

Dharamsinh Desai University, Nadiad



Faculty of Technology
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B.Tech. CE sem-VI
Subject: System Design Practice

rythm

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Dharmsinh Desai University, Nadiad

Faculty of Technology, Department of Computer Engineering

This is to certify that **System Design Practice** project entitled “**rythm**” is the bonafied report of work carried out by

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ABSTRACT

Music plays a very important role in human's daily life and in the modern advanced technologies.

It is online music web application which provides user functionality of playing songs. User can also view the playlist created by Admin and play songs from them. User can also download song (free of cost). User can Sign up *Login the website using his/her* email. And if user is logged in he/she can like the song(s) and that songs will be added to their respective "favourite" and the can access it from anywhere.

Admin will be managing the songs, playlists, and Genre of songs.

- Developer's Team
(Devendrakumar, Milan & Kumar)

INTRODUCTION

Our Project topic is Music World. We have developed this site for users' satisfaction. Now a day's Music has held an important place in people's lives.

The main aim of this music world site is to manage the details of the music, customer, album type. It manages all the information about music, track, album type, music. The project is built at administrative end and thus only the administrative is guaranteed the access. In this project user can play and listen songs and even download the songs without any cost but for that user must have account in this website. in this website users can select any playlist and song list will be displayed. By selecting any song from the list, song will be played and audio player will be displayed at the bottom of the window with song title. And also, there is like button user can press that button and particular song will be added in favorite playlist of the user and if click it again then song will be removed. User can also have songs filtered through category (Genre) of songs. User can also see the recently added (20) songs.

Here the admin is responsible for managing the songs, playlists and categories. Admin can also remove any song, playlist, and category. Admin can also view the statistics of the application like total no of songs, playlists, categories, and total songs in the respective Category.

Tools/Technologies Used

Technologies: HTML5,
CSS3,
Bootstrap4,
Angular cli,
Typescript,
Node JS,
Express,
Multer,
Mongo DB

Tools: Visual Studio Code,
MongoDb Compass,
Browser

Platforms: Windows,
Linux(Ubuntu)

- Developer's Team
(Devendrakumar, Milan & Kumar)

SOFTWARE REQUIREMENT SPECIFICATION

for

rythm

R1. User log in :-

Description: If users want to log in or sign up then users can do that. Users can log in or sign up by email id. Users can still access the home page without login or sign up.

Input: User enters email id.

Output: Successfully logged in message and home page.

R2. Home Page:-

Description: It contains search, user menu, queue buttons and various play lists like New Released, Film Album, Recently Played (If user logged in), Hit Songs, Romantic Songs, Artists Albums and other albums generated by admin.

R2.1 Search:

Input: Song Name

Output: Results of Related Songs

R2.2 Play Lists:

Input: User selection

Output: All songs of that play lists

R2.3 Queue of Songs:

Description: User add songs in queue to listen songs in sequence.

Input: User selection

Output: Show queue songs

R2.4 User Menu:

Description: If users logged in then they can see their details and log out button.

Input: User Selection

Output: User details, User's Play lists, User's favourite songs, Log out button.

R3. My Play Lists:-

Description: Users can create their own play lists by selecting songs from different playlist after logged in.

Prerequisite condition: User must be logged in.

Input: User Selection of songs

Output: Successful message

R4. My Favourite:-

Description: Songs liked by user are shown here.

Prerequisite condition: User must be logged in.

Input: User Selection

Output: Display Songs

R5. Play Song:

Input: User Selection

Output: Play song

R6. User Access to Songs:-

Description: Song Details such as name, duration, artists name, number of likes, number of time played. User can download, share songs and like song.

Input: User Selection

Output: Song will be played, details of song.

R6.1 Like Song:

Prerequisite condition: User must be logged in.

Input: User Selection

Output: If user is logged in then they can like otherwise redirected to log in page

R6.2 Download Song:

Input: User Selection

Output: Downloading will be started

R6.3 Share Song:

Description: User can share song via email or can copy link of song.

Input: User selection

Output: Successful message

R7. Feedback:-

Description: User can give general feedback by email without logged in.

Input: User details and message

Output: Successful message

R8. Admin Panel:-

Description: Admin can manage songs, view general statistics, manage feedback.

R8.1 Manage Songs:

R8.1.1 Add Song:

Input: Song Details and upload mp3 file of song

Output: Successful message

R8.1.2 Update Song:

Input: Change Song Details

Output: Successful message

R8.1.3 Delete Song:

Input: User Selection

Output: Successful message

R8.2 Manage Playlists:

R8.1.1 Add Playlist:

Input: Playlist Details and selection of at least one song

Output: Successful message

R8.1.2 Update Playlist:

Input: Change Playlist Name and Remove or Add songs to playlist

Output: Successful message

R8.1.3 Delete Playlist:

Input: User Selection

Output: Successful message

R8.3 Manage Categories:

R8.1.1 Add Category:

Input: Category Name

Output: Successful message

R8.1.2 Rename Category:

Input: New name of category

Output: Successful message

R8.4 General Statistics:

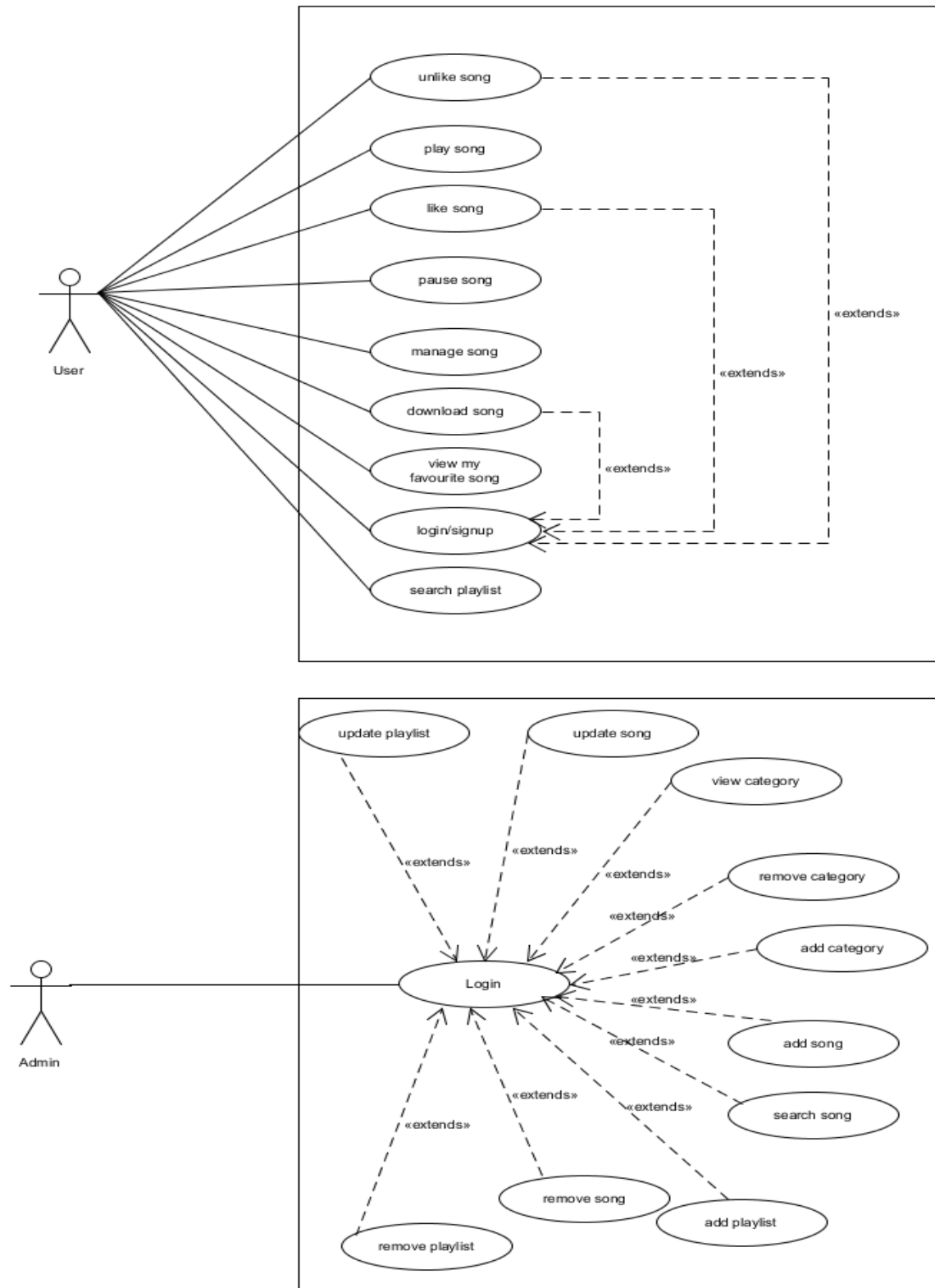
Description: Admin can see total likes, total songs, total visitors.

