SRS Documentation

Notown Music Record Management System

(Assignment 3)

Prepared by,

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Contents

Assignment 3

Draw the ER diagram; Design the relational schema with minimum redundancy.

Notown Records has decided to store information about musicians who perform on its albums (as well as other company data) in a database. The company has wisely chosen to hire you as a database designer (at your usual consulting fee of $2,500/day).

Each musician that records at Notown has an SSN, a name, an address, and a phone number. Poorly paid musicians often share the same address, and no address has more than one phone.

Each instrument that is used in songs recorded at Notown has a name (e.g., guitar, synthesizer, flute) and a musical key (e.g., C, B-flat, E-flat).

Each album that is recorded on the Notown label has a title, a copyright date, a format (e.g., CD or MC), and an album identifier.

Each song recorded at Notown has a title and an author.

Each musician may play several instruments, and a given instrument may be played by several musicians.

Each album has a number of songs on it, but no song may appear on more than one album.

Each song is performed by one or more musicians, and a musician may perform a number of songs.

Each album has exactly one musician who acts as its producer. A musician may produce several albums, of course.

1.Data Requirement

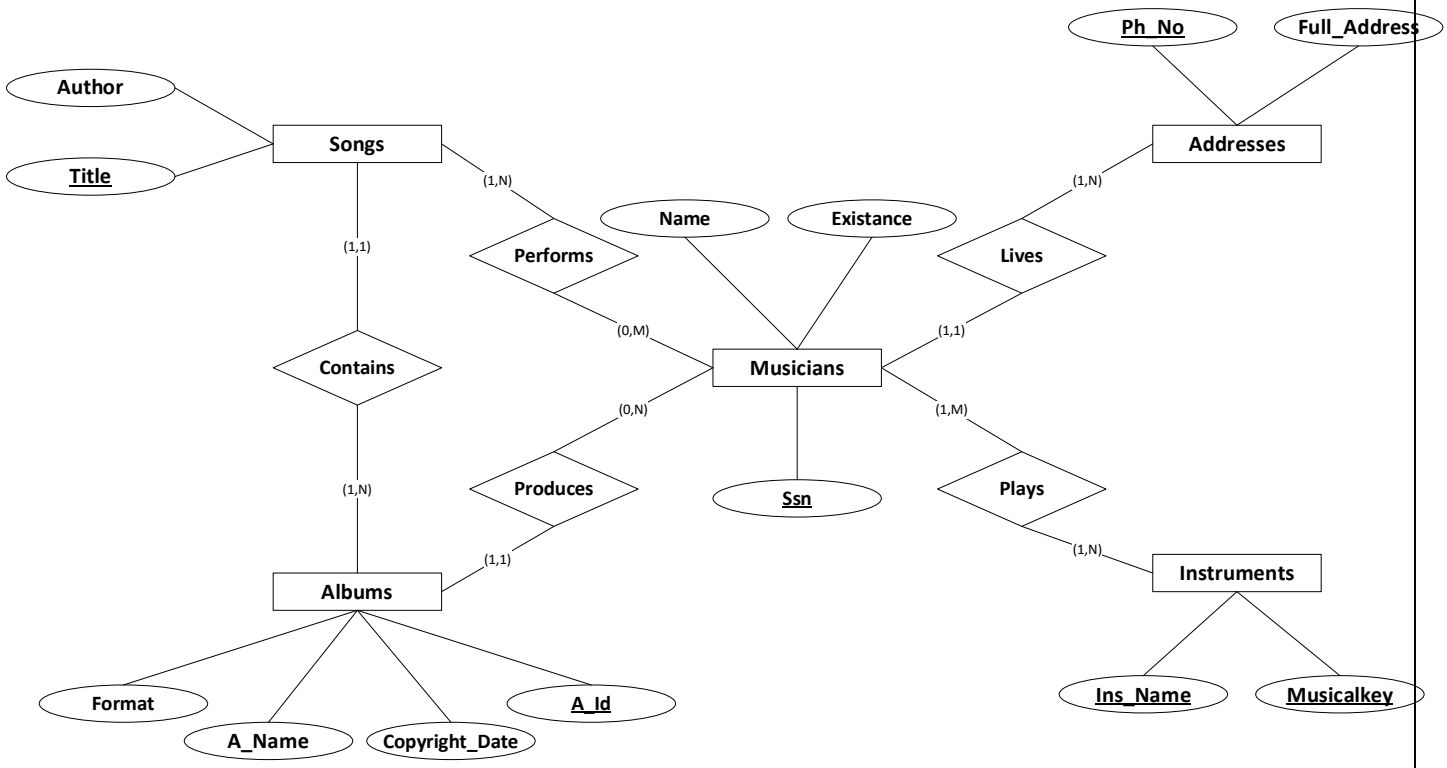
- **Songs:** Every song has a unique title. Each song is written by specific author and in a specific album.
- **Albums:** Every album has a unique id and respective album name and a producer. Each one has specific format (e.g. CD or MC, or DVD), date of copyright.
- **Musicians:** Every musician has an unique Ssn number and their respective name.
- **Instruments:** Each instrument is identified by an unique name (e.g. guiter, synthesizer, flute) and its musical key (e.g. C,B-flat ,E-flat).
- **Addresses:** Each address of musicians identified by a contact phone number. Each one has full address.

