Ryzic Mix [Music Streaming Service]

Submitted by

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This Project report has been submitted in fulfilment of the requirements for the Degree of Bachelor of Science in Software Engineering.

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APPROVAL

This thesis/project/internship titled on "RyzicMix [Music Streaming Service]", submitted by Arif Hossain Emon, ID:181-35-2459 to theDepartment of Software Engineering, Daffodil International University has been accepted assatisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science inSoftware Engineering and approval as to its style and contents.

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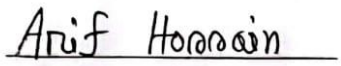
DECLARATION

It hereby declares that this project has been done by **Arif Hossain Emon** under the supervision of**Mr. Khalid Been Badruzzaman Biplob , Lecturer (Senior Scale)** ,Department of Software Engineering, Daffodil International University. It also declares that neither this project nor any part of this has been submitted elsewhere for award of any degree.



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Besides, we would like to thank all the teachers who helped us by giving us advice and providing the equipment which we needed.

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ABSTRACT

Ryzic Mix is a web-based music streaming service that gives you access to listen to all kinds of songs.
Basic functions such as playing free type music are totally free, but you can also choose to upgrade to Premium.

If you have Premium, you can:

- played unlimited songs
- download unlimited songs

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CHAPTER 1

INTRODUCTION

1.1 Project Overview

Ryzic Mix is a web-based music streaming service that gives you access to listen to all kinds of songs.

This program enables you to search for music by artist name,song name and album name. You can use this website to create your own favourite-list.

1.2 Project Purpose & Motivation

Within the past few a long time, patterns in music utilization have experienced a significant change.

The quick Web infiltration and the dynamic utilize of versatile gadgets have driven the development and advancement of hundreds of music applications like Apple Music, Spotify, Shazam, SoundCloud.

But as a web developer, I want to create my own music streaming website, where people can listen to music,
they can purchase premium level to get premium things like:-

premium songs
download songs

1.3 Objectives

Over the last few decades, music listening has progressed significantly. The days of having to purchase CDs, vinyl records, or cassette tapes are long gone.
You no longer need to purchase digital downloads. Nowadays, all you have to do is join up for a music streaming service and you'll have instant access to all the music you'll ever need.

1.4 Expected Outcome

You'll also want to consider things like streaming audio quality and support for extra features, like digital assistants and more.
With all those factors in mind, I tried the best music streaming services you can subscribe to.
Our picks feature a variety of options, including several services that offer lossless audio and a couple that offer free ad-supported plans.

1.5 BENEFITS

This music streaming website is fully functional and flexible.

- It is very easy to use.
- It is Where People Listen to Music
- It Has Facilitated Easy Distribution of Music
- It Has Encouraged People to Pay for Music…Again
- It Has Enabled Artists to Better Analyze How People Interact With their Music

1.6 GOALS

- To produce a web-based Music streaming service that allows customers to register and listen to music.

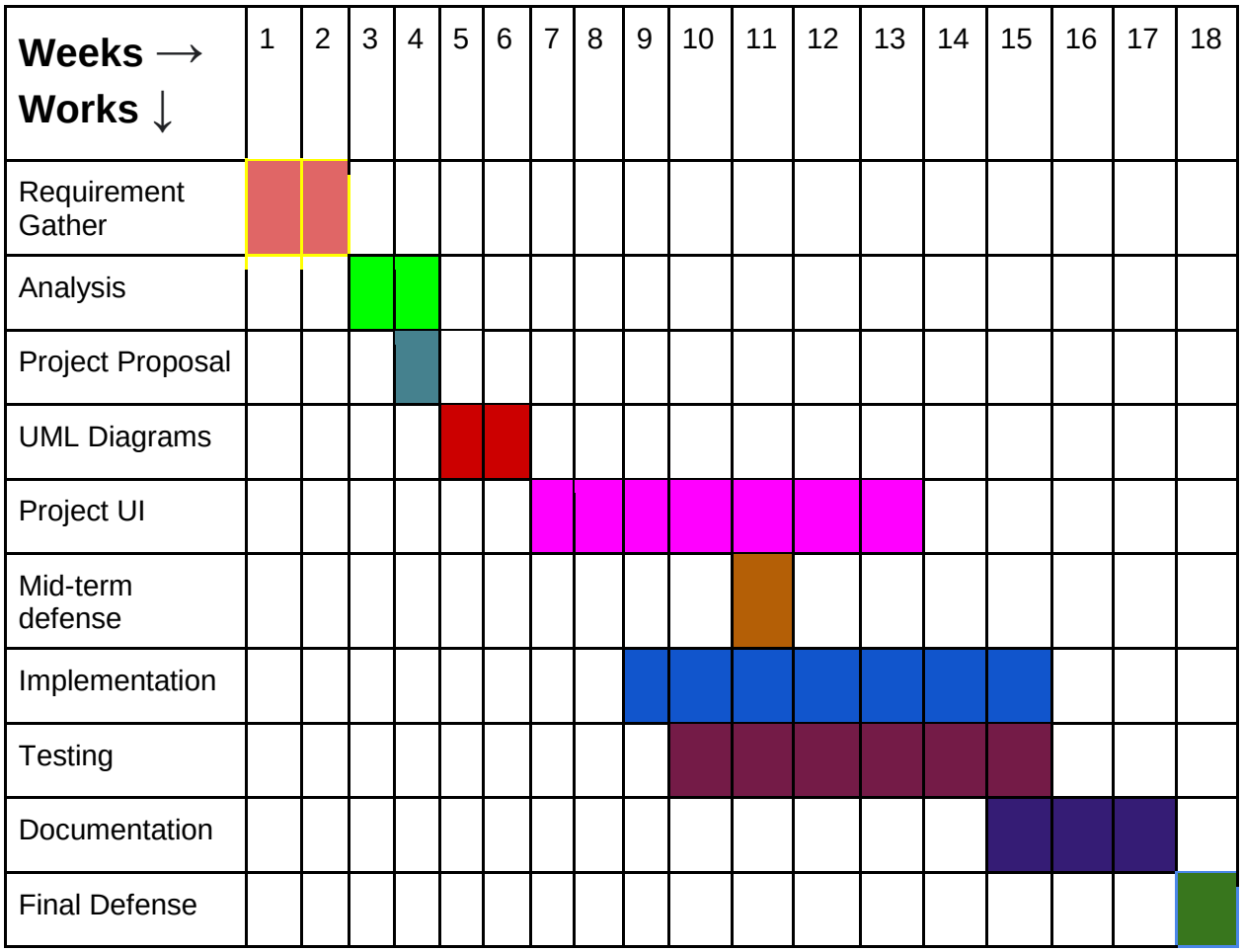
- Company to effectively manage their website to ease customer's task whenever they need to listen to music.

1.7 STAKEHOLDERS

Stakeholder refers to any person or group who will be affected by the system (web site) directly or indirectly.
Stakeholders include end-users who interact with the system and everyone else that may be affected by its using.
Concluding thoughts on Stakeholders, We identified following stakeholders for our Web site:

- User (internal/external)
- Admin
- Staff

1.8 GANTT CHART



CHAPTER 2

BACKGROUND STUDY

2.1 Methodology

The methodology to be used is Agile Method. This is because the system will be standing alone with a new prototype within very short span.It will therefore increase the chances of the system to be reviewed by the user of the system at the end of each prototype to make any amendments necessary until the final prototype is released.
This will help the system to be developed more efficiently with the user requirements fully met.

2.2 RELATED WORK

There are so many music streaming services that have a huge range of songs,podcasts,and support many devices.
All major platforms and there's a free,ad-based plan that requires a paid subscription.
some music streaming services:

- spotify
- Apple music
- Amazon Music Unlimited
- Youtube Music

2.3 CHALLENGES

In my suggested website, I plan to address all of the aforementioned concerns by implementing a whole "music streaming services" system that uses a coordinating software to manage the entire website.
I'm always trying to learn more about the technology that I use frequently.
I discussed with my companion and other brothers what features and facilities should be included in such a system if they decide to build one, and tried to gather as many criteria as possible.

CHAPTER 3

SOFTWARE REQUIREMENT SPECIFICATION

3.1 FUNCTIONAL REQUIREMENTS

FR-01	**Registration**
Description	After filling the required data, the client can register himself/herself in our proposed system.
Stakeholders	Customers
Priority	High

FR-02	**Login**
Description	users will be able to Login into the system with his unique username,email and password.
Stakeholders	Customers,Staff,Admin
Priority	Hign

FR-03	**Search**
Description	User can search songs,based on ARTIST name,language and Album name.
Stakeholders	Customers
Priority	High

FR-04	Favourite
Description	user can add songs in favourite list.
Stakeholders	Customers
Priority	High

FR-05	Recent Played song/History
Description	User can Scroll through recently played/viewed songs.
Stakeholders	Customers
Priority	High

FR-06	Free Membership
Description	Users can listen limited free songs and can’t download songs
Stakeholders	Customers
Priority	High

FR-07	Paid Membership
Description	Users can listen Unlimited songs and able to download unlimited songs.
Stakeholders	Customers
Priority	High

FR-08	Add Employee
Description	Admin can add staff
Stakeholders	Admin,Staff
Priority	Medium

FR-09	Update/Add song to database
Description	staff/admin can update/add songs in database
Stakeholders	staff,admin
Priority	High

3.2 Non-Functional Requirements

ID	Name	Description	Priority
NFR-01	Forget password	user can Reset their password through forget password.	High
NFR-02	security	Using token based authentication, session, it will be secure from unauthorized access.	High
NFR-03	Availability	The system should always be available for access at 24 hours, 7 days a week.	High
NFR-04	Maintainability	This way how easy to support, change and enhance the system.	Medium
NFR-05	performance	the customer can enter quickly,easy without any effort as an organized way and our web site will be more reliable.	High

3.3 SPEED AND LATENCY REQUIREMENTS

SLR-01	Data generate result must be faster
Description	● Dataset would be inserted in PostgreSQL Database using “Python manage.py make migrations”(command). ● UI design-build on the user fulfills table data set and Show.The database we have to use “python manage.py migrate”(command).
Stakeholder	All Users
Priority	High

3.4 ACCURACY REQUIREMENTS

For all type of users,it must be needed to accurate.

- All users are capable to show accurate page.
- staff/Admin can upload songs
- Free Membership users can listen limited songs
- Paid membership (Monthly/Yearly)
    a. Unlimited song
    b. Unlimited download

3.5 CAPACITY REQUIREMENTS

We must develop a system which is capable to handle database , manage http request etc

CR-01	This system will handle thousands of data
Description	User has so many info such as:song,membership profile,user favourite list etc.Thats why this system need to handle thousands of data every month.
Stakeholder	Admin
Priority	High

3.6 Dependability Requirements

3.6.1 Reliability Requirements

Here are the reliability requirements of RyzicMix

- Users can easily search song,add song to favourite list
- Premium users make online payment
- Admin/Staff can also update/add songs
- Users can see their song history

3.6.2 Availability Requirements

Here are the availability requirements of RyzicMix:

- This system need nginx server to load traffic.
- This system need AWS s2 storage to handle data
- This website should run on any web browser

3.7 Security Requirements

Web security is very important for making websites. I write some security related requirements are given below

- Authentication and password management.
- Authorization and role management.
- Audit logging and analysis.
- Network and data security.
- Code integrity and validation testing.

3.7.1 Access Requirements

Here some aess requirements for RyzicMix

- Only for registered user can listen songs
- Paid membership can do listen unlimited songs and download songs
- Any public can visit this website

3.8 Privacy Requirements

• Here we are using activate and non-activate account system.
• All customer account info hidden from others.

3.9 Usability and Human Interaction Requirements

Usability requirements deal with how easy it is for an operator to make use of the system.Because there are two basic types of operators (humans and other systems), there are different approaches to expressing these requirements.
In general, usability when applied to system-to-system interfaces deals with the complexity of the interfaces, their ease of implementation, and their efficiency of operation.

3.9.1 Ease of Use Requirements

Our application is easy to use and also easily understandable

EUR-01	This website must be usable for all types of users
Description	This website is enough usable to the customer and admin.
Stakeholder	User,Staff,Admin
Priority	High

3.10 Maintainability and supportability requirements

3.10.1 Maintenance Requirements

- Check that all of your pages are loading without errors.
- Run a backup and make sure a previous version of your site is stored.
- Make updates to website software and plugins.
- Check that all of your forms are running properly.

3.10.2 Supportability Requirements

- When the system did not work perfectly then need to check database and others work
- Update all type of plugins

3.11 Adaptability Requirements

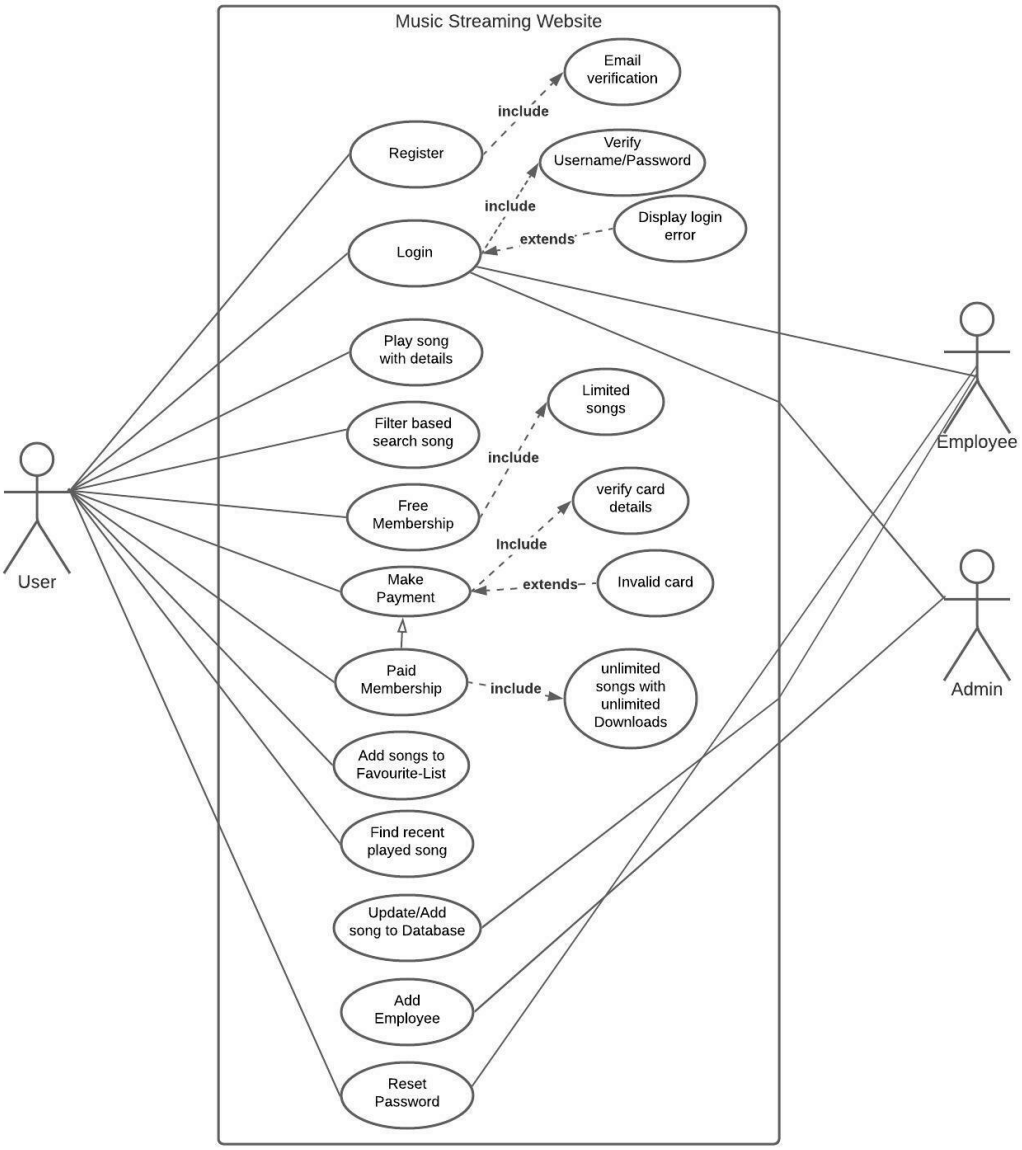
- the customer can enter quickly,easy without any effort as an
- organized way and our web site will be more reliable.

- The system should always be available for access at 24 hours, 7
- days a week.

CHAPTER 4

SYSTEM ANALYSIS AND DESIGN

4.1 USE CASE DIAGRAM



4.2 USE CASE DESCRIPTION

4.2.1 Register

Use Case	Register
Primary Actor	User
Goal	Anyone can apply for register & get email verification and verify his/her account.
Precondition	Must be fulfill register required fields
Trigger	Access this website
Scenario	● User can register into this website ● Public enter the URL & the url show the “registration” pages. ● Public enter all required information into “Registration” form ● Get email verification ● Verify his/her account
Exceptions	● System cannot get registration application from user

4.2.2 Login & Logout

Use Case	Login & Logout
Primary Actor	User,Employee,Admin
Goal	Enable user,employee, admin access to the system through website And finally logout
Precondition	All type of users has a valid username and password
Trigger	Access this website
Scenario	The user enters his/her username and password in the returning user setio of the “ Sign in “ screen.
Exceptions	Display login error message.

4.2.3 Reset password

Use Case	Login & Logout
Primary Actor	User,Employee,Admin
Goal	Enable user,employee, admin access to the system through website And finally logout
Precondition	All type of users has a valid username and password
Trigger	Access this website
Scenario	The user enters his/her username and password in the returning user setio of the " Sign in " screen.
Exceptions	Display login error message.

