Members
Dishant Gupta : 2101069
Krishna Sharma : 2101104
Chinmay Warwade : 2001056
Indian Institute of Information Technology,Guwahati

Music Streaming Platform

1.`INTRODUCTION & PURPOSE

The Music Streaming Platform software aims to create a dynamic and immersive digital environment where users can seamlessly discover, stream, and share their favorite music across devices. The purpose of this document is to define the requirements for the development of the Music Streaming Platform and the utilities it provides to the users.

2. SCOPE

The Music Streaming Platform will be based on a web application which will include features such as user authentication, extensive music catalog, playlist creation, searching and filtering, etc.

3. FUNCTIONAL REQUIREMENTS

3.1 User Authentication: *The system will facilitate user registration through a valid email address or the option to log in using existing credentials. This ensures a secure and personalized experience for users.Additionaly this system will also provide google authentication.*

3.2 Music Catalog and Streaming*: Robust search functionality will be implemented, allowing users to efficiently explore and discover songs and artists. This feature enhances user experience by providing quick access to desired content.*

3.3 Search and Discovery: *Robust search functionality will be implemented, allowing users to efficiently explore and discover songs and artists. This feature enhances user experience by providing quick access to desired content.*

3.4 Library Creation: *Users will have the ability to upload their music and create their customized library. This feature adds a personal touch to the platform, allowing users to showcase their music talent to the rest of the world.*

4. NON-FUNCTIONAL REQUIREMENTS

4.1 Performance: The platform must ensure minimal response times for music playback. This ensures a seamless and enjoyable experience for users, minimizing delays in accessing and enjoying their favorite music.

4.2 Security: To protect user data and maintain the integrity of the platform, robust security measures will be implemented. This includes safeguarding against SQL injection and other common security threats to ensure user privacy and system stability.

4.3 Reliability: High system uptime is a critical non-functional requirement to guarantee the Music Streaming Platform's reliability. This ensures users can access the platform consistently without disruptions.

4.4 Usability: The platform must provide an intuitive and user-friendly interface, ensuring a positive user experience. This includes easy navigation, clear instructions, and an aesthetically pleasing design to enhance user satisfaction.

5. LIFECYCLE MODEL

In the development of the Music Streaming Platform, we have chosen to adopt an iterative waterfall life cycle model. This approach combines the structured phases of the traditional waterfall model with iterative cycles, allowing for continuous refinement based on feedback. By incorporating iterative elements into the sequential process, we aim to enhance adaptability and responsiveness to evolving project requirements throughout the software development life cycle

6. SYSTEM REQUIREMENTS

The development of the Music Streaming Platform will involve the utilization of modern web development frameworks(like Node.js and Express.js), libraries(like REACT.js), and databases(like MySQL or MongoDB) with HTML and CSS. Additionally APIs(Application Programming Interfaces) will also be integrated for fetching music. The chosen technologies should align with the project's goals and contribute to the creation of a

robust and scalable platform. Additionally, server software and other infrastructure elements will be carefully selected to meet the system's needs.

