATE ADDED
Let's find something for your playlist
Search for songs or episodes





3. How the functions work

3.1. Create an account

Main flow:

1. The user sends a registration request to the system.
2. The system asks the user to enter their email, password, and other necessary details.
3. The user enters their email, password, and other necessary details.
4. The system sends the user's details for verification.
5. The account checks whether the email is already registered or not.
6. If the email is not already registered, the account creates a new user with the provided details and returns a successful registration result to the system.
7. The system returns a successful registration notification to the user.

Alternative flow:

1. If the email is already registered, the account returns a failed registration result to the system.
2. The system returns a notification to the user about the email already being registered.
3. The user is prompted to enter a different email.
4. If the user's password is not strong enough, warn the user with notification.

3.2. Log in

Main flow:

1. The user sends a login request to the system.
2. The system asks the user to enter their email and password.
3. The user enters their email and password.
4. The system sends the user's email and password for verification.
5. The account checks whether the email and password information is correct or not.
6. The account returns the verification result to the system.
7. The system returns a notification to the user.

Alternative flow:

1. The user enters their email but forgets to enter the password.
2. The system detects the missing password and sends a prompt to the user to enter the password.
3. The system sends the user's email and password for verification.
4. The account checks whether the email and password information is correct or not.
5. If not, the system returns a notification to the user.

3.3. Log out

Main flow:

1. The user clicks on their username or avatar.
2. The user selects the "Logout" option.
3. The system confirms that the user wants to log out.
4. The user confirms that they want to log out.
5. The system logs out the user and returns to the login page.

Alternative flow:

1. The user clicks on their username or avatar but does not see the "Logout" option.
2. The user selects "Logout" but the system does not display logout confirmation.
3. The user confirms they want to log out but the system does not log out the user.
4. The system logs out the user but does not return to the login page.

3.4. View own account information

Main flow:

1. User Requests Account Information to the system.
2. System retrieves Information from database
3. Notification sent to User

Alternative flow:

1. User Requests Account Information to the system.
2. System can't connect to the database.
3. System sent to user a notification that error orcus.

3.5. Play track

Main flow:

1. User Initiates Request begins by selecting the option to play a track.
2. Users select a track from their library or search for a specific one.
3. The system retrieves the selected track from the database.
4. User listens to the track.

Alternative flow:

1. User Initiates Request begins by selecting the option to play a track.
2. Users select a track from their library or search for a specific one.
3. System can’t connect to the database.
4. System sent to user a notification that error orcus.

3.6. Search the tracks, artists and genre

Main flow:

1. User Initiates Request begins by selecting the option to play a track.
2. Users select a track from their library or search for a specific one.
3. The system retrieves the selected track from the database.
4. User listens to the track.

Alternative flow:

1. User Initiates Request begins by selecting the option to play a track.
2. Users select a track from their library or search for a specific one.
3. System can’t connect to the database.
4. System sent to user a notification that error orcus.

3.7. Download the track

Main flow:

1. User Initiates Request begins by selecting the option to download a track.
2. Users select a track from their library or search for a specific one.
3. The system retrieves the selected track from the database.
4. Users initiate entry to the database.
5. Users get the data from the database.

Alternative flow:

1. User Initiates Request begins by selecting the option to download a track.
2. An user selects a track from their library or searches for a specific one.
3. System can’t connect to the database.
4. System sent to user a notification that error orcus.

3.8. Create playlists

Main Flow:

1. The user sends a request to create new playlists to the system.
2. The system requests the user to select songs to create the playlists.
3. The user selects the songs.
4. The system sequentially adds those songs to the database of that playlists.
5. The user presses the "Ok" button to complete.
6. The system will update the new state of that playlists on the server.

Alternative Flow:

1. If the user attempts to create an playlists with no songs selected:
2. The system detects that no songs have been selected for the playlists.
3. It prompts the user with an error message indicating that at least one song must be selected to create the playlists.
4. The user is redirected back to the song selection interface to choose songs for the playlists.
5. Once the user selects at least one song, the system proceeds with the playlists creation process as normal.

3.9. Manage playlists

Main Flow:

1. The Artist sends a request to edit a Playlist to the system.
2. If User adds a song to a Playlist, the flow will be similar to “create a new Playlist”.
3. If User deletes a song in an Playlist, the system will delete that song in that Playlist's database.
4. The user clicks confirm to complete the editing.
5. The system will update the new state of that Playlist on the server.

Alternative Flow:

1. In case a user accidentally deleted a Playlist, there could be a feature to restore it.
2. Users navigate to the "Deleted Playlist" section where deleted Playlists are temporarily stored.
3. From there, they select the deleted Playlist they want to restore and confirm the restoration process.
4. The Playlist is then reinstated to its original location in the user's Playlists list.

3.10. Upgrade account

Main Flow:

1. User sends an account upgrade request to the system.
2. The system requires the user to choose one of the upgrade packages.
3. Users choose one of those upgrade packages accordingly.
4. The system will send a payment request and payment form to complete the upgrade.
5. The user will choose the payment method and then pay.
6. After payment, the system will send a success notification to the user and update the account status on the server.

Alternative Flow:

Payment Failure:

1. The platform notifies the user about the payment failure and provides possible reasons.
2. The user may attempt the payment process again with a different payment method or resolve the issue causing the payment failure.
3. Once the payment is successful, the upgrade process continues as normal.

Subscription Cancellation:

1. The user accesses the account settings or subscription page to initiate the cancellation process.
2. The platform confirms the cancellation request and provides information about any remaining benefits or refund policies.
3. The user's account is downgraded to the free/basic plan or previous subscription level after the current billing period ends, retaining access to basic features only.

