# **Chad music program – ANALYSIS DOCUMENT**

SEP2 CLASS Y GROUP 2 – NBNP()

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## 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.

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# Requirements

**CRITICAL PRIORITY**

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

**HIGH PRIORITY**

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

**MEDIUM PRIORITY**

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

**LOW PRIORITY**

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

**NON-FUNCTIONAL**

1. As a user I want to see a playlist with the most listened songs.
2. As a user I want to see my activity, for example how many hours I have listened today.
3. As a user I want the app to go to sleep after some inactivity.

# 

# Use case diagrams

**Use case diagram for login:** Diagram

Description automatically generated with medium confidence

**Use case diagram for Register:** Diagram

Description automatically generated

**Use case diagram for liking a song:**

Text

Description automatically generated with medium confidence

**Use case diagram for playing/stopping a song:**

Diagram

Description automatically generated

**Use case diagram for showing lyrics:** Diagram

Description automatically generated

**Use case diagram for next/previous song:** Diagram, text

Description automatically generated

**Use case diagram for search bar:** Diagram

Description automatically generated

**Use case diagram for Repeat a song:** Diagram

Description automatically generated

# 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 | 1. The user selects a song from the playlist 2. The system finds the song in the database 3. The user presses the play button or double clicks. 4. The system starts playing the song. |
| Extensions | 1. The user searches for a song that doesn’t exist. 2. 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

Diagram

Description automatically generated

Register

Diagram

Description automatically generated

Like a song

Diagram

Description automatically generated

Play/pause

Diagram

Description automatically generated

Show lyrics

Diagram

Description automatically generated

Next/previous song

Diagram

Description automatically generated

Search bar (zoom in to see in better detailDiagram

Description automatically generated

Repeat a song

Diagram

Description automatically generated

# Domain model

Diagram

Description automatically generated