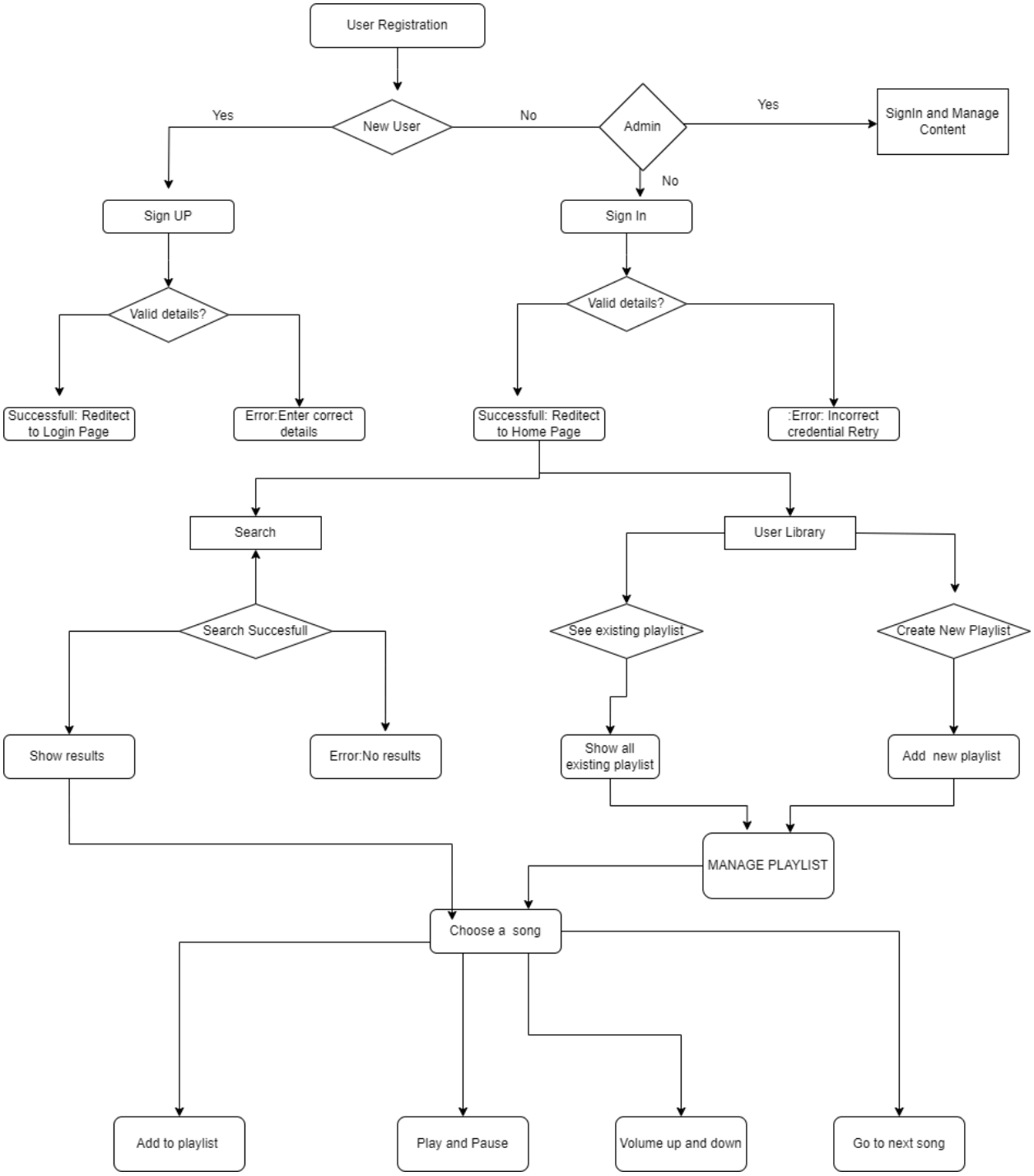
7. CONSTRAINTS

To operate ethically and legally, the platform must strictly adhere to copyright and licensing laws governing the distribution and streaming of music.

8. UPDATES

No updates for now.