Input: User Selection

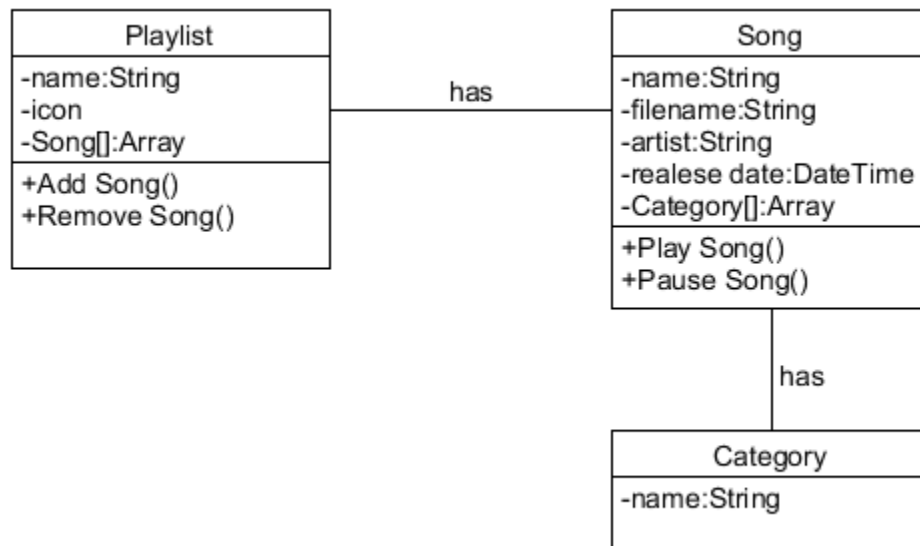
Output: Display Data

DESIGN

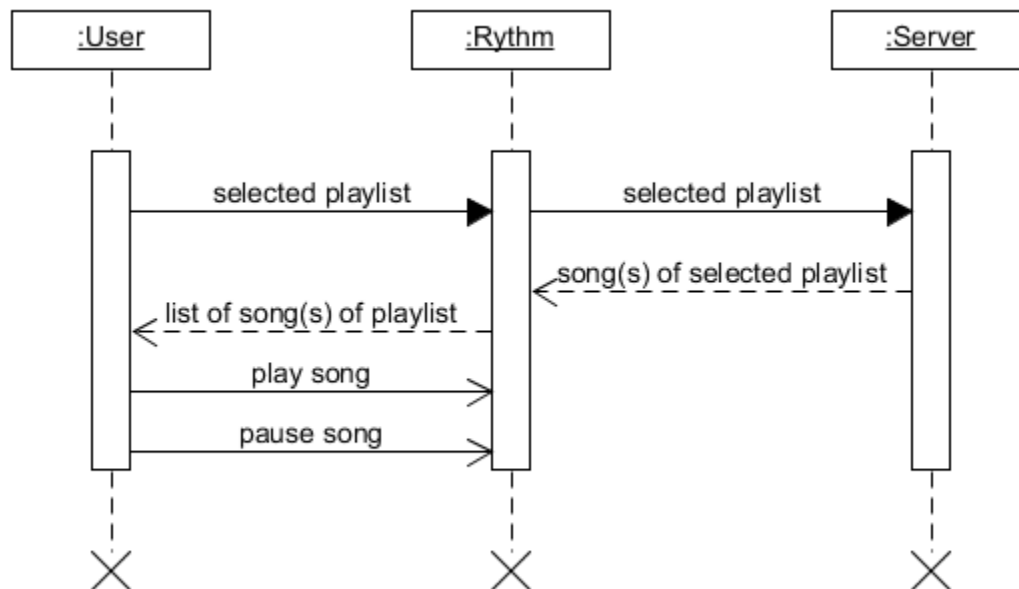
➤ Use Case Diagram:



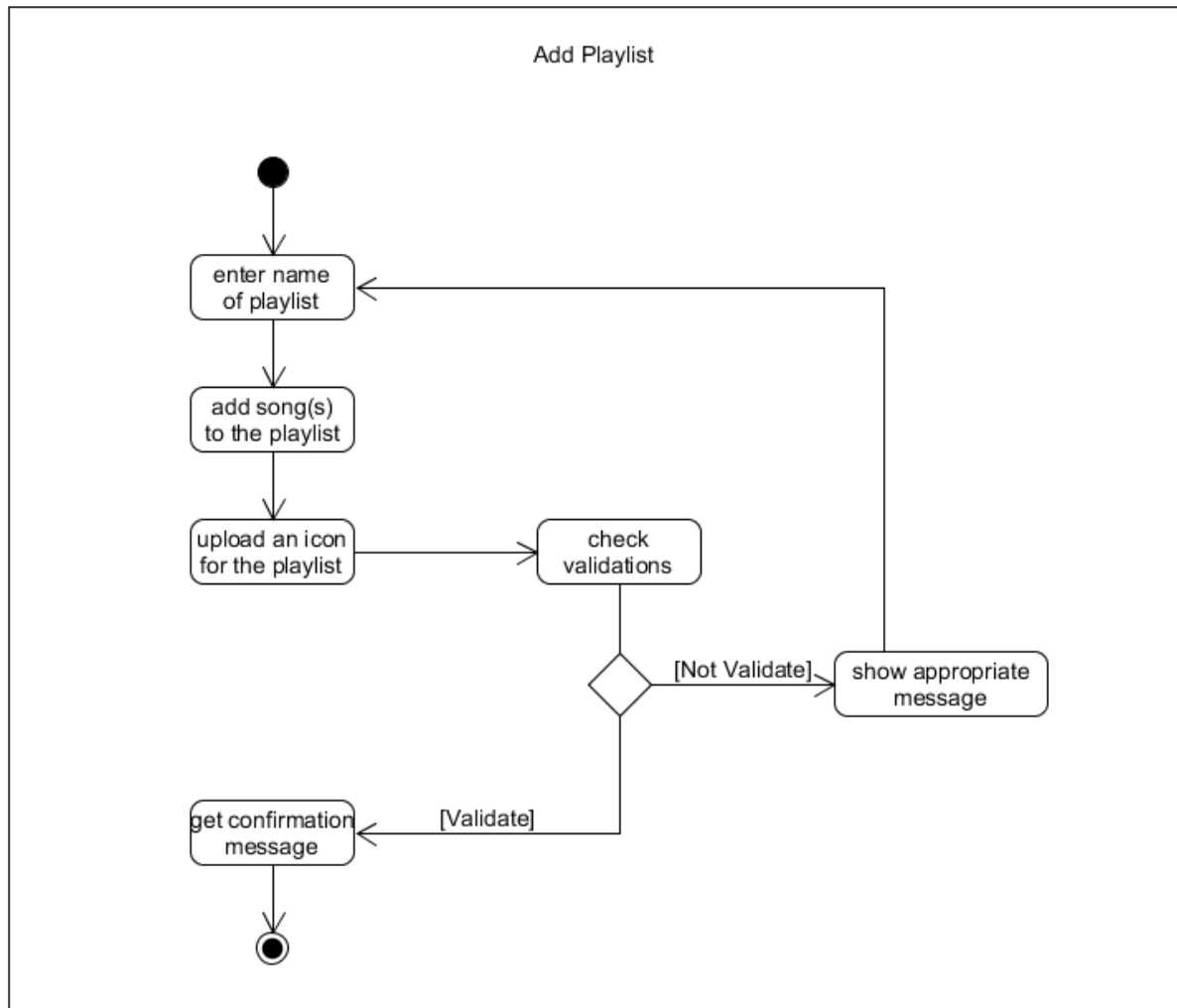
➤ **Class Diagram:**



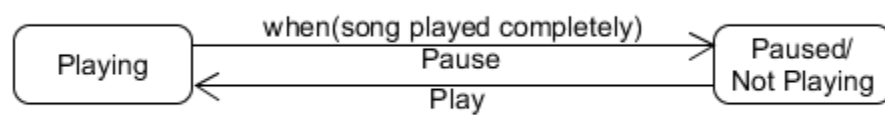
➤ **Sequence Diagram:**



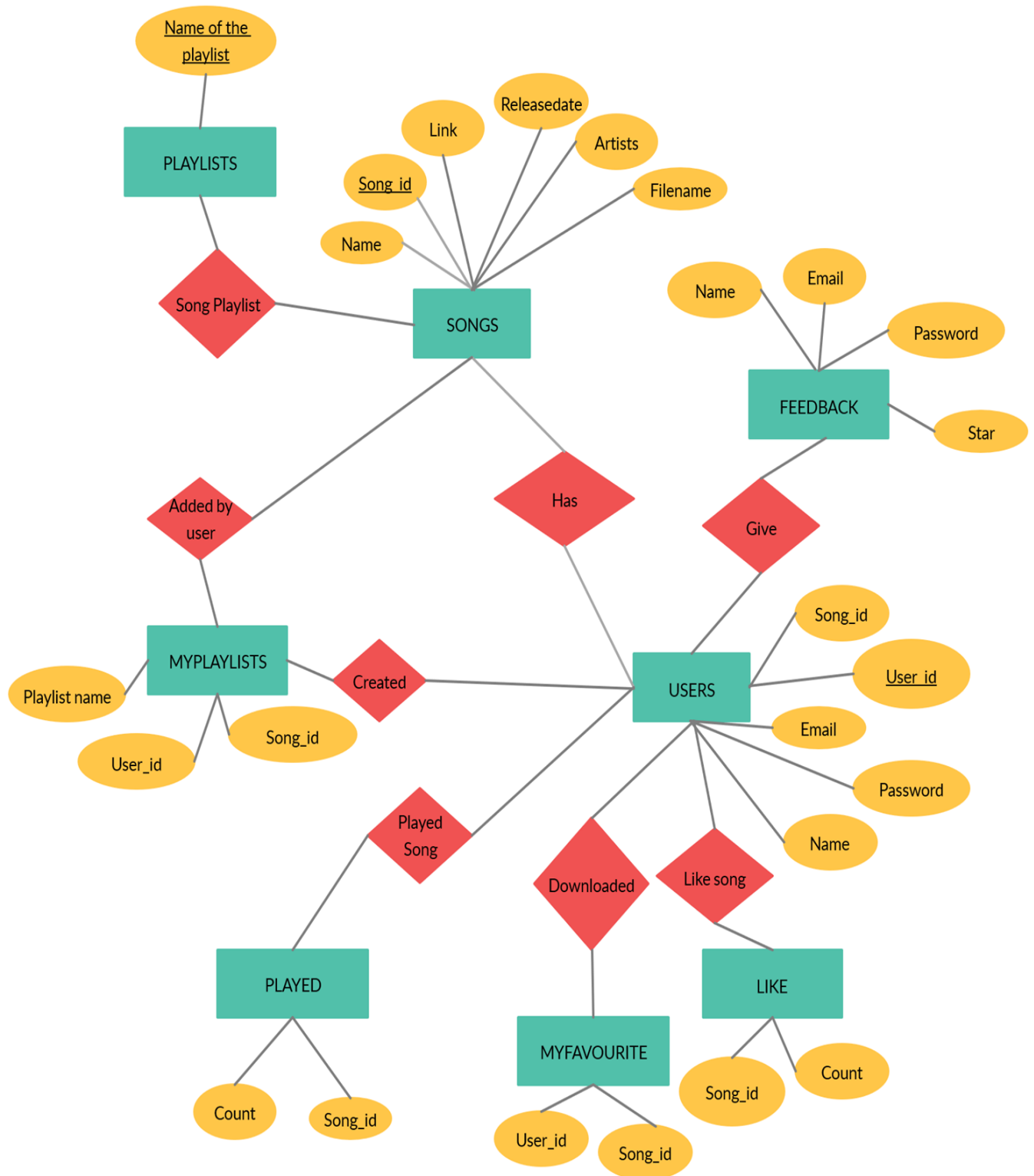
➤ **Activity Diagram:**



➤ **State Diagram:**



➤ **E-R Diagram:**



➤ **Data dictionary:**

1)

Feedback								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	name	varchar2	30	yes	yes	FK	Users	
2.	email	varchar2	25	yes	yes	FK	Users	
3.	star	number	5	yes	yes			
4.	message	varchar2	150	yes	yes			

2)

Users								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	user_id	varchar2	5	yes	yes	PK		
2.	name	varchar2	30	yes	yes			
3.	email	varchar2	25	yes	yes			
4.	password	varchar2	12	yes	no			
5.	song_id of played song	number	5	yes	yes	FK	Users	

3)

Songs								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	song_id	number	5	yes	yes	PK		
2.	name	varchar2	30	yes	yes			
3.	filmname	varchar2	30	yes	yes			
4.	release date	date	25	yes	no			
5.	artists	varchar2	25	yes	yes			
6.	link	varchar2	50	yes	yes			

4)

Playlists								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	name of playlists	varchar2	25	yes	yes	PK		

5)

Liks								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	song_id	number	5	yes	yes	FK	Songs	
2.	count	number	5	no	yes			

6)

Played								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	song_id	number	5	yes	yes	FK	Songs	
2.	count	number	5	no	yes			

7)

My Favourite								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	user_id	number	5	yes	Yes	FK	Users	
2.	song_id	number	5	yes	Yes	FK	Songs	

8)

My Playlists								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table	Description
1.	user_id	number	5	yes	Yes	FK	Users	
2.	playlist name	varchar2	25	yes	Yes	FK	Playlists	
3.	song_id	number	5	yes	Yes	FK	Songs	