3.11. Create artist account

Main Flow:

1. Artist sends an account registration request to the system.
2. The system requires the artist to enter information into the available registration form.
3. The artist fills in the form with information such as email, username, password,...
4. Once completed, the system will verify if the person is eligible to have an artist account.
5. If possible, the system will update that account on the server and the artist can use it.

Alternative Flow:

Account Verification Failure:

1. The artist requests a new verification email through the platform interface.
2. The platform sends another verification email to the artist's registered email address.
3. The artist clicks on the new verification link to complete the verification process.

Identification Document Rejection:

1. The platform notifies the artist of the rejection and provides reasons for it.
2. The artist reviews the rejection reasons and resubmits the required documents with necessary modifications.
3. The platform re-evaluates the resubmitted documents for approval.

Profile Completion Without Identification Submission:

1. The platform notifies the artist about the requirement for identification submission.
2. The artist accesses their account settings and uploads the necessary identification documents as instructed.

3.12. Upload the track

Main Flow:

1. Users require uploading songs.
2. The system asks the user to choose 1 or more songs to upload.
3. User selects 1 or more songs.
4. Users can deselect songs they no longer want to select.
5. The user clicks confirm to complete.
6. The system will update those songs on the server.

Alternative Flow:

If the upload process fails due to issues like network errors or file corruption:

1. The system notifies the user about the upload failure.
2. It provides guidance or troubleshooting steps to resolve the issue, such as checking the network connection or ensuring the file format is supported.
3. The user may retry the upload process or choose an alternate track to upload.

3.13. Manage the track

Main Flow:

1. Users send song management requests to the system.
2. The system allows users to edit songs uploaded by users.
3. Users can edit the song name, description, singer name, composer

name,... or delete the song.
4. The user clicks confirm to complete.
5. The system will update the status of the newly edited song on the server.

Alternative Flow:
If the user attempts to make invalid modifications:
1. The system detects the invalid input.
2. It displays an error message indicating the issue and provides guidance on how to correct it.
3. The user adjusts the modifications as guided by the error message and reattempts to save the changes.

3.14. Create album

Main Flow:
1. The user sends a request to create a new album to the system.
2. The system requests the user to select songs to create the album.
3. The user selects the songs.
4. The system sequentially adds those songs to the database of that album.
5. The user presses the "Ok" button to complete.
6. The system will update the new state of that album on the server.

Alternative Flow:
If the user attempts to create an album with no songs selected:
1. The system detects that no songs have been selected for the album.
2. It prompts the user with an error message indicating that at least one song must be selected to create the album.
3. The user is redirected back to the song selection interface to choose songs for the album.
4. Once the user selects at least one song, the system proceeds with the album creation process as normal.

3.15. Manage album

Main Flow:
1. The Artists sends a request to edit an album to the system.
2. If Artists add a song to an album, the flow will be similar to “create a new album”.
3. If Artists delete a song in an album, the system will delete that song in that album's database.
4. The user clicks confirm to complete the editing.
5. The system will update the new state of that album on the server.

Alternative Flow:
1. In case a user accidentally deleted an album, there could be a feature to restore it.
2. Artists navigate to the "Deleted Albums" section where deleted albums are temporarily stored.

3. From there, they select the deleted album they want to restore and confirm the restoration process.
4. The album is then reinstated to its original location in the user's albums list.

4. Challenges and proposed solutions

Challenges:

1. Fierce Competition: The music industry is saturated with a plethora of talented artists and bands, making it challenging for newcomers to break through and capture audience attention amidst the noise.
2. Audience Reach: Establishing a strong presence and reaching the target audience can be daunting, particularly in a digital landscape where numerous platforms compete for users' attention. Building a dedicated fan base requires consistent engagement and strategic marketing efforts.
3. Financial Constraints: Producing high-quality music entails significant financial investment. Expenses such as studio recording costs, hiring producers, session musicians, mastering, mixing, and promotional activities can quickly add up, posing a barrier to entry for independent artists or smaller labels with limited budgets.
4. Copyright and Legal Issues: Safeguarding intellectual property rights and navigating the legal landscape of the music industry can be complex and time-consuming. From copyright registration to licensing agreements and royalty collection, artists need to ensure they are compliant with legal requirements to protect their work and avoid potential disputes.

Solutions:

1. Creativity and Differentiation: Embrace creativity and innovation to carve out a unique identity in the crowded music scene. Experiment with diverse musical styles, incorporate distinctive elements into your sound, and focus on creating authentic, original content that resonates with listeners.
2. Community Engagement: Leverage social media platforms, streaming services, and online communities to connect with fans, share your music, and cultivate a loyal following. Engage with your audience through regular updates, behind-the-scenes content, live performances, and interactive experiences to foster a sense of belonging and appreciation among your supporters.
3. Strategic Financial Planning: Develop a comprehensive budget and financial plan that outlines all potential expenses and revenue streams associated with your music project. Explore alternative funding options such as crowdfunding campaigns, sponsorships, merchandise sales, and music licensing to supplement your income and support your creative endeavors.
4. Legal Assistance: Seek guidance from experienced legal professionals or music industry experts to navigate the intricacies of copyright law, licensing agreements, publishing contracts, and other legal matters. Ensure that you understand your rights as an artist,

protect your intellectual property, and negotiate fair deals that benefit your career in the long term.

5. Collaborative Partnerships: Collaborate with like-minded artists, producers, songwriters, and industry professionals to pool resources, share expertise, and amplify your creative vision. Collaborative projects not only offer opportunities for artistic growth and innovation but also help distribute workload and mitigate financial burdens through shared expenses and revenue sharing arrangements.