Chad music program – ANALYSIS DOCUMENT

SEP2 CLASS Y GROUP 2 – NBNP()

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31st of May

Summary

Today a lot of music apps strive to achieve a better music quality rather than work on the functionalities like showing lyrics of the song the user is playing and most of them come at a cost of a monthly membership.

The process of playing a song in the program is: 1)setting up the client and the server to work with each other and also to link the database to the server, 2) logging in or registering into the system, 3) selecting a song from the list and pressing play.

The program after initial setup is easy to use and can be used by everyone who has a client program making it convenient. This program represents that good functionality can be achieved even without sacrificing ease of use.

Contents

Requirements

CRITICAL PRIORITY

1. As a user I want to be able to play and listen to music in a console environment.
20. As a user I want to be able to play and listen to music in a program window.
2. As a user I want to be able to see the lyrics of the song that I am listening to.
3. As a user I want to be able to pick a song from a list.
4. As a user I want to be able to pause or resume the song.
21. As a user I want to have multiple computers playing from the same list of songs.
5. As a user I want to be able to change the volume of the song.

HIGH PRIORITY

22. As a user I want to be able to run the program by having a shortcut on my desktop.
6. As a user I want to go to the next or previous song.
7. As a user I want that after a song finishes, another one will start playing automatically.
8. As a user I want to be able to have a liked songs playlist, for a more personal experience.
9. As a user I want to be able to search for a song.
10. As a user I want to have the songs categorized by genres.

MEDIUM PRIORITY

11. As a user I want to be able to shuffle or repeat my playlist.
12. As a user I want to get song recommendation.

LOW PRIORITY

23. As a user I want to know how many hours I spent listening to music.
13. As a user I want to be able to change font size, color and style of the lyrics.
14. As a user I want additional information about the song like the author, length, and year.
15. As a user I want to have a separate account to not merge my liked songs with another user.
16. As a user I want to be able to toggle between showing lyrics and not showing lyrics.

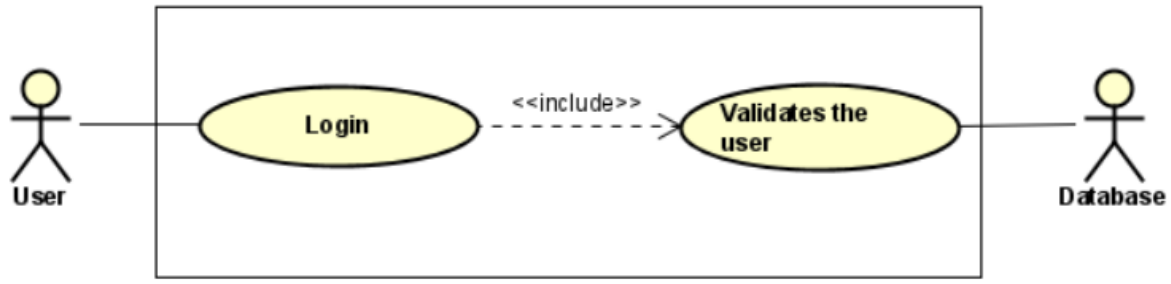
NON-FUNCTIONAL

17. As a user I want to see a playlist with the most listened songs.

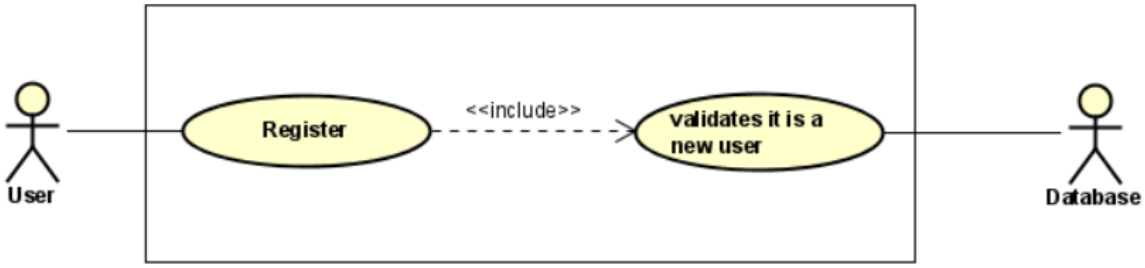
18. As a user I want to see my activity, for example how many hours I have listened today.
19. As a user I want the app to go to sleep after some inactivity.

Use case diagrams

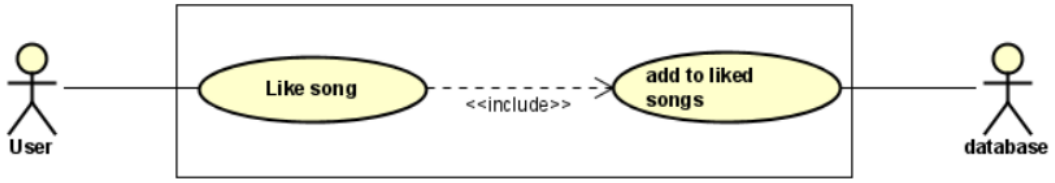
Use case diagram for login:



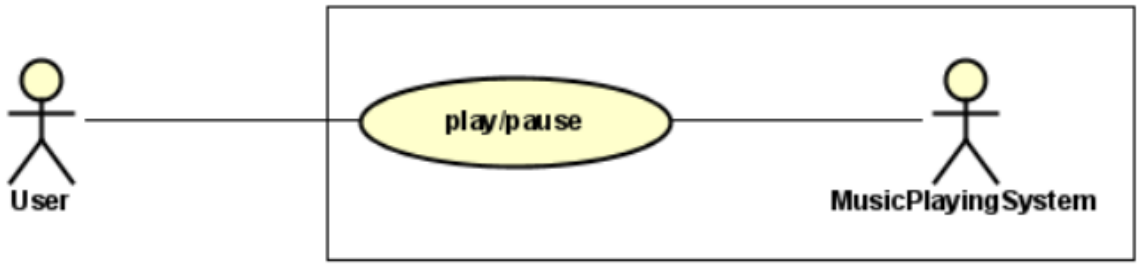
Use case diagram for Register:



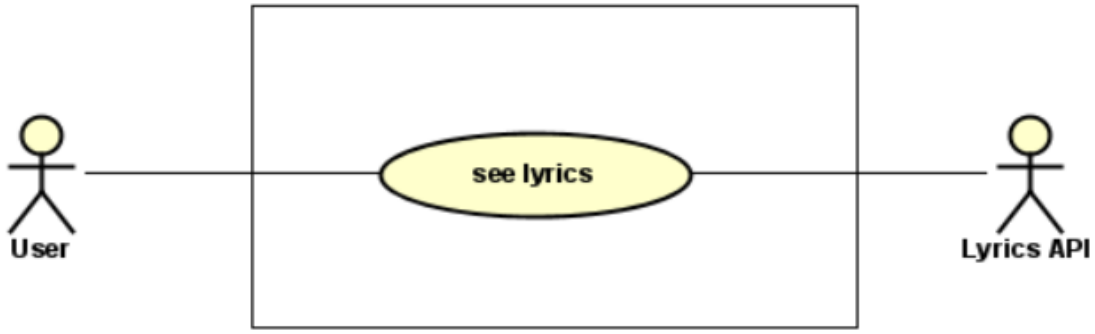
Use case diagram for liking a song:



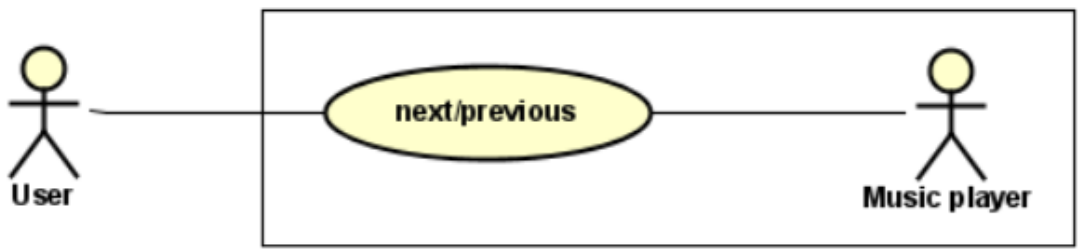
Use case diagram for playing/stopping a song:



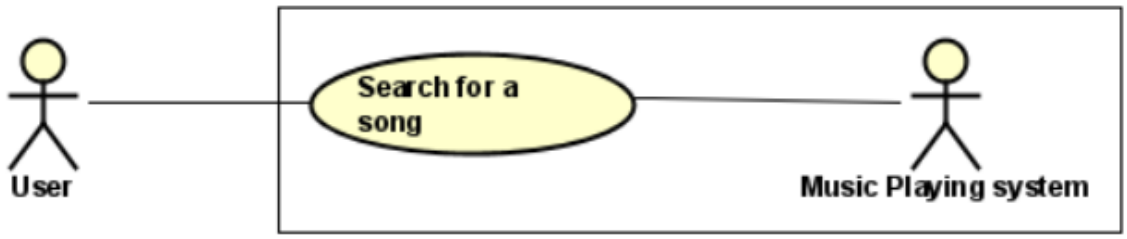
Use case diagram for showing lyrics:



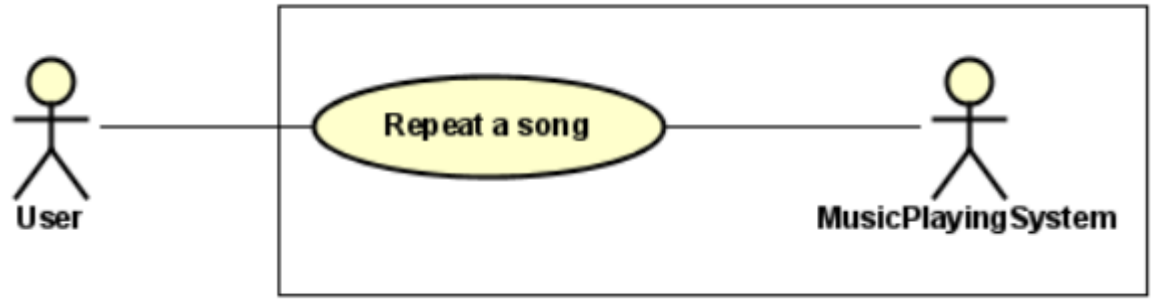
Use case diagram for next/previous song:



Use case diagram for search bar:



Use case diagram for Repeat a song:



Use case descriptions

Use case section	Purpose
Use case name	Login
Scope	The login/register system
Level	Logging into system
Primary actor	User
Stakeholders and interests	The user wants to login to the system to use the program
Pre-conditions	The user must have an existing account in the database
Success Guarantee	The user has an account that exists in the database
Main Success Scenario	1. The user enters correct credentials in the needed text fields 2. The system finds the user in the database 3. The system opens the main window
Extensions	1. If the user is not in the database, then the system won't open the main window
Special requirements	User must be in the database
Technology and Data variations list	The user can login to the system
Frequency of occurrence	Always
Misc.	

Use case section	Purpose
Use case name	Play/pause
Scope	The playing music system
Level	Listen/stop to music
Primary actor	User
Stakeholders and interests	The user wants to listen or stop the music
Pre-conditions	The user must select a song from the list
Success Guarantee	The music needs to start playing or to stop
Main Success Scenario	4. The user selects a song from the playlist 5. The system finds the song in the database 6. The user presses the play button or double clicks. 7. The system starts playing the song.
Extensions	2. The user searches for a song that doesn't exist. 3. The system shows a blank list
Special requirements	Show information about the song
Technology and Data variations list	The user can search for a song The user can filter the songs by genre The user can have liked songs The system can respond to the user input
Frequency of occurrence	Very often
Misc.	If the song doesn't exists in the database.

Use case section	Purpose
Use case name	Repeat a song
Scope	The playing music system
Level	Repeat a song
Primary actor	User
Stakeholders and interests	The user wants to listen only to one song.
Pre-conditions	The user must have a song already in the player.
Success Guarantee	The user must have a playlist of at least 3 songs or a song in the player
Main Success Scenario	1. The user must have a song in the player 2. The user must press the repat icon

	3. The system will repeat that song indefinitely.
Extensions	1. The user searches for a song that doesn't exist.
Special requirements	Having at least 3 songs in a playlist or have one playing already
Technology and Data variations list	
Frequency of occurrence	Sometimes
Misc.	

Use case section	Purpose
Use case name	Press like
Scope	The playing music system
Level	Add a song to user's liked playlist
Primary actor	User
Stakeholders and interests	The user can add liked songs to a personalized playlist
Pre-conditions	The song must be in the database
Success Guarantee	The song is saved to the like playlist
Main Success Scenario	1. The user presses the heart icon 2. The system adds the song to the playlist
Extensions	1. The user presses the like button on a already liked song 2. The system removes the song from the playlist.
Special requirements	
Technology and Data variations list	The user can like a song from the playlist The system puts it in a liked songs playlist.
Frequency of occurrence	Sometimes
Misc.	If you like again a song it will be removed from the playlist

Use case section	Purpose
Use case name	Next/Previous
Scope	The playing music system
Level	Skip or go back to the previous song
Primary actor	User
Stakeholders and interests	The user can change the song from the player
Pre-conditions	A song must be in the player
Success Guarantee	The song must be in a playlist
Main Success Scenario	1. The user selects a song from a playlist 2. The system plays it 3. The user presses previous/next 4. The system puts in the player the next/previous song.
Extensions	1. If the song is not in a playlist it will do nothing
Special requirements	A song must be in a playlist

Technology and Data variations list	The user selects a song from a playlist and based on the playlist selected the system will forward or go backwards in that playlist.
Frequency of occurrence	Often
Misc.	

Use case section	Purpose
Use case name	Insert lyrics
Scope	The lyrics system
Level	Show lyrics
Primary actor	Lyrics system
Stakeholders and interests	The user might want to see the lyrics of a song
Pre-conditions	A song must be in the database
Success Guarantee	The song must be in the player
Main Success Scenario	1. The user plays a song 2. The user presses the lyrics button 3. The system requests lyrics from the API 4. The API return with the lyrics for the song. 5. The system displays the lyrics
Extensions	1. If no song is in the player nothing will happen
Special requirements	A song must be in the player
Technology and Data variations list	The user selects a song from a playlist and presses the lyrics button. This will make the system request for lyrics and then display them.
Frequency of occurrence	Sometimes
Misc.	If you press again the lyrics will be closed.

Use case section	Purpose
Use case name	Searchbar
Scope	Music playing system
Level	Searching for a song
Primary actor	User
Stakeholders and interests	The user wants to search for a song
Pre-conditions	1. The user must have the main window open 2. There must be at least 1 song in the song list
Success Guarantee	The user finds songs he is searching for
Main Success Scenario	1.The user opens main window 2.The user puts info into the search bar 3.The system searches for the songs 4.The system finds the song and displays it in the song list.

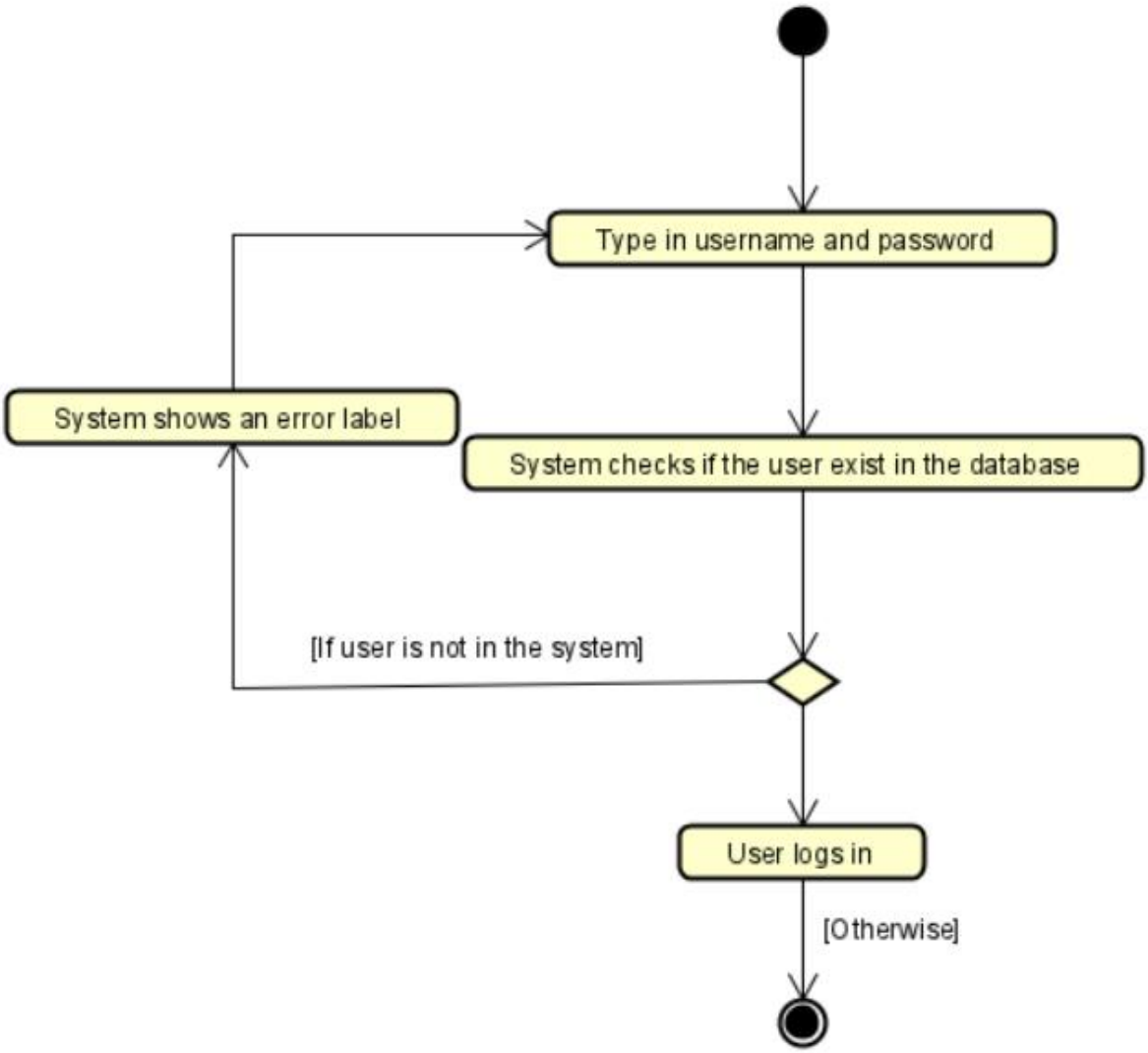
Extensions	If the song the user is searching for is not in the songlist, it wont show up
Special requirements	The song that is being searched must be in the database
Technology and Data variations list	The user can search for a song
Frequency of occurrence	Sometimes
Misc.	

Relation between requirements and use cases

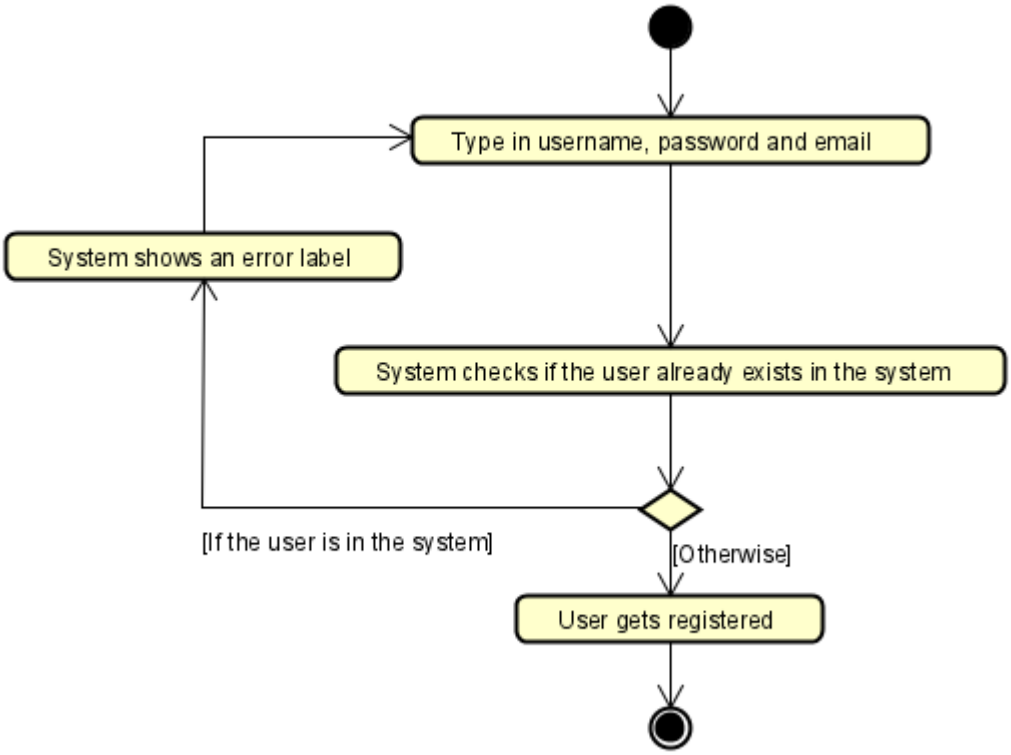
Use cases	Covered requirements
Login	21,22
Register	21,22
Next/previous	6,7
Like a song	
Play/pause	1,20,3,4
Show lyrics	2,16
Search bar	9
Repeat a song	11

Activity diagrams

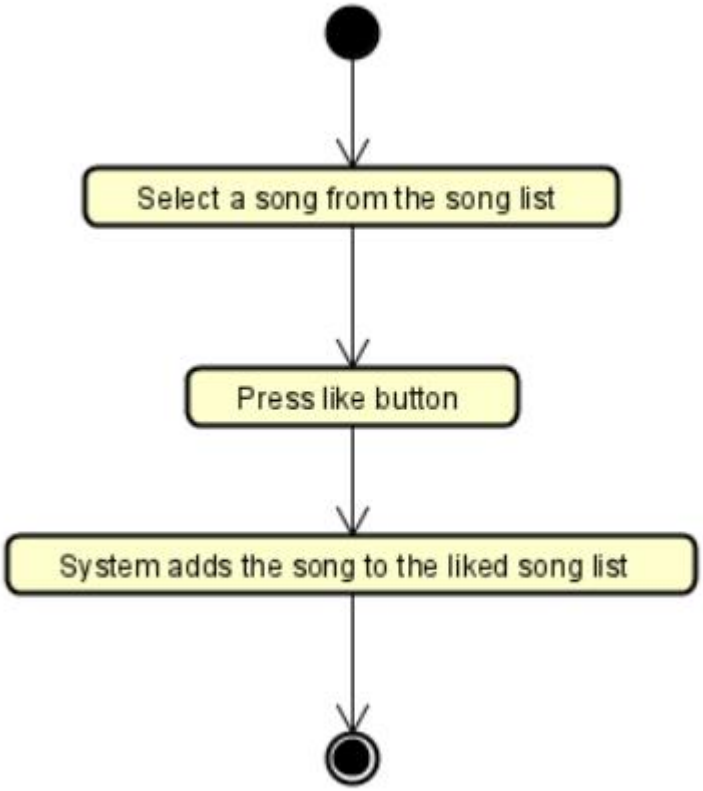
Login


Type in username and password
System shows an error label
System checks if the user exist in the database
[If user is not in the system]
User logs in
[Otherwise]

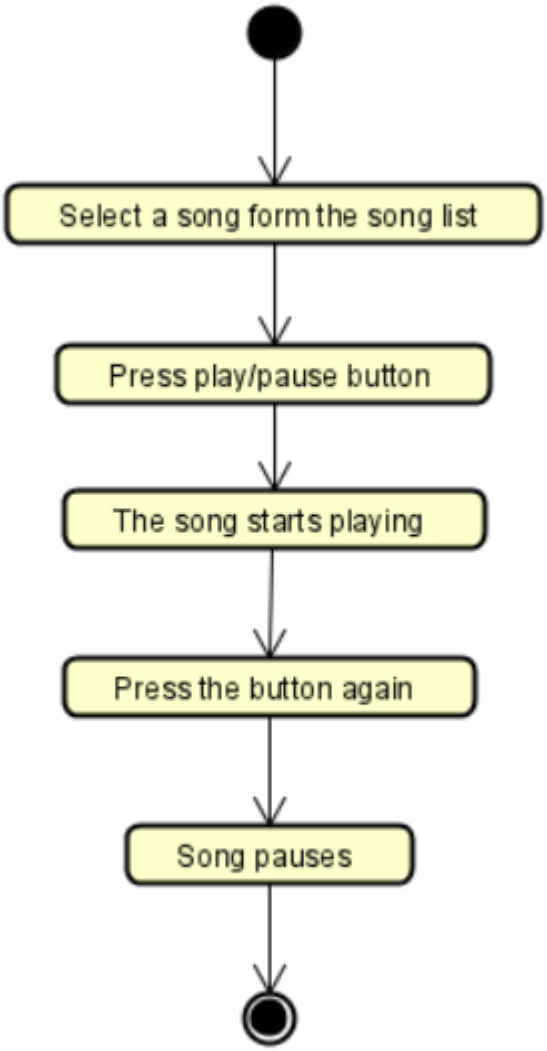
Register


Type in username, password and email
System shows an error label
System checks if the user already exists in the system
[If the user is in the system]
[Otherwise]
User gets registered

Like a song

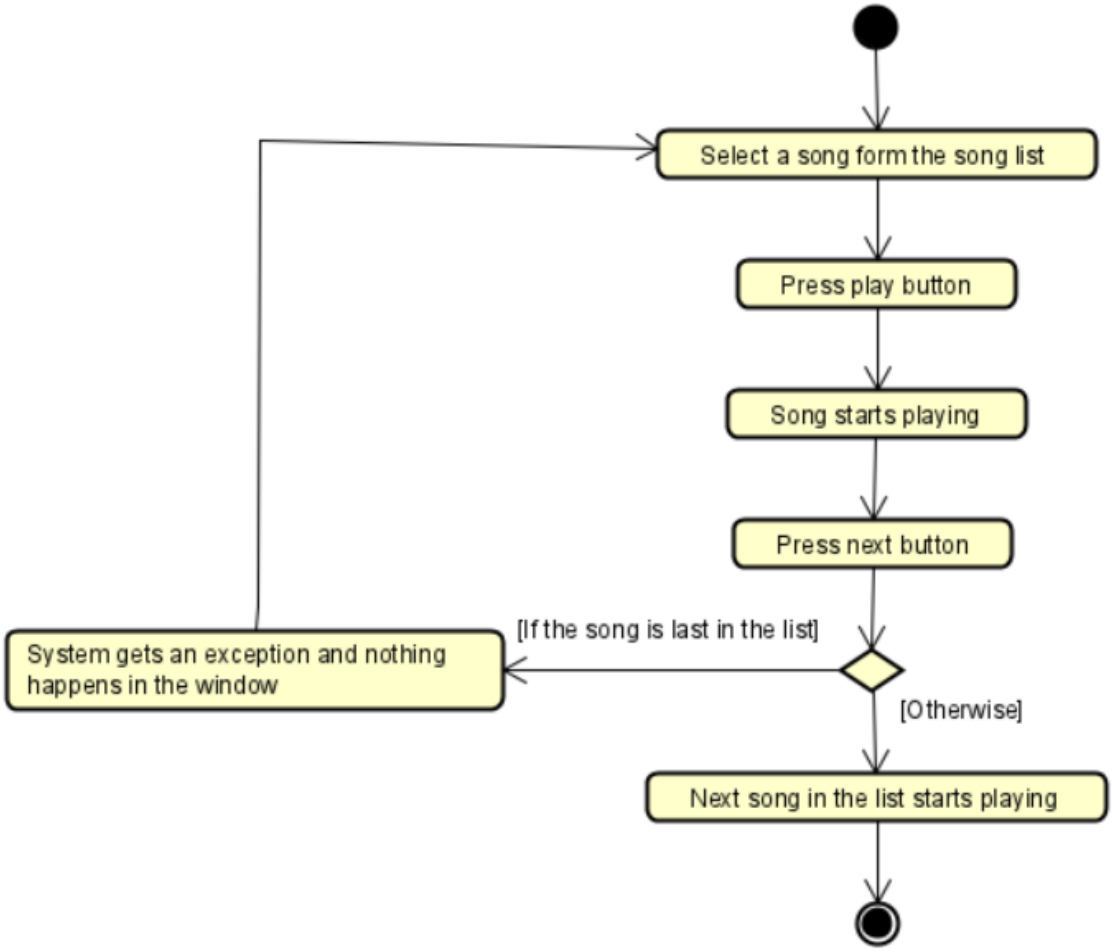

Select a song from the song list
Press like button
System adds the song to the liked song list

Play/pause

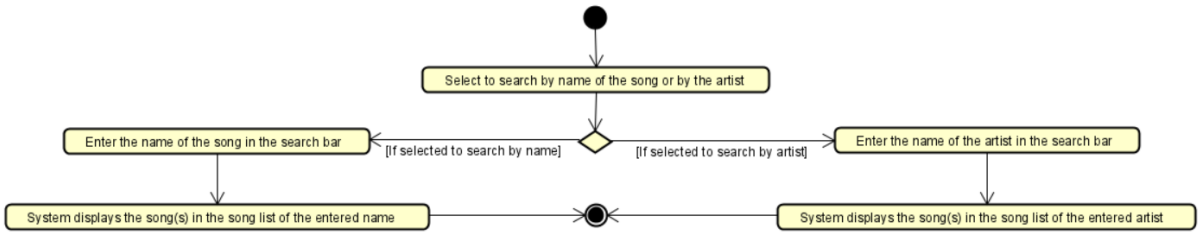

Select a song form the song list
Press play/pause button
The song starts playing
Press the button again
Song pauses

Show lyrics

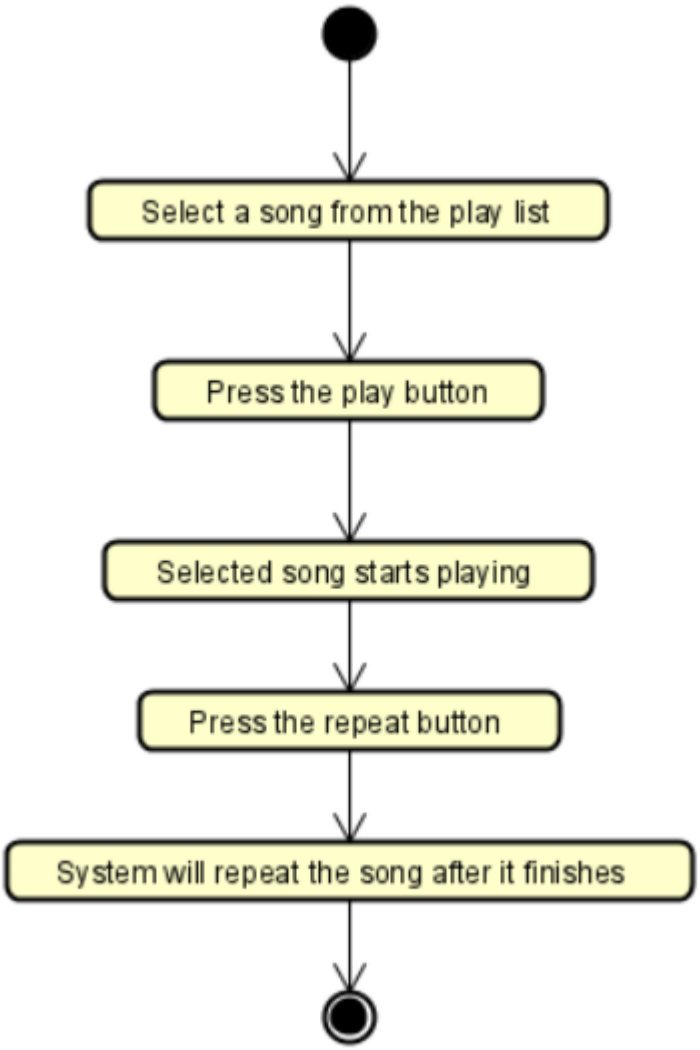
Next/previous song



Search bar (zoom in to see in better detail



Repeat a song


Select a song from the play list
Press the play button
Selected song starts playing
Press the repeat button
System will repeat the song after it finishes

Domain model