2. Assumption

1) An album may contain multiple songs. But the recorded albums has at least one song.
2) A musician may or may not perform songs. Musician may produce one or more albums.
3) A musician can play one or more instruments.
4) A musician lives only in one address identified by it's phone number.
5) In one address there may be more than one poorly paid musicians.
6) An instrument can be played by one or more than one musicians.
7) Every album has a producer.
8) A song can be performed by one or more musicians.

3. Entity Relationship Diagram

A. Diagram



B. Description

a) In this diagram the entities are Albums, Musicians, Songs , Instruments , Addresses.
b) Albums contains songs so they are connected by the relationship 'Contains'.
c) Musicians performs songs. They are connected by the relationship 'Performs'.
d) Musicians produces album, so they are connected by the relationship 'Produces'.
e) A musician lives in an addresses. So musician and addresses are connected by the relationship 'Lives'.
f) Musician plays instruments, so musician and instruments is connected by the relationship 'Plays'.

C. Attributes

Albums: {A_Id, A_Name, Format, Copyright_Date}
Songs: {Title, Author}
Musicians: {Ssn, Name, Existance}
Instruments: {Ins_Name, MusicalKey}
Addresses: {Ph_no, FullAddress}

4.Relationships

a. Musicians-Addresses (N:1) comprises.
b. Musicians-Instruments (N:M) comprises.
c. Musicians-Albums (1:N) comprises.
d. Musicians-Songs (N:M) comprises.
e. Albums-Songs (1:N) holds.

5.Relational Schema

Albums:

Albums
- <A_Id>
  - Album title: <A_Name>
  - Date of copyright : <Copyright_Date>
  - Album format : <Format>
  - Producer id : <Ssn> (Forgien key from 'Musicians' table)

Songs:

Songs
- <Title>
  - Author name : <Author>
  - Album id : <A_Id> (Forgien key from 'Albums' table)

Musicians:

Musicians
- <Ssn>
  - Musician name : <Name>
  - Musician contact number : <Ph_No>(Forgien key from 'Addresses' table)

Instruments:

Instruments

- <Ins_Name>
  - Musical key type : <Musicalkey>

Addresses:

Addresses

- <Ph_No>
  - Musician address : <FullAddress>

Plays:

Plays

- Instrument name : <Ins_name> (Forgien key from 'Instruments' table)
- Musician id : <Ssn> (Forgien key from 'Musicians' table)

Performs:

Performs

- Musician id : <Ssn> (Forgien key from 'Musicians' table)
- Song title : <Title> (Forgien key from 'Songs' table)

6. Normalization of Relational Schema

1. **Musicians {Ssn, Name, Ph_No }**

   Ssn -> { Name,Ph_No }

   Ssn is the candidate key.

   There is no multi valued attribute so the table is in **1NF**.

   Ssn is the primary key and there is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

2. **Songs { Title, Author, A_Id }**

   Title -> { **Author, A_Id** }

   Title is the candidate key.

   There is no multi valued attribute so the table is in **1NF**.

   Title is the primary key and there is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

3. **Albums{A_id, A_Name, Format, Copyright_Date, Ssn}**

   A_Id -> { A_name, Format, Copyright_Date ,Ssn}

   A_Id is the candidate key.

   There is no multi valued attribute so the table is in **1NF**.

   A_Id is the primary key and there is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

4. **Instruments { Ins_Name, Musicalkey}**

   (Ins_Name, MusicalKey} is the composite primary key.

   There is no multi valued attribute so the table is in **1NF**.

   There is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

5. **Addresses {Ph_No, FullAddress}**

   Ph_No -> { FullAddress }

   Ph_No is the candidate key.

   There is no multi valued attribute so the table is in **1NF.**

   Ph_No is the primary key and there is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

6. **Performs{Ssn,Title}**

   {Ssn,title} is a composite primary key.

   There is no multi valued attribute so the table is in **1NF**.

