

# Final Report

Yg1497 youxing gao

## Introduction:

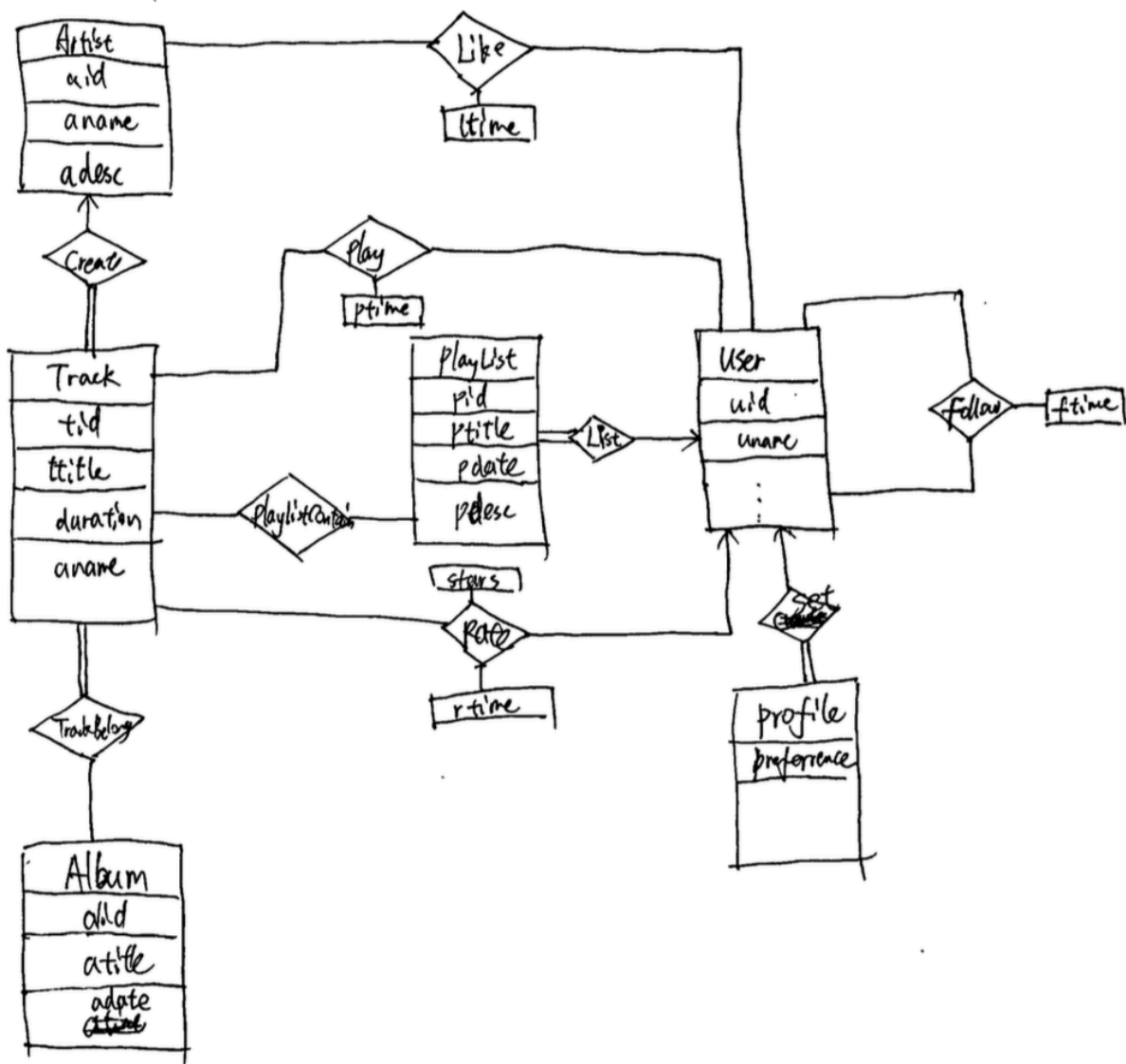
The website provides users with information about artists and their songs and albums, and also, with access to their songs via streaming. Users can generate playlists and make these available to other users, they can like artists, give ratings (say, from one to five stars) to songs, and follow other users. We assume that all users who want to use the service have to sign up, choose a unique user name, and provide some basic information such as their name, email, and city. Some of this information may later be displayed on a profile page for each user. And for this project I did not realized the payment part, so every user once logged in can use this website freely. The whole project is ran on local server, implemented by MAMP software. For the artist , album , and Track table, I used the datasets provided by professor.

For this project report, it includes two main parts. The first part is about designing the whole database system. And the second part is the realization of the functions of the website.

## Design:

a)

ER diagram:



## Assumptions:

1. An album can be created by multiple artists.
2. An artist can create many albums
3. A track can only be created by one artist
4. An user can play different tracks, and a track can be played by different users
5. A playlist can only be created by one user, an user can make multiple playlists.
6. An user can follow himself
7. An user can only make one rating for per track
8. An user can like different artists, an Artist can be liked by different users.

b)

## Schema:

### Album:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>alid</b>	varchar(22)	utf8_general_ci		No	None		Change  Drop  Primary  Unique  Index
<input type="checkbox"/>	2	<b>atitle</b>	varchar(156)	utf8_general_ci		Yes	NULL		Change  Drop  Primary  Unique  Index
<input type="checkbox"/>	3	<b>adate</b>	varchar(37)	utf8_general_ci		Yes	NULL		Change  Drop  Primary  Unique  Index

adate is the release data of the album, and atitle is the name of the album. alid is the primary key here.