4.2.4 Play song with details

Use Case	Play song with details
Primary Actor	User
Goal	Played song successfully
Precondition	user must have a account.
Trigger	Played song
Scenario	● User must have a account ● Played song successfully
Exceptions	Can't listen song because of "@Login_required"

4.2.5 Filter based search song

Use Case	Filter based search song
Primary Actor	User
Goal	search song successfully
Precondition	user must have a account.
Trigger	Search song
Scenario	● User must have a account ● Search song based of “song name”,“singer name”,“album name”
Exceptions	Input wrong details

4.2.6 Free Membership

Use Case	Free membership
Primary Actor	User
Goal	Create account successfully with “free membership”
Precondition	user must have an account.
Trigger	Create account
Scenario	● User must have a account ● Then this account count to be an Free Account ● User can listen limited song ● User can’t download songs.
Exceptions	N/A

4.2.7 Make payment with paid membership

Use Case	Paid membership
Primary Actor	User
Goal	User buy paid membership
Precondition	user must have an free type account.
Trigger	Buy membership
Scenario	● User must have a account ● Then this account count to be an Free Account ● User buy monthly/yearly membership ● User can listen unlimited song ● User can download unlimited song
Exceptions	N/A

4.2.8 Add songs to favourite

Use Case	Add songs to favourite
Primary Actor	User
Goal	User add songs to favourite list
Precondition	user must have an account.
Trigger	Add songs to favourite
Scenario	● User must have a account ● Then they add songs to favourite
Exceptions	User wants to add songs to favourite without login

4.2.9 Find recent played song/History

Use Case	Find recent played song / [Song History]
Primary Actor	User
Goal	User can see their song history
Precondition	user must have an account.
Trigger	Go to song history
Scenario	● User must have a account ● Then user can see their song history
Exceptions	User wants to see their songs history without login

4.2.10 update/add song to system

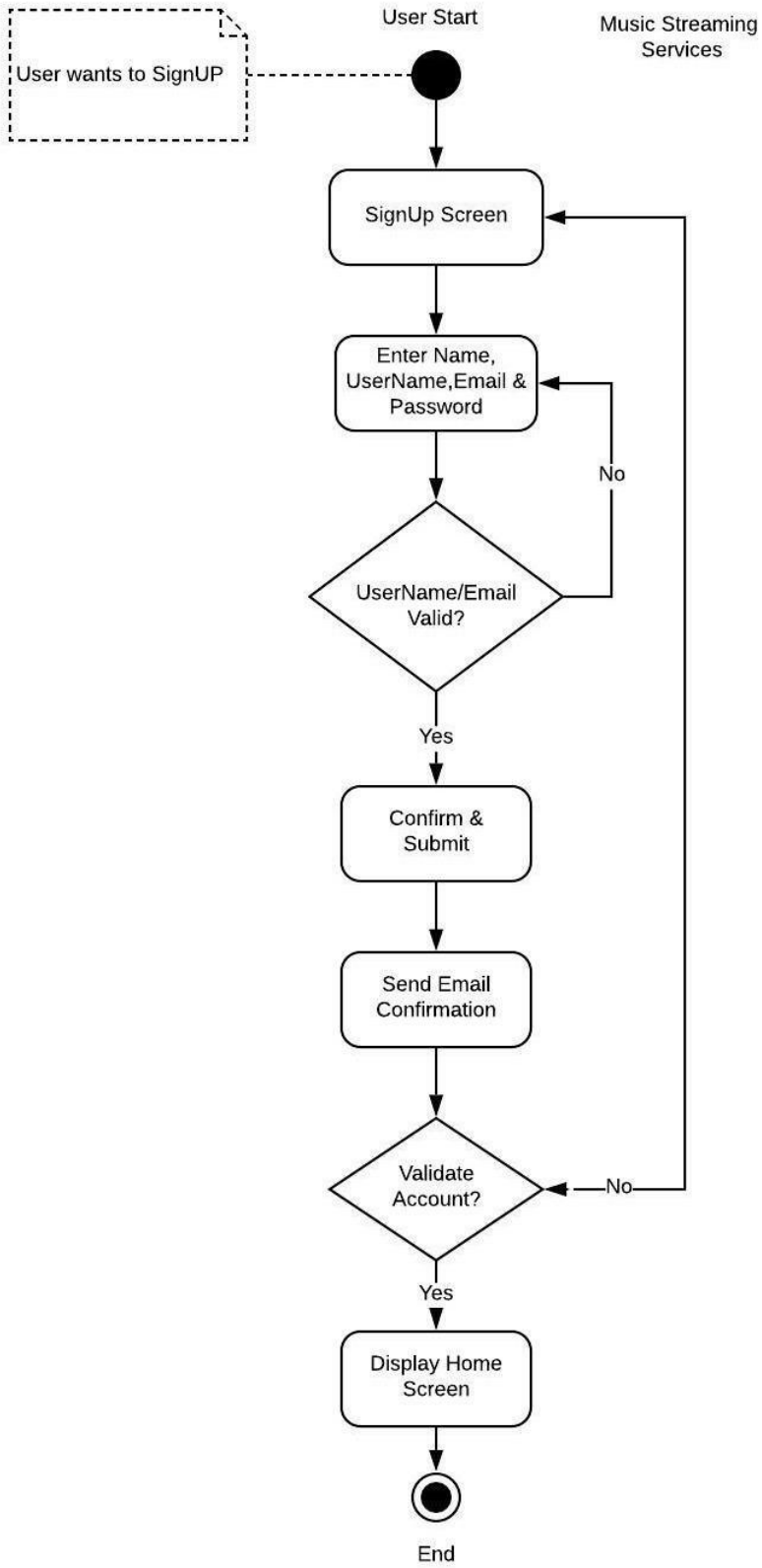
Use Case	update/add song to system
Primary Actor	Employee
Goal	Employee add songs to system
Precondition	employees must have an account given by admin
Trigger	Add songs to system
Scenario	● Employees must have a account ● Then they can add songs to database
Exceptions	N/A

4.2.11 Add employee

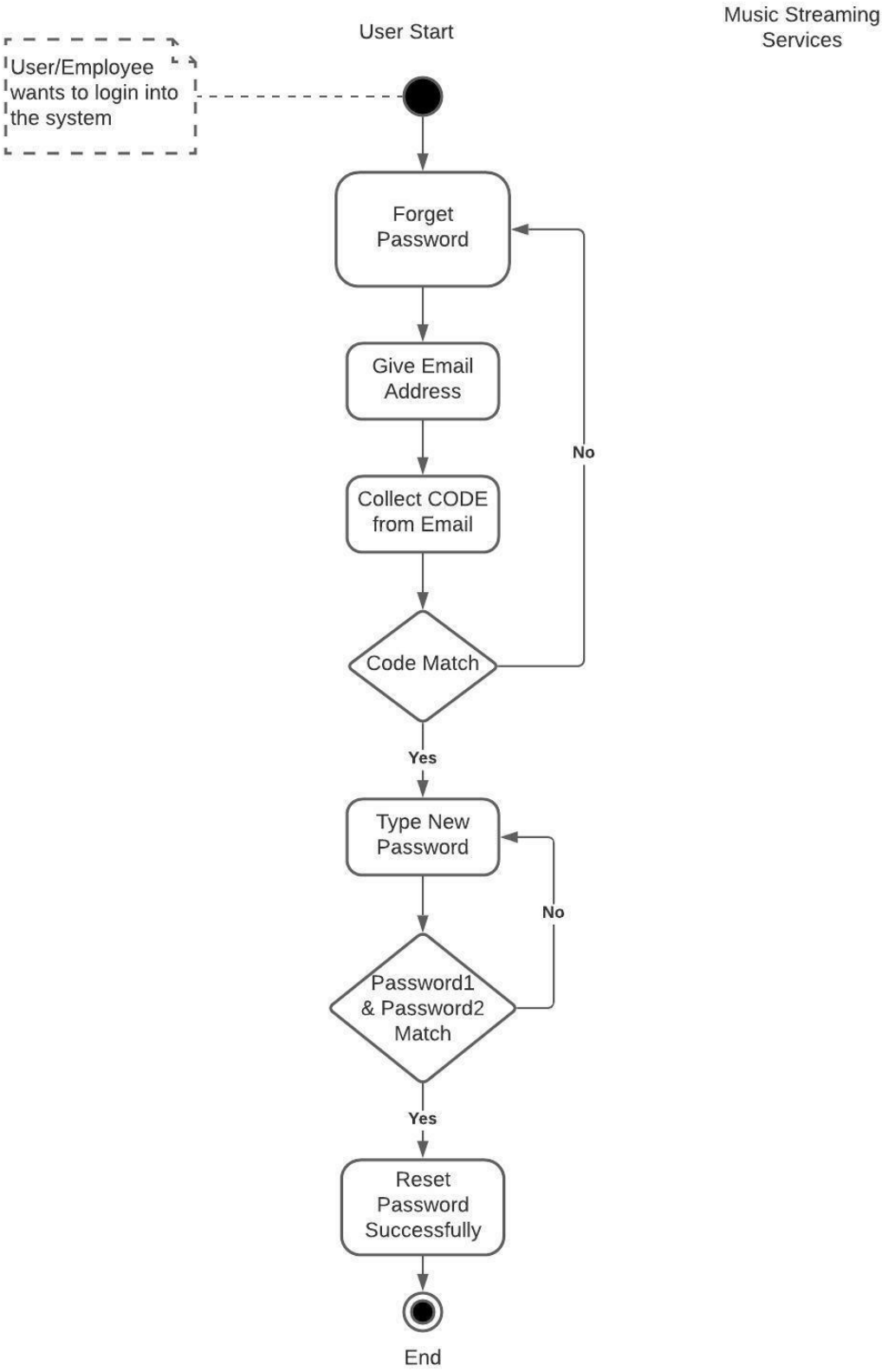
Use Case	Add employee
Primary Actor	Admin
Goal	Admin add employee in system admin panel
Precondition	Actor must be a admin
Trigger	Add employee in admin panel
Scenario	● Admin add employee to system
Exceptions	N/A

4.3 Activity Diagram

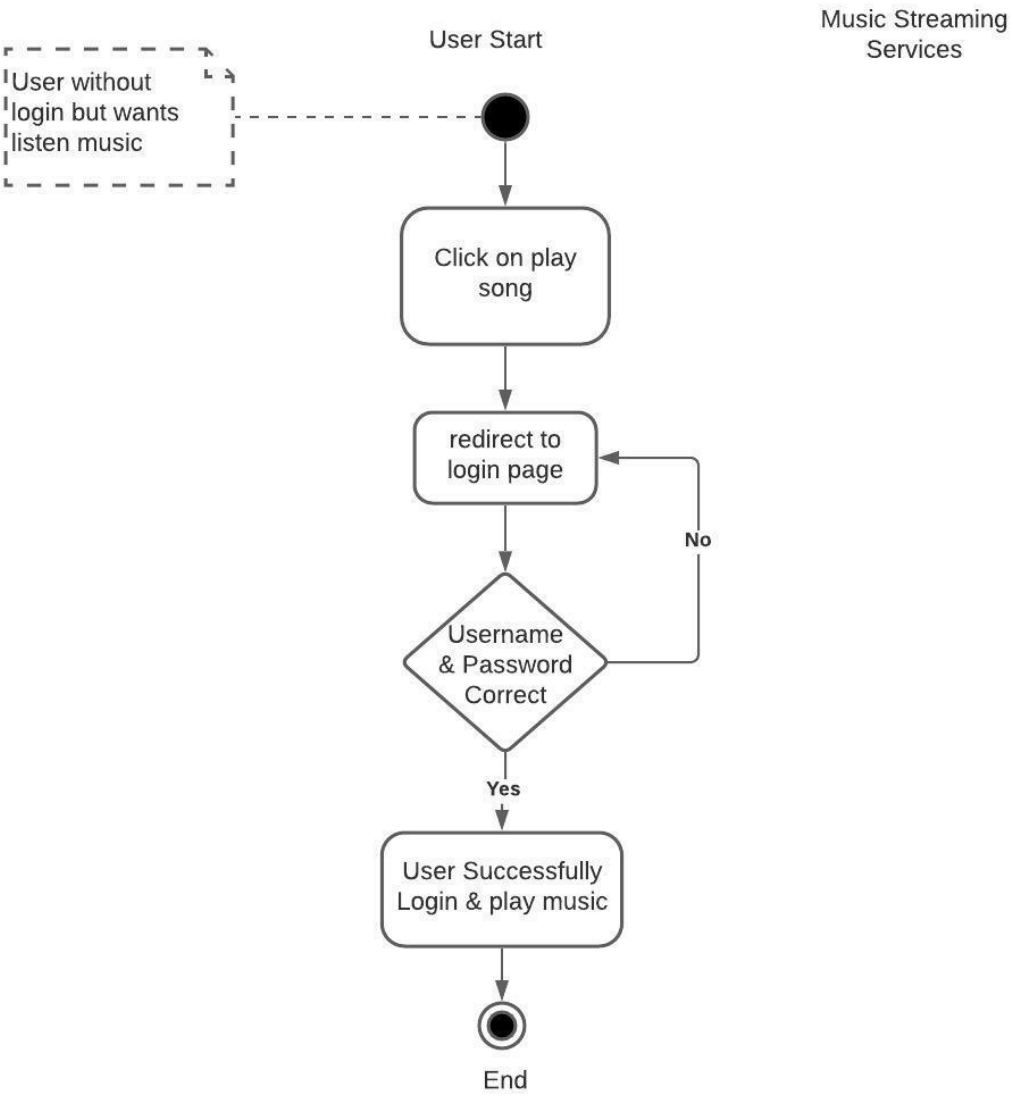
4.3.1 Registration



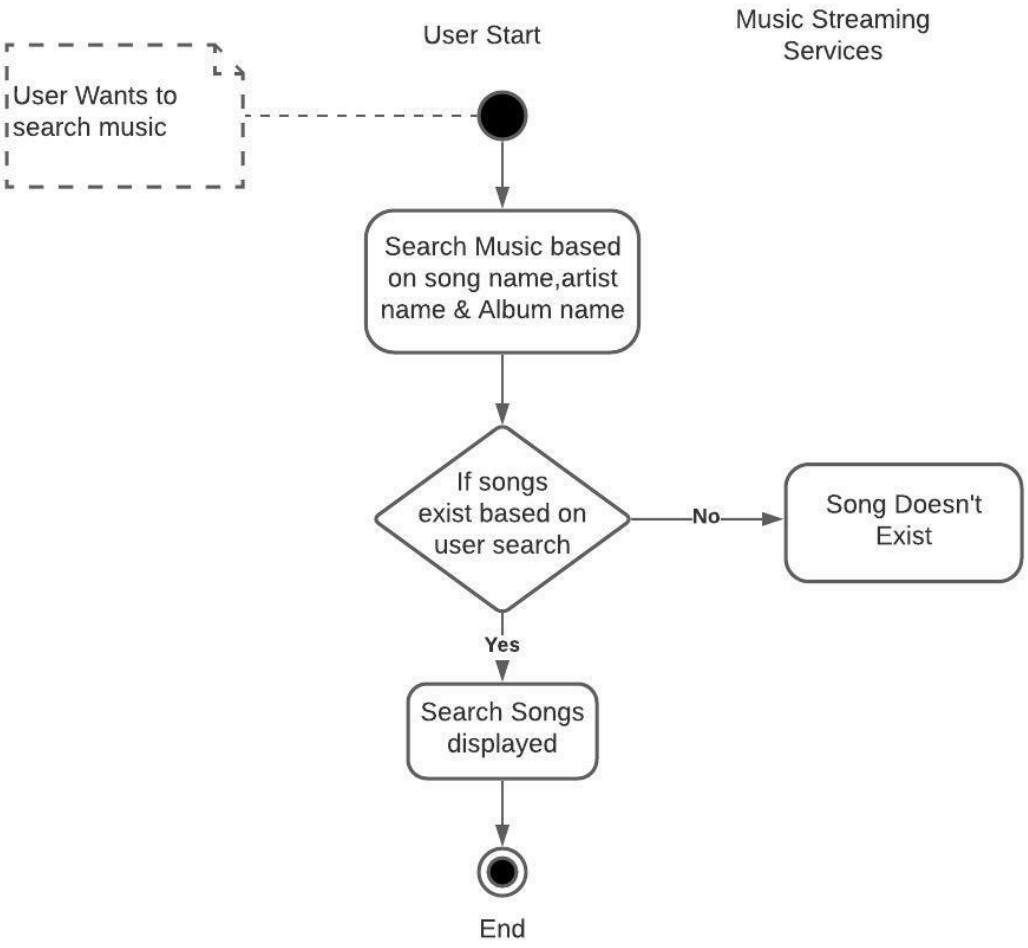
4.3.2 Login


Music Streaming Services
User Start
User/Employee wants to login into the system
Forget Password
Give Email Address
Collect CODE from Email
Code Match
No
Yes
Type New Password
No
Password1 & Password2 Match
Yes
Reset Password Successfully
End