9.DECISION TREE

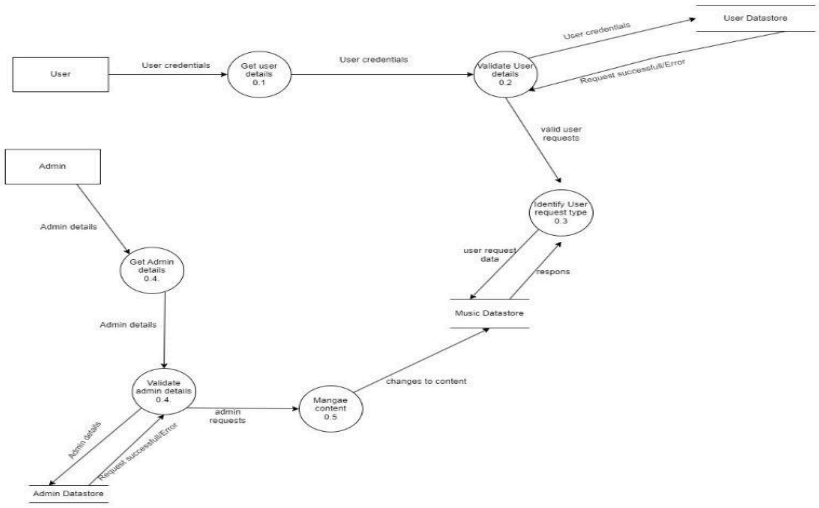


10.DECISION TABLE

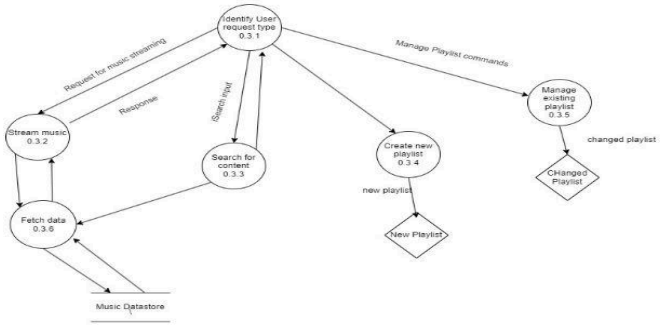
Condition and action	Rule 1	Rule2	Rule3	Rule 4	Rule 5	Rule 6
Registered user	No	No	Yes	Yes	Yes	Yes
Admin	No	No	No	No	Yes	No
Valid details	Yes	No	Yes	No	Yes	No
Sign up	Yes					
Sign in			Yes			
Display error:Retry		Yes		Yes		Yes
Play/Pause song	Yes		Yes		Yes	
Volume up/down	Yes		Yes		Yes	
Add song to playlist	Yes		Yes		Yes	
Go to next song	Yes		Yes		Yes	
Create new playlist	Yes		Yes		Yes	
Manage existing playlist	Yes		Yes		Yes	
Search for content	Yes		Yes		Yes	
Add/Manage content					Yes	