IMPLEMENTATION DETAILS

➤ Modules:-

- **Manage Songs Module:**
Admin User can add new songs, delete songs and change song details.
- **Manage Playlist Module:**
Admin User can add new playlists, delete playlists and update playlist by adding or removing songs from a playlist.
- **Manage Categories Module:**
Admin User can add new category and rename existing category.
- **Login Module:**
If users want to log in or sign up then users can do that. Users can log in or sign up by email id. If user forgot account password then by giving account email user can do, by OTP verification.
- **Player module:**
Song selected by user from song list will be played by audio player.
- **Playlist module:**
In home page all playlists will be displayed in some groups like Top Songs, Recently Released, etc.
- **Song list module:**
All songs of particular playlist or category will be displayed and user can select a song to play it.
- **My Favourites module:**
All favourite songs for particular user are managed. User can add and remove songs as per his/her interest.

➤ Major Functionalities:-

- Manage songs
- Manage playlists
- Manage categories
- log in / sign up
- play song
- song details
- user menu
- search song / playlist
- recently added songs
- category wise songs
- like (liked song will be added to user's favourite) and download song

TESTING

EXECUTED	Passed	21
	Failed	0
	Total (Passed + Failed)	21
Pending		0
In Process		0
Blocked		0
(Sub-Total) Total		21

➤ **Testing of Individual Function :-**

Function 1:- Display Playlists

Case 1: MongoDB isn't connected

O|P: playlists will not be displayed

Case 2: MongoDB is connected

O|P: playlists will be displayed

Function 2:- Display Songs of Selected Playlist

Case 1: MongoDB isn't connected

O|P: songs will not be displayed

Case 2: MongoDB is connected

O|P: songs will be displayed

Function 3:- Play Selected Song

Case 1: Song is not found in 'Songs' folder

O|P: song will not be played

Case 2: Song is found in 'Songs' folder

O|P: song will be played

Function 4:- Display Songs of My Favourite

Case 1: Favourite songs are not found for a User

O|P: songs will not be displayed

Case 2: Favourite songs are found for a User

O|P: songs will be displayed

Function 5:- Like Song

Case 1: User has been logged in

O|P: Song is liked and alert box with message “Song is added to My Favourite”

Case 2: User again press like button

O|P: Song is dis liked and alert box with message “Song is removed from My Favourite”

Case 3: User has not been logged in

O|P: Like button will not be displayed

Function 6:- Remove Song from My Favourite

Case 1: User press remove button

O|P: Song is removed from My Favourite, alert box with message “Song is removed from My Favourite” and list will be updated

Case 2: User again press like button

O|P: Song is dis liked and alert box with message “Song is removed from My Favourite”

Case 3: User has not been logged in

O|P: Like button will not be displayed

Function 7:- User Login

Case 1: User details is not found in MongoDB

O|P: Alert box with message “User not found”

Case 2: User details is found in MongoDB but password is incorrect

O|P: Alert box with message “Invalid username/password”

Case 3: Correct user details

O|P: User will be redirected to home page, cookie is set for one your and Login/Signup button will be changed with user icon

Function 8:- User Signup

Case 1: User email is found in MongoDB

O|P: Alert box with message “Already exists rythm account on given email id”

Case 2: Password and conform password are not matched

O|P: Alert box with message “Both password must be same”

Case 3: Correct user details

O|P: OTP will be sent on given email and user will redirected to OTP page

Function 9:- Forgot Password

Case 1: User email is found in MongoDB

O|P: OTP will be sent on given email and user will redirected to OTP page

Case 2: User email is not found in MongoDB

O|P: Alert box with message “Not rythm account on give email id”

Function 10:- OTP Verification

Case 1: OTP entered by user and OTP which is sent to user are not match

O|P: Alert box with message “Incorrect OTP”

Case 2: OTP entered by user and OTP which is sent to user are match

O|P: Based on cookie value if user is signing up then redirected to home page, cookie is set for one your and Login/Signup button will be changed with user icon. Otherwise redirected to change password page.

Function 11:- Change Password

Case 1: Password and Conform Password are not same

O|P: Alert box with message “Both password must be same”

Case 2: Password and Conform Password are same

O|P: Password will be updated in MongoDB and alert box with message “Password is updated successfully. Now, login with new password”

Function 12:- User Logout

Case 1: User will be logout

O|P: cookie of login will be destroyed and user icon will be changed to Login/Signup button.

Function 13:- Admin User Login

Case 1: User details is not found in MongoDB

O|P: Alert box with message “User not found”

Case 2: User details is found in MongoDB but password is incorrect

O|P: Alert box with message “Invalid username/password”

Case 3: Correct user details

O|P: User will be redirected to home page of Admin Panel, cookie is set for a session

Function 14:- Add New Category

Case 1: Category already exist

O|P: Alert box with message

Case 2: Category doesn't exist

O|P: New Category will be added and success message will be displayed

Function 15:- Rename Category

Case 1: Category already exist

O|P: Alert box with message

Case 2: Category doesn't exist

O|P: Category will be renamed and success message will be displayed

Function 16:- Add New Playlist

Case 1: Playlist already exist

O|P: Alert box with message

Case 2: At least one song has not been added

O|P: Alert box with message

Case 3: All details of Playlist is correct and at least one song is added

O|P: New playlist will be created and success message will be displayed

Function 17:- Update Playlist

Case 1: While renaming playlist, it is already exist

O|P: Alert box with message

Case 2: At least one song has not been in the playlist

O|P: Alert box with message

Case 3: All details of Playlist is correct and at least one song is added

O|P: Playlist will be updated and success message will be displayed

Function 18:- Delete Playlist

Case 1: Playlist has not been selected

O|P: Alert box with message

Case 2: Playlist has been selected

O|P: Confirmation Message will be displayed to conform the operation. If user will select "Delete" button playlist will be deleted otherwise not.