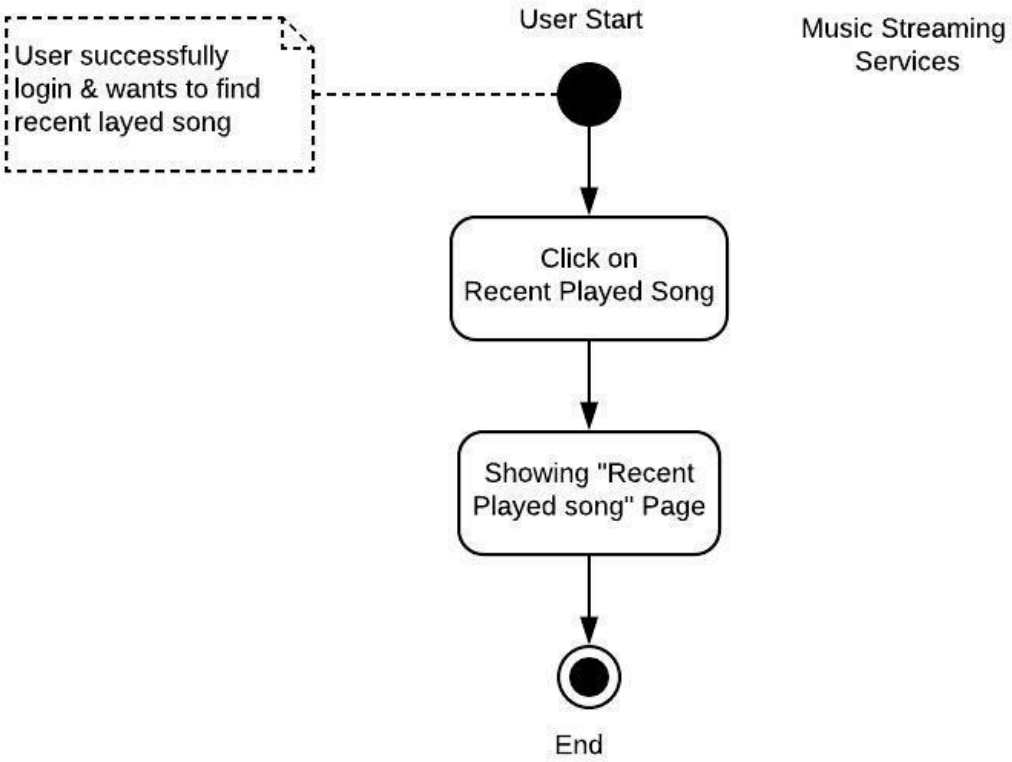
4.3.3 Listen song with details



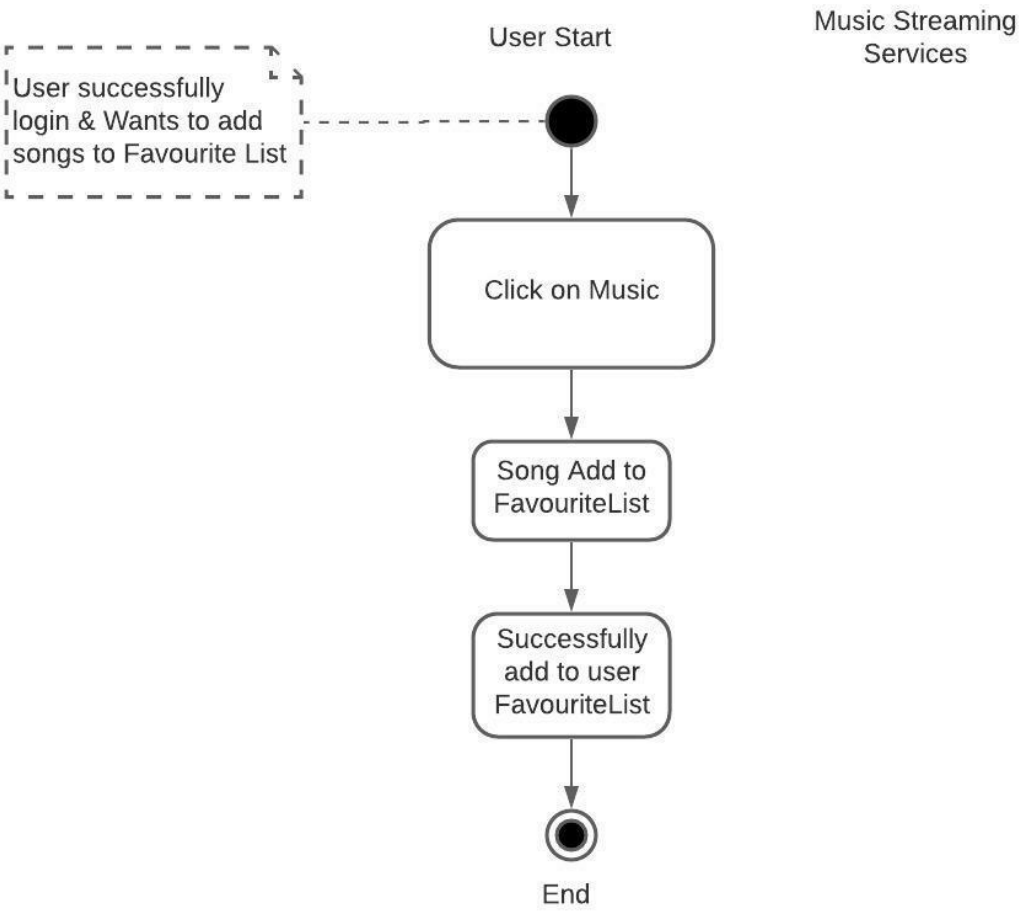
4.3.4 Search song



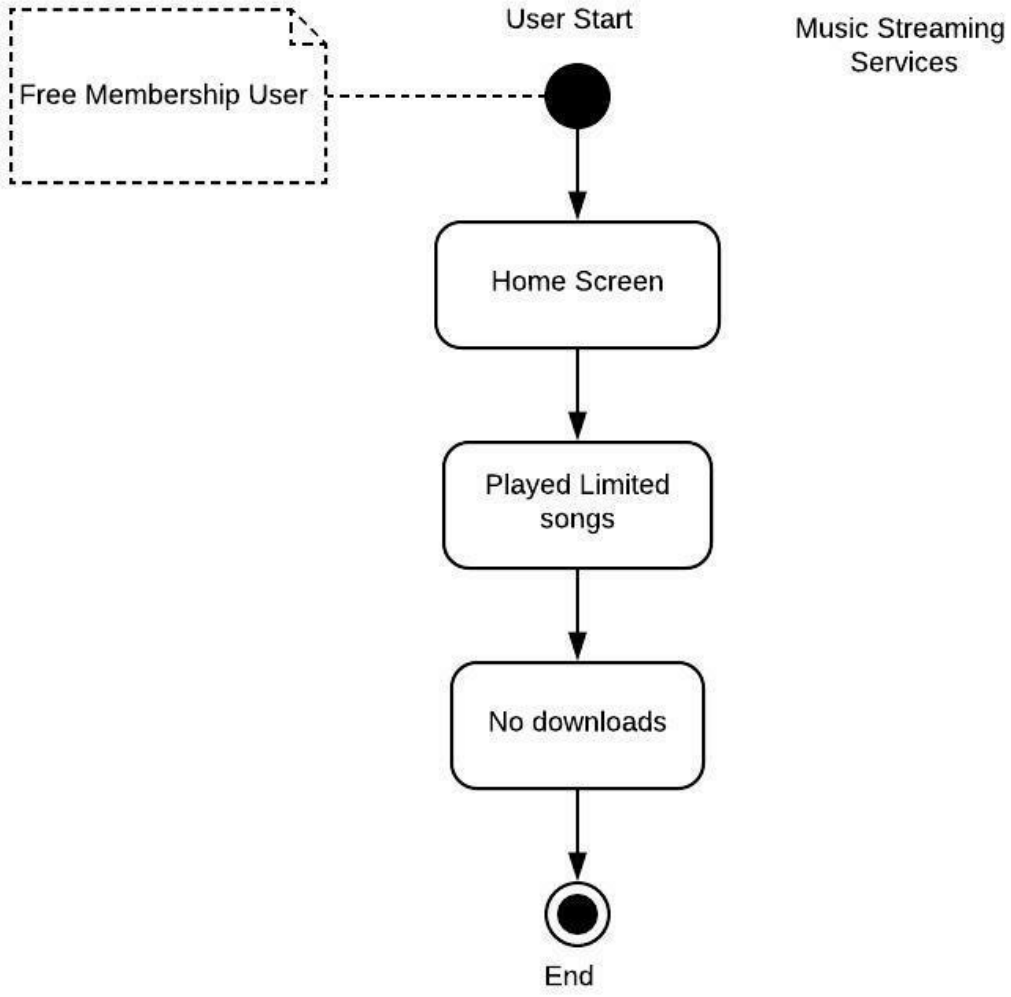
4.3.5 Song History/Find recent played song



