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Title: Music Generation

Project Summary: After signing in with Spotify, we want users to select songs from their libraries and get auto-generated playlists returned back to them. Users can select whether they want a playlist to be generated based off of the songs genre or the time it was produced. After seeing the playlists, users can then add them directly into their personal Spotify accounts.

Project Requirements:

Business Requirements			
ID	Requirement	Actor	Priority
BR-01	All actors need to have a special user name	User, Admin	High
BR-02	Admin only can update eight popular lists	Admin	Medium
BR-03	User cannot delete or edit other user's post playlists	User	High

User Requirements			
ID	Requirement	Actor	Priority
UR-01	As a Music Generation web user, I need to be able to search for songs by name so I can find them efficiently	User	High

UR-02	As a Music Generation web user, I want to be able to add auto-generated playlists to my Spotify account	User	High
UR-03	As a Music Generation user, I want to auto-generate playlists based on the year the music was made	User	Medium
UR-04	As a Music Generation user, I want to be able to find music based on the genre	User	Medium
UR-05	As an Admin, I want to be able to monitor backend performance in order to be notified of failed requests	Admin	Low
UR-06	As a Admin of Music Generation web, I need to be able to update the popular playlists page based on what users are listening to	Admin	High
UR-07	As a Music Generation user, I want to be able to view the popular music playlist	User	High
UR-08	As Admin of Music Generation web, I need to be able to remove old/irrelevant playlists	Admin	High
UR-09	As Admin of Music Generation web, I need to be able to remove harmful users	Admin	Medium
UR-10	As a Music Generation user, I need to be able to sign up in system	User	High
UR-11	As a Music Generation user, I need to be able to login into the system	User	High

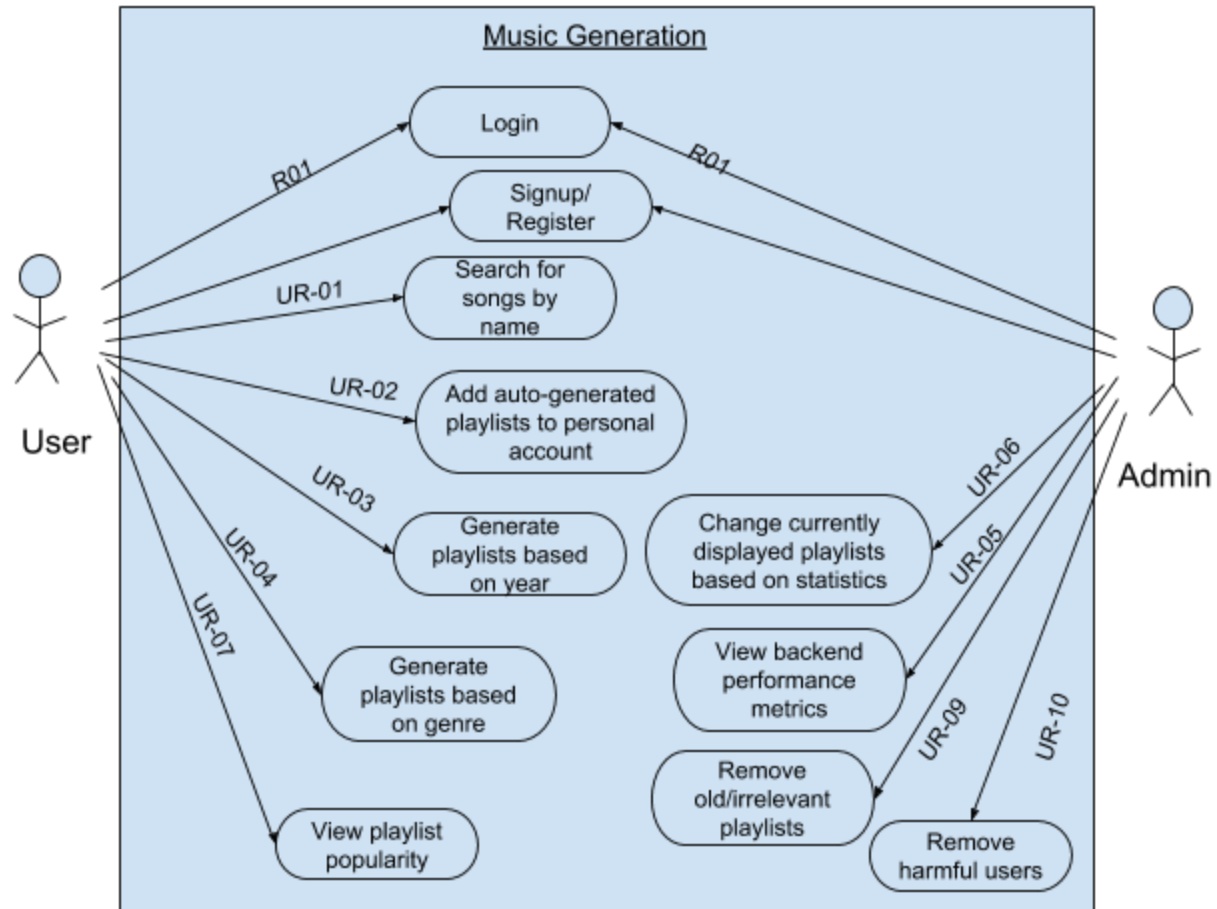
Functional Requirements			
ID	Requirement	Actor	Priority
FR-01	System should allow people login with their Spotify account	User, Admin	High
FR-02	System should notify user if they have a long time not add any songs or playlists into their accounts	User, Admin	Medium