### Artist:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>aid</b>	varchar(22)	utf8_general_ci		No	None		Change  Drop  Primary  Unique  Index
<input type="checkbox"/>	2	<b>aname</b>	varchar(52)	utf8_general_ci		Yes	NULL		Change  Drop  Primary  Unique  Index
<input type="checkbox"/>	3	<b>adesc</b>	varchar(334)	utf8_general_ci		Yes	NULL		Change  Drop  Primary  Unique  Index

adesc is the description of each artist. aid is the primary key here.

### Follow:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>uid</b>	int(11)		No	None			Change  Drop  Primary  Unique
<input type="checkbox"/>	2	<b>fuid</b>	int(11)		No	None			Change  Drop  Primary  Unique
<input type="checkbox"/>	3	<b>ftime</b>	datetime		Yes	CURRENT_TIMESTAMP			Change  Drop  Primary  Unique

Both of uid and fuid are foreign keys, which reference to User.uid. ftime is the time an user follow an user. (uid, fuid) is the primary key.

### Like:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>uid</b>	int(11)		No	None			Change  Drop  Primary  Unique
<input type="checkbox"/>	2	<b>aid</b>	varchar(22)	utf8_general_ci		No	None		Change  Drop  Primary  Unique
<input type="checkbox"/>	3	<b>itime</b>	datetime		Yes	CURRENT_TIMESTAMP			Change  Drop  Primary  Unique

uid references to User.uid, and aid references to Artist.aid. ltime is the time for an user to like an artist. (uid, aid) is the primary key here.

Play:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	uid	int(11)			No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">More</a>
2	tid	varchar(22)	utf8_general_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">More</a>
3	ptime	datetime			No	CURRENT_TIMESTAMP			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">More</a>

uid references to User.uid, and tid references to Track.tid. And (uid, ptime) is the primary key.

Playlist:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	pid	int(11)			No	None		AUTO_INCREMENT
2	ptitle	varchar(45)	utf8_general_ci		Yes	NULL		
3	pdate	datetime			Yes	CURRENT_TIMESTAMP		
4	pavailable	int(11)			Yes	NULL		
5	pdesc	varchar(45)	utf8_general_ci		Yes	NULL		
6	uid	int(11)			No	None		

pid is the primary key here, and uid references to User.uid.

PlaylistContain:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	pid	int(11)			No	None		
2	tid	varchar(22)	utf8_general_ci		No	None		

pid references to Playlist.pid, and (pid, tid ) is the primary key here.

Rate:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	uid	int(11)			No	None		
2	tid	varchar(22)	utf8_general_ci		No	None		
3	stars	int(11)			No	None		
4	rtime	datetime			Yes	CURRENT_TIMESTAMP		

uid references to User.uid, and tid references to Track.tid. (uid, tid) is the primary key. Stars is range from 0 to 5 to show whether a track is popular to users or not.

Track:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	tid	varchar(22)	utf8_general_ci		No	None		
2	ttitle	varchar(92)	utf8_general_ci		Yes	NULL		
3	duration	varchar(13)	utf8_general_ci		Yes	NULL		
4	aname	varchar(32)	utf8_general_ci		Yes	NULL		
5	alid	varchar(22)	utf8_general_ci		No	None		

tid is the primary key here, and alid references to Album.alid.

User:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	uid 🗃️	int(11)			No	None		AUTO_INCREMENT
2	uage	int(11)			Yes	NULL		
3	uname	varchar(45)	utf8_general_ci		Yes	NULL		
4	uphone	varchar(45)	utf8_general_ci		Yes	NULL		
5	upassword	varchar(255)	utf8_general_ci		No	None		
6	salt	varchar(225)	utf8_general_ci		Yes	NULL		
7	imagePath	varchar(255)	utf8_general_ci		Yes	NULL		

uid is the primary key here, and salt is used to storing the hashed value from the password.  
imagePath is used to store the path of profile image which is stored on server.

Profile:

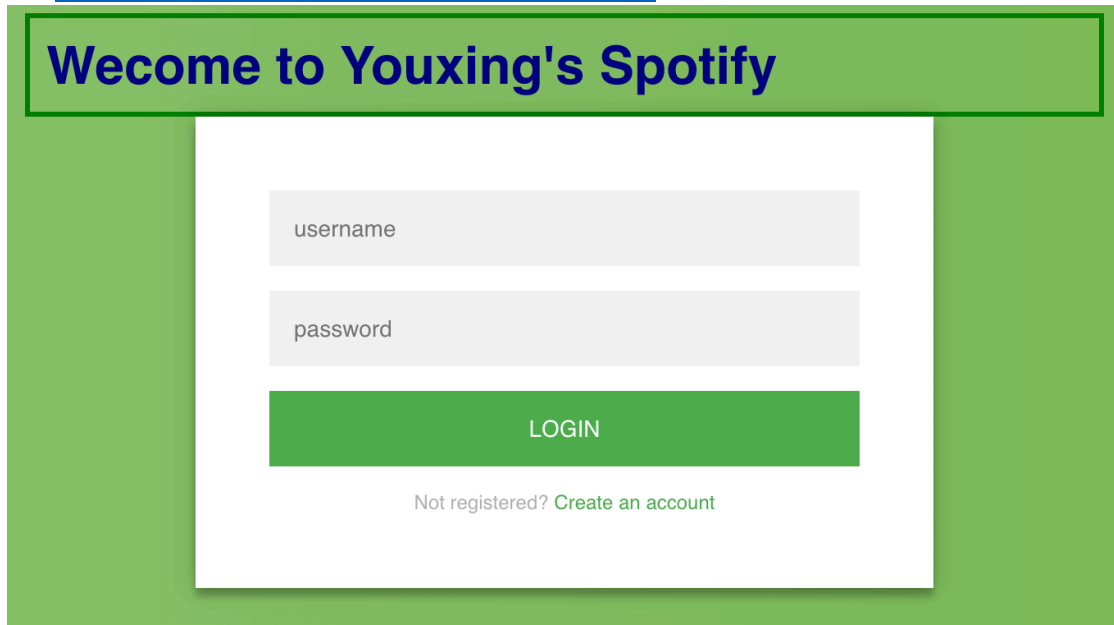
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	uid 🗃️	int(11)			No	None		
2	preference	varchar(45)	utf8_general_ci		Yes	NULL		

uid references to User.uid, and preference is designed for storing the user's preferences, which can be set on profile setting page.

