

Database Management System

Music Library Management System

Implemented using MySQL & Python



CONTENTS

S.No.	Contents	Page no.
1	Abstract	6
2	Introduction	7
3	Problem Statement	8
4	System Requirements	9
5	ER Diagram	10
6	Screen Shots	11
7	Code	17
8	References	29

1. ABSTRACT

Our Project 'Music Library Management System' is a computerized system used to store and retrieve information and conduct transactions related to the management of databases with musical information. The aim of the project is to expose the relevance and importance of Music Library Management Systems.

The system allows the user, (namely an individual who is an employee of a Record Label or music management company) to arrange and organise songs, mainly in albums and to have access to artist details.

The system is designed such that all information on tracks and track details are readily available to all employees of said Record Label which allows them to access the information easily.

There are options to enter new songs into the database, manipulate already existing information and pull up information on various pre-existing albums and databases as and when it is required to do so.

The main purpose of this software is to reduce the manual errors involved in the music management process and make it convenient for the users to access relevant information and add new information when necessary.

2. INTRODUCTION

2.1 BACKGROUND

Since the time period after which songs could be directly downloaded off the internet, there has been a great demand for a software that can organize and neatly maintain all your preferred songs and other music in a neat and marshalled manner.

This has never been more true for Music Label Companies who are contracted to a various number of artists who need a place to store this information which has to be ready at a moment's notice.

2.2 MOTIVATION

Manual System: The system is very time consuming and lazy. This system is more prone to errors and sometimes the approaches to various problems are unstructured.

Technical System: With the invention of the latest technology, we should update our systems which are very fast, accurate, user-friendly and reliable.

2.3 OBJECTIVE

Our project's goal is to provide a clean and mannered interface with which your musical data will be accessible at your fingertips. Everything from the name and duration of the respective track to the contact information of the artist involved will be at the beck and call of the Record Labels.

2.4 SCOPE OF THE PROJECT

The project provides a very simple application which simplifies the manual work done by the operation team of several music management applications.

This application saves the data of employees and users in the database. It allows employees from the Music Label Companies to correctly label and store valid information on tracks, albums and artists which is accessible to all other employees very easily.

3. PROBLEM STATEMENT

This project is aimed to reduce the manual work involved in data maintenance in the Music Management industry, especially for companies that make and regulate music.

This project is developed mainly to simplify the manual work and allows smooth administration of the operations of said Record Label Companies.

The purpose of the project is to computerize the administrative operations of the music management application and to develop software which is user friendly, simple, fast, and cost – effective.

It deals with the collection of Users, Tracks, Durations, Artist Details (namely the Artist's name and Contact Information) and Album Details such as Album Name and the number of songs in said Album.

Traditionally, it was done manually. The main function of the system is to enter tracks and the corresponding information, retrieve these details as and when required and manipulate these details meaningfully.