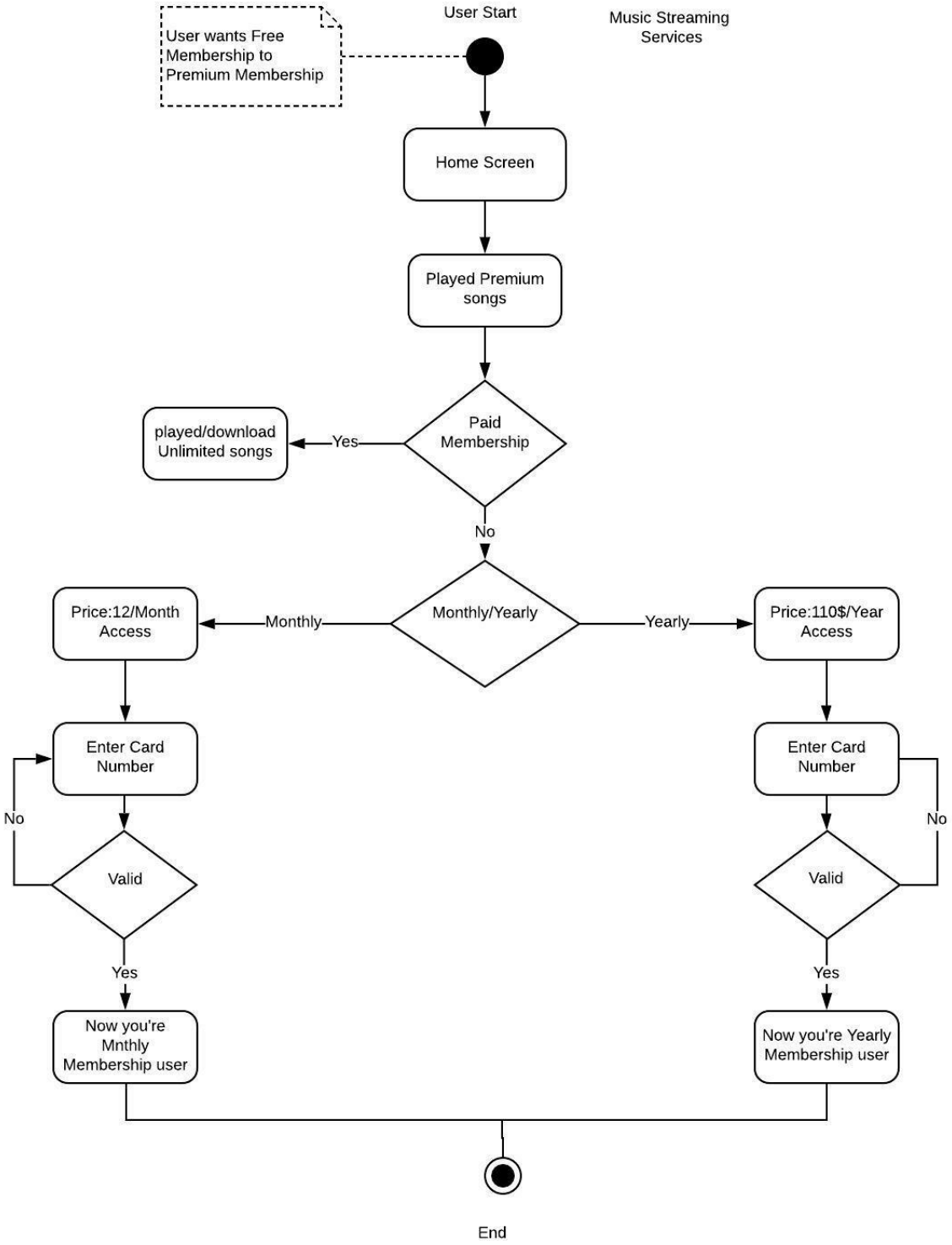
4.3.6 Add songs to favourite list



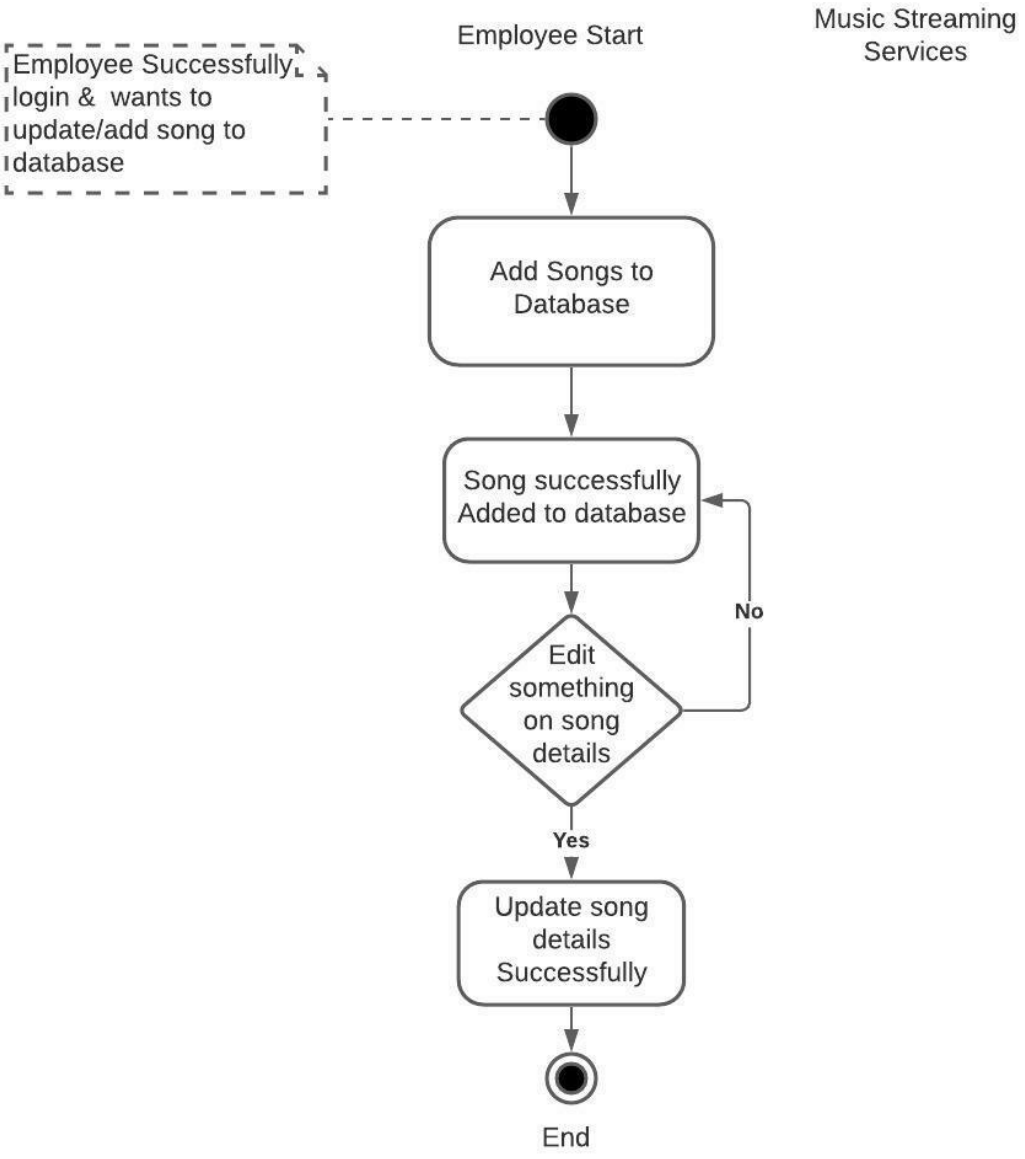
4.3.7 Free membership



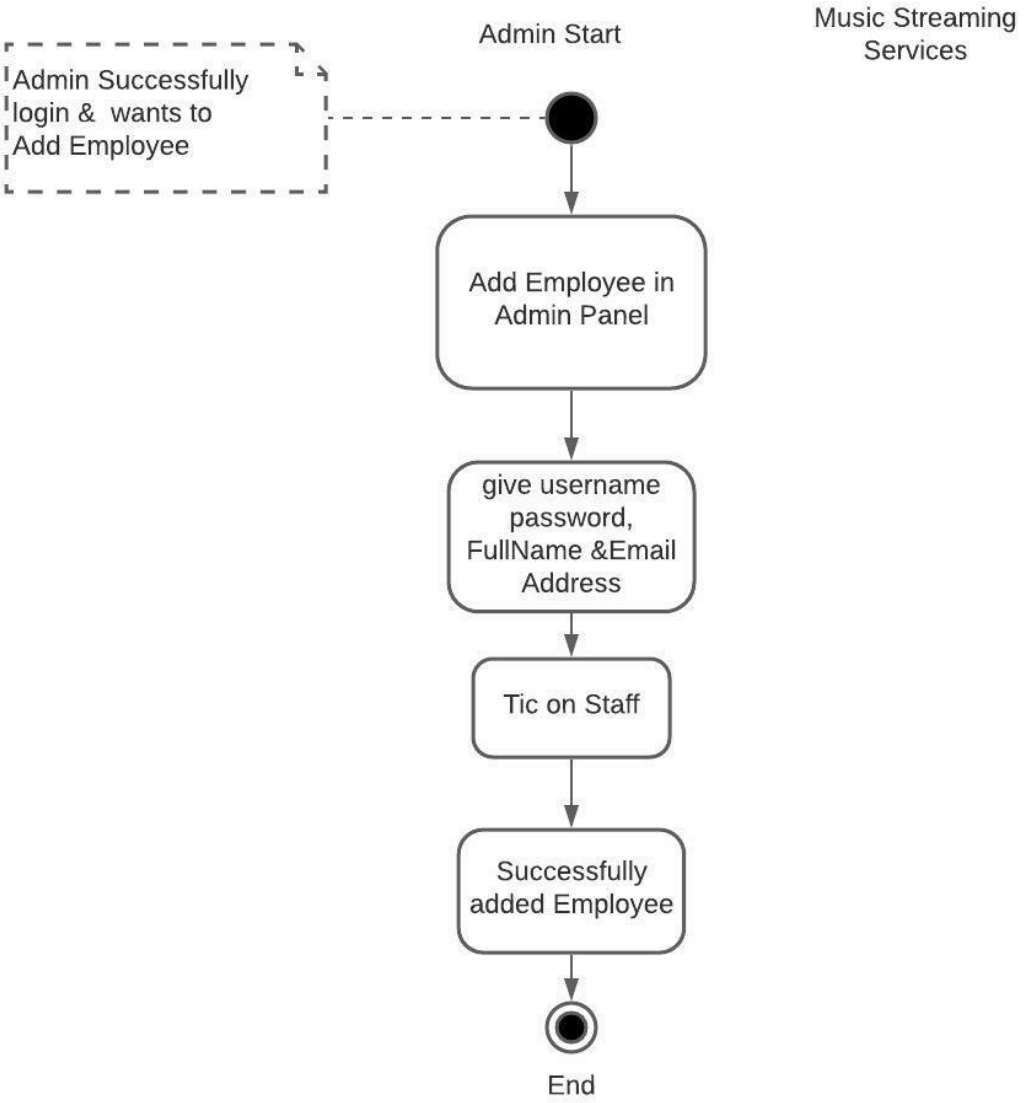
4.3.8 Make Payment with paid membership



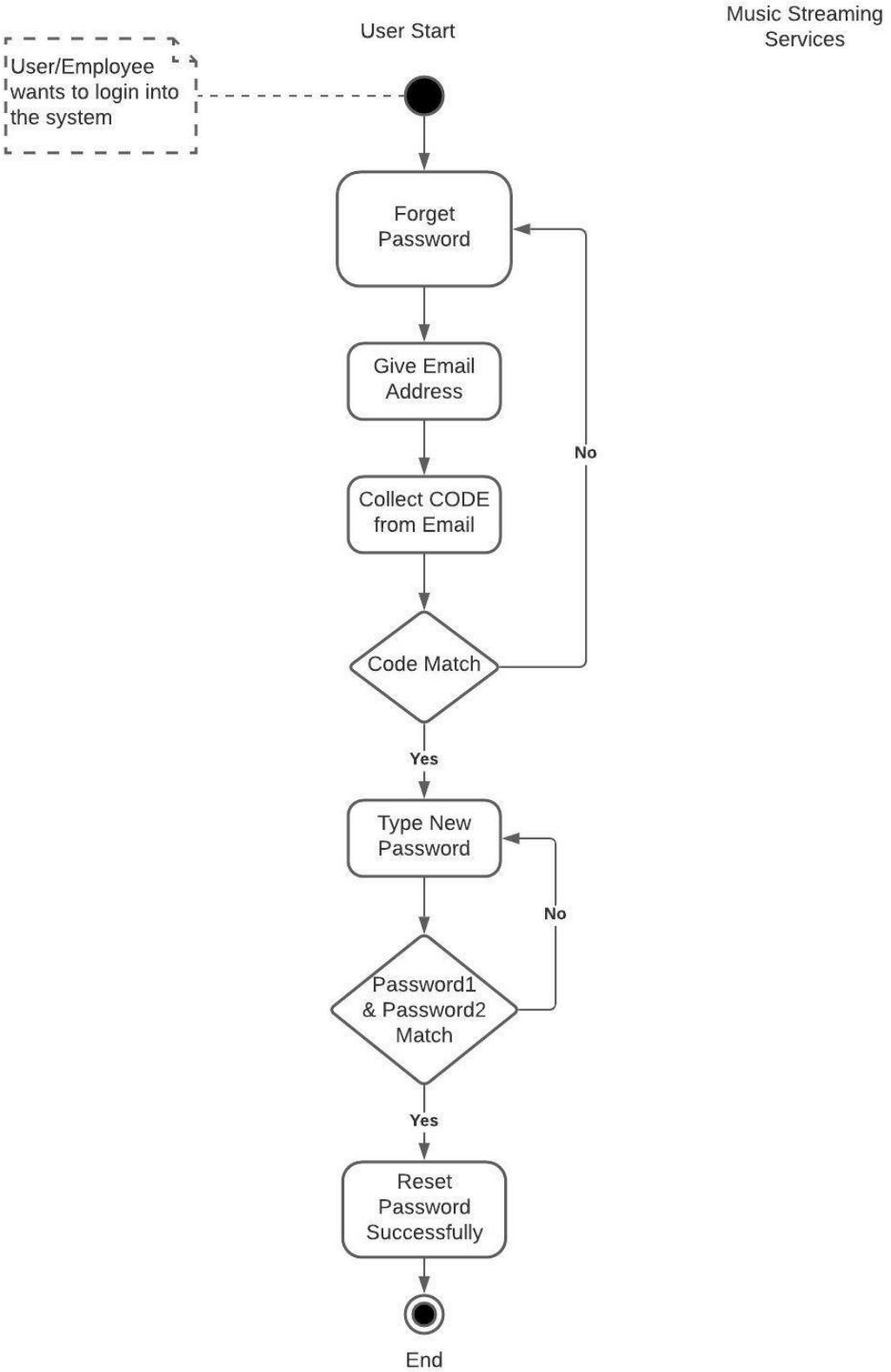
4.3.9 Update/Add song to Database



4.3.10 Add employee

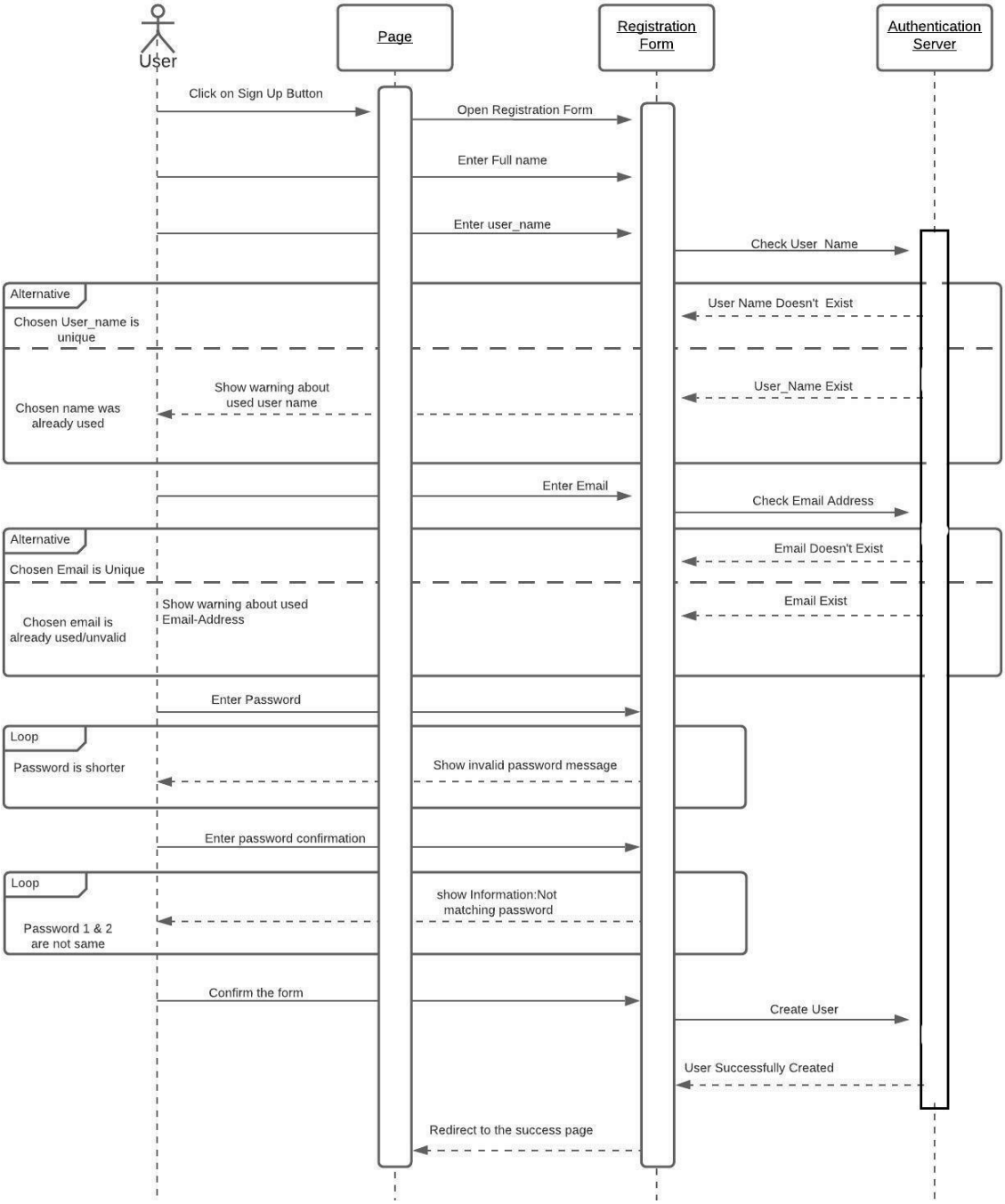


4.3.11 Reset Password

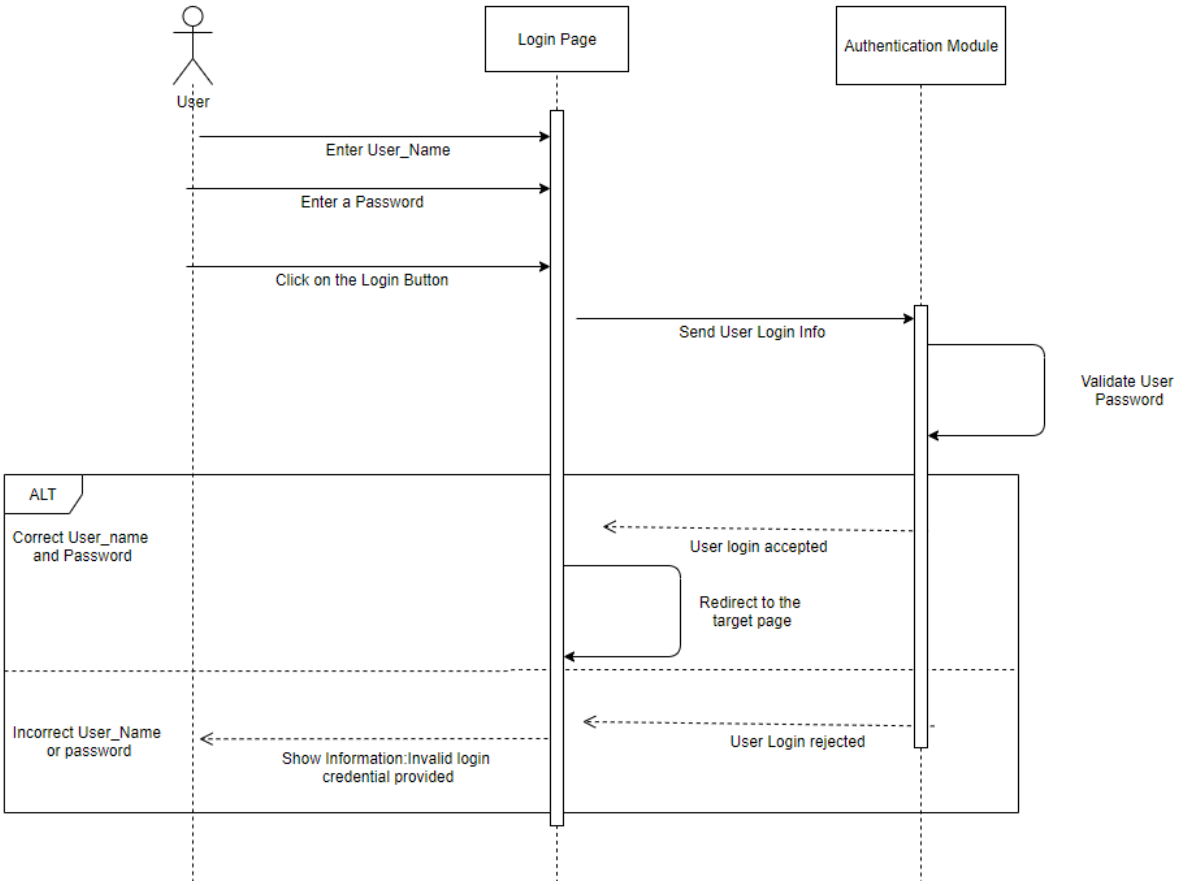


4.4 Sequence diagram

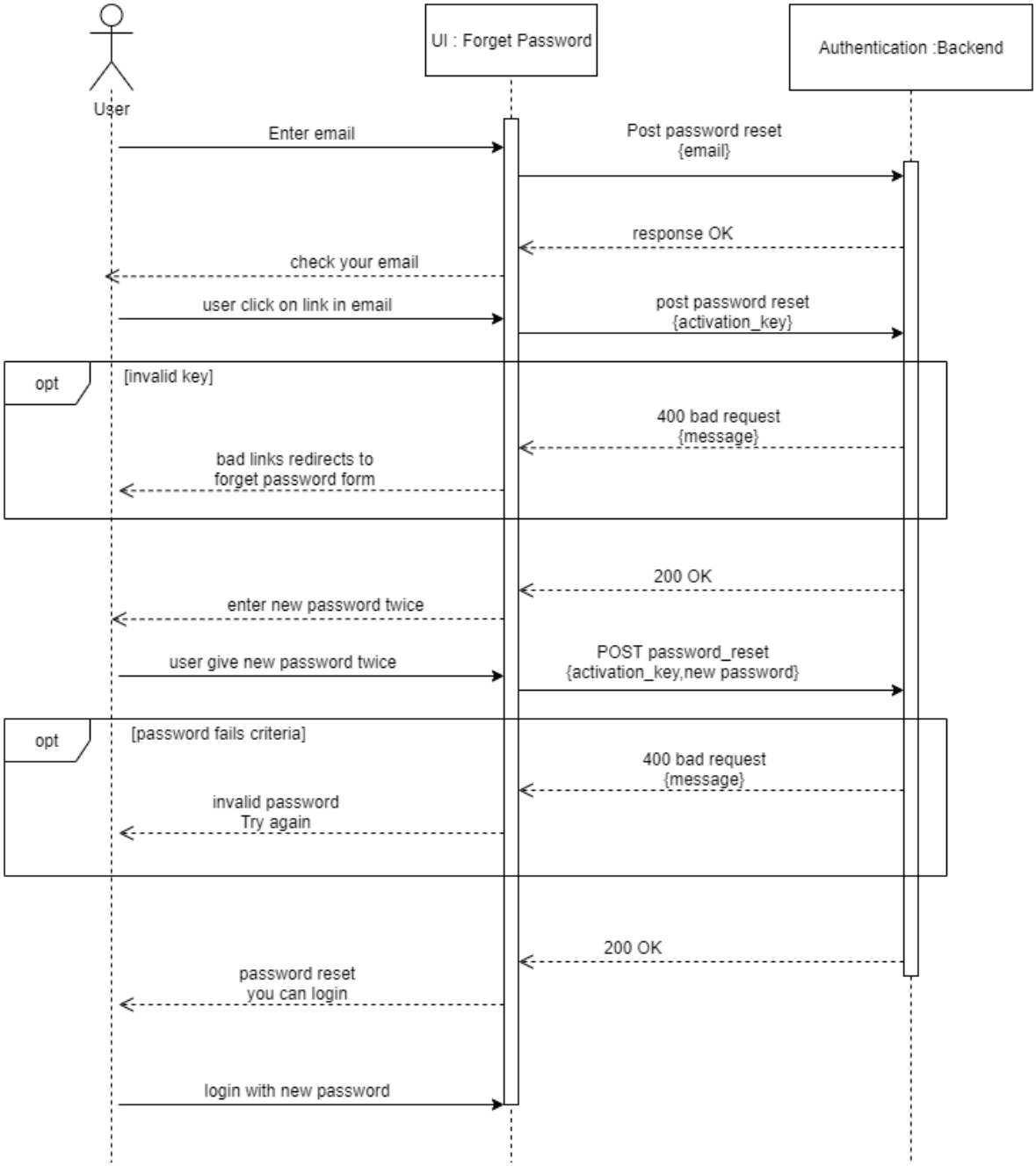
4.4.1 Registration



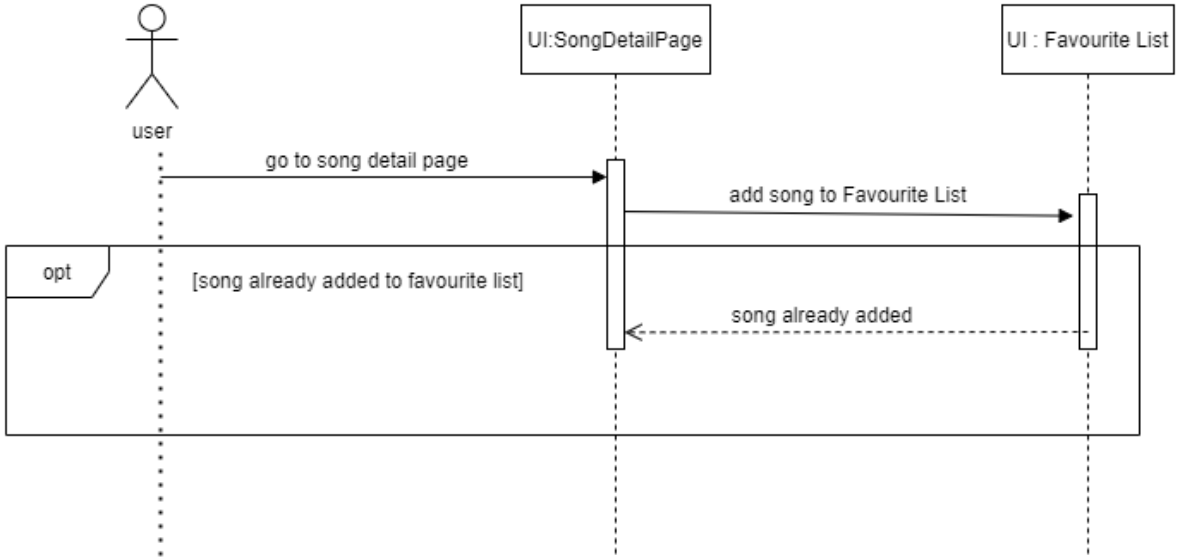
4.4.2 Login


User
Login Page
Authentication Module
Enter User_Name
Enter a Password
Click on the Login Button
Send User Login Info
Validate User Password
ALT
Correct User_name and Password
User login accepted
Redirect to the target page
Incorrect User_Name or password
Show Information:Invalid login credential provided
User Login rejected

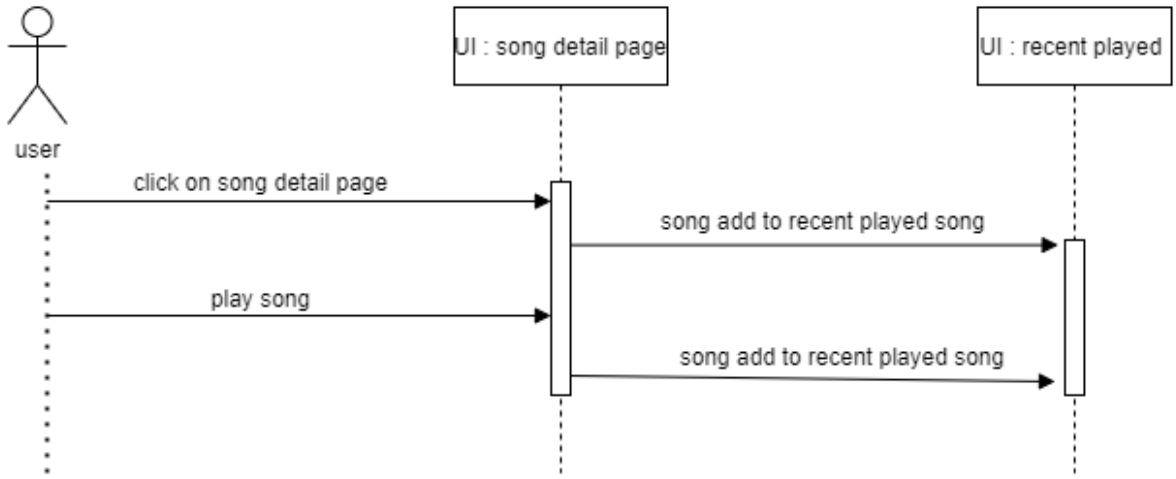
4.4.3 Reset/Forget password



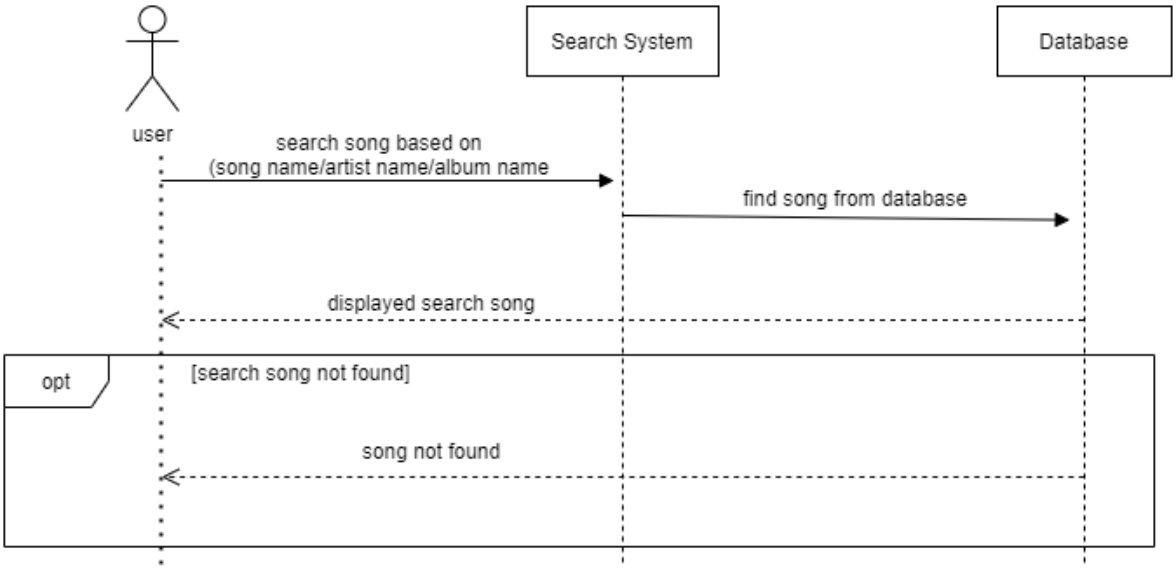
4.4.4 Add song to favourite-list



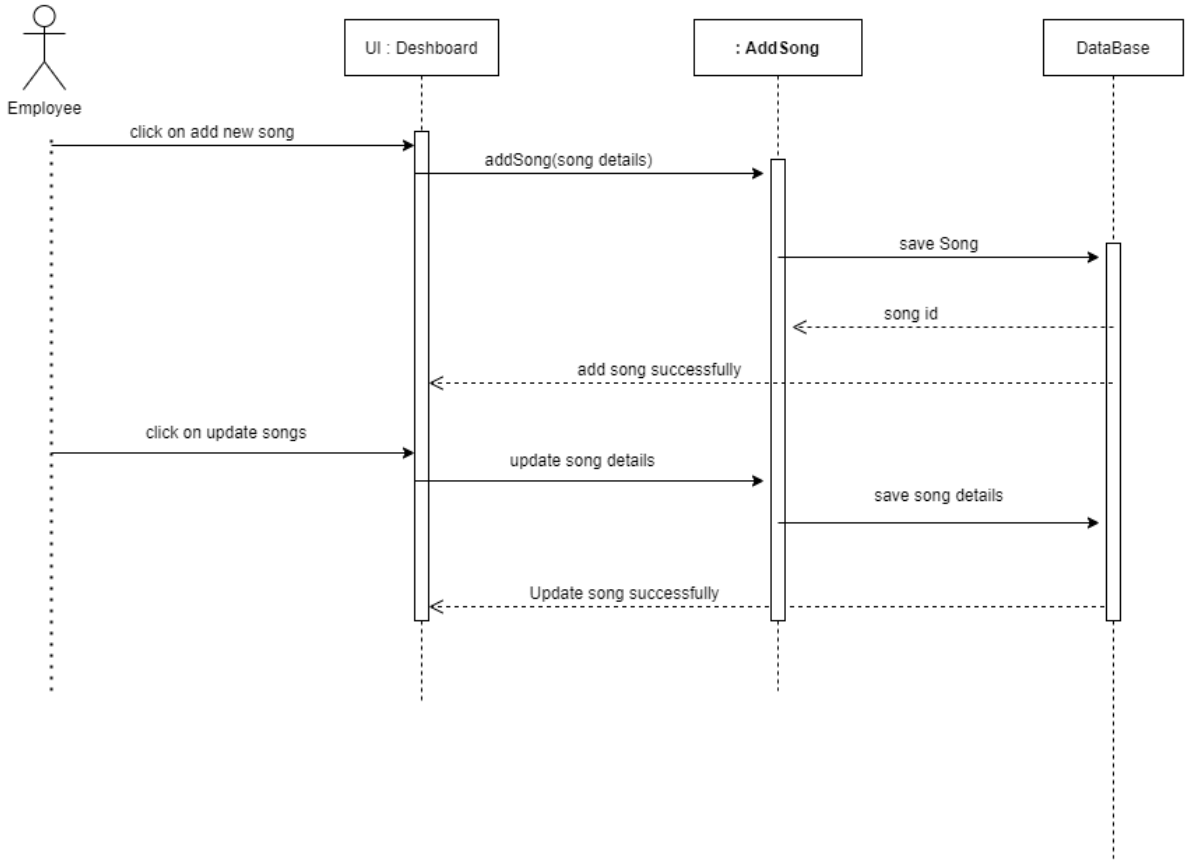
4.4.5 Find song history/recent played song