11.Data Flow Diagram

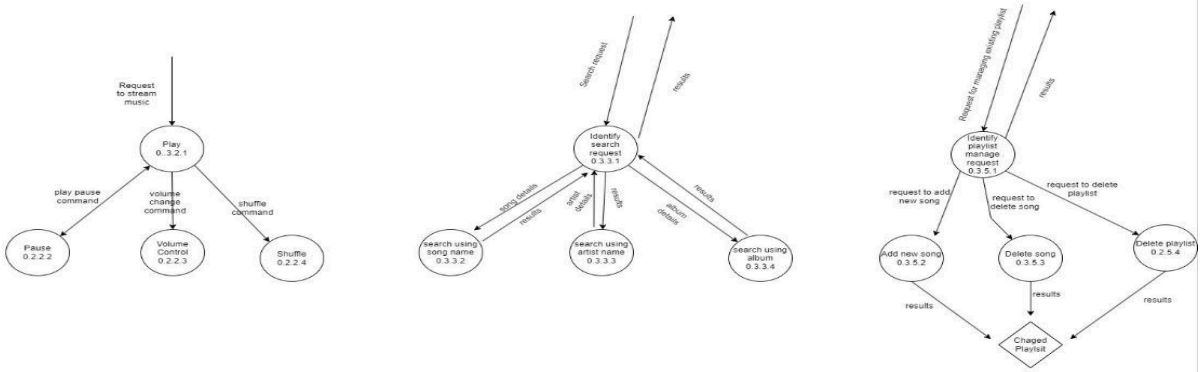
Level 0 Data Flow Diagram



Level 1 Data Flow Diagram

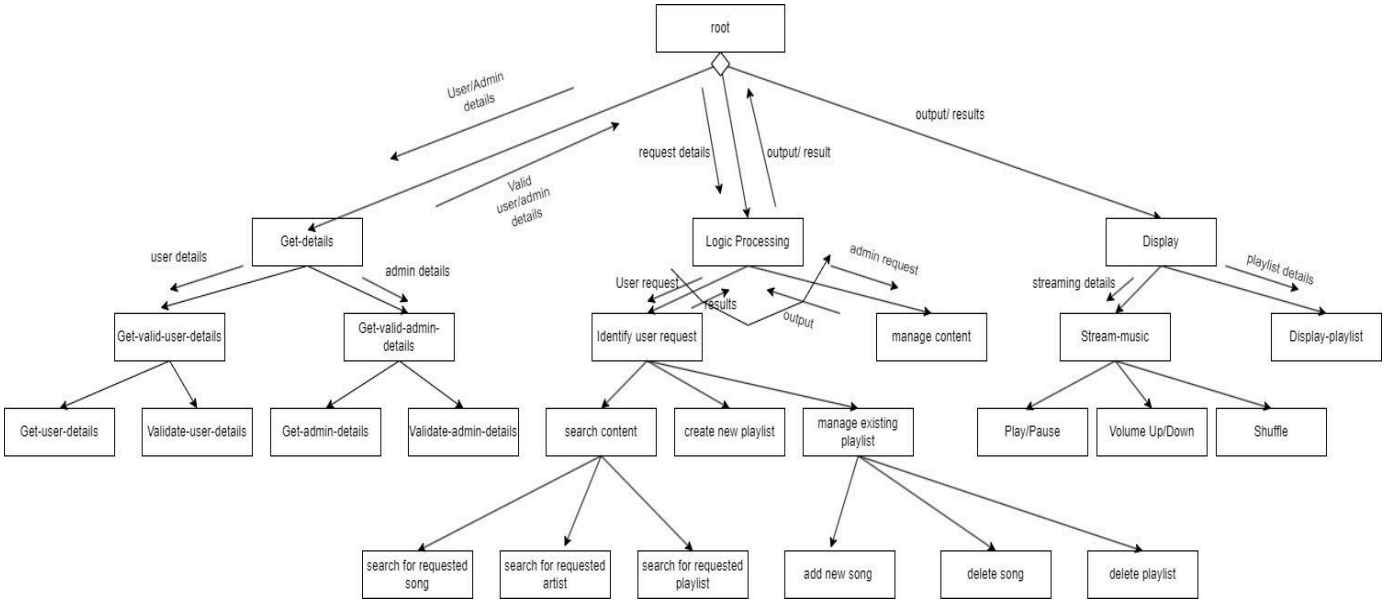