Function 19:- Add New Song

Case 1: Song already exist with the same name

O|P: Alert box with message

Case 2: All details of Song is correct

O|P: New song will be added and success message will be displayed

Function 20:- Delete Song

Case 1: Delete song button of a song has been selected

O|P: Confirmation Message will be displayed to conform the operation. If user will select “Delete” button song will be deleted otherwise not.

Function 21:- Update Song

Case 1: Edit button of a song has been selected

O|P: Pop up window will be displayed which will contain all details of the song. User will change song details and press “Update Changes” button.

Case 1.1: Song already exist with the same name

O|P: Alert box with message

Case 1.2: All details of Song is correct

O|P: Song will be updated and success message will be displayed

SCREEN-SHOTS

➤ Admin Home:-

rythm Admin Panel

[Manage Catagories](#) | [Manage Playlists](#) | [Manage Songs](#) | [Logout](#)

General Statistics

Total Songs:	5
Total Playlists:	6
Total Categories:	7
Registered Users:	3

Category wise Songs Count

Pop	1
Classical	2
Rock	2

Playlist wise Songs Count

70s Bollywood Songs	2
Arijit Singh Songs	4
Atif Aslam Songs	3
Bollywood Songs	10
Love Anthems	6
Total Dhamaal Songs	3

➤ Manage Categories:-

Admin Panel

[Manage Catagories](#) | [Manage Playlists](#) | [Manage Sc](#)

Add new Catagory

Add Category

Rename Catagory Name

Rename Category

➤ Manage Playlists:-

RAM AAMIN PANE

[Manage Catagories](#) | [Manage Playlists](#) | [Manage Songs](#) | [Logout](#)

Add new Playlist

Playlist Name:

Icon: No file selected. (preview icon)
(Note: only .jpg or .png files are allowed)

Selected Songs for Playlist:

- Dekhte Dekhte
- Bom Diggy Diggy
- Nit Khair Manga
- Nazm Nazm
- Vhalam Aavo Ne

Select Songs:

Update Playlist

Playlist Name:

Rename Playlist:

Songs in Playlist:

- Dekhte Dekhte
- Bom Diggy Diggy
- Nit Khair Manga
- Nazm Nazm

Add Songs:

➤ Manage Songs:-

RAM AAMIN PANE

[Manage Catagories](#) | [Manage Playlists](#) | [Manage Songs](#) | [Logout](#)

Add new Song

Choose Song File: No file selected.
(Note: only .mp3 are allowed)

Song Name:

Film/Album Name:

Release Date:

Artist Name:

Select Catagory of Song:

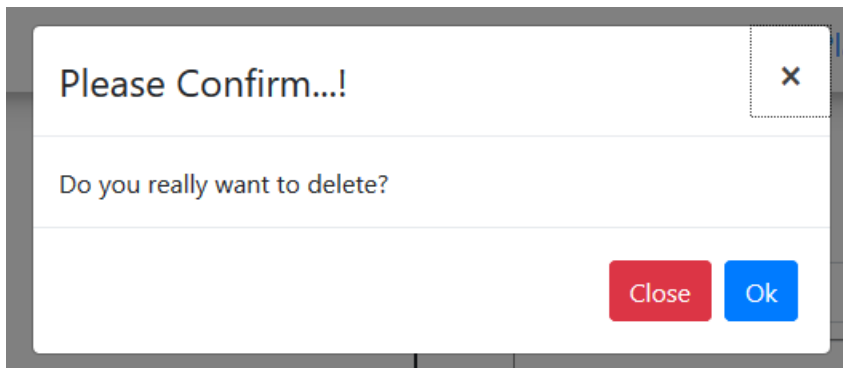
Select Playlist(s) for Song:

☐ 70s Bollywood Songs
 ☐ Arijit Singh Songs
 ☐ Atif Aslam Songs
 ☐ Boliwood Songs
 ☐ Love Anthems

Update Song

<input type="text" value="Search Song..."/>	
Dekhte Dekhte	<input type="button" value="✎"/> <input type="button" value="✖"/>
Bom Diggy Diggy	<input type="button" value="✎"/> <input type="button" value="✖"/>
Nit Khair Manga	<input type="button" value="✎"/> <input type="button" value="✖"/>
Nazm Nazm	<input type="button" value="✎"/> <input type="button" value="✖"/>
Vhalam Aavo Ne	<input type="button" value="✎"/> <input type="button" value="✖"/>

➤ **Conformation:-**

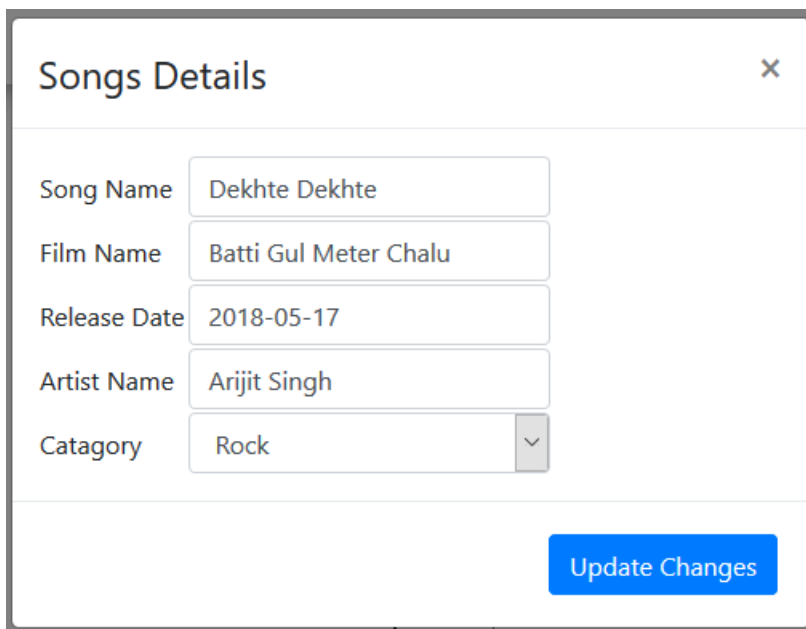


Please Confirm...!