Nonfunctional Requirements		
ID	Requirement	Priority
NFR-01	User shall see the popular playlists page in under 5 seconds	High
NFR-02	User account number and passport must store in a secure manner	High

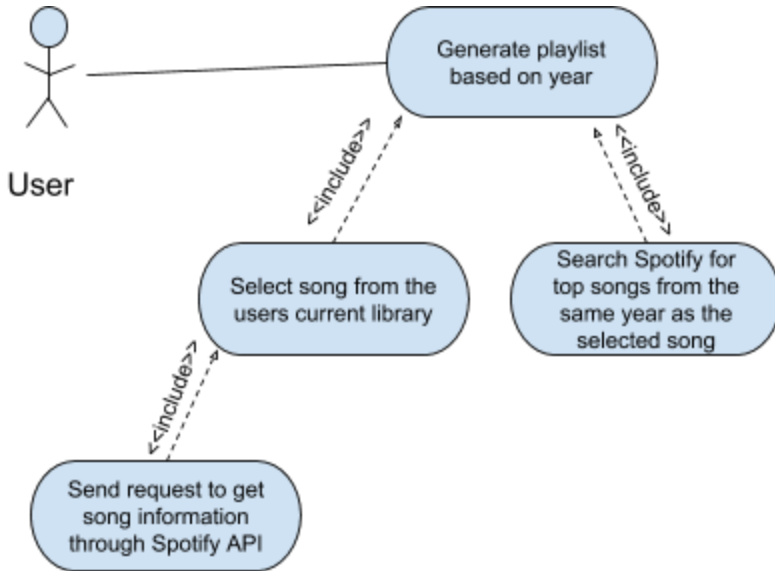
Use Cases:

Use Case Overview:

The main Use Case Diagram below depicts our whole system.



The sub use case diagram below is for generating playlists based on the year of a known song. This is exactly the same for generating a playlist based on genre, just searching for top songs based on genre.



Use Case Description:

Add auto-generated playlists Use Case

Use Case ID:	UC - 01
Use Case Name:	Add Auto-generated playlists
Description:	Add auto-generated playlists into user's Spotify account.