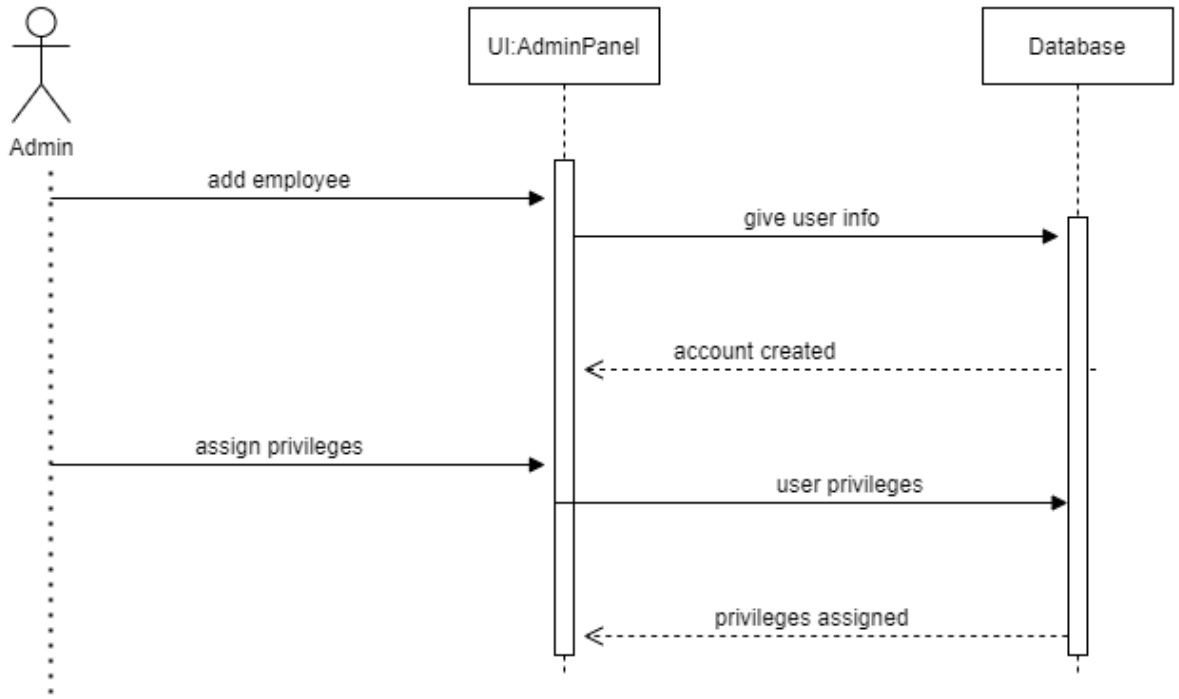
4.4.6 Search song



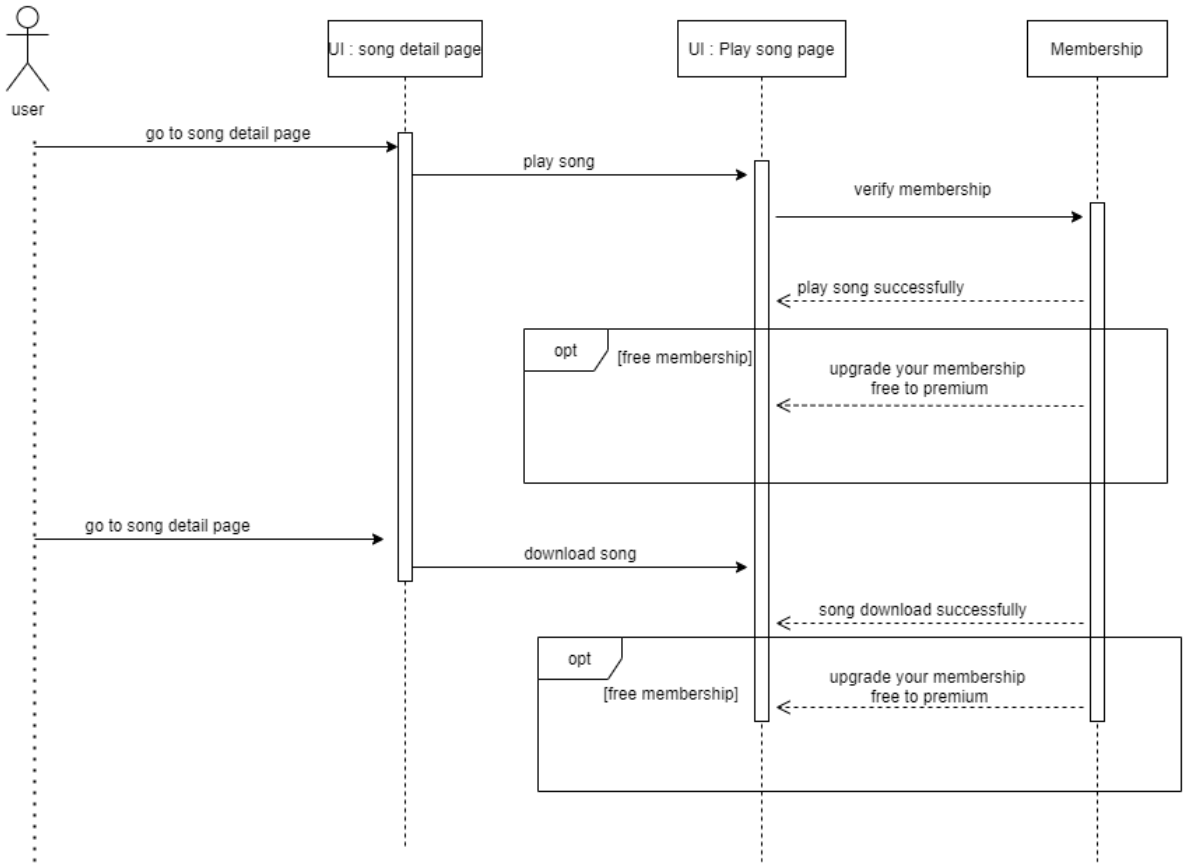
4.4.7 Employee add/update song



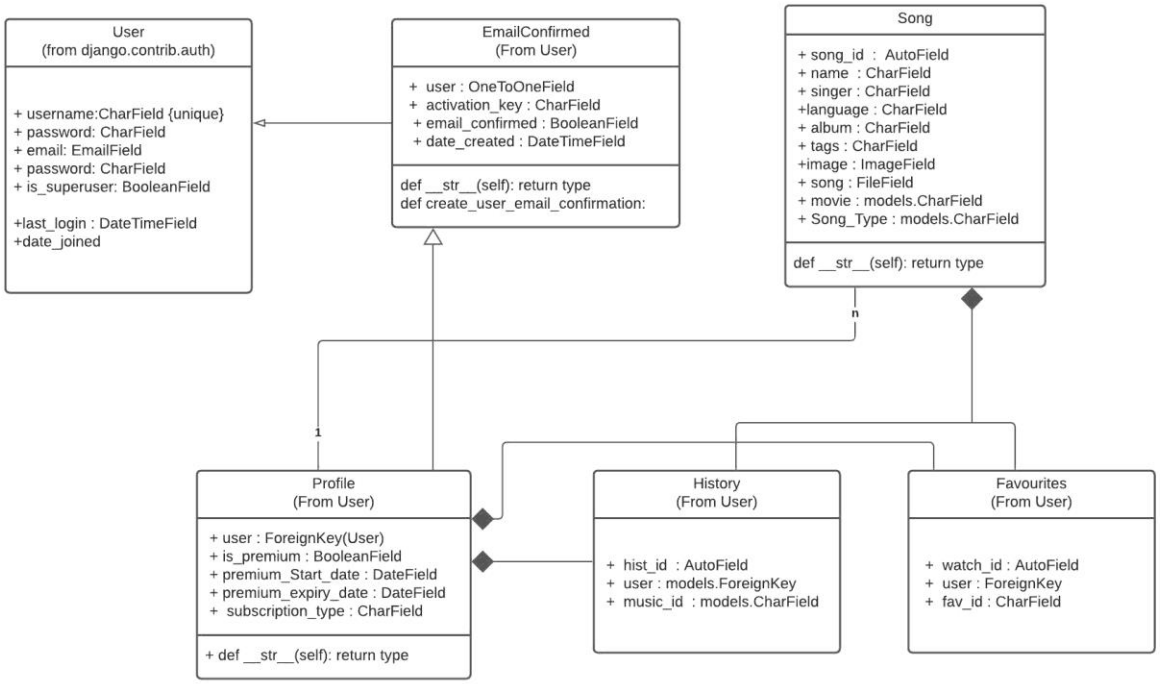
4.4.8 Admin add employee to admin panel



4.4.9 Free/Paid membership

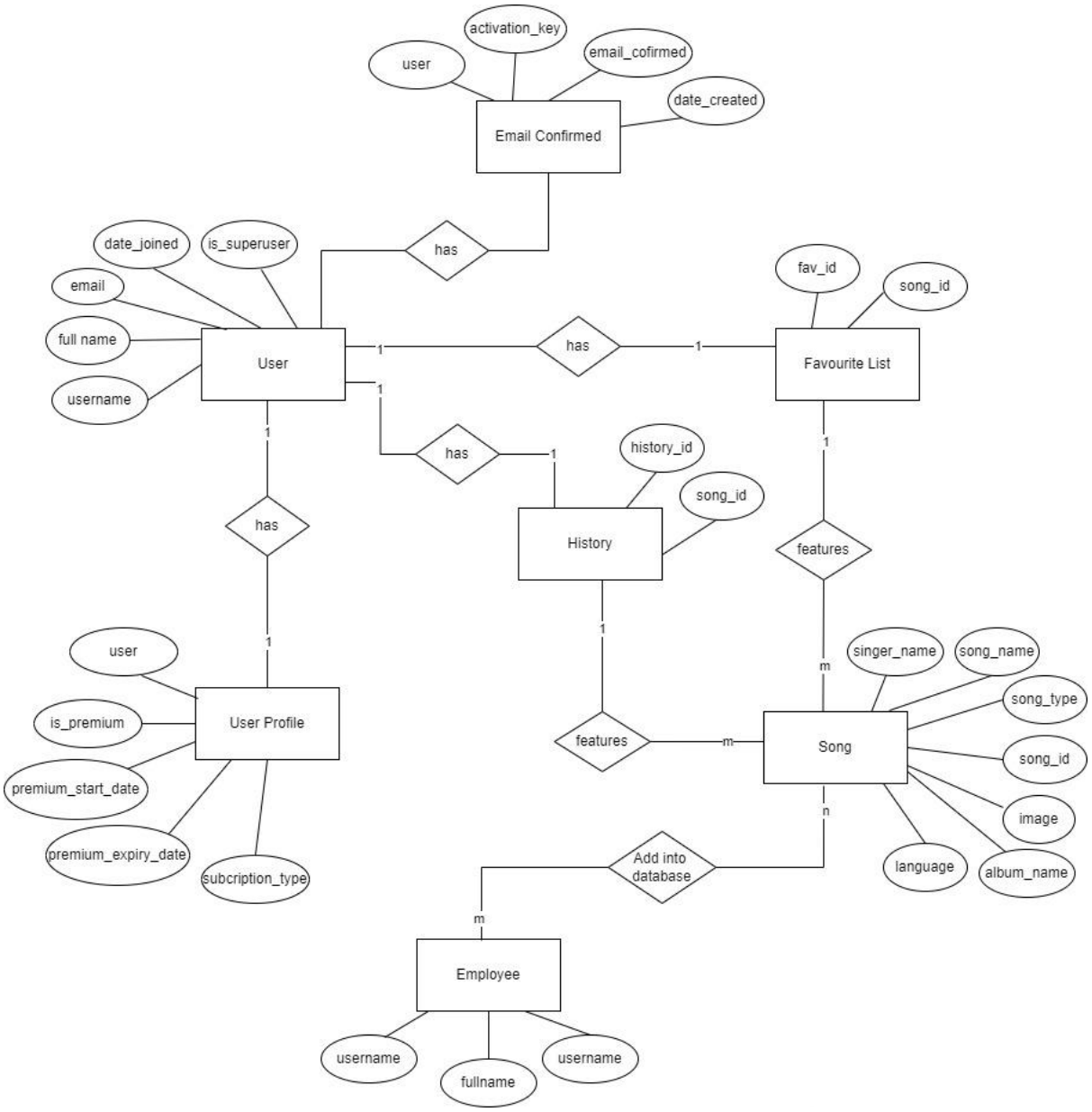


4.5 Class Diagram



Class Diagram for
Django framework

4.6 Entity Relationship Diagram



4.7 Development Tools and Technology

4.7.1 User Interface Technology

- HTML
- CSS
- Bootstrap-4
- JavaScript,Font-Awesome
- JQuery
- Stripe-API

4.7.2 Implementation Tools and Platforms

- Django Framework (Python) [for backend]
- PostgreSQL [Database]
- Windows CMD [Terminal1]
- Git-Bash [Terminal 2]
- Visual Studio Code+Atom [IDE]

4.8 Technologies Involved

This project is created by using a variety of technologies.

HTML is a markup language that is used to produce electronic documents (called pages) that are displayed on the Internet.

I use Bootstrap in my project because it is flexible and easy to work with.

Styles are added to the page using CSS3.

Javascript and jQuery (a javascript framework) are used for having validations using regular expressions and to add interactivity to the webpage.

For Backend I use the Django web framework, Django framework is based on the Model-View-Template (MVT) architecture.

For payment methods, I use Stripe API.

In the database, I use PostgreSQL, which is a free and open-source relational database management system.

CHAPTER 5

SYSTEM TESTING

5.1 Testing Strategy

A test strategy is an outline that describes the testing approach of the software development cycle. The purpose of a test strategy is to provide a rational deduction from organizational, high-level objectives to actual test activities to meet those objectives from a quality assurance perspective.

5.2 Test Case Table

5.2.1 Test Case 1 (Login)

Test Case - 01	Test Case Name:Login
System : User Login	Subsystem: N/A
Designed By: Arif Hossain	Design Date: 1-8-2021
Execute By:Arif Hossain	Execution Date:5-10-2021

Step	Action	Expected System response	Pass/Fail	Comment
1	When system user fills up the user login field and click login button	If user don’t enter email id /username then show “required”	Pass	Email/username field are required
2	When user enters email like abc@gmail.com	The system shows this fields is email required.	Pass	The valid email needs to login

5.2.2 Test Case 2 (Search song)

Test Case - 02	Test Case Name:Search song
System : Search song	Subsystem: N/A
Designed By:Arif Hossain	Design Date: 7-8-2021
Execute By:Arif Hossain	Execution Date:8-9-2021

Step	Action	Expected System response	Pass/Fail	Comment
1	When someone enter song name and click search product	If song name nearby match then the website show song.	Pass	Song name required
2	When user enters song name	The system shows song.	Pass	User can search song without account

5.2.3 Test Case 3(Make Payment)

Test Case - 03	Test Case Name: Make Payment
System : Payment	Subsystem: N/a
Designed By:Arif Hossain	Design Date: 10-10-2021
Execute By:Arif Hossain	Execution Date:28-10-2021

Step	Action	Expected System response	Pass/Fail	Comment
1	User give credit card information	If user give wrong credit card information then this system shows error	pass	Need valid card
2	When user enters like “ 5373 c cc n883 ”	This system shows wrong redit card	pass	N/A

5.3 Pass / Criteria

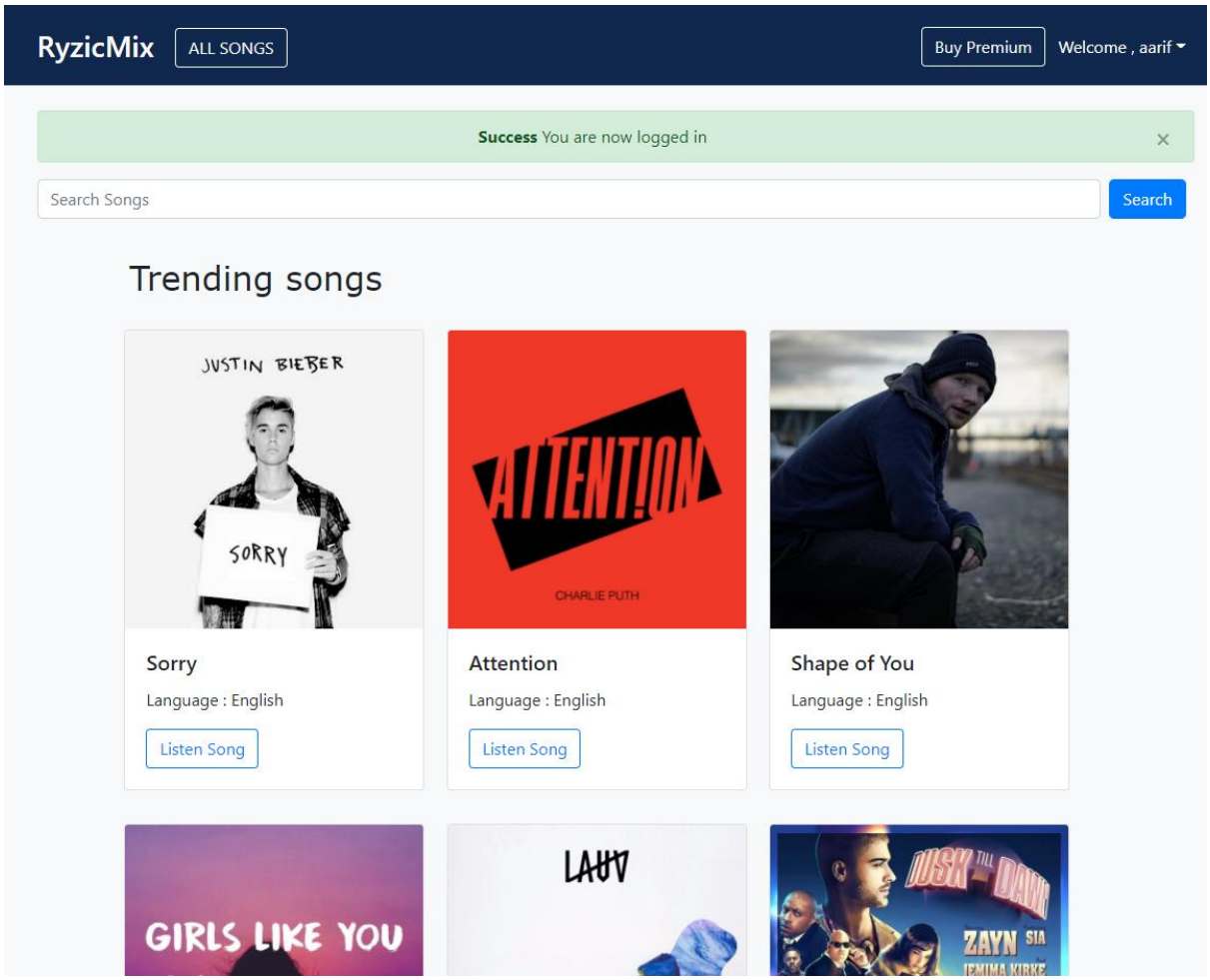
Pass or fail criteria will be set by the test engineers. They will prepare the pass / fail criteria on the basis of which input data are worked and which do not work well. Those data that are worked well will be considered as pass criteria. And rest of the input data will be considered as fail criteria.
Now we will give the pass / fail criteria below:

- System crash will not be considered as a pass case
- If any criteria pass 100% times, then it will be considered as pass criteria only
- If data can’t be displayed to the application properly, then it is also to be considered as fail criteria.