## Realization:

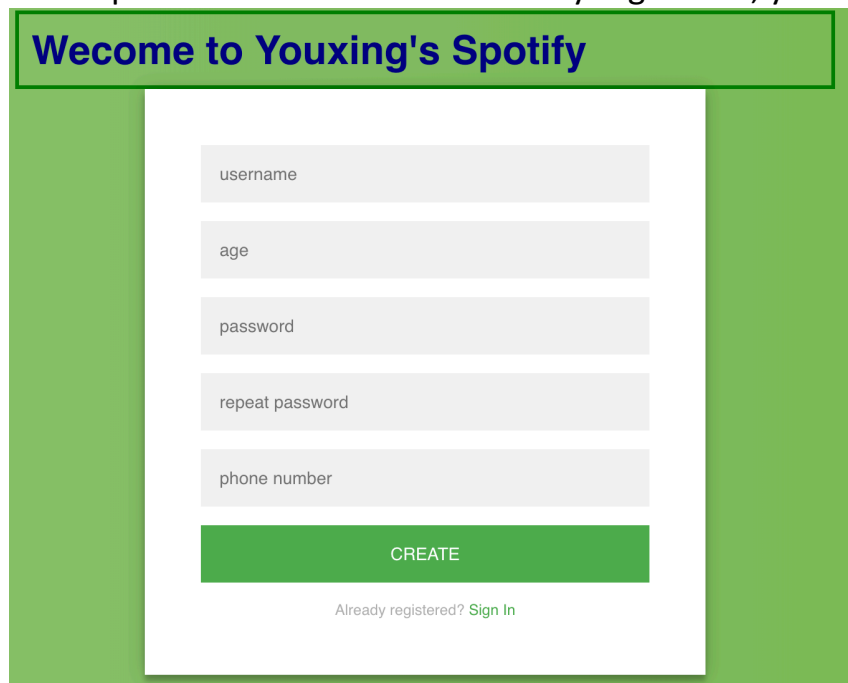
### a) Login and create an account:

1. Index page, that is what every user can see after they enter the url: <http://localhost/YouxingGao/index.php> on their browser.



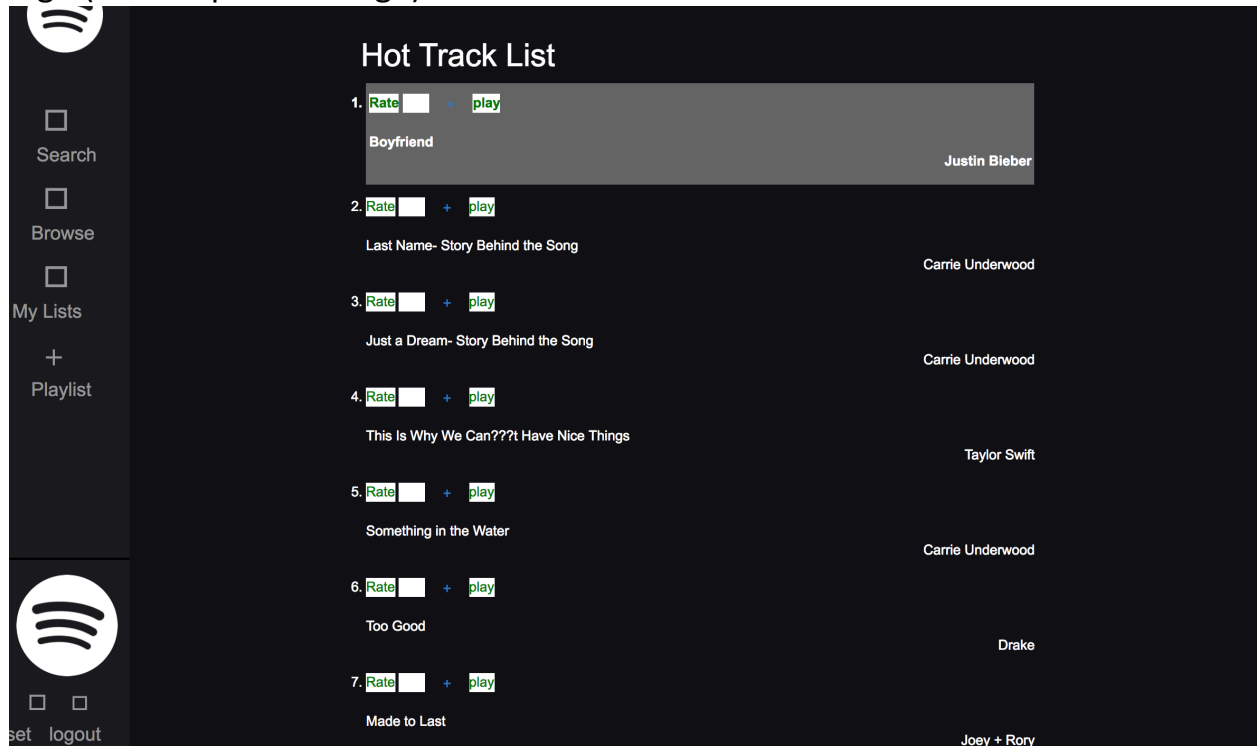
The image shows a login form titled "Wecome to Youxing's Spotify". The form is set against a green background. It contains two input fields: "username" and "password". Below these fields is a green button labeled "LOGIN". At the bottom of the form, there is a link that says "Not registered? Create an account".