   There is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

7. **Plays{Ssn,Ins_Name}**

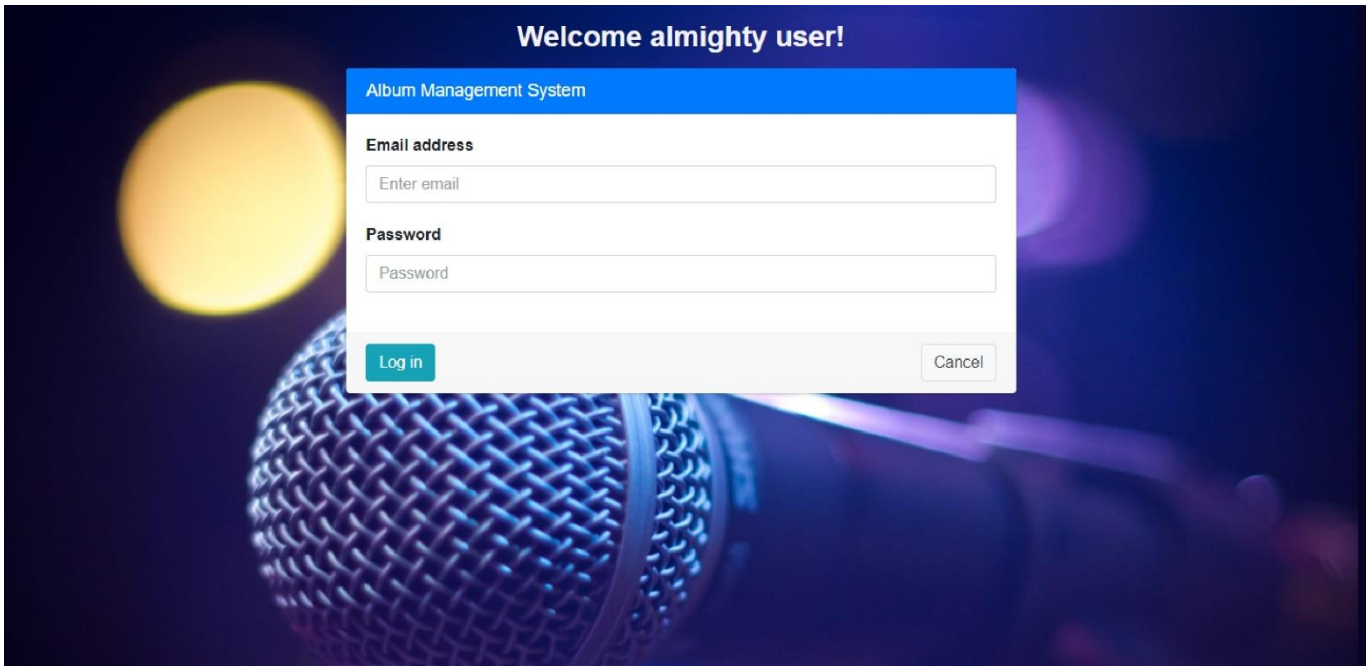
   {Ssn, Ins_Name} is a composite primary key.

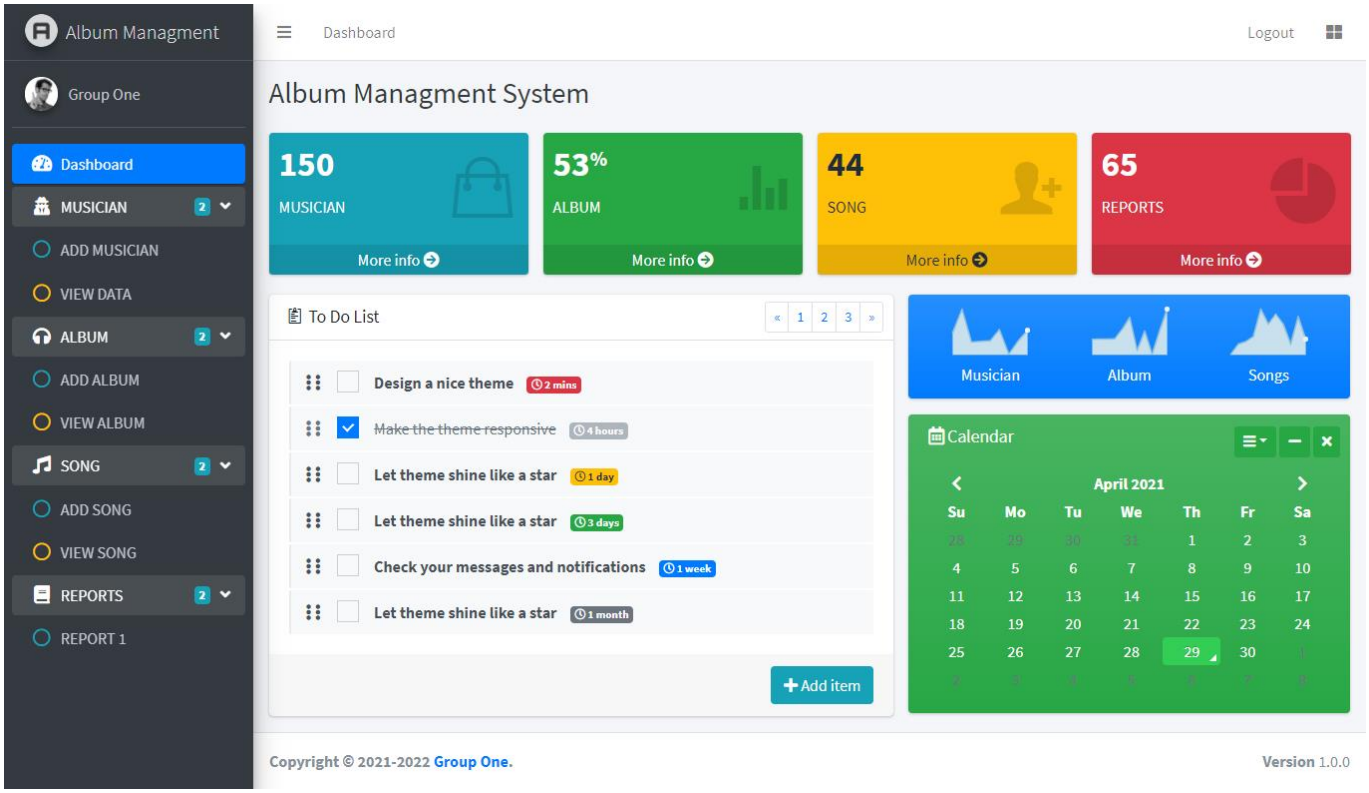
   There is no multi valued attribute so the table is in **1NF**.