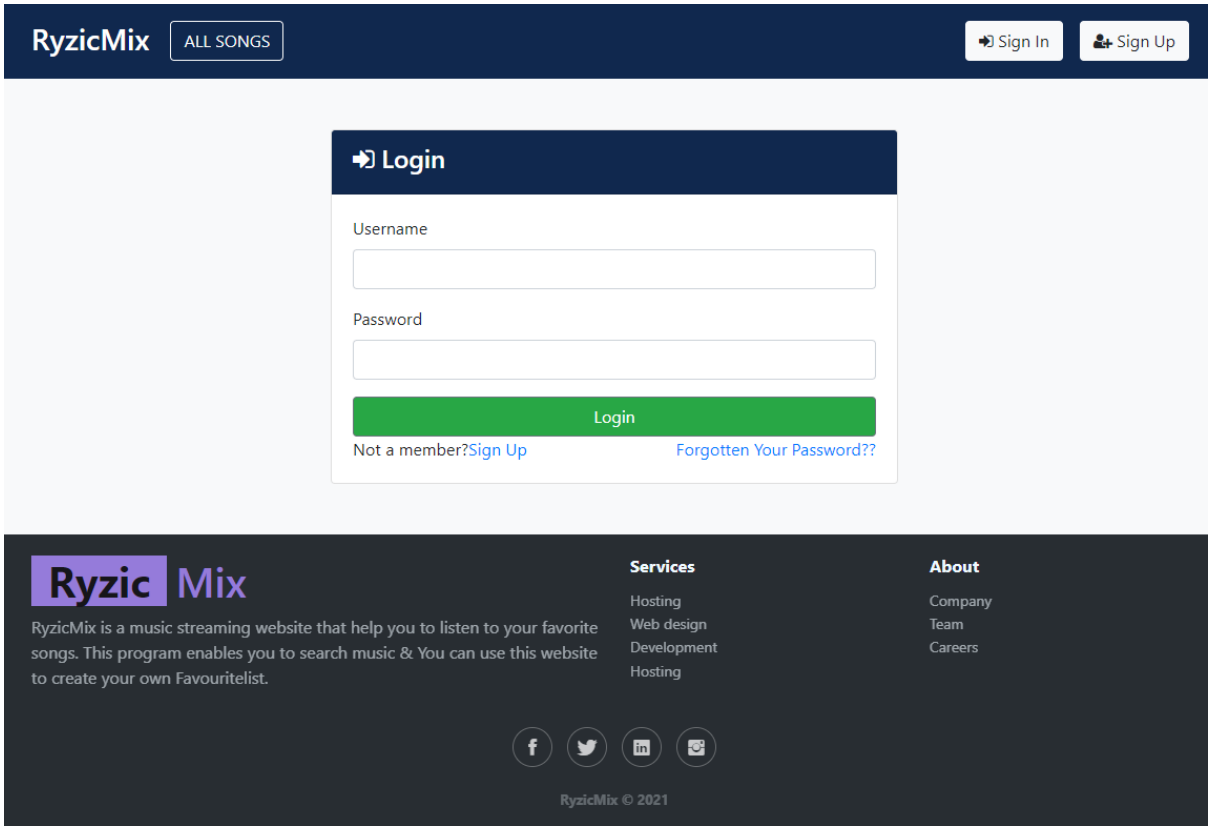
CHAPTER 6

User Interface

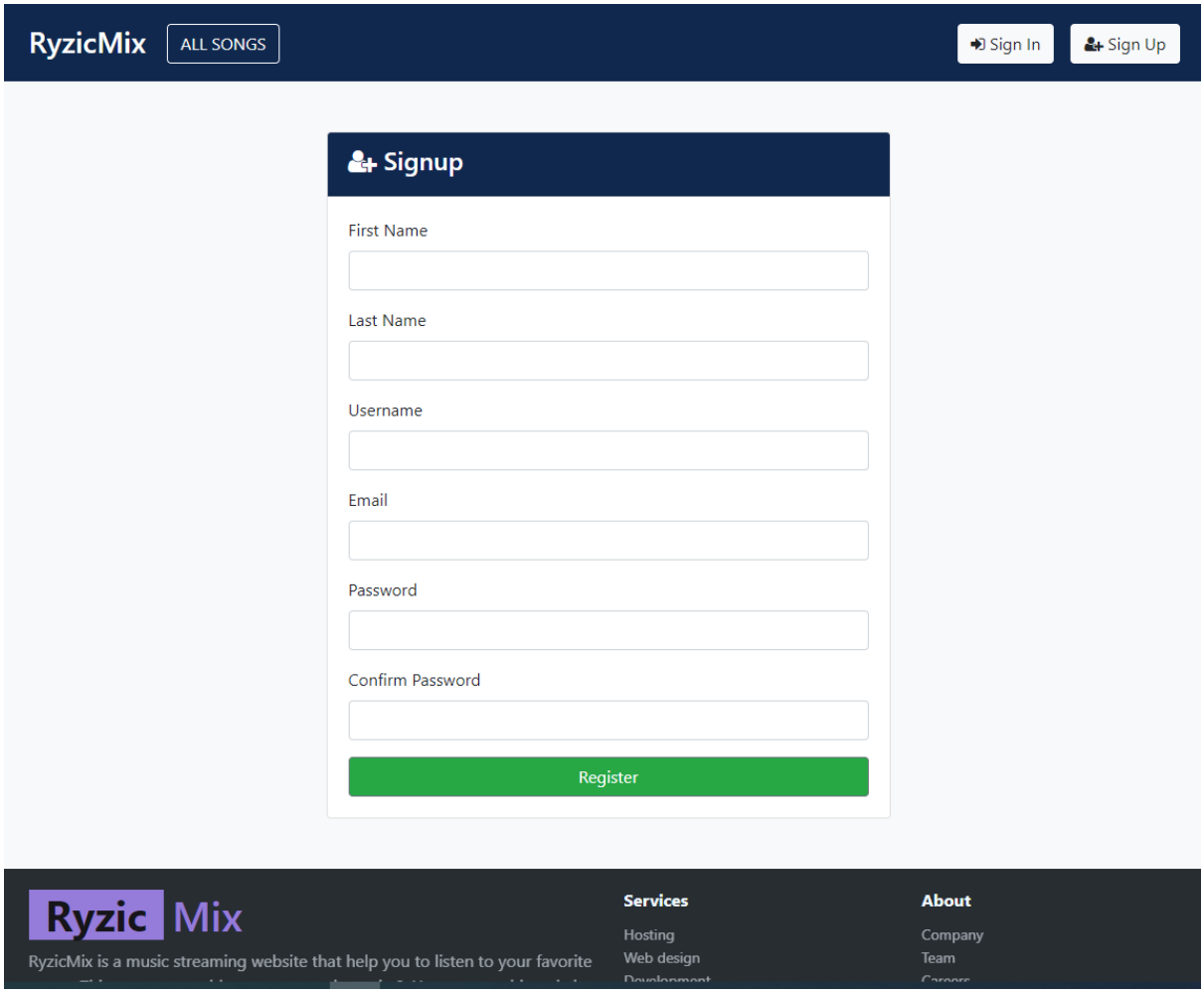
6.1 HomePage



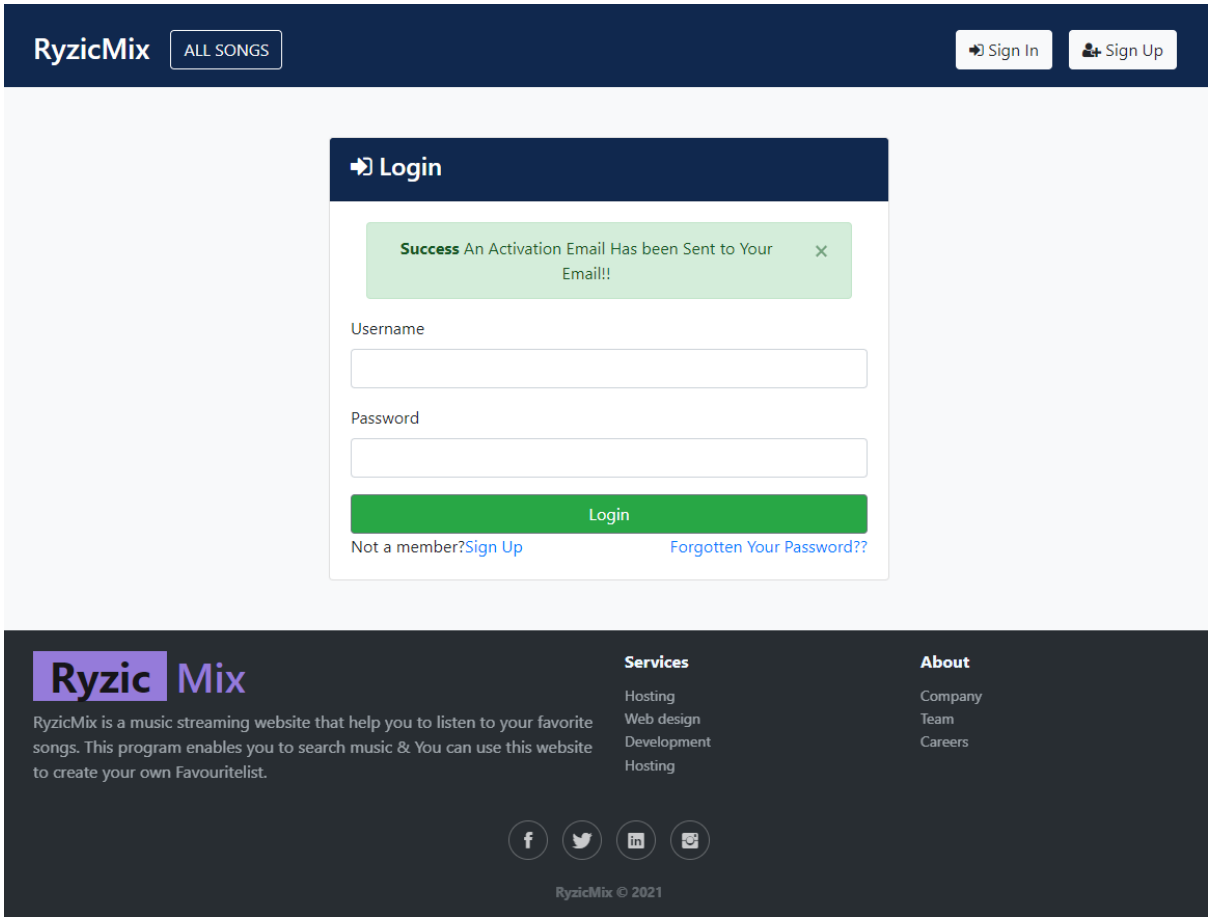
6.2 Login


RyzicMix
ALL SONGS
Sign In
Sign Up
Login
Username
Password
Login
Not a member?Sign Up
Forgotten Your Password??
Ryzic Mix
RyzicMix is a music streaming website that help you to listen to your favorite songs. This program enables you to search music & You can use this website to create your own Favouritelist.
Services
Hosting
Web design
Development
Hosting
About
Company
Team
Careers
RyzicMix © 2021

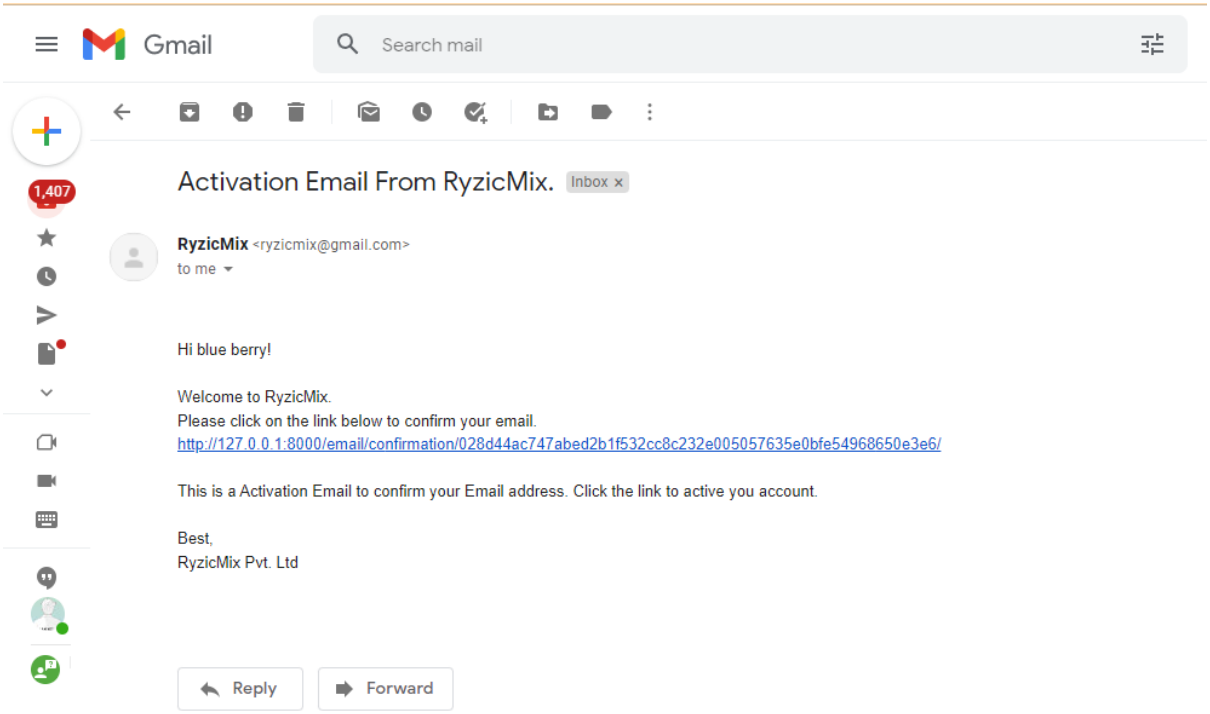
6.3 SignUP


RyzicMix
ALL SONGS
Sign In
Sign Up
Signup
First Name
Last Name
Username
Email
Password
Confirm Password
Register
Ryzic Mix
RyzicMix is a music streaming website that help you to listen to your favorite
Services
Hosting
Web design
About
Company
Team