2. Click the button create an account. Now we can create an new account here. If you register with a username which is already used, or register with a phone number which is already registered, you will get an error.

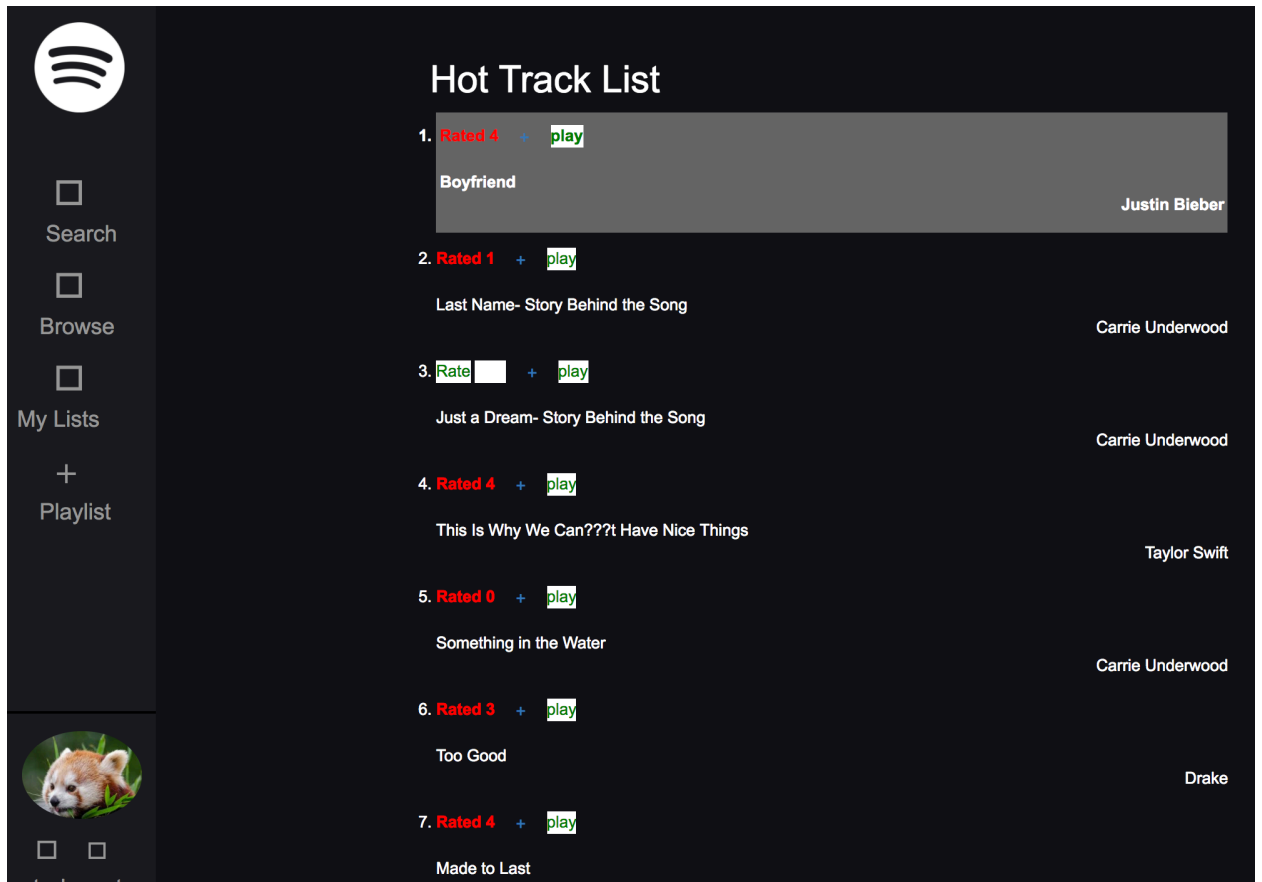


The image shows a registration form titled "Wecome to Youxing's Spotify". The form is set against a green background. It contains five input fields: "username", "age", "password", "repeat password", and "phone number". Below these fields is a green button labeled "CREATE". At the bottom of the form, there is a link that says "Already registered? Sign In".

- Also the password should match with the repeat password.
3. An new user can see this page after they just registered and login(default profile image)