   There is no partial dependency, so the table is in **2NF**.

   The table is in **3NF** as there is no transitive dependency.

7 . User Interface of Implementation




Album Managment
Group One
Dashboard
MUSICIAN
ADD MUSICIAN
VIEW DATA
ALBUM
ADD ALBUM
VIEW ALBUM
SONG
ADD SONG
VIEW SONG
REPORTS
REPORT 1
Dashboard
Logout
Album Managment System
150
MUSICIAN
More info
53%
ALBUM
More info
44
SONG
More info
65
REPORTS
More info
To Do List
Design a nice theme
2 mins
Make the theme responsive
4 hours
Let theme shine like a star
1 day
Let theme shine like a star
3 days
Check your messages and notifications
1 week
Let theme shine like a star
1 month
Add item
Musician
Album
Songs
Calendar
April 2021
Su Mo Tu We Th Fr Sa
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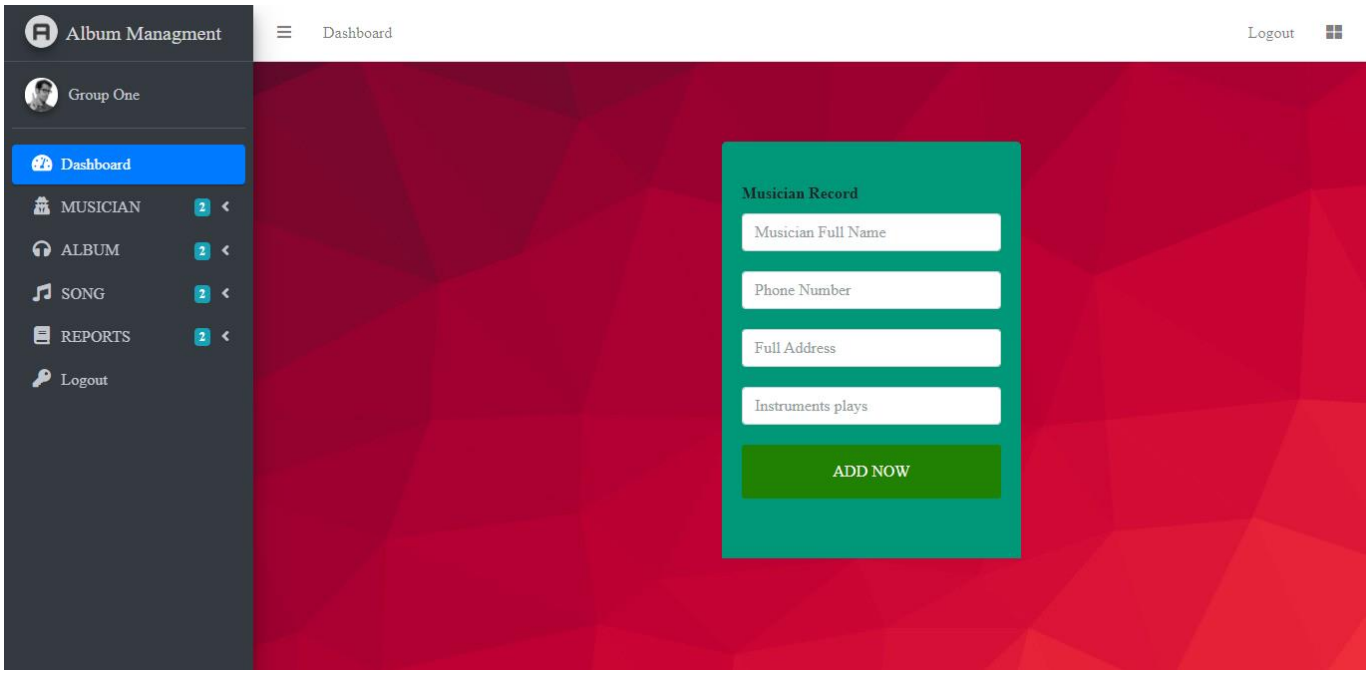
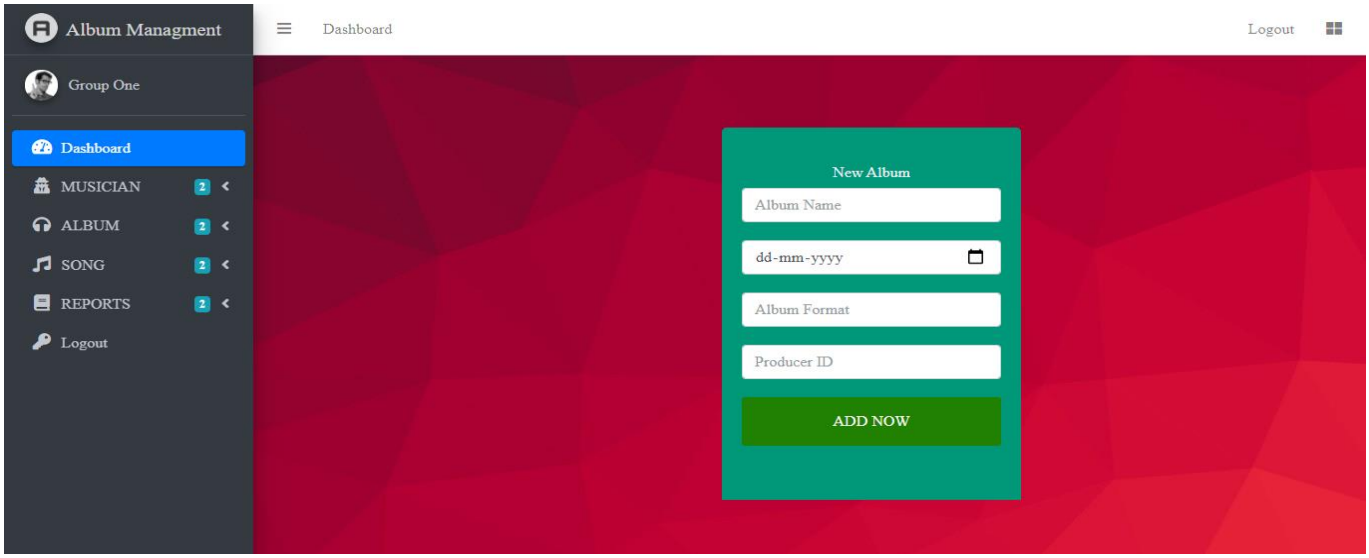
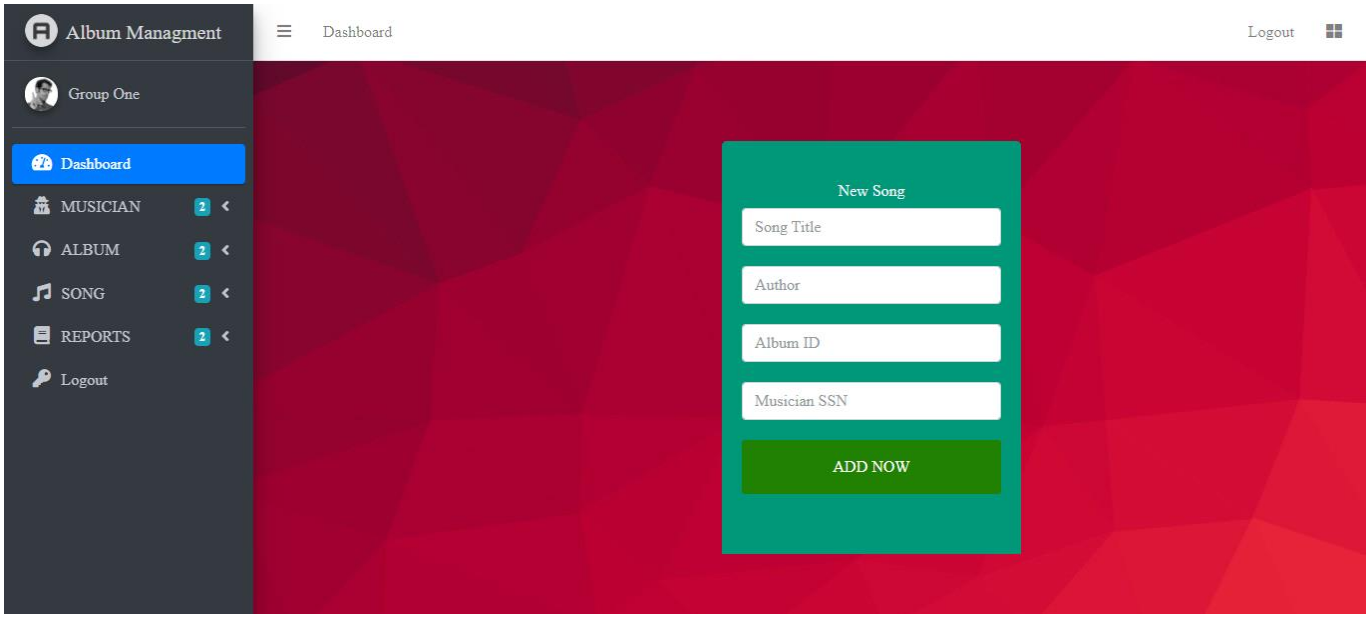
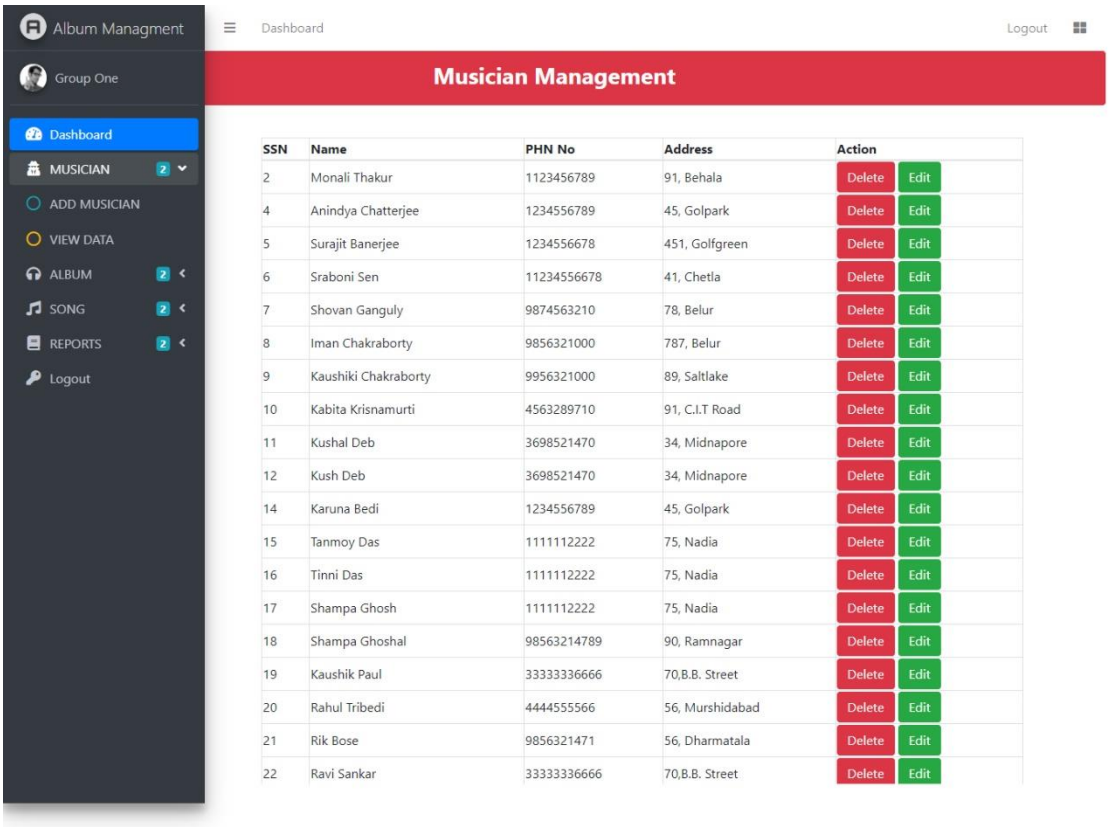
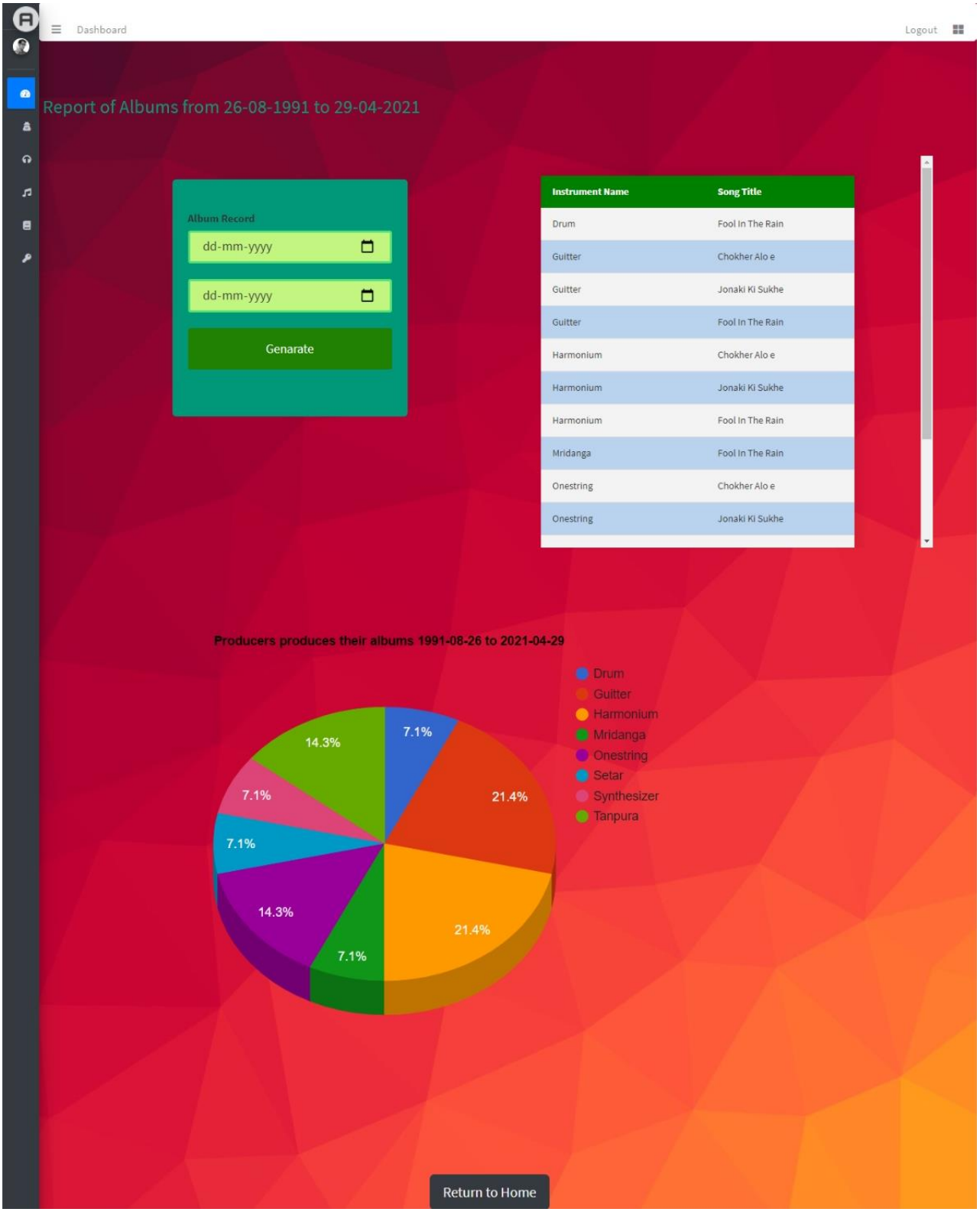
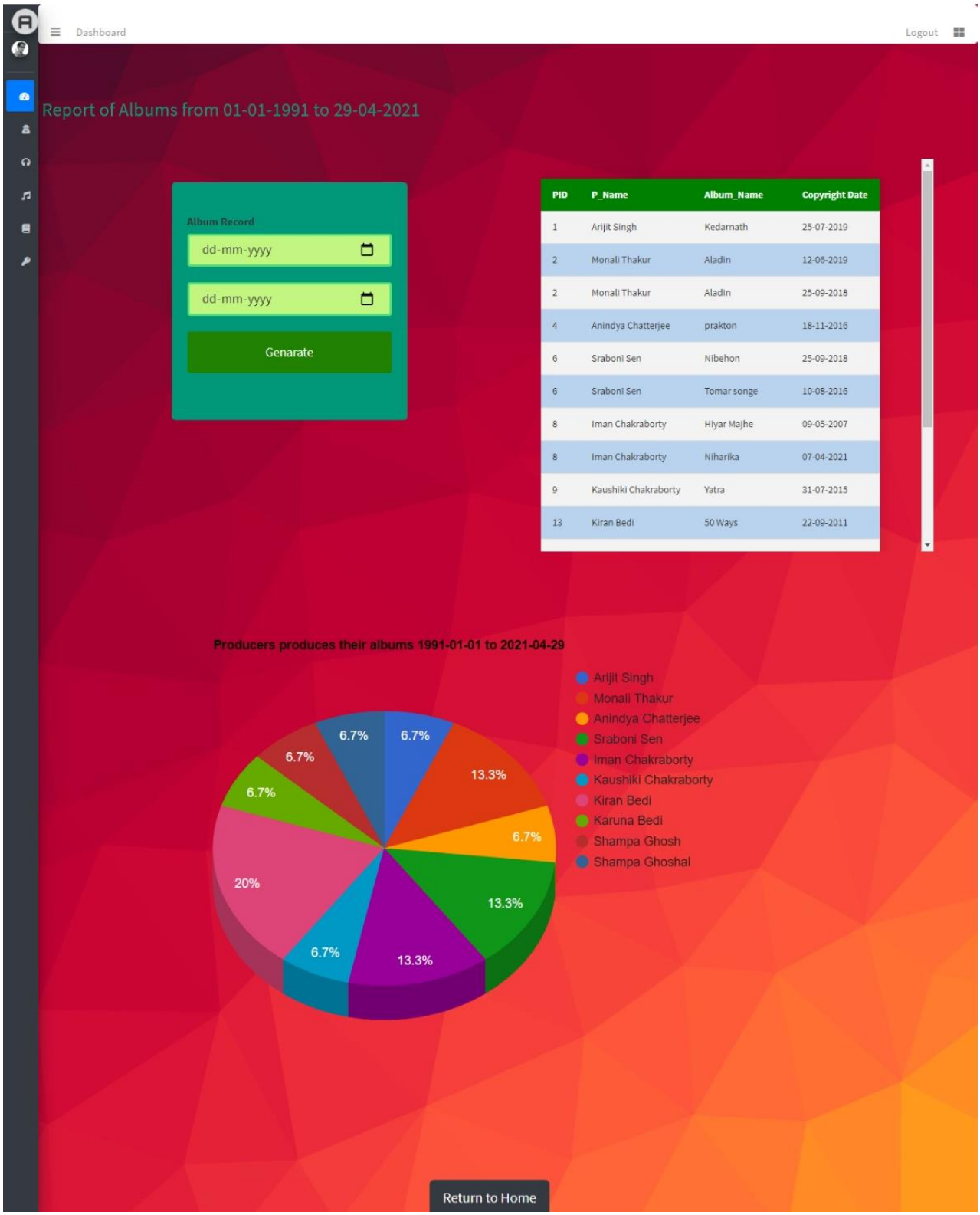