Level 2 Data Flow Diagram

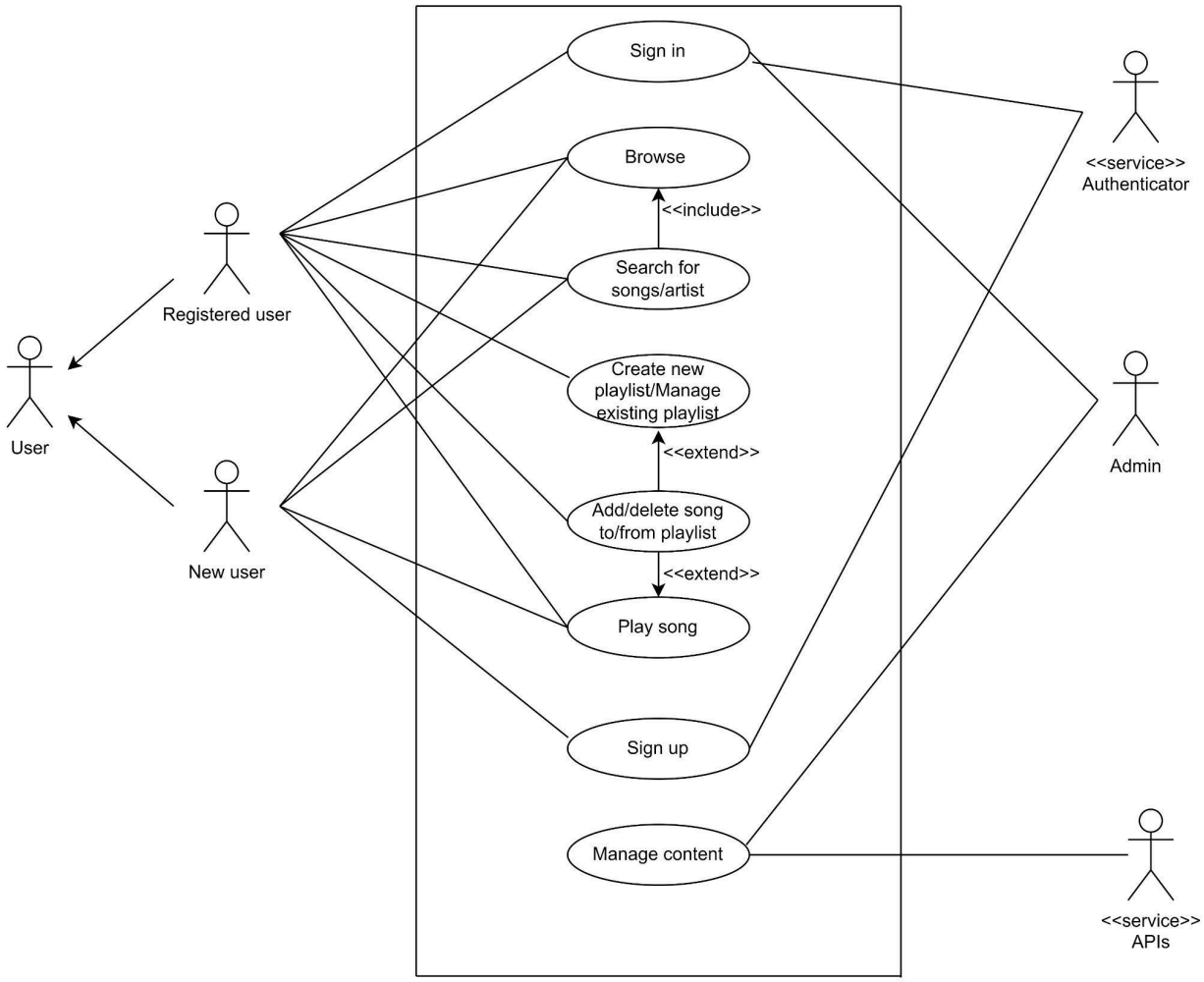


Level 3 Data Flow Diagram

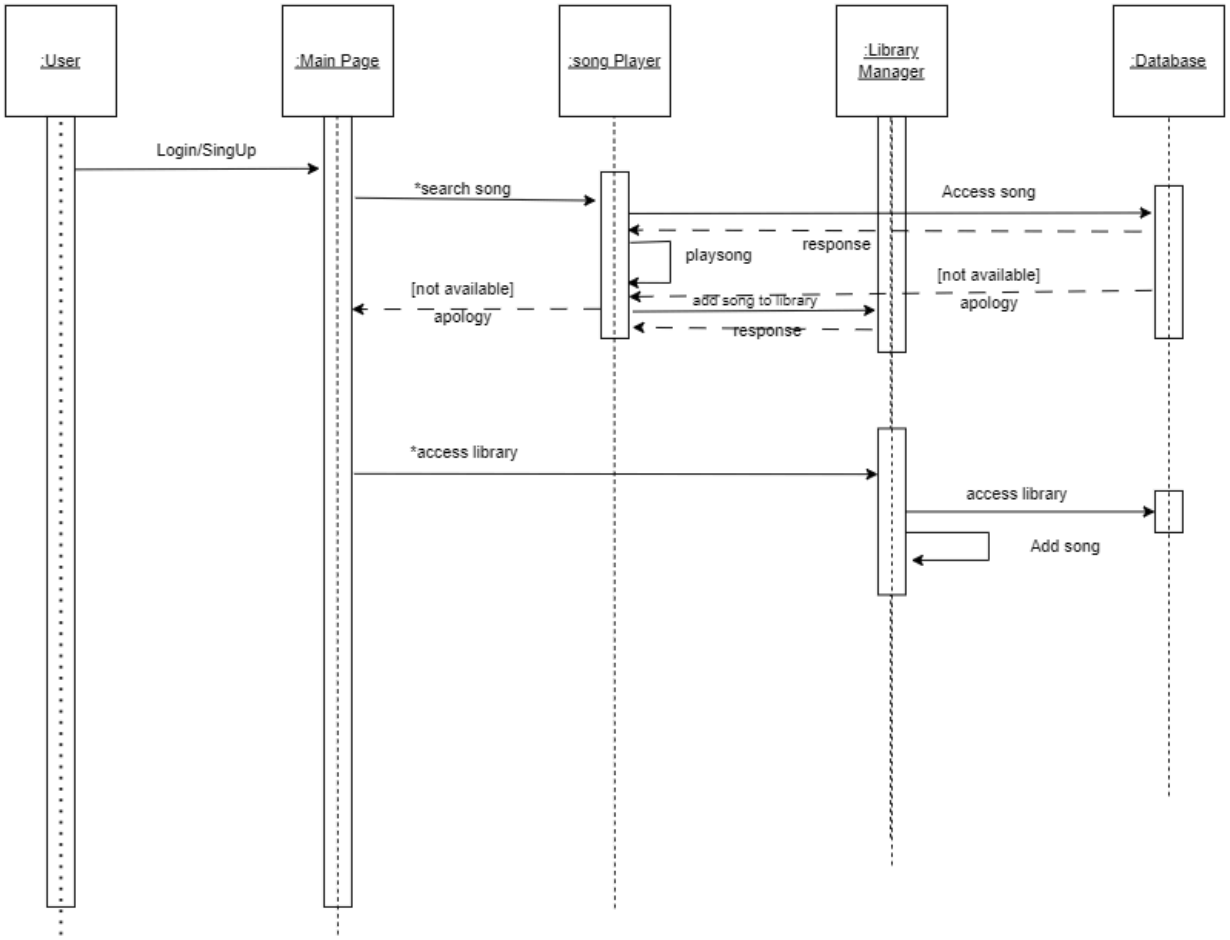
12. Structure Chart