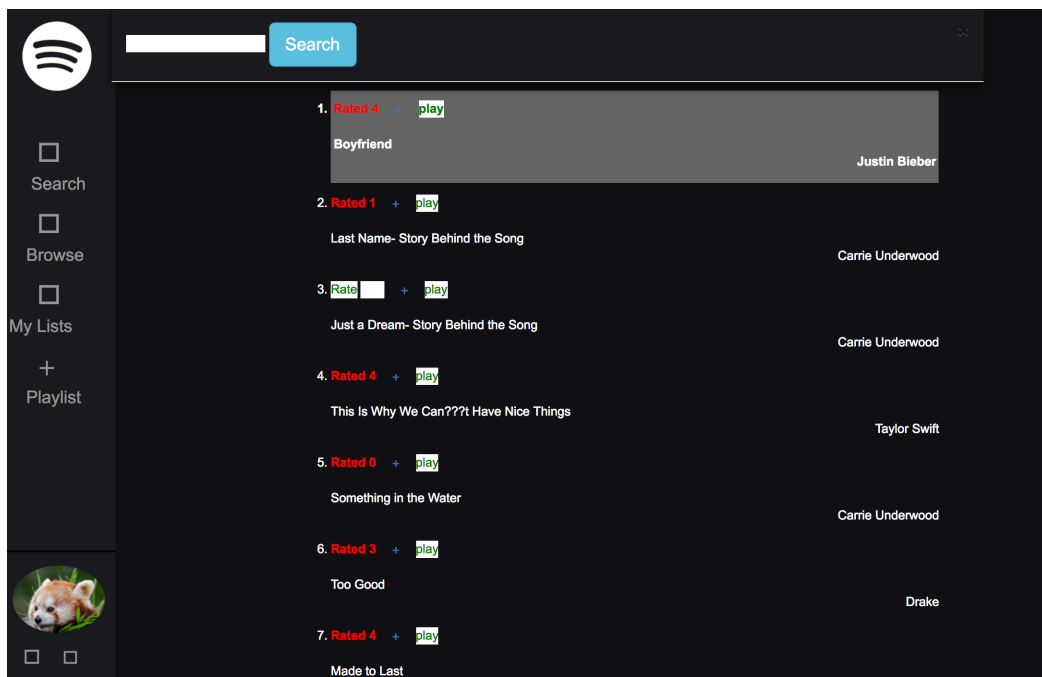


An user who has already set the his or her profile can see something like this:



## b) Search:

1. Click the search button:





2. After type some keywords and hit search:

Eg: search 'ade':

Hide Artist

Hide Track

Hide Album

Hide User

Hide Playlist

## Artist List

1. 

unLike

Adelle

fake

Click these hide buttons can help you find the results more precisely.

eg: search 'nice':

Hide Artist

Hide Track

Hide Album

Hide User

Hide Playlist

## Artist List

## Track List

1. 

Rated 4 + play

This Is Why We Can???t Have Nice Things

Taylor Swift

2. 

Rate + play

This Is Why We Can???t Have Nice Things

Taylor Swift

## Album List

1. 

No tracks

Nice Things

2. 

No tracks

Twice As Nice: 2 CD Set

3. 

No tracks

Nice Jazz (Live at Nice Grande Parade Jazz"

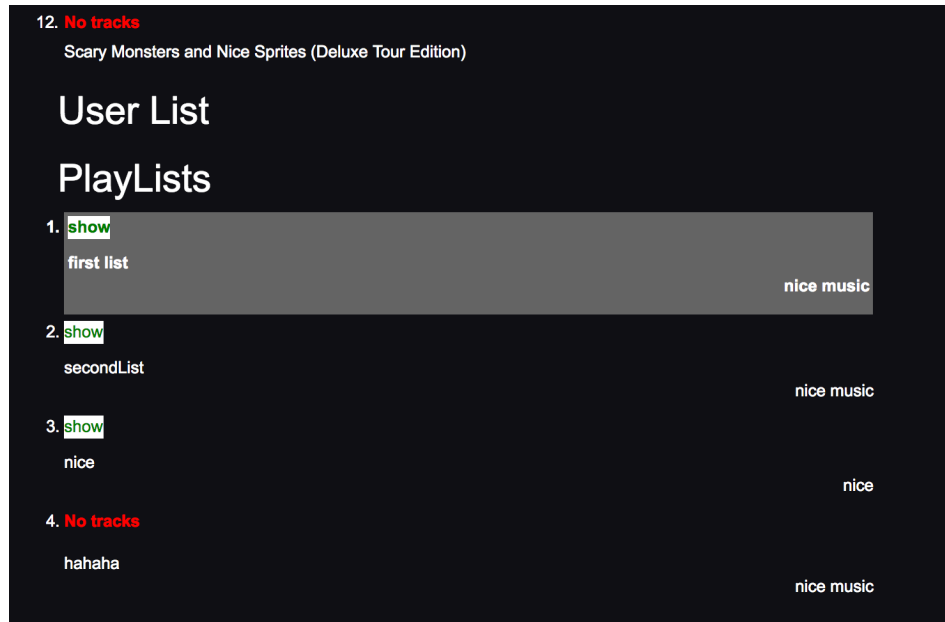
4. 

No tracks

Nice Things

5. 

No tracks



3. Queries for searching the results from database:(php code)
- ```
$resultSet = mysqli_query($connect,"SELECT * FROM Artist WHERE  
aname LIKE '%$search%' or adesc like '%$search%'");
```

```
$resultSet = mysqli_query($connect,"SELECT * FROM Track WHERE  
ttitle LIKE '%$search%'");
```

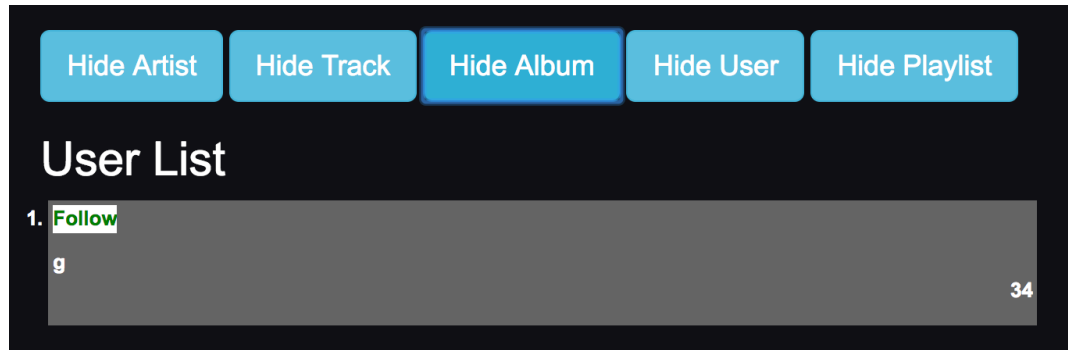
```
$resultSet = mysqli_query($connect,"SELECT * FROM Album  
WHERE atitle LIKE '%$search%'");
```

```
$resultSet = mysqli_query($connect,"SELECT * FROM User WHERE  
uname LIKE '%$search%'");
```

```
$resultSet = mysqli_query($connect,"SELECT * FROM Playlist  
WHERE ptitle LIKE '%$search%' or pdesc like '%$search%' and  
pavailable='1'");
```

- c) **Follow an user, Rate a track, Like an artist, add a track into a playlist, play a track:**

1. Follow and unfollow an user:

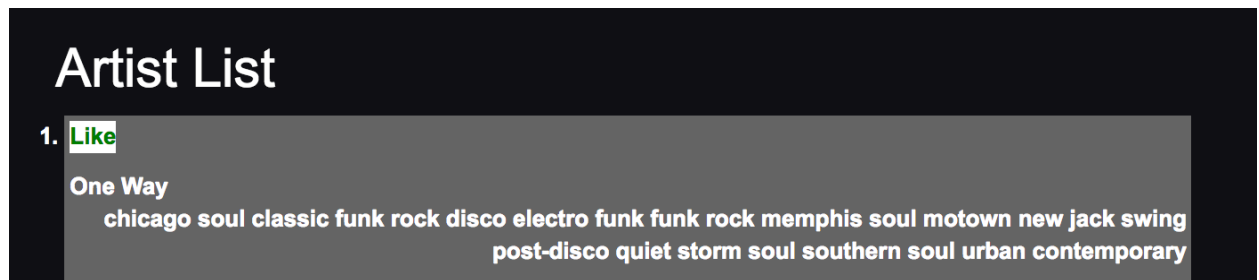


In the search result, user List, if an user have not followed this user, he or she can follow this user. If he or she have already followed this user, something will show like this:

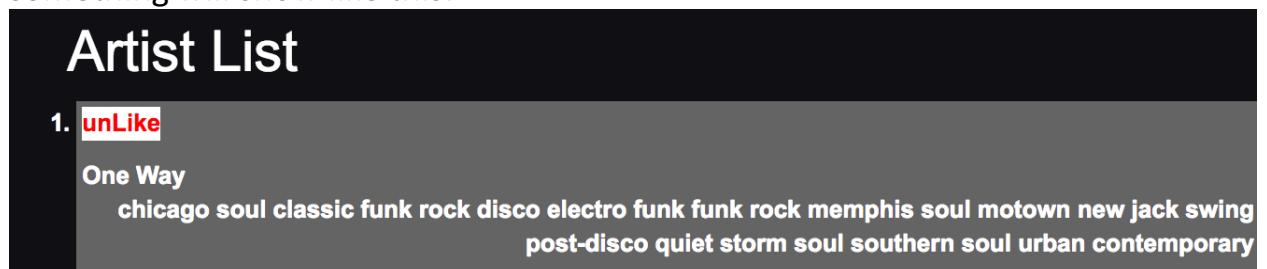


Now you can click the unfollow button to unfollow this user.

2. Like and unlike an artist:



In the search result, Artist List, if an user have not liked this artist, he or she can like this user. If he or she have already liked this artist, something will show like this:



Now you can click the unlike button to unlike this artist.

3. Rate a track:

Hide Artist

Hide Track

Hide Album

Hide User

Hide Playlist

# Track List

1.

Rate

+

play

Turning Tables (Live Acoustic)

Adele

2.

Rated 1

+

play

Last Name- Story Behind the Song

Carrie Underwood

3.

Rate

+

play

Change My Mind

One Direction

4.

Rate

+

play

Just a Dream- Story Behind the Song

Carrie Underwood

5.

Rate

+

play

Good For You

Selena Gomez

if the user has already rated this track then , this user can not rate this again.

#### 4. Play a track:

Track List

1.

Rate

+

stop

Turning Tables (Live Acoustic)

Adele

2.

Rated 1

+

play

Last Name- Story Behind the Song

Carrie Underwood

3.