Actors:	User
Pre-conditions:	Users are logged in to the system with their Spotify account, and system can create auto-generated playlists based on user's Spotify library. User is notified of auto-generated playlists and willing to listen.
Post-conditions:	User adds the playlists into their account.

Frequency of Use:	At Will by Users		
Flow of Events:		Actor Action	System Response
	1.	User clicks on the checkbox of different auto-playlists which he/she wants to listen	System searches the Spotify database for popular songs based on user input
	2.		Forms as many playlists of 20 songs as possible ranked by popularity
	3.	User clicks the specific one playlist to get in the playlist	Access the chosen playlist, and showing the songs inside of the playlist
	4.	Users click the Add button to add the playlist into their accounts	Send request to add playlist through Spotify API
	5.		Add playlist to site database to show other users
Variations:	1. When the user accidentally select the unwanted playlists, user could click the checkbox again to cancel the selection		
Notes and Issues:			
Developer Notes:			

List the popular playlists Use Cases

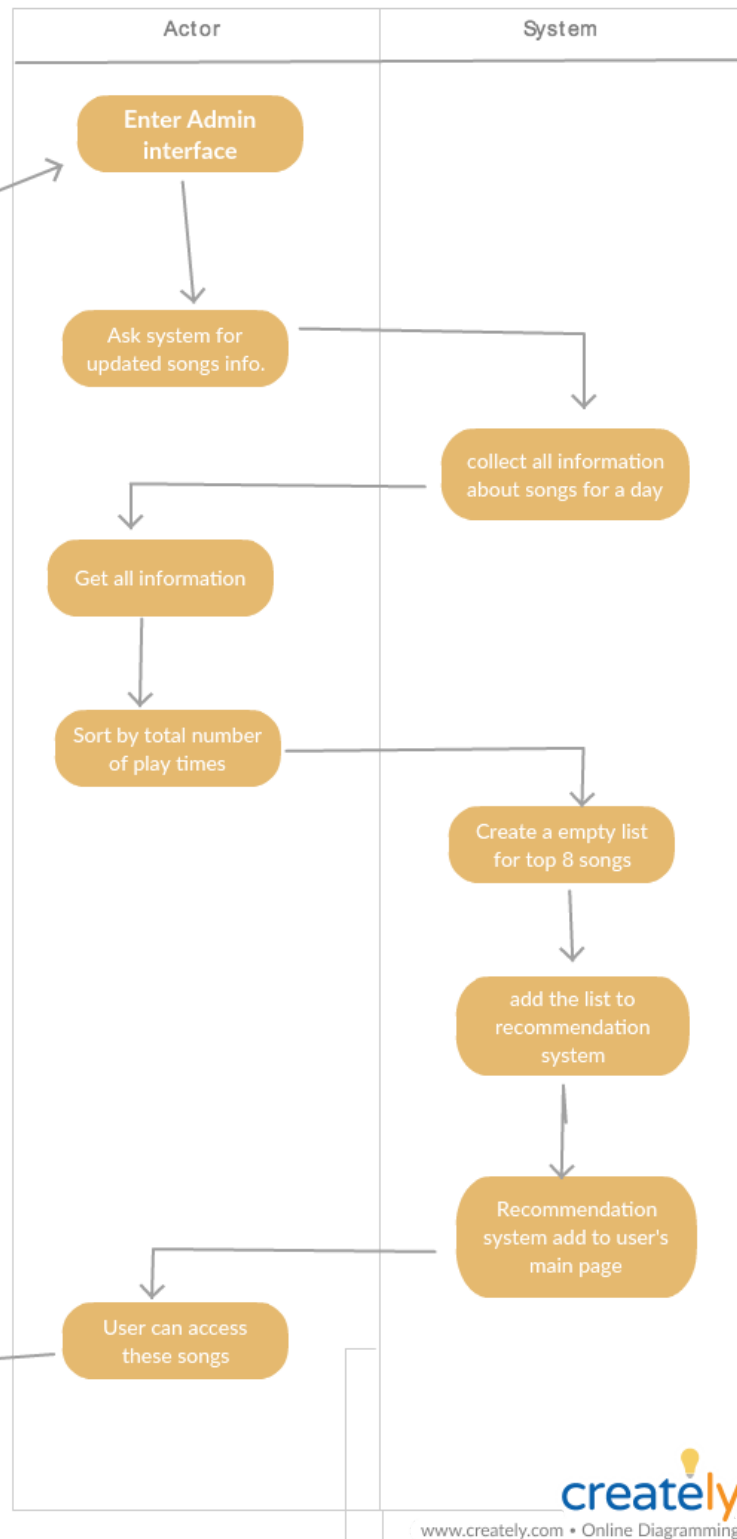
Use Case ID:	UC - 02
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Use Case Name:	List the popular playlists
Description:	As an Admin, I need to update to popular playlists based on what is popular.