Do you really want to delete?

Close Ok

➤ **Song Update Popup:-**



Songs Details

Song Name Dekhte Dekhte

Film Name Batti Gul Meter Chalu

Release Date 2018-05-17

Artist Name Arijit Singh

Catagory Rock

Update Changes

➤ Home:-

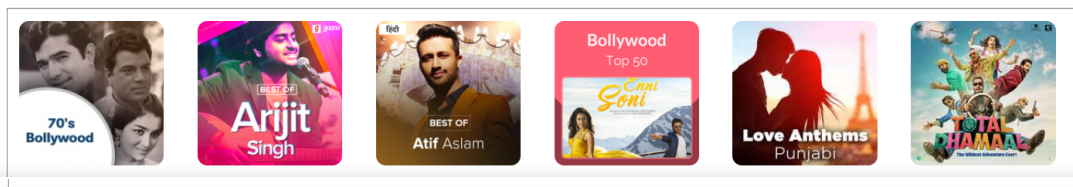
rythm

Login/Signup

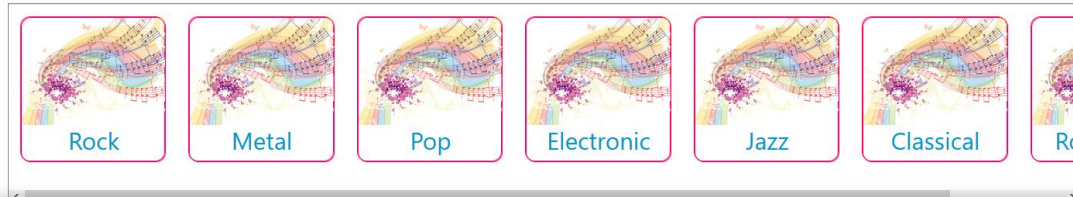
Recently Released

	Title	Film/Album	Artists
▶	Vhalam Aavo Ne	Love Ni Bhavai	Asha Bhosale
▶	Nazm Nazm	NAZM MOVIE	Neha Kakkar
▶	Nit Khair Manga	Nit Khair Manga	Atif Aslam
▶	Bom Diggy Diggy	Sonu Ke Titu Ki Sweety	Kishor Kumar


Playlists



Catagories



➤ All Songs of Playlist:-

<div>  Boliwood Songs </div>		
#	TITLE	ARTISTS
1	Ae Dil Hai Mushkil	Arijit Singh
2	Bom Diggy Diggy	Kishor Kumar
3	Dekhte Dekhte	Arijit Singh
4	Haal E Dil	Atif Aslam
5	Nit Khair Manga	Atif Aslam

(Without Login)

Bollywood

Top 50

Boliwood Songs

#	TITLE	ARTISTS	FILMNAME		
1	Dekhte Dekhte	Arijit Singh	Batti Gul Meter Chalu	♡	⬇
2	Bom Diggy Diggy	Kishor Kumar	Sonu Ke Titu Ki Sweety	♡	⬇
3	Nit Khair Manga	Atif Aslam	Nit Khair Manga	♡	⬇
4	Nazm Nazm	Neha Kakkar	NAZM MOVIE	♡	⬇

(After Login)

➤ All Songs of Playlist:-

Rock

#	TITLE	ARTISTS	FILMNAME
1	Dekhte Dekhte	Arijit Singh	Batti Gul Meter Chalu
2	Bom Diggy Diggy	Kishor Kumar	Sonu Ke Titu Ki Sweety

Follow us on social networks!

(Without Login)

Rock					
#	TITLE	ARTISTS	FILMNAME		
1	Dekhte Dekhte	Arijit Singh	Batti Gul Meter Chalu	♡	⬇
2	Bom Diggy Diggy	Kishor Kumar	Sonu Ke Titu Ki Sweety	♡	⬇

(After Login)

➤ Like and Dislike Songs:-

JSongs

localhost:4200 says

Song is added to favourite

OK

wood

p 50

Enni

Boliwood Songs

(Liked)

JSongs

localhost:4200 says

Song is removed from favourite

OK

wood

p 50

Enni

Boliwood Songs

(Disliked)

➤ Footer:-

Get connected with us on social networks!

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[in](#)
[@](#)
[t](#)
[v](#)

ABOUT US

We hope you enjoy our musicworld site.If you have any questions or comments, please don't hesitate to contact us.

rythm Media Pvt Ltd.