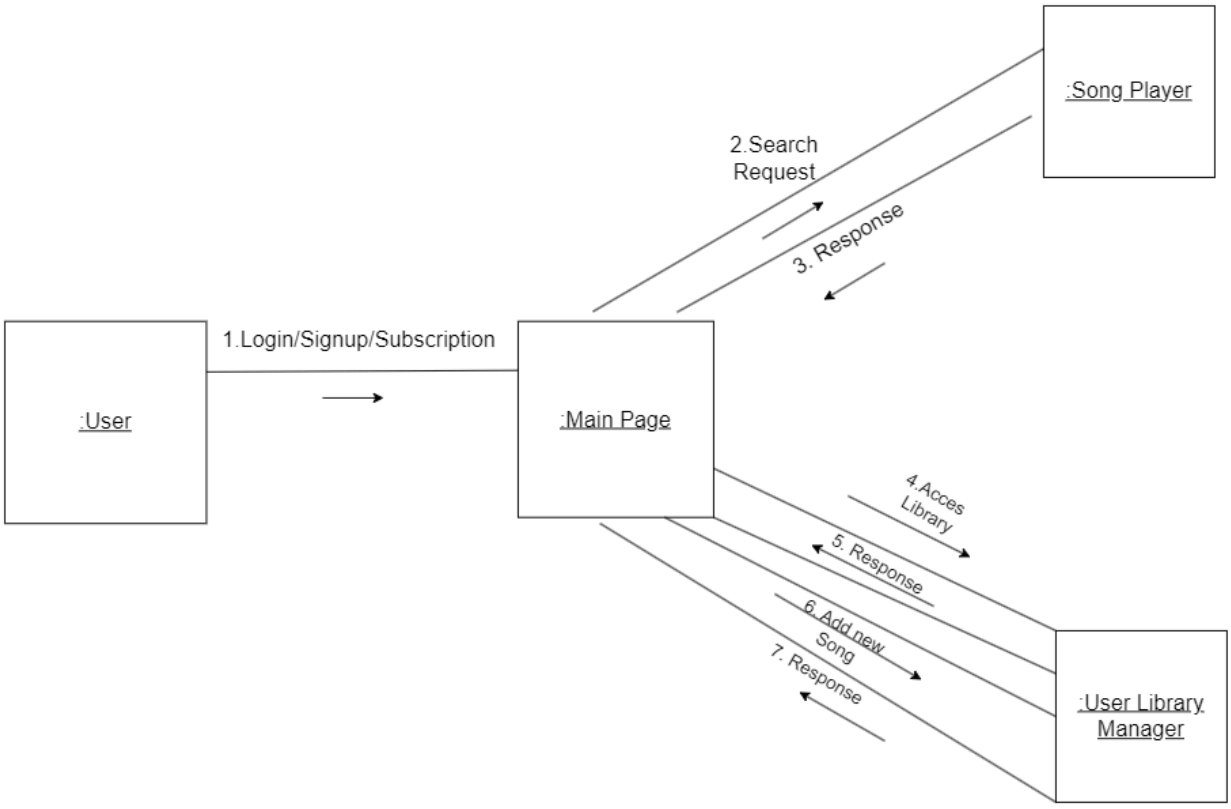
13 . Use Case UML:



14 . UML Sequence Diagram:



15 UML Collboration diagram



16 Final Project:

[Music Streaming Platform]