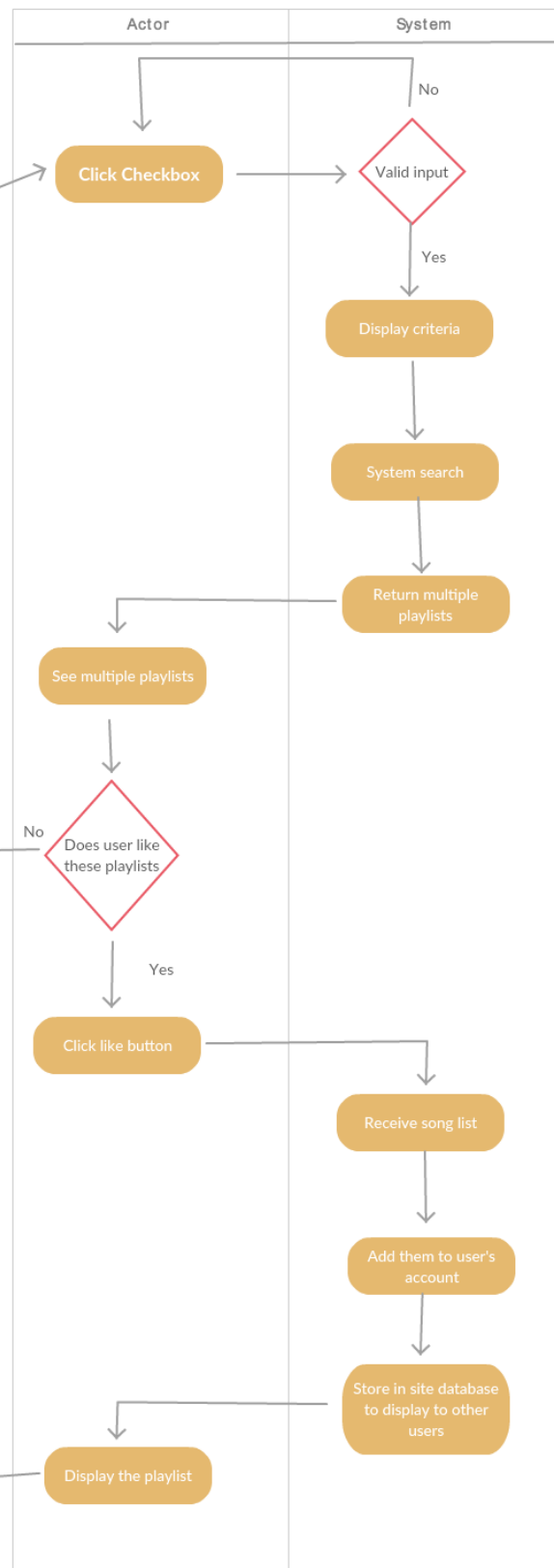
Actors:	Admin, External Listing webpage		
Pre-conditions:	System has records of the times the playlists have been played.		
Post-conditions:	User's records is updated in the system in ordinal. The popular playlist is showing following the order.		
Frequency of Use:	Daily update requirement		
Flow of Events:		Actor Action	System Response
	1.	Admin collects the records of playlists history from the system.	System will show the number of times a playlist has been listened to.
	2.	Admin views the records	
	3.	Admin adds up to eight popular playlists daily by using the records	System will show the eight popular playlists in the 'Popular List'
Variations:			
Notes and Issues:			
Developer Notes:	There will only be eight popular lists updated each day.		