CONTACT US

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✉ abc@gmail.com

☎ +91 1234567890

FEEDBACK

How much did you enjoy musicworld?


rythm

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⏸ ————— -04:51

Vhalam Aavo Ne

➤ My Favourites:-

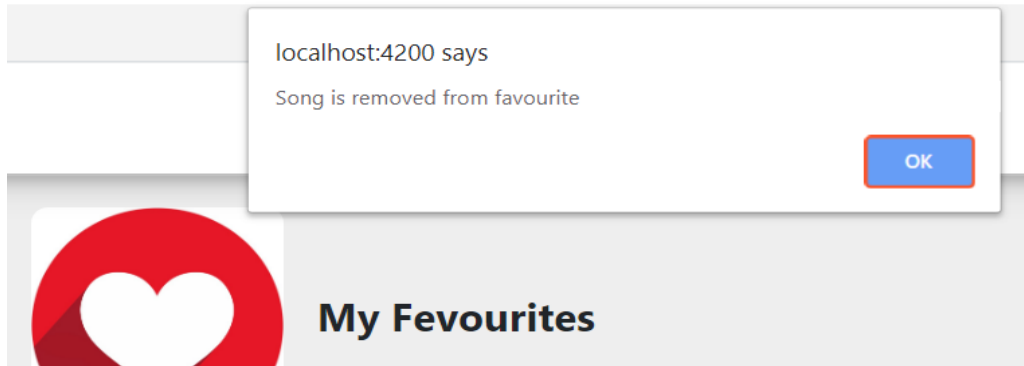


My Favourites

#	TITLE	ARTISTS	FILMNAME	
1	Bom Diggy Diggy	Kishor Kumar	Sonu Ke Titu Ki Sweety	
2	Dekhte Dekhte	Arijit Singh	Batti Gul Meter Chalu	
3	Haal E Dil	Atif Aslam	Haal E Dil	
4	Nit Khair Manga	Atif Aslam	Nit Khair Manga	

(After removing any song)

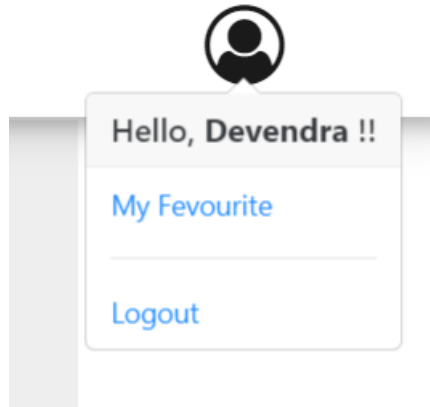
list



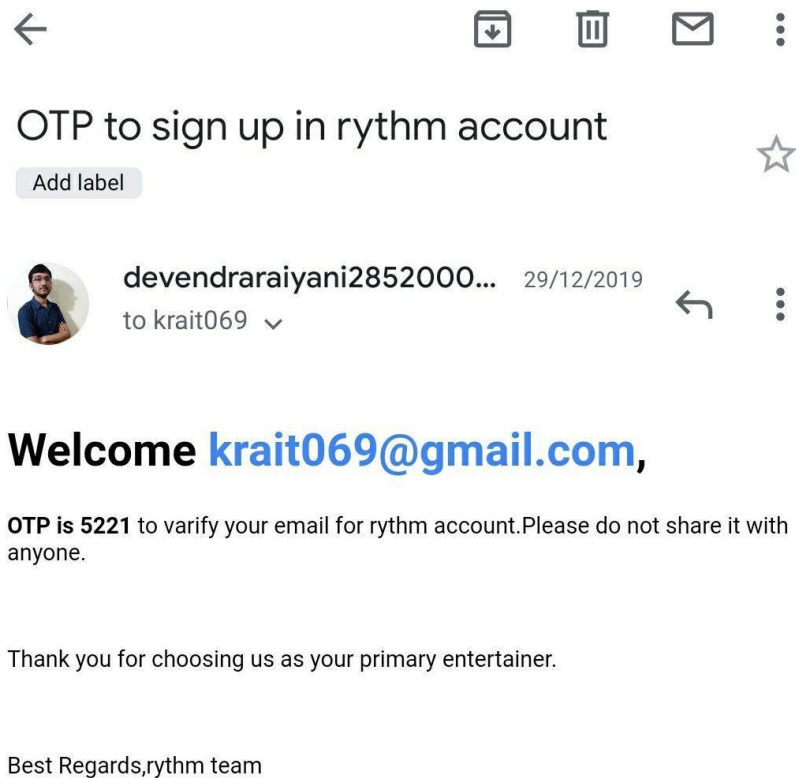
➤ **Login:-**

A login form for a service named "rythm". The word "rythm" is displayed in a large, red, cursive font. Below it, the tagline "all your music at one place" is written in a smaller, red, cursive font. The form consists of two rounded rectangular input fields: the first is labeled "Enter email" and the second is labeled "Enter password". Below these fields is a solid blue button with the text "Login" in white. Under the button, there are three links in a blue, sans-serif font: "Forgot Password ?", "No mmusic account ? Signup", and "Home".

➤ **After Login:-**



➤ **OTP on User Email ID:-**



CONCLUSION

In this project, Admin User can manage songs, categories, playlists and view statistics like number of total songs, playlists with number of songs, categories with number of songs.

User can login, signup, logout and change password. By selecting any playlist song list will be displayed. By selecting any song from that list, song will be played and audio player will be displayed at the bottom of the window with song title. By pressing like button of particular song, that song will be added in My Favourite playlist of that user. By pressing download button .mp3 file will be downloaded.

LIMITATIONS **&** **FUTURE EXTENSION**

- **Limitations:**
 - User can't play entire playlist.
 - Song Queue is not there.
- **Not Implemented Functionality:**
 - User can't create your own playlists.
- **Future Extension:**
 - User can play entire playlist.
 - User can create your own playlists.

BIBLIOGRAPHY

To build this project we have taken references from following websites,

- W3schools – <https://www.w3schools.com/>
- StackOverflow – <https://stackoverflow.com/>
- NpmJS – <https://www.npmjs.com/>
- Angular – <https://angular.io/docs>
- NodeJS – <https://nodejs.org/en/docs/>
- MongoDB – <https://docs.mongodb.com/>
- Tutorialspoint – <https://www.tutorialspoint.com>