4. SYSTEM REQUIREMENTS

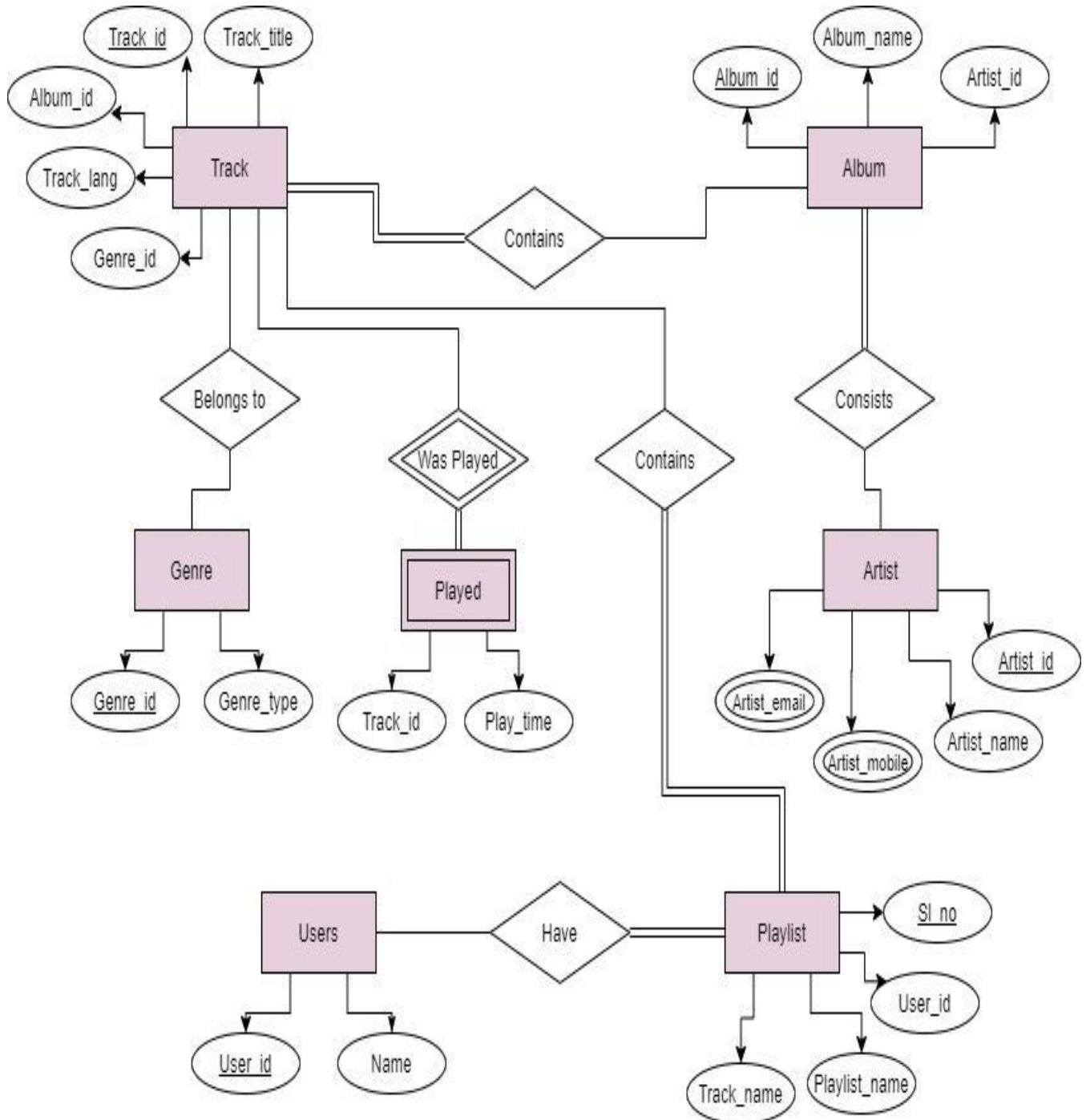
4.1 Software Requirements:

- Programming Language - Python
- IDE used - VisualStudio Code
- Database used - MySQL

4.2 Hardware Requirements:

- Intel i3 core or higher
- 4GB RAM or higher
- 32 Bit Operating System or higher
- Windows Specification - Windows 7 or higher

5. ER DIAGRAM



6. SCREENSHOTS

6.1 Screenshots of the Music library management schema:

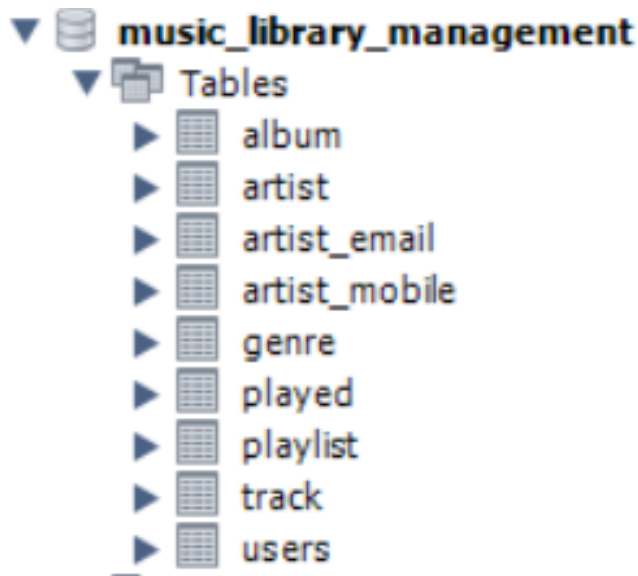


fig 6.1 music_library_management schema

user_id	name	album_id	album_name	artist_id	artist_id	artist_name
1	iris	1	Thriller	1	1	Micheal Jackson
2	ada	2	The Big Picture	2	2	Elton John
3	tom	3	L'Amour foe	3	3	Françoise Hardy
4	renae	4	Classically Mild	4	4	Sonu Nigam
6	anna	5	Ultraviolence	5	5	Lana Del Rey
7	tom	16	fineline	16	16	harry styles
8	Kaveri	40	Sweetner	43	43	Ariana Grande
9	Jagdish	NULL	NULL	NULL	NULL	NULL
10	Ashwin					
11	ABC					
12	XYZ					
13	qwe					

artist_id	mob_num	genre_id	genre_type	artist_id	email
1	8923550134	1	Rock	1	mj@gmail.com
2	7890236712	2	Pop	2	ejohn@gmail.com
3	4567894302	3	French Pop	3	hardyf@gmail.com
4	9086132567	4	Semi-Classical	4	sonu_nigam@gmail.com
5	8907561256	5	Psychedelic Rock	5	ldr@gmail.com
16	9741232401	17	Rock-Pop	16	h@gmail.com
43	1231234562	NULL	NULL	43	a@yahoo.in

fig 6.2 user, album, artist, mobile number, genre, and email tables

track_id	track_title	track_lang	album_id	genre_id
1	Wanna Be Startin' Somethin	English	1	1
2	Billie Jean	English	1	1
3	Thriller	English	1	1
4	Human Nature	English	1	1
5	The Lady in My Life	English	1	1
6	Long Way from Happiness	English	2	2
7	Live Like Horses	English	2	2
8	The End Will Come	English	2	2
9	January	English	2	2
10	Wicked Dreams	English	2	2
11	Les Fous de Bassan	French	3	3
12	Normandia	French	3	3
13	Pourquoi vous ?	French	3	3
14	Piano-bar	French	3	3
15	Mal au cœur	French	3	3
16	Sochta Hoon Main	Hindi	4	4
17	Bheege Bheege	Hindi	4	4
18	Soona Soona	Hindi	4	4
19	Lamha Lamha	Hindi	4	4
20	Aai dil mat ro	Hindi	4	4
21	Cruel World	English	5	5
22	Shades of Cool	English	5	5
23	Pretty When You Cry	English	5	5
24	Old Money	English	5	5
25	West Coast	English	5	5
26	watermelon sugar	english	16	17

sl_no	user_id	playlist_name	track_name
1	3	daily	Thriller
2	3	daily	January
3	1	querencia	watermelon sugar
4	1	querencia	sundity
5	3	daily	Normandia
6	3	daily	Piano-bar
7	3	daily	Cruel World
8	6	medicine	Billie Jean
9	6	medicine	Human Nature
10	6	medicine	Old Money
11	8	shamrock gr...	skechers
12	8	shamrock gr...	Billie Jean
13	8	shamrock gr...	Soona Soona
14	8	shamrock gr...	Old Money
15	8	shamrock gr...	sundity
16	9	wotor	Normandia
17	9	wotor	Thriller
18	9	wotor	Lamha Lamha
19	8	immunity	Old Money
20	1	ahem	Cruel World
21	1	ahem	Normandia
22	10	Happy songs	Thriller
23	10	Happy songs	Billie Jean
24	10	Happy songs	Piano-bar
25	10	Happy songs	Soona Soona
26	10	Happy songs	watermelon sugar

track_id	play_time
1	6.02
2	4.54
3	5.57
4	4.07
5	4.59
6	4.47
7	5.02
8	4.53
9	4.02
10	4.39
11	3.48
12	4.56
13	3.31
14	3.29
15	3.09
16	7.21
17	4.34

fig 6.3 track, playlist and played tables

6.2 Screenshots of the Python script:

```

-----WELCOME TO THE MUSIC LIBRARY MANAGEMENT SYSTEM-----

Please enter Y to login or enter N to exit
Y
Enter username:
iris
Logged In!

Please enter 0 to exit or enter 1 to continue
1
Select:
  1. To enter a track and its attributes into the database
  2. To display all the songs in the database
  3. To search for a track in the database
  4. To update entries existing in the database
  5. To delete track/album/artist
  6. To create your own playlist
  7. To display your various playlists and its songs

```

fig 6.4 console interface


```

Pop
Genre exist !

Enter name of the artist
Louis Tomlinson
Artist does not exist in the database

Artist added to database !

Enter the name of the album
Walls
Album does not exist in the database

Album added to database !

Enter email of the artist
LT@gmail.com
Email does not exist in the database

Email added to database !

Enter mobile number of artist
9988776655
Mobile does not exist in the database

Mobile added to database !

Enter the name of the track
Always You
Enter the language of the song
english
Track does not exist in the database

Track added to database !

Enter duration of song
3.05
Your song has been sucessfully added!

Please enter 0 to exit or enter 1 to continue

```

fig 6.5 insertion option

```

7. To display your various playlists and its songs
2
Make a choice :
1.Display all the tracks
2.Display all the albums
3.Display all the artists
1

```

Track ID	Track Title	Album Name	Artist Name
1	Wanna Be Startin' Somethin	Thriller	Micheal Jackson
2	Billie Jean	Thriller	Micheal Jackson
3	Thriller	Thriller	Micheal Jackson
4	Human Nature	Thriller	Micheal Jackson
5	The Lady in My Life	Thriller	Micheal Jackson
6	Long Way from Happiness	The Big Picture	Elton John
7	Live Like Horses	The Big Picture	Elton John
8	The End Will Come	The Big Picture	Elton John
9	January	The Big Picture	Elton John
10	Wicked Dreams	The Big Picture	Elton John
11	Les Fous de Bassan	L'Amour foe	Françoise Hardy
12	Normandia	L'Amour foe	Françoise Hardy
13	Pourquoi vous ?	L'Amour foe	Françoise Hardy
14	Piano-bar	L'Amour foe	Françoise Hardy
15	Mal au cœur	L'Amour foe	Françoise Hardy
16	Sochta Hoon Main	Classically Mild	Sonu Nigam
17	Bheege Bheege	Classically Mild	Sonu Nigam
18	Soona Soona	Classically Mild	Sonu Nigam
19	Lamha Lamha	Classically Mild	Sonu Nigam
20	Aai dil mat ro	Classically Mild	Sonu Nigam
21	Cruel World	Ultraviolence	Lana Del Rey
22	Shades of Cool	Ultraviolence	Lana Del Rey
23	Pretty When You Cry	Ultraviolence	Lana Del Rey
24	Old Money	Ultraviolence	Lana Del Rey
25	West Coast	Ultraviolence	Lana Del Rey
28	watermelon sugar	fineline	harry styles
52	Thanks	Sweetner	Ariana Grande
53	Always You	Walls	Louis Tomlinson

```

Please enter 0 to exit or enter 1 to continue

```

fig 6.6 display option

```
Please enter 0 to exit or enter 1 to continue
1
Select:
1. To enter a track and its attributes into the database
2. To display all the songs in the database
3. To search for a track in the database
4. To update entries existing in the database
5. To delete track/album/artist
6. To create your own playlist
7. To display your various playlists and its songs
3
Enter the name of the song to search
Always You
Track found !
+-----+-----+-----+-----+-----+-----+-----+
| Track Title | Album Name | Artist Name | Genre Type | Track Language | Duration | Artist Email | Artist Mobile |
+-----+-----+-----+-----+-----+-----+-----+
| Always You | Walls      | Louis Tomlinson | Pop        | english        | 3.05     | LT@gmail.com | 9988776655    |
+-----+-----+-----+-----+-----+-----+-----+
Please enter 0 to exit or enter 1 to continue
█
```