Activity Diagram:

- Requirement ID: UR - 06
- Use case ID: UC - 02
- User case name: List the popular playlists (As an Admin, I need to update to popular playlists based on what is popular.)




- Requirement ID: UR - 02
- Use case ID: UC - 01
- User case name: Add Auto-generated playlists (Add auto-generated playlists into user's Spotify account)






UI Mockups:

Page before user login to the website

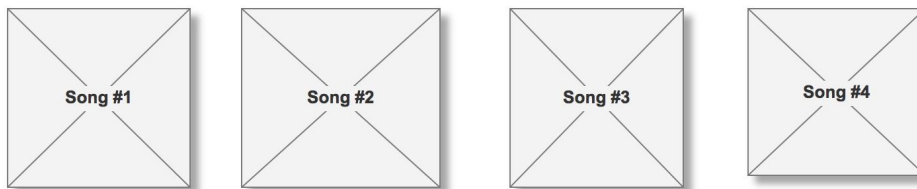


Music Generator






Hottest songs you might like:




Top singers:



<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Page after user login to the website




Music Generator





[Log out](#)[Sign up](#)

Hello, user! 

Library:

~ Genre ☐

~ Year ☐


~ Singer ☐


~ Location ☐


~ Popular List ☐


Playlist created:

~ Playlist 1 ☐

Saved List: 

~ List 1 

~ List 2 

Create your own music list by one click: 

Every day songs

Random user posted list 2

Random user posted list 1

Random user posted list 3

Login page

Music Generator

Click link to
your
Spotify account

Email

Password

☐ Remember you?

Log in

Don't have an account? [Sign up](#)

Sign Up page:

Music Generator

Click link to
your
Spotify account

Sign up with your Email account

Email

Confirm Email

Password

User Name

DATE OF BIRTH

Month

Day

Year

☐ Male


☐ Female

☐ I agree with all the requirement and conditions by Music Generator


Sign Up



Already have a account? [Log in](#)





After you search a song




Music Generator




Song NameLog out



Name	Singer	Album	Time
			


User enters a playlist



Music Generator



Song NameLog out


Hello, user! 

Library:

- ~ Genre ☐
- ~ Year ☐
- ~ Singer ☐
- ~ Location ☐
- ~ Popular List ☐


Playlist created:









- ~ Playlist 1 ☐

Saved List: 


- ~ List 1
- ~ List 2

Name of playlist


Created by Creator 


	
	
	
	

User select their own playlist




Music Generator






Song Name



Log out

Hello, user!


Library:













- ~ Genre ☐
- ~ Year ☐
- ~ Singer ☐
- ~ Location ☐
- ~ Popular List ☐

Playlist created:

- ~ Playlist 1 ☐

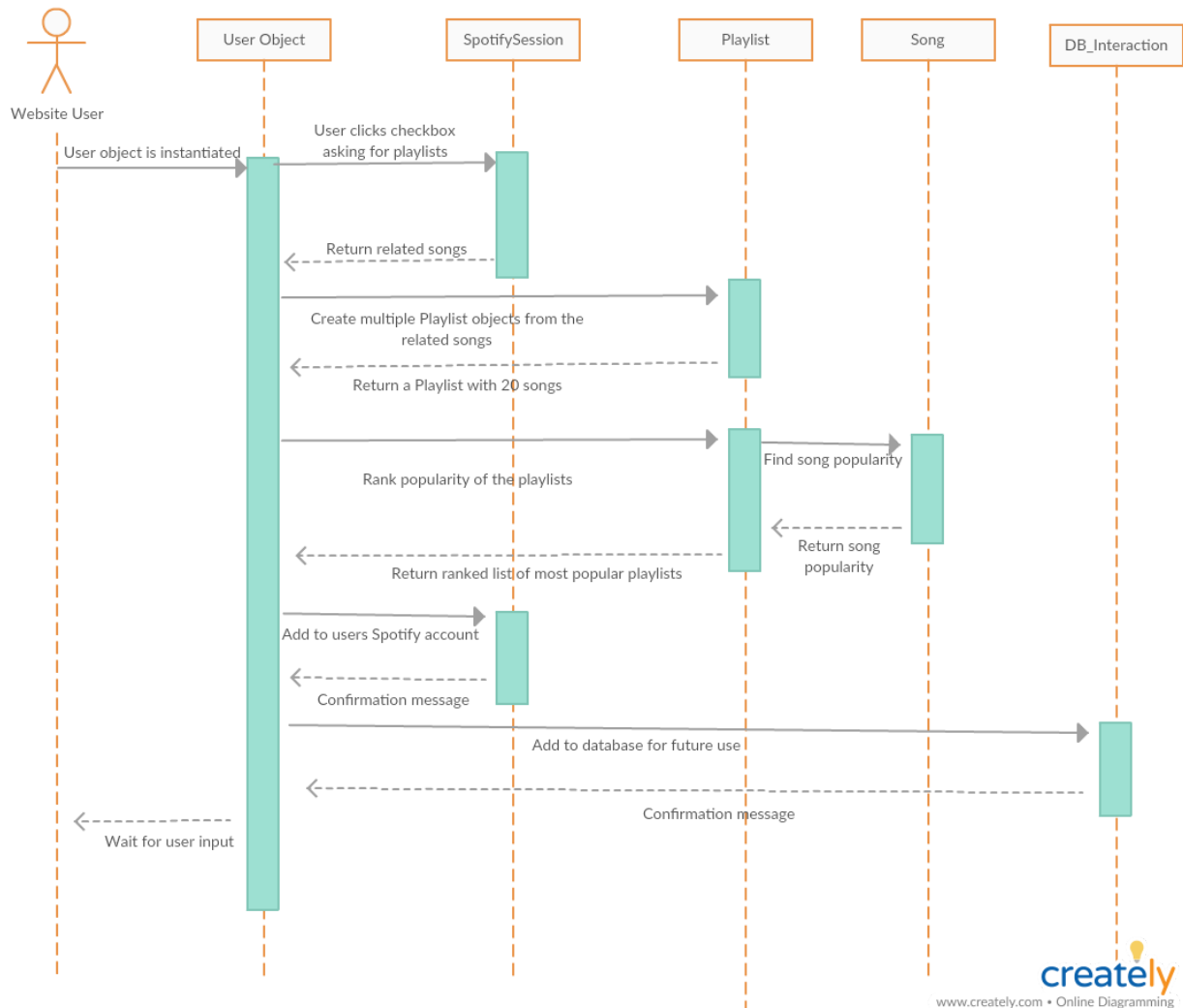
Saved List: ☐

- ~ List 1
- ~ List 2

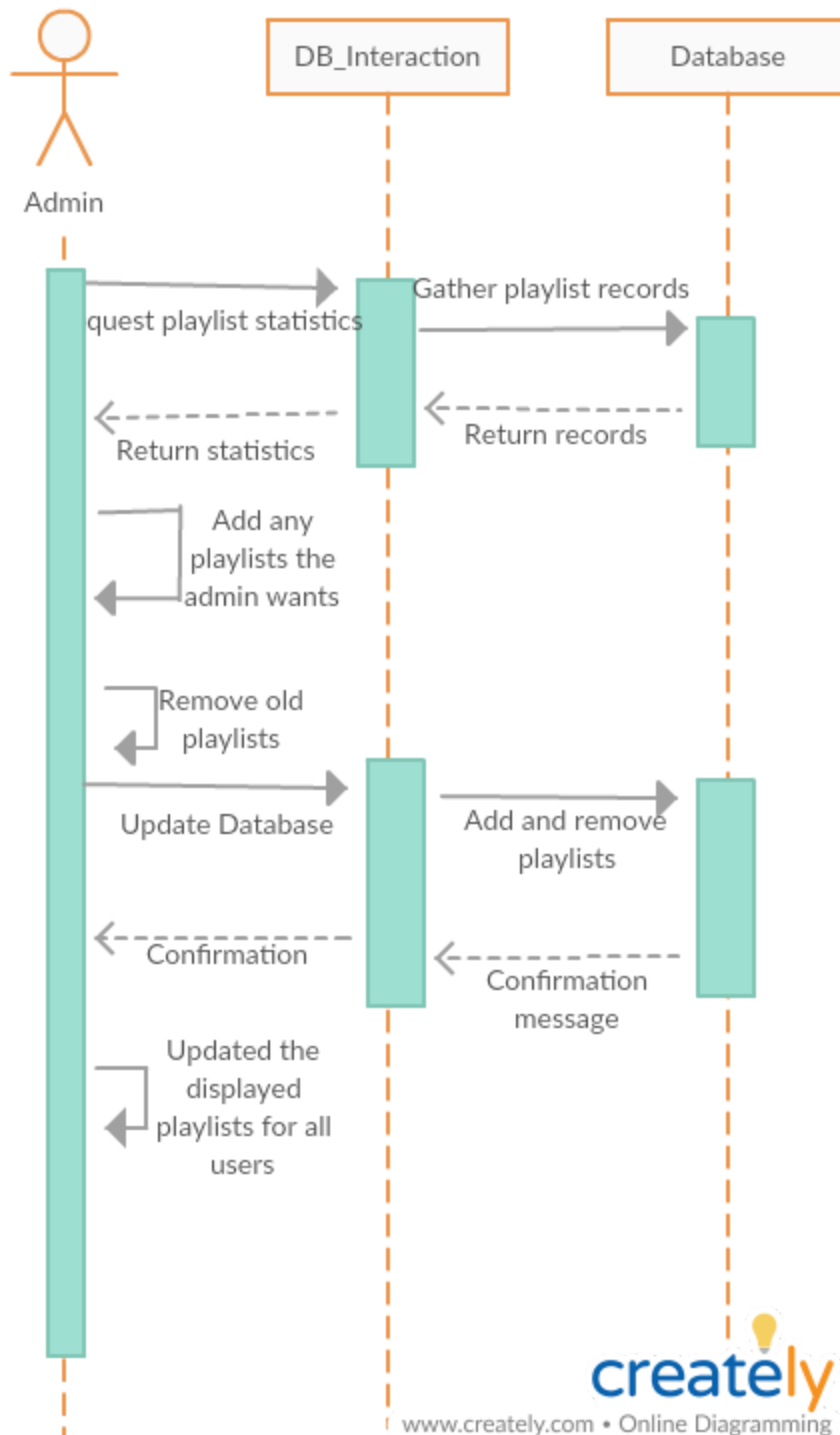
	Name	Singer	Time	Delete	Share
▶				<input type="checkbox"/>	
▶				<input type="checkbox"/>	
▶				<input type="checkbox"/>	

User Interactions:

The first sequence diagram depicts Requirement ID UR-02, Use Case ID UC-01, and the purpose is to add auto-generated playlists into user's Spotify account.



The second sequence diagram depicts Requirement ID UR-06, Use Case ID UC-02, and the purpose is to update to popular playlists based on what is popular.



Class Diagram:

