



# MelodyHub

A music streaming platform

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Course:

Object Oriented Design

CSCI 6234\_10



# Project Vision

- MelodyHub offers seamless music streaming, playlist management, and artist-listener interaction.
- Built with Node.js and MongoDB using OOP principles.
- Key Features: Real-time chat, playlist sharing, artist uploads.
- Benefits of OOP: Code reusability, scalability, and maintainability.

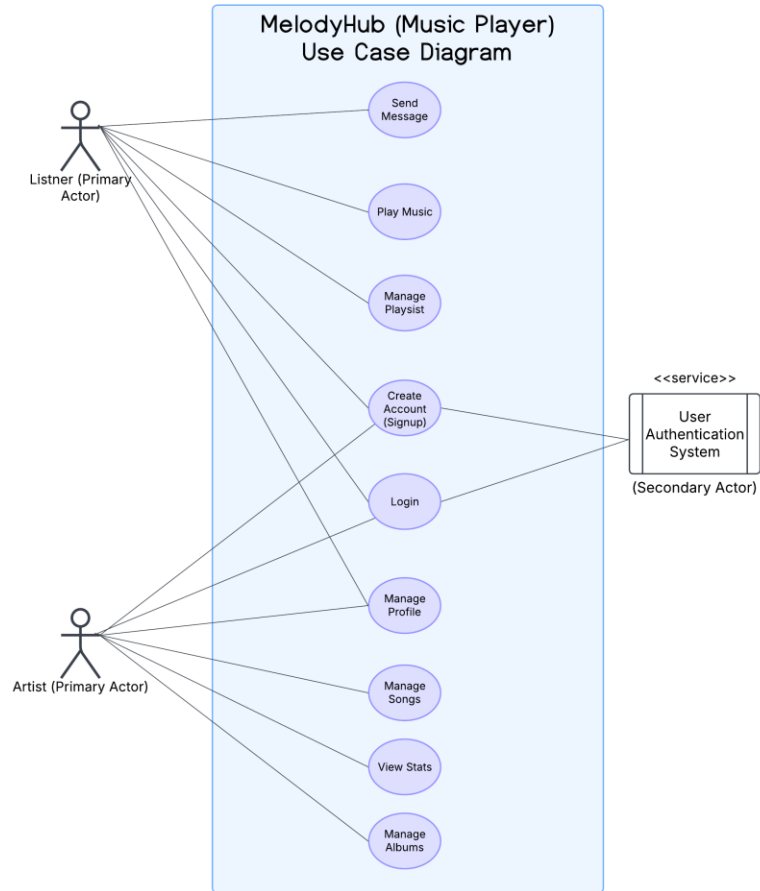
# Project Objectives

- Design and implement a music streaming platform with OOP best practices.
- Provide a seamless experience for users to stream music, manage playlists, and interact.
- Ensure code modularity and scalability through proper OOP design.
- Integrate real-time chat for enhanced user interaction.
- Develop a functional prototype with a well-defined architecture.

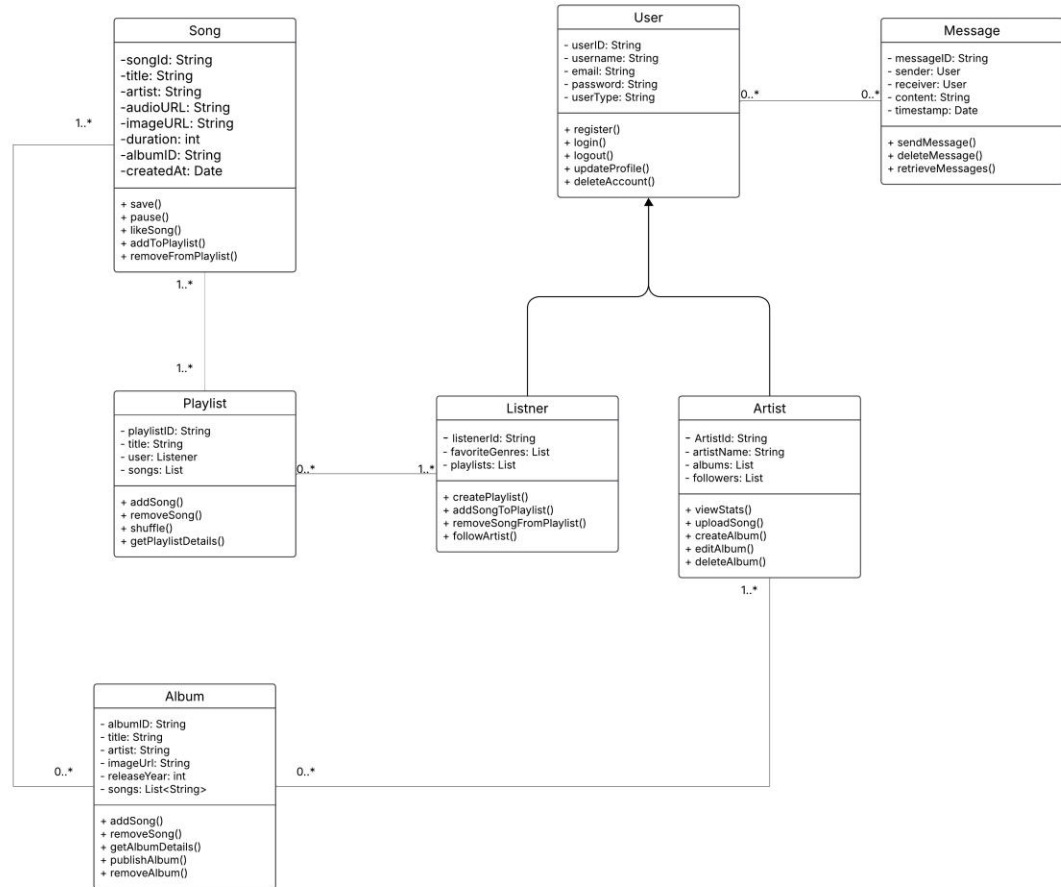


# **Project Requirements**

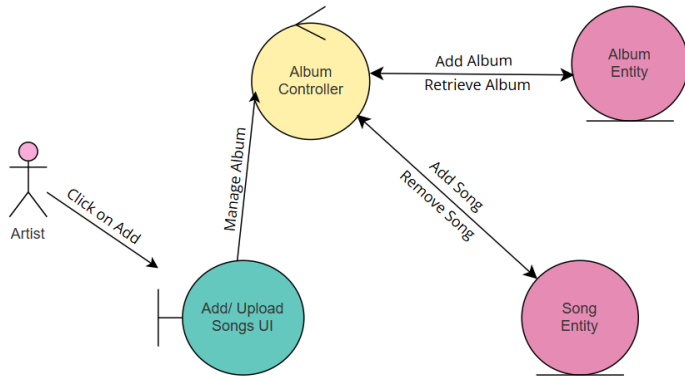
# Use Case Diagram



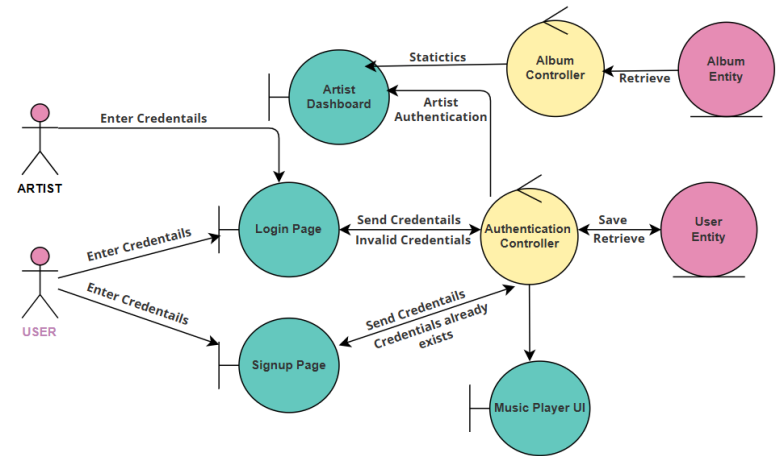
# Class Diagram



# Robustness Diagrams

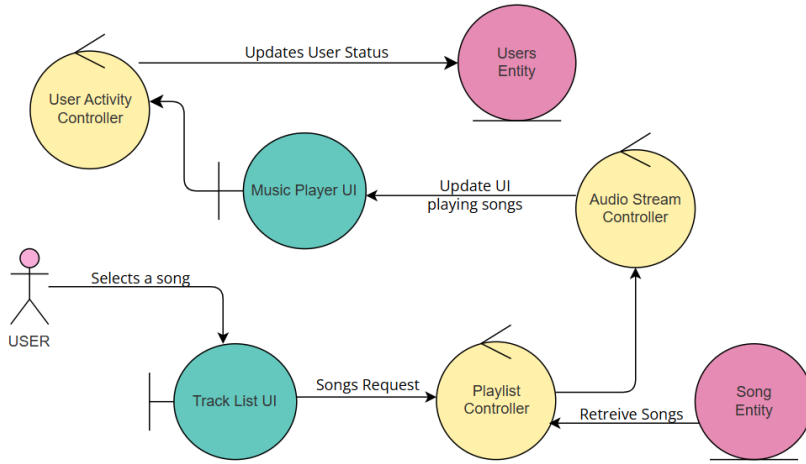


**Add Song**

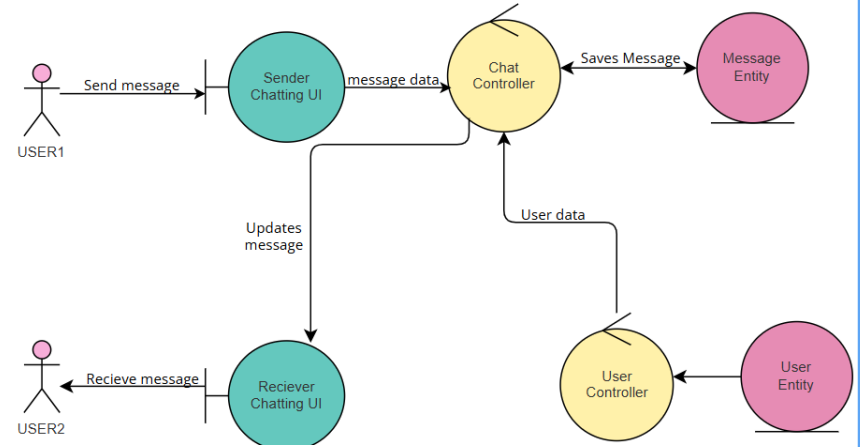


**Login**

# Robustness Diagrams



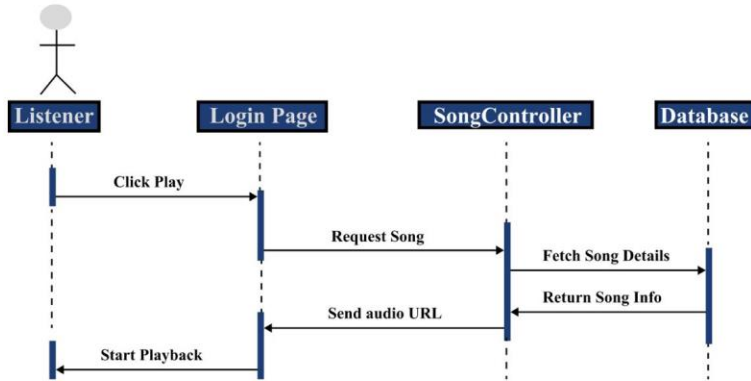
**Play Music**



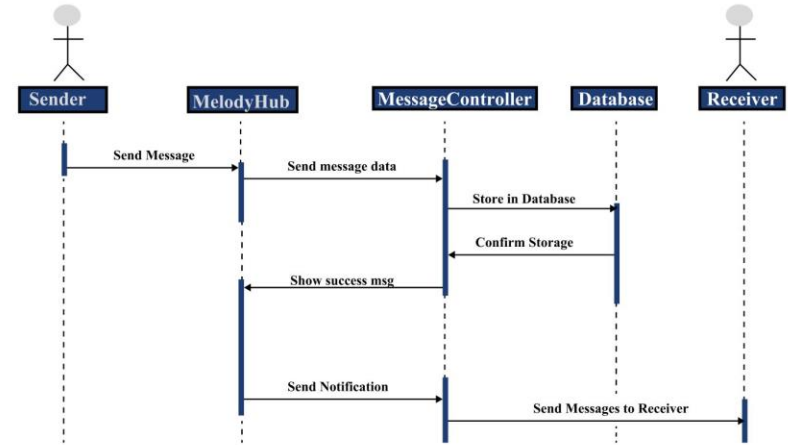
**Send Message**



# Sequence Diagrams

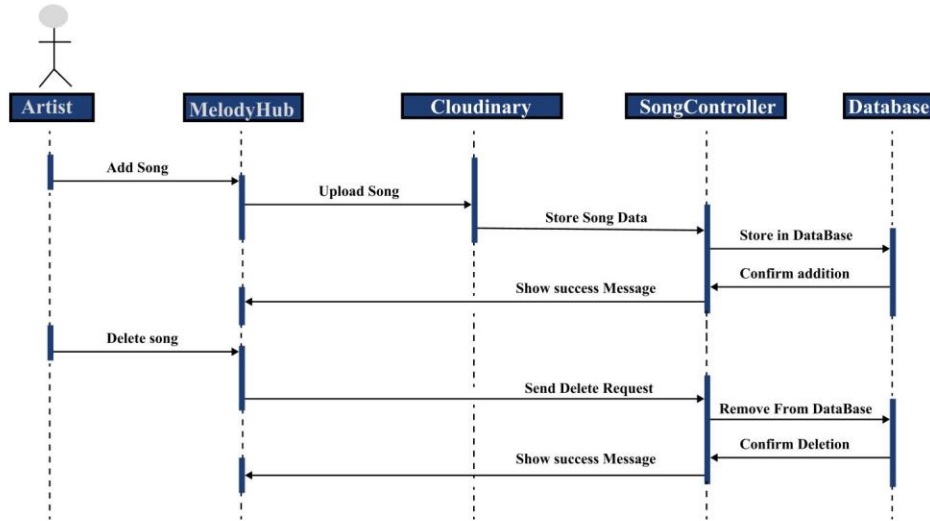


Play Music

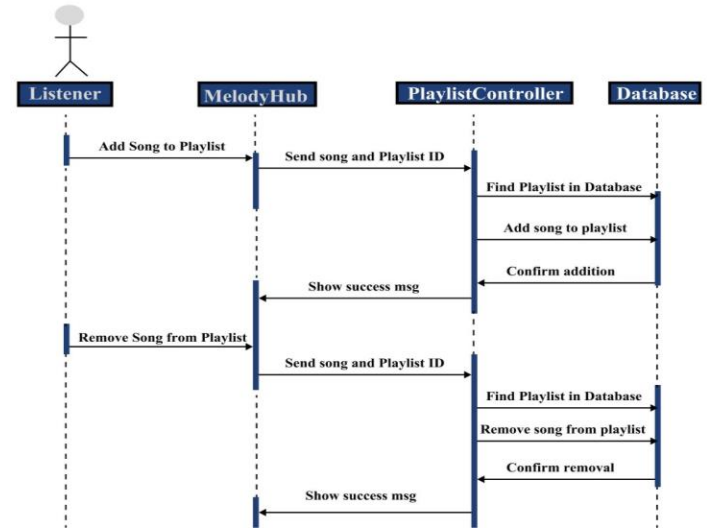


Send Message