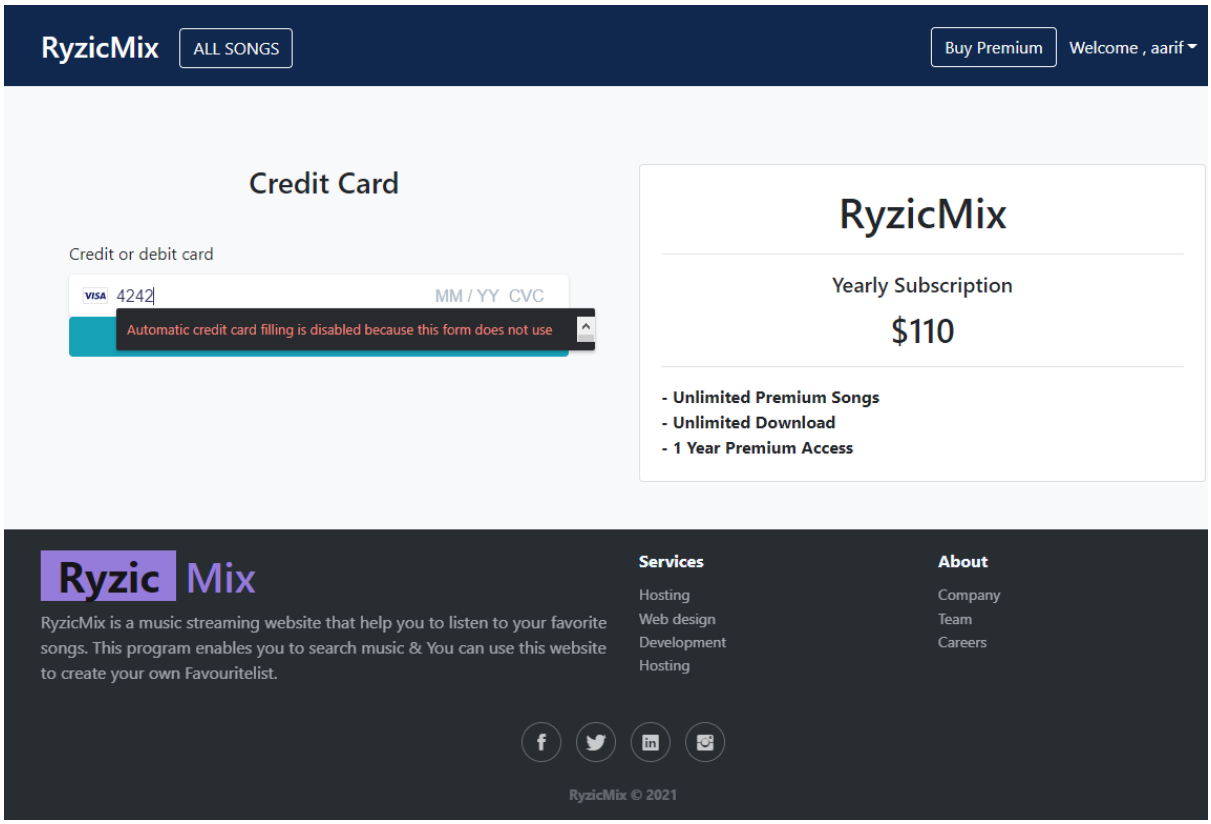
6.4 Sent Email Message



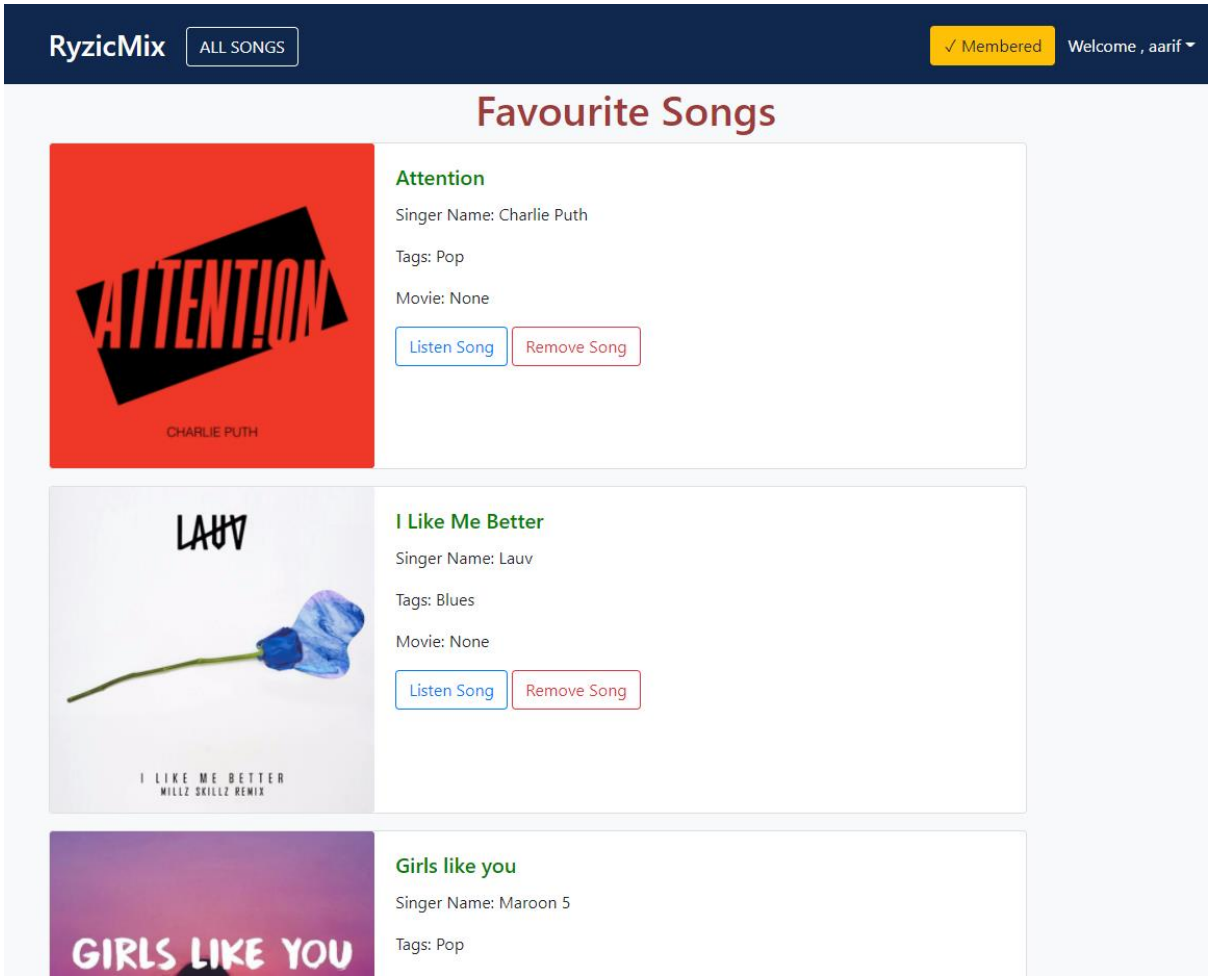
6.5 Email


Gmail
Search mail
1,407
Activation Email From RyzicMix.
Inbox ×
RyzicMix <ryzicmix@gmail.com>
to me
Hi blue berry!
Welcome to RyzicMix.
Please click on the link below to confirm your email.
http://127.0.0.1:8000/email/confirmation/028d44ac747abed2b1f532cc8c232e005057635e0bfe54968650e3e6/
This is a Activation Email to confirm your Email address. Click the link to active you account.
Best,
RyzicMix Pvt. Ltd
Reply
Forward