fig 6.7 search option

```
1
Select:
1. To enter a track and its attributes into the database
2. To display all the songs in the database
3. To search for a track in the database
4. To update entries existing in the database
5. To delete track/album/artist
6. To create your own playlist
7. To display your various playlists and its songs
4
Please enter:
1.To change the name of a song
2.To change the name of an album
3.To change the name of an artist
4.To change the genre
5.To change the duration of the song
3
Enter the name of the artist you want to change
Louis Tomlinson
Enter the new artist
Louis William Tomlinson
Louis Tomlinson was succesfully changed to Louis William Tomlinson
Please enter 0 to exit or enter 1 to continue
█
```

fig 6.8 update option

```

Please enter 0 to exit or enter 1 to continue
1
Select:
1. To enter a track and its attributes into the database
2. To display all the songs in the database
3. To search for a track in the database
4. To update entries existing in the database
5. To delete track/album/artist
6. To create your own playlist
7. To display your various playlists and its songs
5
Select from the following:
1. To delete only a particular song
2. To delete an album
3. To delete an artist
1
Enter the name of the song you want to delete
Thanks
The song Thanks has been deleted !
Please enter 0 to exit or enter 1 to continue

```

fig 6.9 delete option

```

Enter name of your playlist
Assortment
Enter your name
iris
Enter the number of songs you want in your playlist
5
Songs available in the database:

```

Track ID	Track Name	Track Language
1	Wanna Be Startin' Somethin'	English
2	Billie Jean	English
3	Thriller	English
4	Human Nature	English
5	The Lady in My Life	English
6	Long Way from Happiness	English
7	Live Like Horses	English
8	The End Will Come	English
9	January	English
10	Wicked Dreams	English
11	Les Fous de Bassan	French
12	Normandia	French
13	Pourquoi vous ?	French
14	Piano-bar	French
15	Mal au cœur	French
16	Sochta Hoon Main	Hindi
17	Bheege Bheege	Hindi
18	Soona Soona	Hindi
19	Lamha Lamha	Hindi
20	Aai dil mat ro	Hindi
21	Cruel World	English
22	Shades of Coal	English
23	Pretty When You Cry	English
24	Old Money	English
25	West Coast	English
28	watermelon sugar	english
53	Always You	english

```

Enter the name of the track to be added into the playlist
watermelon sugar
Enter the name of the track to be added into the playlist
Always You
Enter the name of the track to be added into the playlist
January
Enter the name of the track to be added into the playlist
Pourquoi vous ?
Enter the name of the track to be added into the playlist
Live Like Horses

The playlist Assortment contains :

```

Track Name
watermelon sugar
Always You
January
Pourquoi vous ?
Live Like Horses

```

Please enter 0 to exit or enter 1 to continue

```

fig 6.10 playlist creation option

```

+-----+
Please enter 0 to exit or enter 1 to continue
1
Select:
  1. To enter a track and its attributes into the database
  2. To display all the songs in the database
  3. To search for a track in the database
  4. To update entries existing in the database
  5. To delete track/album/artist
  6. To create your own playlist
  7. To display your various playlists and its songs
7
Please enter you name to display all your playlists
iris

Your Playlists are:

Assortment
querencia
ahem

Enter the name of the playlist to display the songs
querencia
+-----+
| Playlist contains |
+-----+
| watermelon sugar |
| suncity           |
+-----+
Please enter 0 to exit or enter 1 to continue

```

fig 6.11 displaying playlist option

7. REFERENCES

- <https://www.w3schools.com/>
- <https://stackoverflow.com/>
- <https://www.slideshare.net/nileshpadwal456/music-management-system>
- <https://github.com/Clara47/Music-Library-Database-SQL->
- <https://www.freeprojectz.com/php-mysql-project/music-library-management-system>
- <https://developpaper.com/music-library-management-system-implemented-by-maven-jsp-servlet-c3p0-mysql/>