# Sequence Diagrams

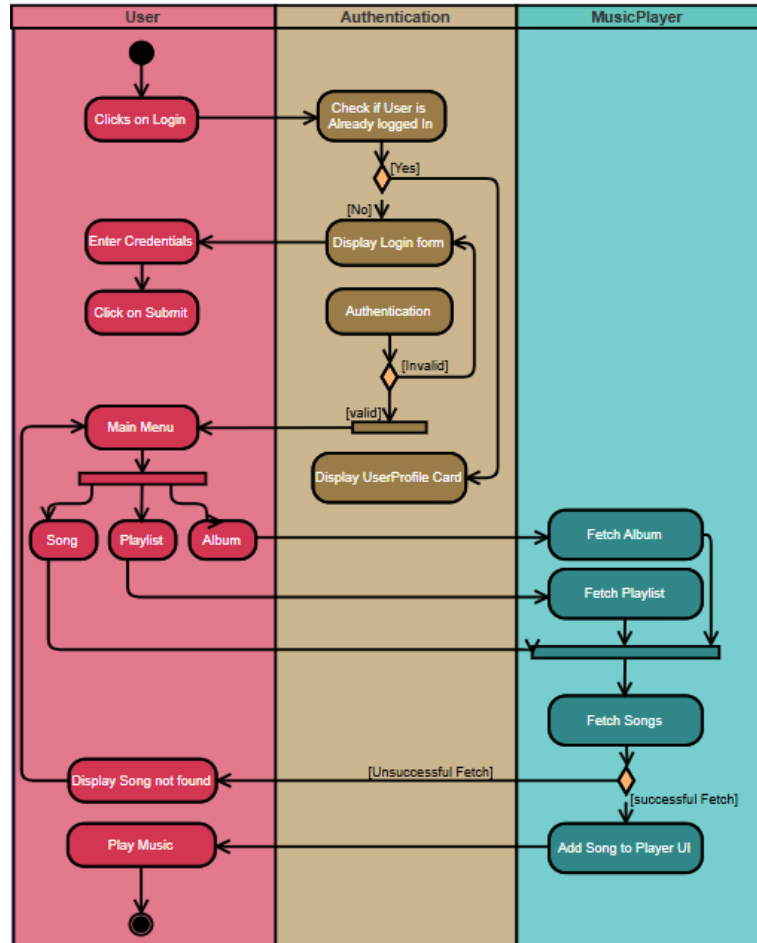


Manage Songs

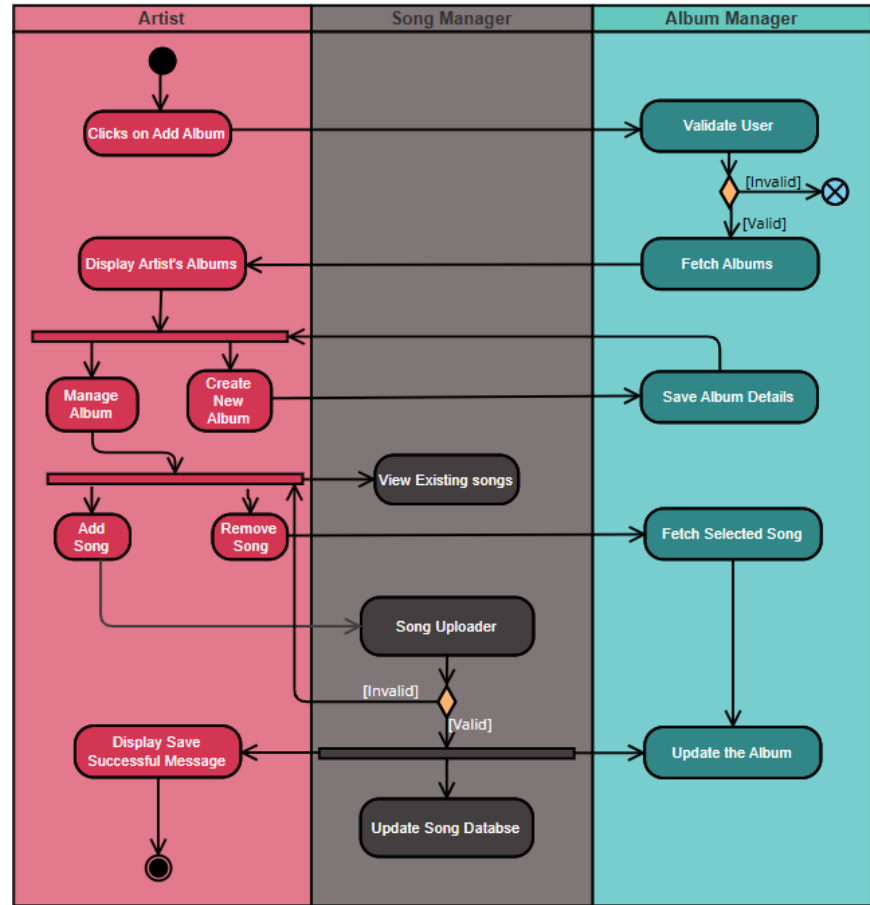


Send Message

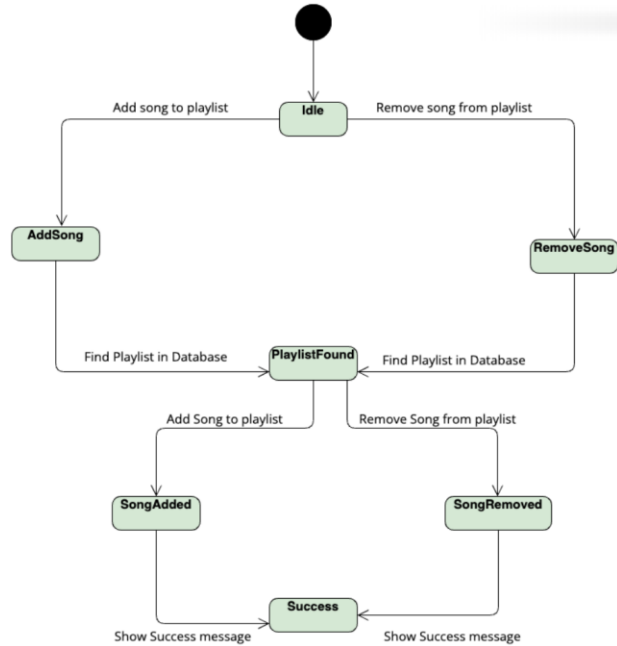