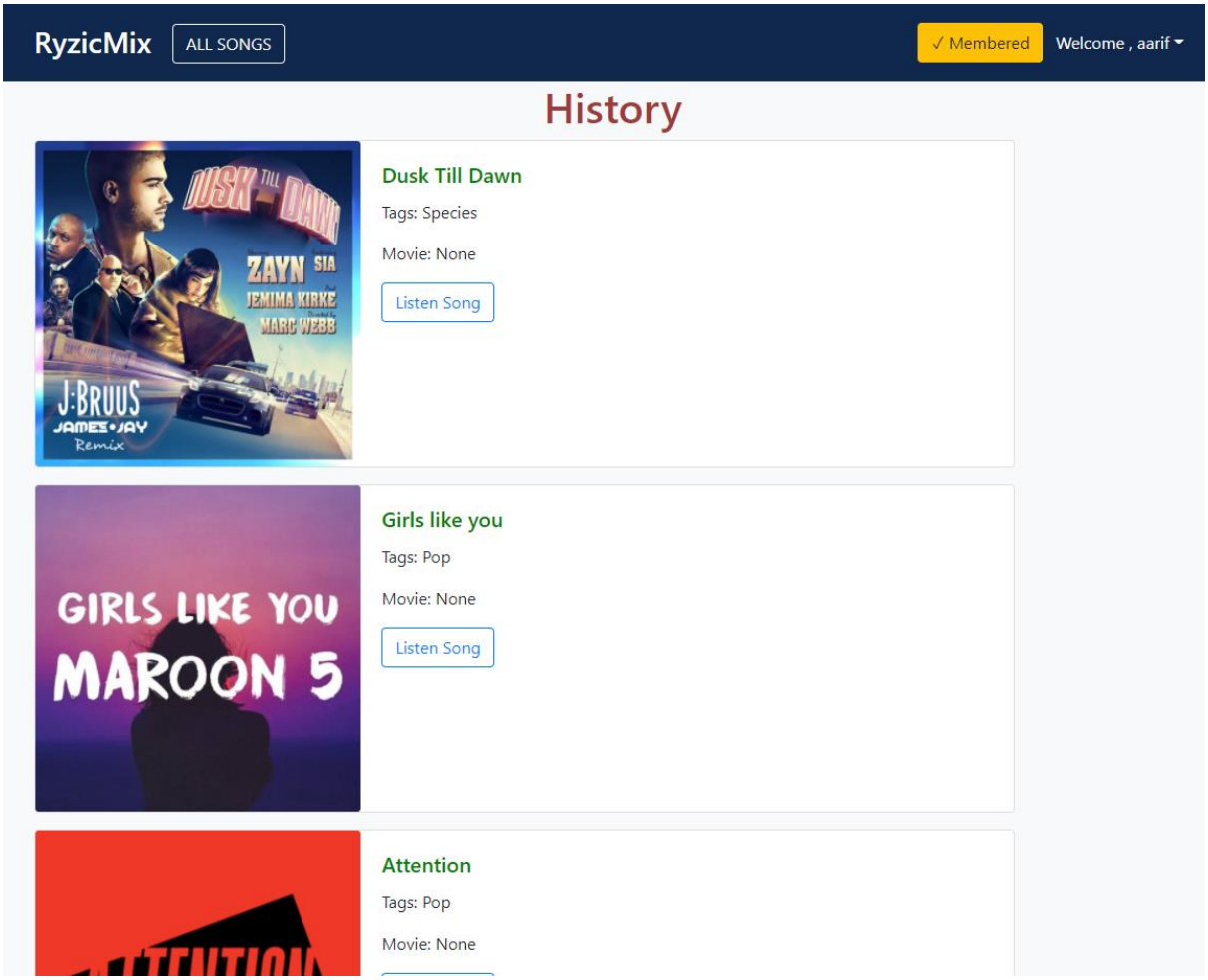
6.6 Make Payment



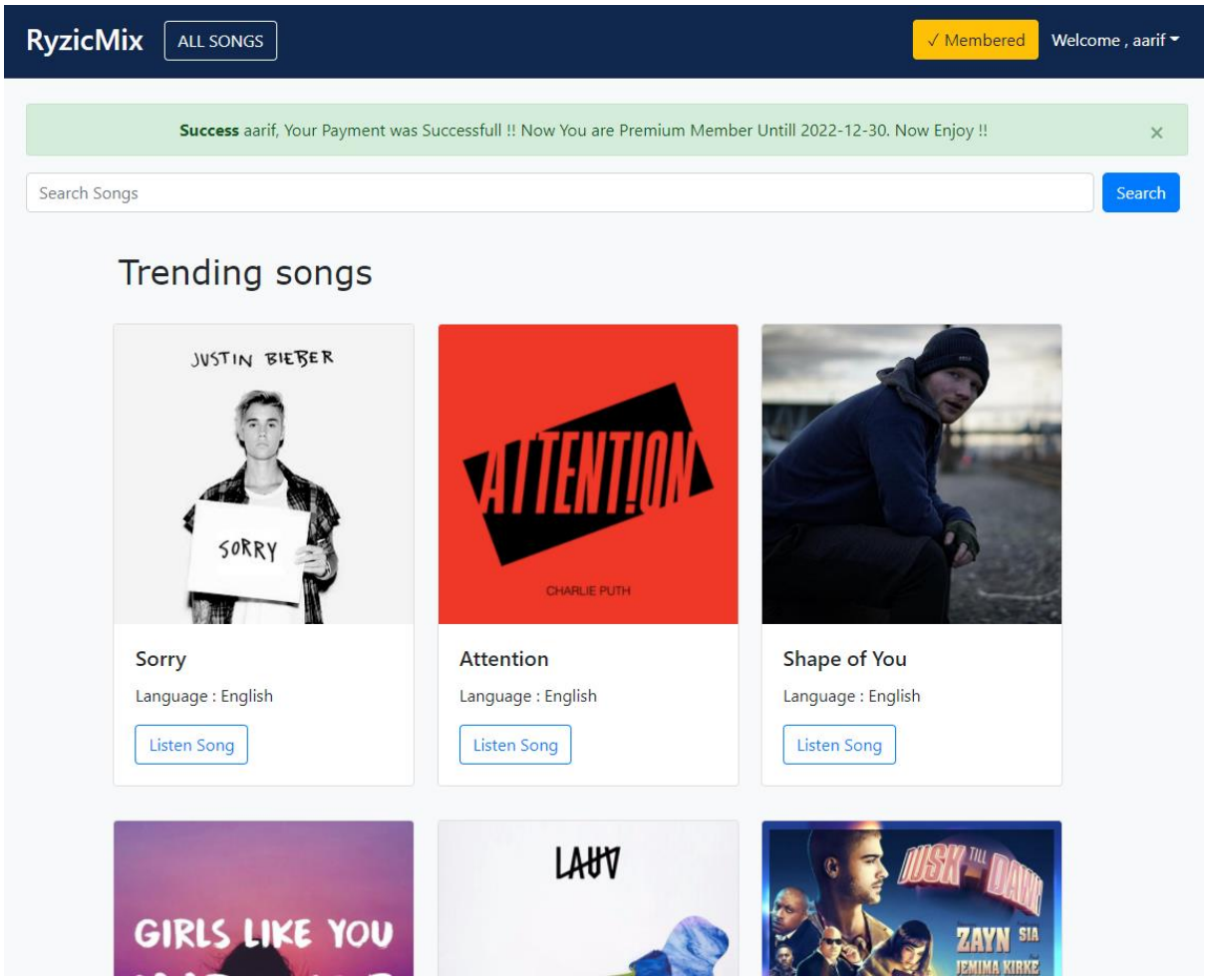
6.7 Favourite-List



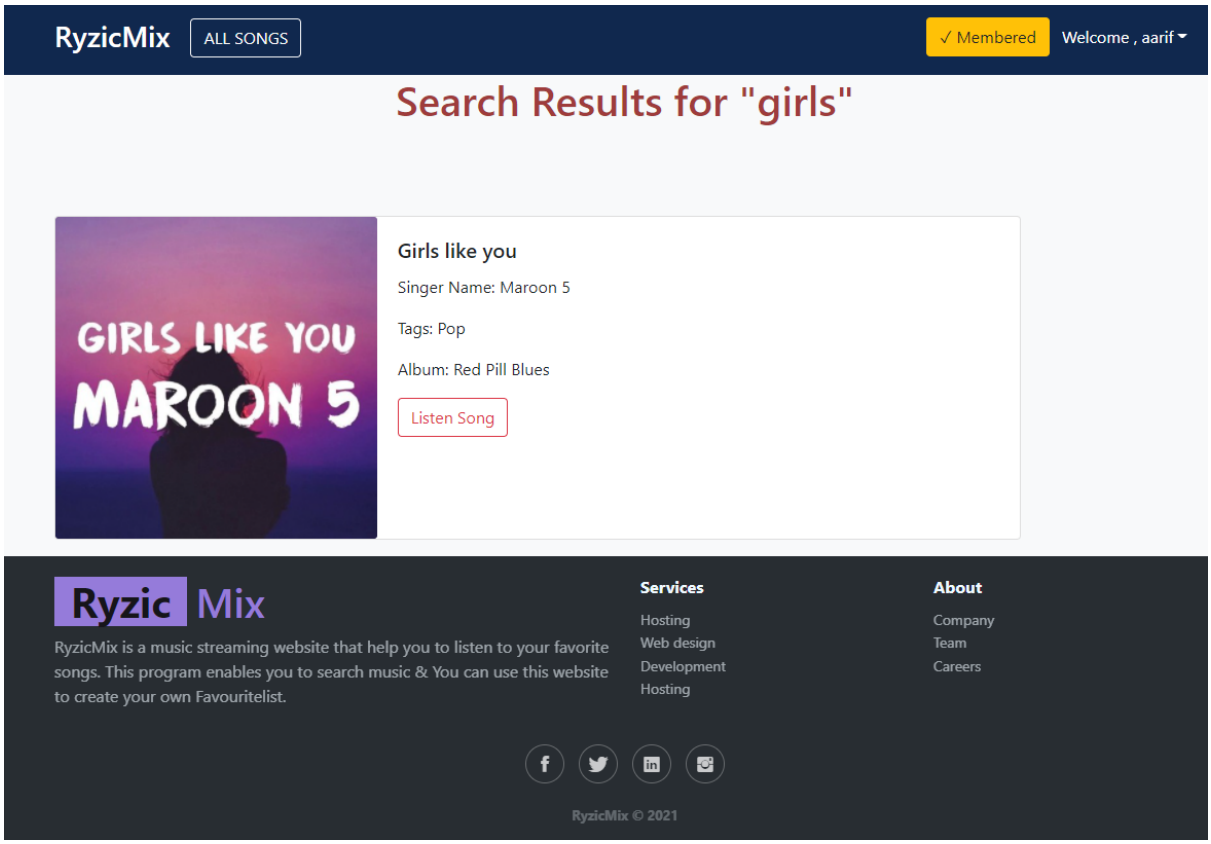
6.8 Song History



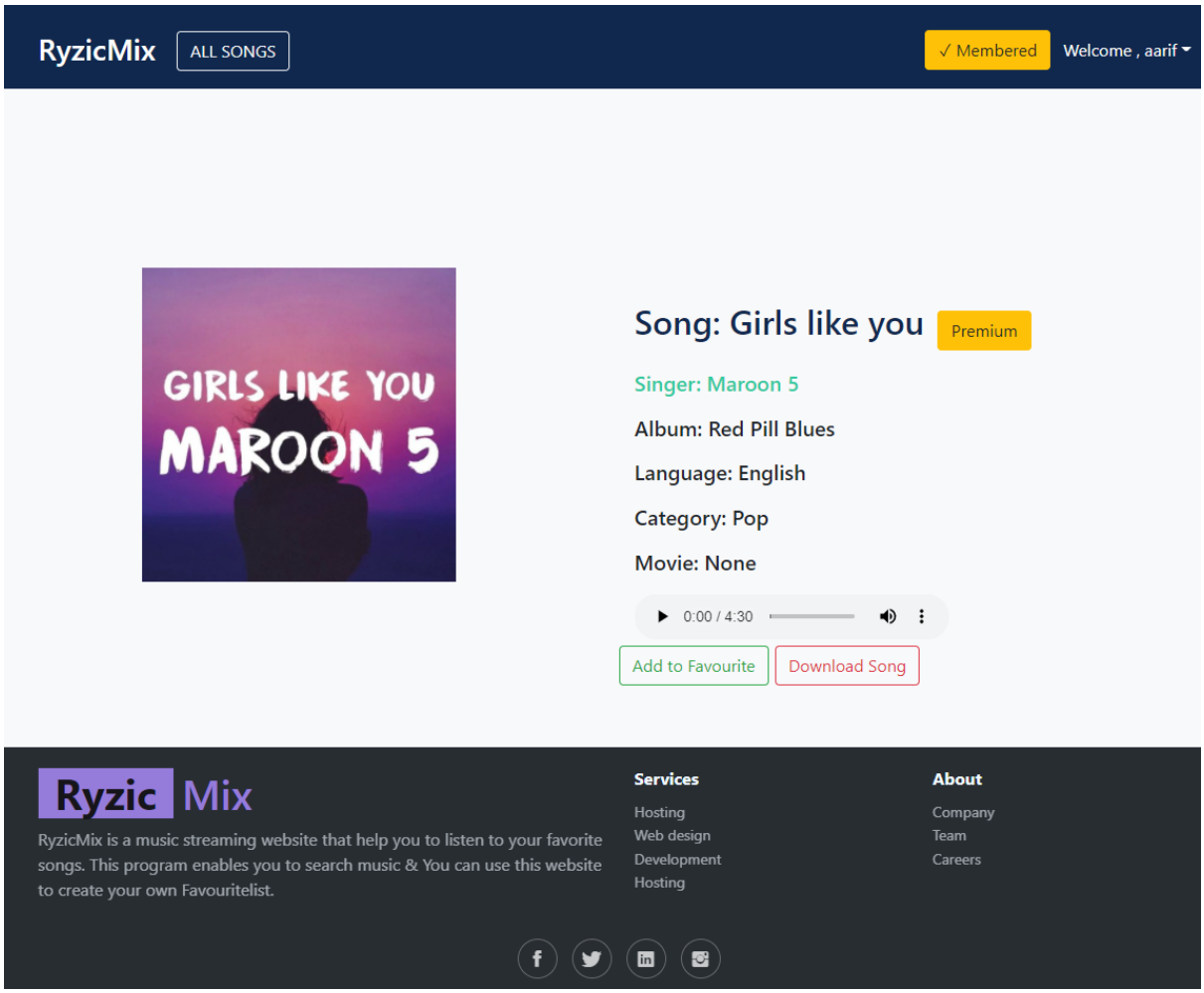
6.9 Payment success page



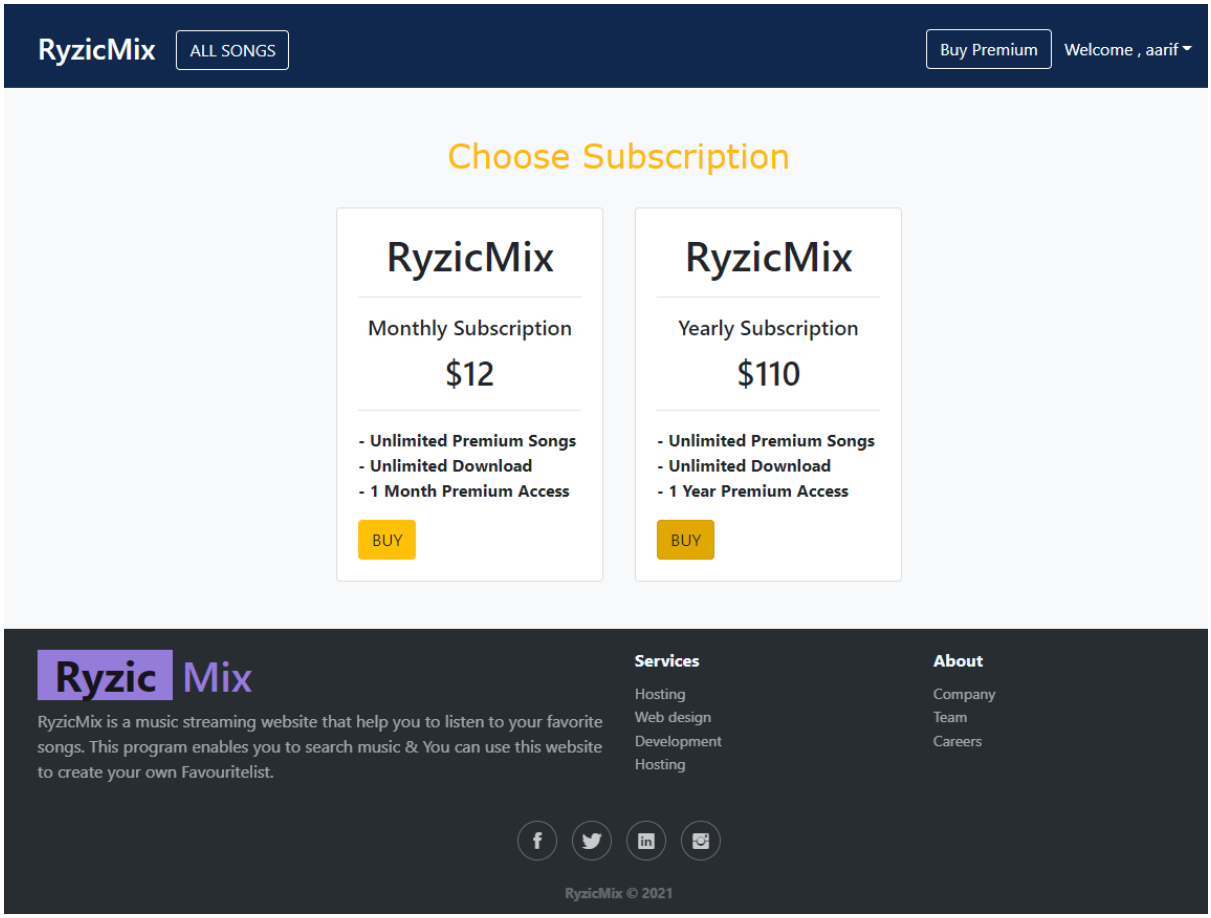
6.10 Search Page



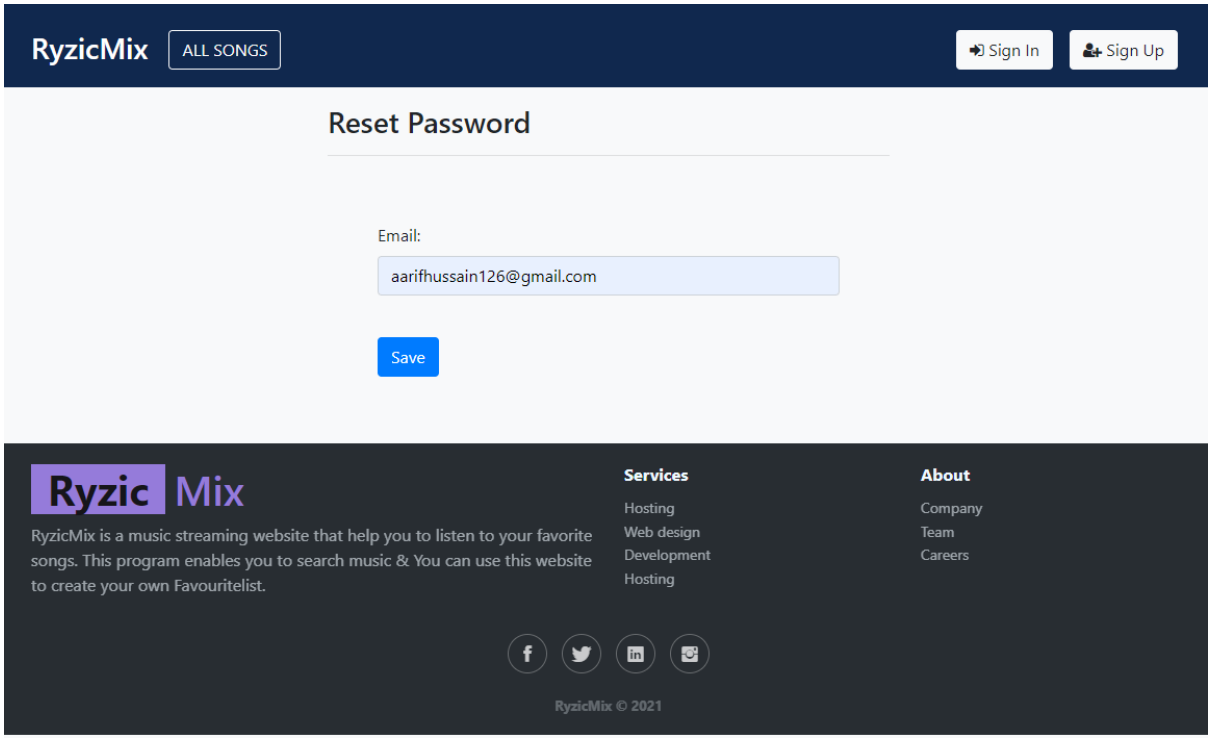
6.11 Song Details page



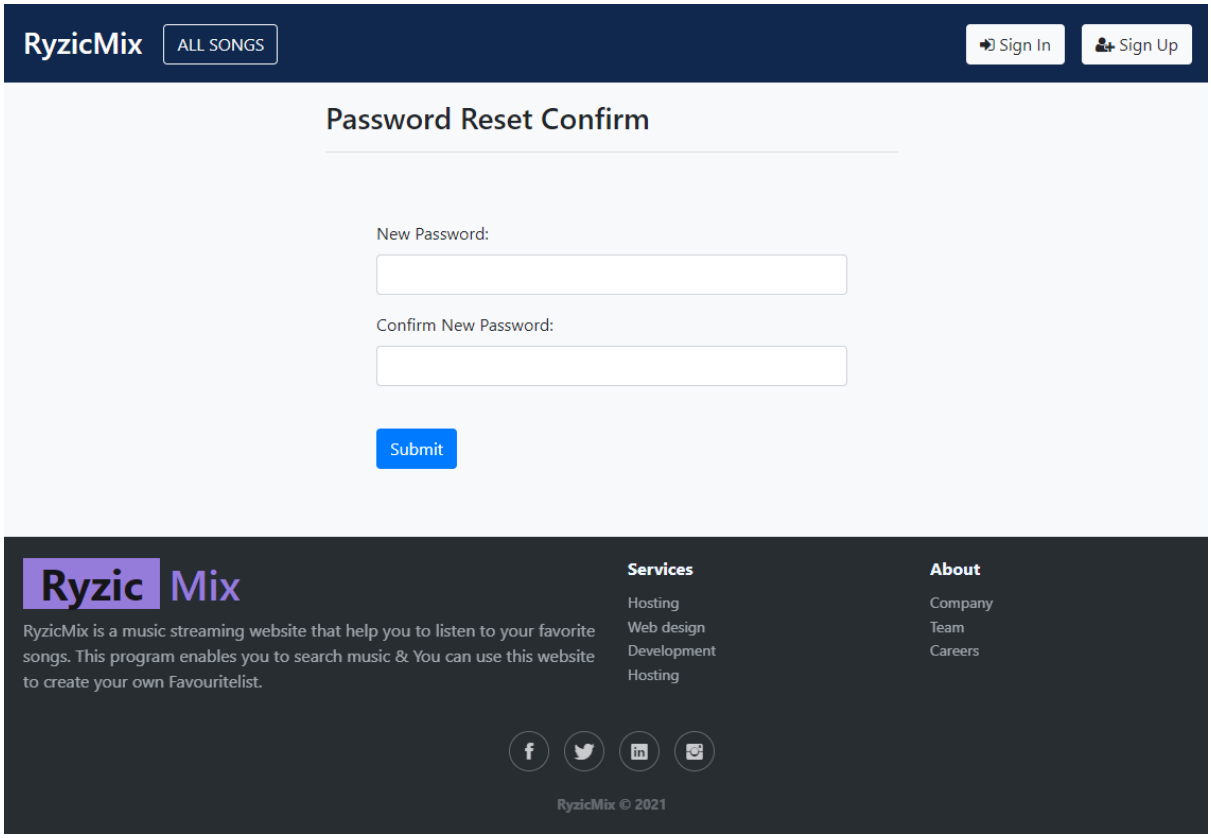
6.12 Subscription Type



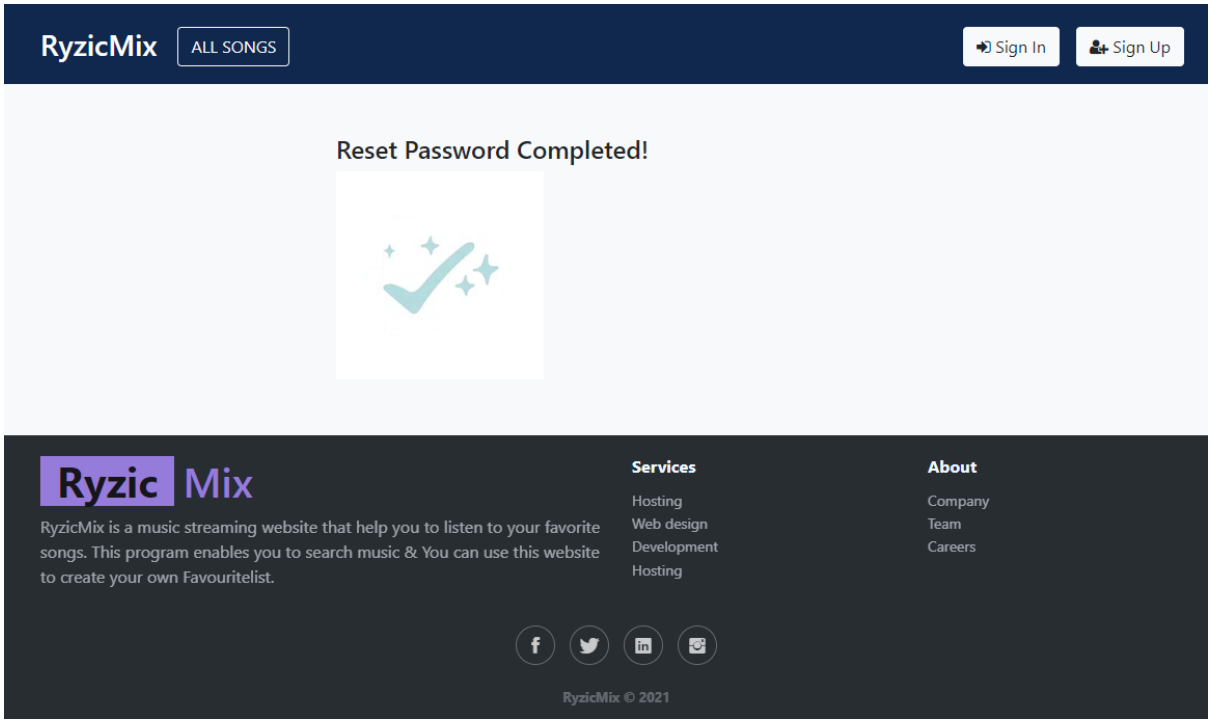
6.13 Forget Password



6.14 Confirm Reset Password



6.15 Password Reset Completed



CHAPTER 7

PROJECT SUMMARY

7.1 LIMITATIONS

- The main limitation is system cannot handle million data and signals at time.
- There is no registration system included in this application for recruiters; recruiters have to view the talents profile without registration.

7.2 ACHIEVEMENT

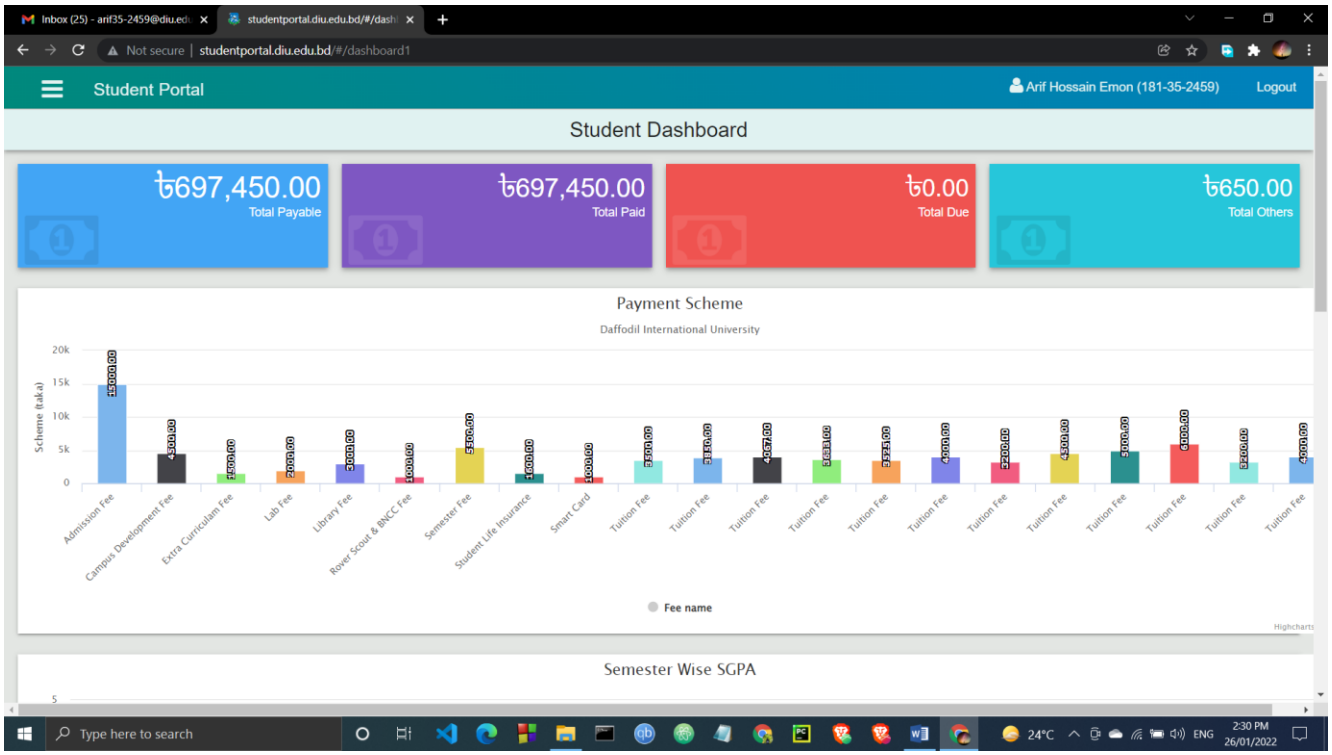
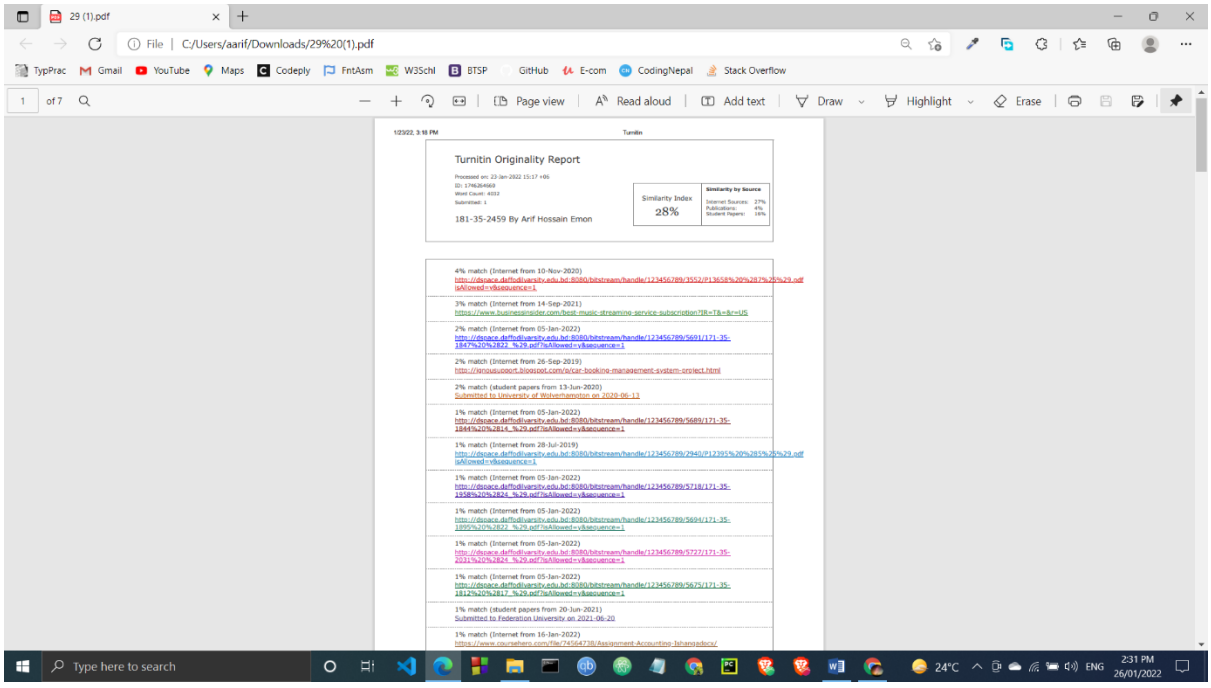
- Successfully built a project.
- Learned a new technology.
- Deploying a project is a new experience.
- Learned the real-life experience by uploading a project on the live server.
- Know about documents and the development process.

7.3 FUTURE WORK

Though the system was developed as much as needed and its work properly. But I have to add some new features to make the system fulfil.
The future work will include some major changes, such as-

- Release mobile version
- Add playlist
- Add Extra features
- Looking for a music streaming service that has a huge range of songs

7.4 Account Clearance



7.5 Plagiarism Report