Album Managment
Group One
Dashboard
MUSICIAN
ALBUM
SONG
REPORTS
Logout
Dashboard
Logout
Musician Record
Musician Full Name
Phone Number
Full Address
Instruments plays
ADD NOW


Album Managment
Group One
Dashboard
MUSICIAN
ALBUM
SONG
REPORTS
Logout
Dashboard
Logout
New Album
Album Name
dd-mm-yyyy
Album Format
Producer ID
ADD NOW


Album Managment
Dashboard
Logout
Group One
Dashboard
MUSICIAN
ALBUM
SONG
REPORTS
Logout
New Song
Song Title
Author
Album ID
Musician SSN
ADD NOW


Album Managment
Dashboard
Logout
Group One
Musician Management
Dashboard
MUSICIAN
ADD MUSICIAN
VIEW DATA
ALBUM
SONG
REPORTS
Logout
SSN Name PHN No Address Action
2 Monali Thakur 1123456789 91, Behala Delete Edit
4 Anindya Chatterjee 1234556789 45, Golpark Delete Edit
5 Surajit Banerjee 1234556678 451, Golfgreen Delete Edit
6 Sraboni Sen 11234556678 41, Chetla Delete Edit
7 Shovan Ganguly 9874563210 78, Belur Delete Edit
8 Iman Chakraborty 9856321000 787, Belur Delete Edit
9 Kaushiki Chakraborty 9956321000 89, Saltlake Delete Edit
10 Kabita Krisnamurti 4563289710 91, C.I.T Road Delete Edit
11 Kushal Deb 3698521470 34, Midnapore Delete Edit
12 Kush Deb 3698521470 34, Midnapore Delete Edit
14 Karuna Bedi 1234556789 45, Golpark Delete Edit
15 Tanmoy Das 1111112222 75, Nadia Delete Edit
16 Tinni Das 1111112222 75, Nadia Delete Edit
17 Shampa Ghosh 1111112222 75, Nadia Delete Edit
18 Shampa Ghoshal 98563214789 90, Ramnagar Delete Edit
19 Kaushik Paul 33333336666 70,B.B. Street Delete Edit
20 Rahul Tribedi 4444555566 56, Murshidabad Delete Edit
21 Rik Bose 9856321471 56, Dharmatala Delete Edit
22 Ravi Sankar 33333336666 70,B.B. Street Delete Edit


Dashboard
Logout
Report of Albums from 26-08-1991 to 29-04-2021
Album Record
dd-mm-yyyy
dd-mm-yyyy
Genarate
Instrument Name
Song Title
Drum
Fool In The Rain
Guitter
Chokher Alo e
Guitter
Jonaki Ki Sukhe
Guitter
Fool In The Rain
Harmonium
Chokher Alo e
Harmonium
Jonaki Ki Sukhe
Harmonium
Fool In The Rain
Mridanga
Fool In The Rain
Onestring
Chokher Alo e
Onestring
Jonaki Ki Sukhe
Producers produces their albums 1991-08-26 to 2021-04-29
Drum
Guitter
Harmonium
Mridanga
Onestring
Setar
Synthesizer
Tanpura
7.1%
21.4%
21.4%
7.1%
14.3%
7.1%
7.1%
14.3%
Return to Home


Dashboard
Logout
Report of Albums from 01-01-1991 to 29-04-2021
Album Record
dd-mm-yyyy
dd-mm-yyyy
Genarate
PID P_Name Album_Name Copyright Date
1 Arijit Singh Kedarnath 25-07-2019
2 Monali Thakur Aladin 12-06-2019
2 Monali Thakur Aladin 25-09-2018
4 Anindya Chatterjee prakton 18-11-2016
6 Sraboni Sen Nibehon 25-09-2018
6 Sraboni Sen Tomar songe 10-08-2016
8 Iman Chakraborty Hiyar Majhe 09-05-2007
8 Iman Chakraborty Niharika 07-04-2021
9 Kaushiki Chakraborty Yatra 31-07-2015
13 Kiran Bedi 50 Ways 22-09-2011
Producers produces their albums 1991-01-01 to 2021-04-29
6.7%
6.7%
13.3%
6.7%
13.3%
13.3%
6.7%
20%
6.7%
6.7%
Arijit Singh
Monali Thakur
Anindya Chatterjee
Sraboni Sen
Iman Chakraborty
Kaushiki Chakraborty
Kiran Bedi
Karuna Bedi
Shampa Ghosh
Shampa Ghoshal
Return to Home