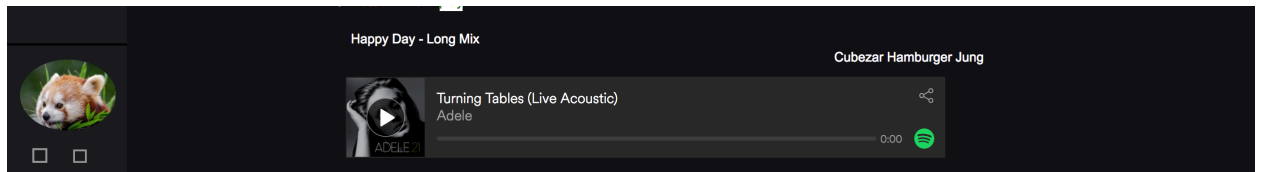
Rate

+

play

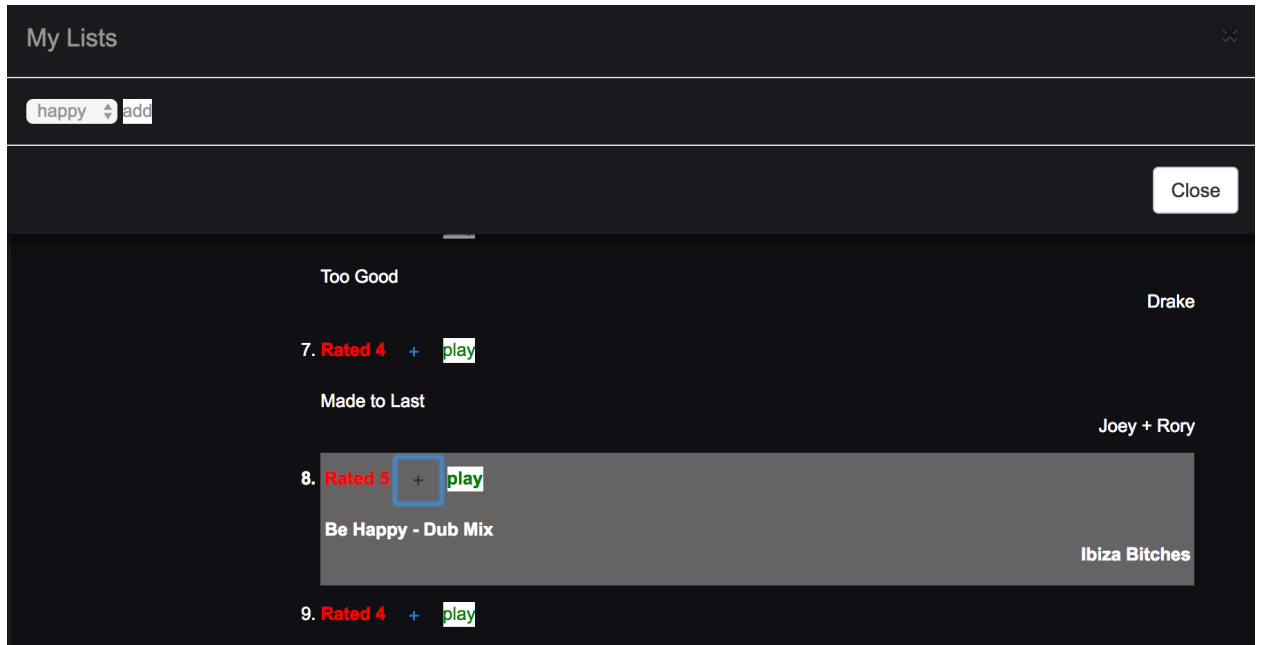
Change My Mind

One Direction

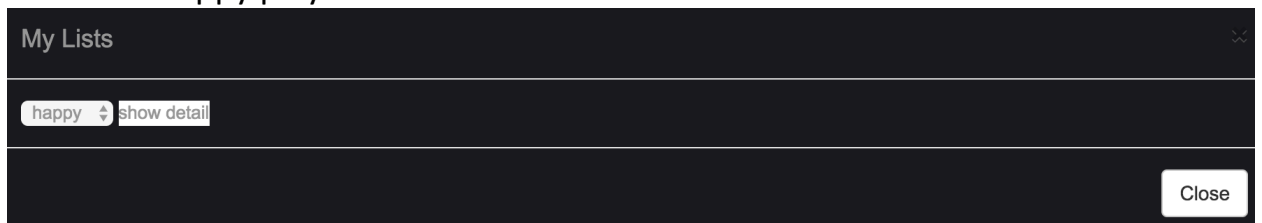


You can stop a it by just clicking the stop button on the track list.

## 5. Add a track into a list:



Show the happy playlist:



### Track List

1. Rated 0

play

Too Good

Drake

2. Rated 5

play

Be Happy - Dub Mix

Ibiza Bitches

After click the show detail button you can see the play list, and “Be Happy- Dub Mix” has been added into this playlist.

6. Show play list on the result:

### PlayLists

1. show

good

good

click the show button:

### Track List

1. Rated 0

play

Something in the Water

Carrie Underwood

7. Show tracks in an album:

# Album List

1. **No tracks**  
On Purpose

2. **No tracks**  
On Purpose

3. **No tracks**  
On Purpose

4. **show**  
Purpose (Deluxe)

5. **show**  
Purpose (Deluxe)

6. **show**  
Purpose (Deluxe)

if this album contains no tracks then show “no tracks ” on top of it.  
Otherwise click the show buton:

## Track List

1. **Rate**  **play**

Sorry

Justin Bieber

2. **Rate**  **play**

What Do You Mean? - Acoustic

Justin Bieber

3. **Rate**  **play**

What Do You Mean?

Justin Bieber

4. **Rate**  **play**

Company

Justin Bieber

5. **Rate**  **play**

d) Browse some hot tracks:

Click the “browse” button you can see this page any time:

## Hot Track List

1. **Rated 4** + **play**

Boyfriend

Justin Bieber

2. **Rated 1** + **play**

Last Name- Story Behind the Song

Carrie Underwood

3. **Rate** + **play**

Just a Dream- Story Behind the Song

Carrie Underwood

4. **Rated 4** + **play**

This Is Why We Can't Have Nice Things

Taylor Swift

5. **Rated 0** + **play**

Something in the Water

Carrie Underwood

6. **Rated 3** + **play**

Too Good

Drake

7. **Rated 4** + **play**

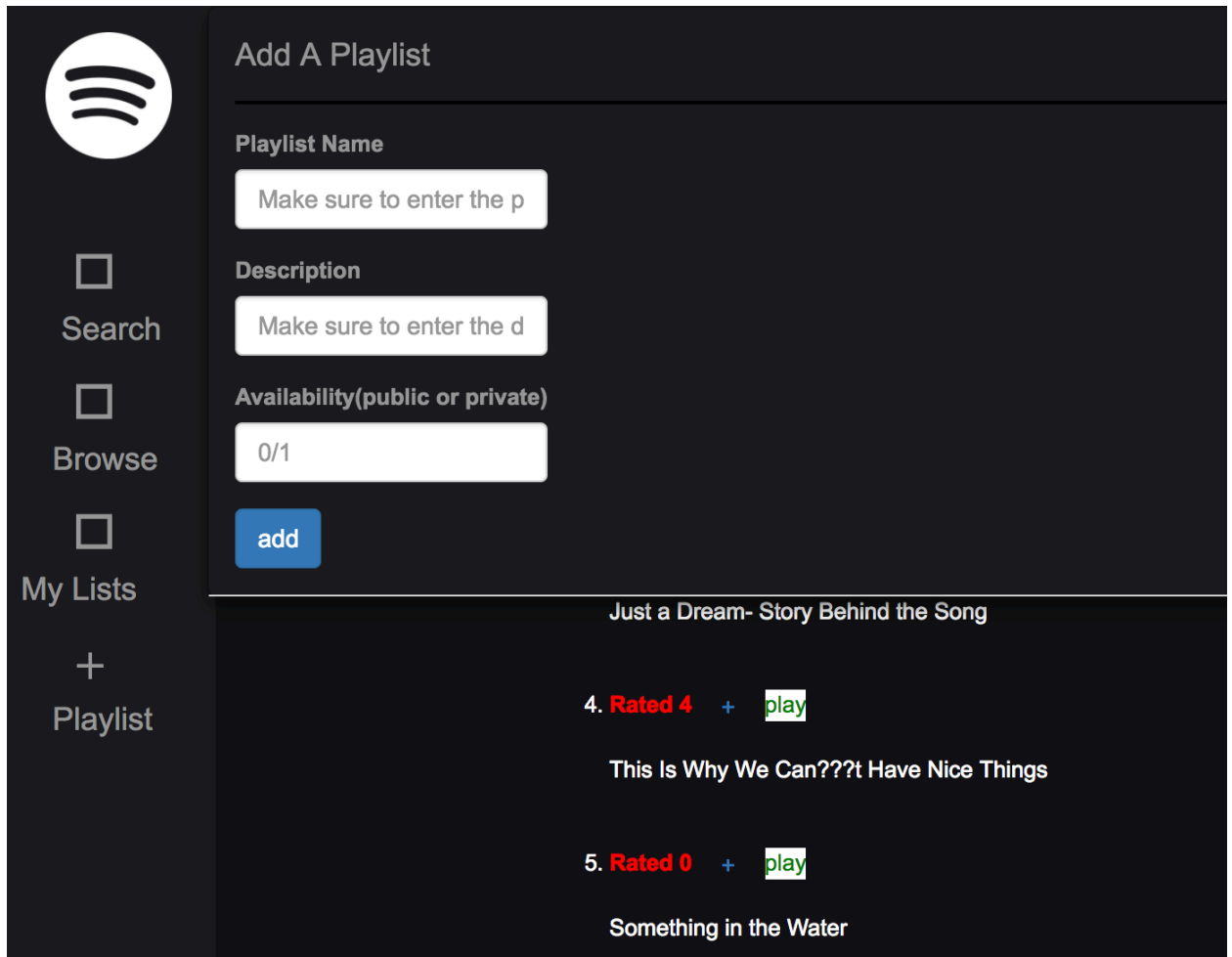
Query for this recommendation result:(php code)

```
$hotTrack = mysqli_query($connect,"SELECT tid, avg(stars) as av_star from  
Rate group by tid HAVING(avg(stars)>=3)");
```



**e) Create playlist:**

After click the “+” button:



**Add A Playlist**

**Playlist Name**  
Make sure to enter the p

**Description**  
Make sure to enter the d

**Availability(public or private)**  
0/1

**add**

Just a Dream- Story Behind the Song

4. **Rated 4** + **play**

This Is Why We Can???t Have Nice Things

5. **Rated 0** + **play**

Something in the Water

After type the name , description and the availability(0 means private, 1 means public), you can add this playlist.

### Add A Playlist

**Playlist Name**

**Description**

**Availability(public or private)**

**add**

In my list you can see this newly added playlist, but it is empty now, of course because we have not add any tracks into this list.

My Lists

- ✓ nice [show detail](#)
- good
- happy
- hahaha
- test

1. **Rated 4** + [play](#)

Boyfriend Justin Bieber

2. **Rated 1** + [play](#)

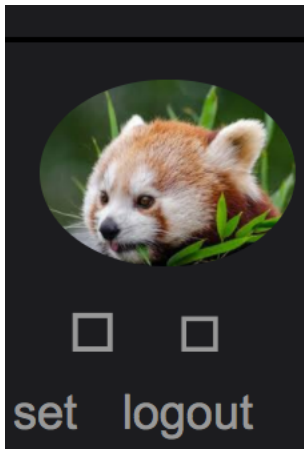
Last Name- Story Behind the Song Carrie Underwood

show detail:

## Track List

**f) Set profile:**

The set button is at the left corner:

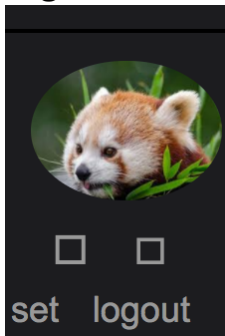


After click this set button you will go to the profile page:

A profile page interface with a light blue background. At the top, there is a circular profile picture of a red panda. Below the picture is a file upload section with a 'Choose File' button, a 'No file chosen' status, and an 'Upload' button. Below this is a section titled 'Your Preferences' in green. It contains a list of preferences: 1. Interesting, 2. Picture, 3. boring, 4. dfadfa. Below the list is an input field with the text 'reference' and an 'Add' button. At the bottom is a large green 'Done' button.

Here you can set your profile image(upload the file to the server, and in the user table we will store the image path), and add your preference.

g) Log out:



click the log out button, jump to the login page and unset all the session variables.

## Welcome to Youxing's Spotify

LOGIN

Not registered? [Create an account](#)