# Activity Diagram (Play Music)



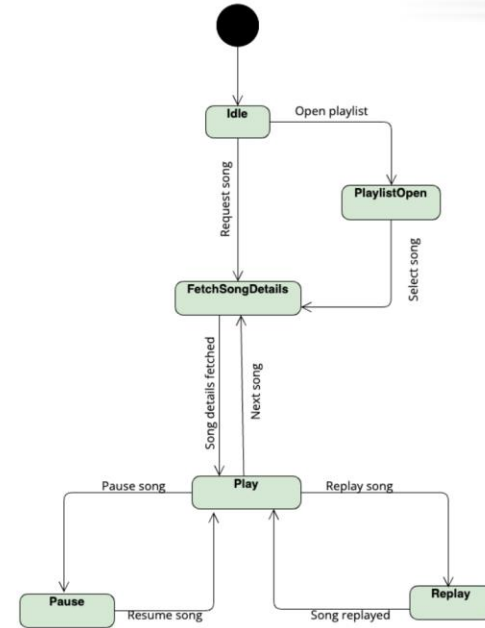
# Activity Diagram (Add Song)



# State Diagrams

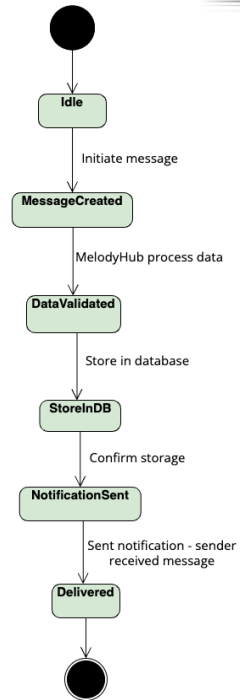


**Manage Playlist**



**Play Music**

# State Diagrams

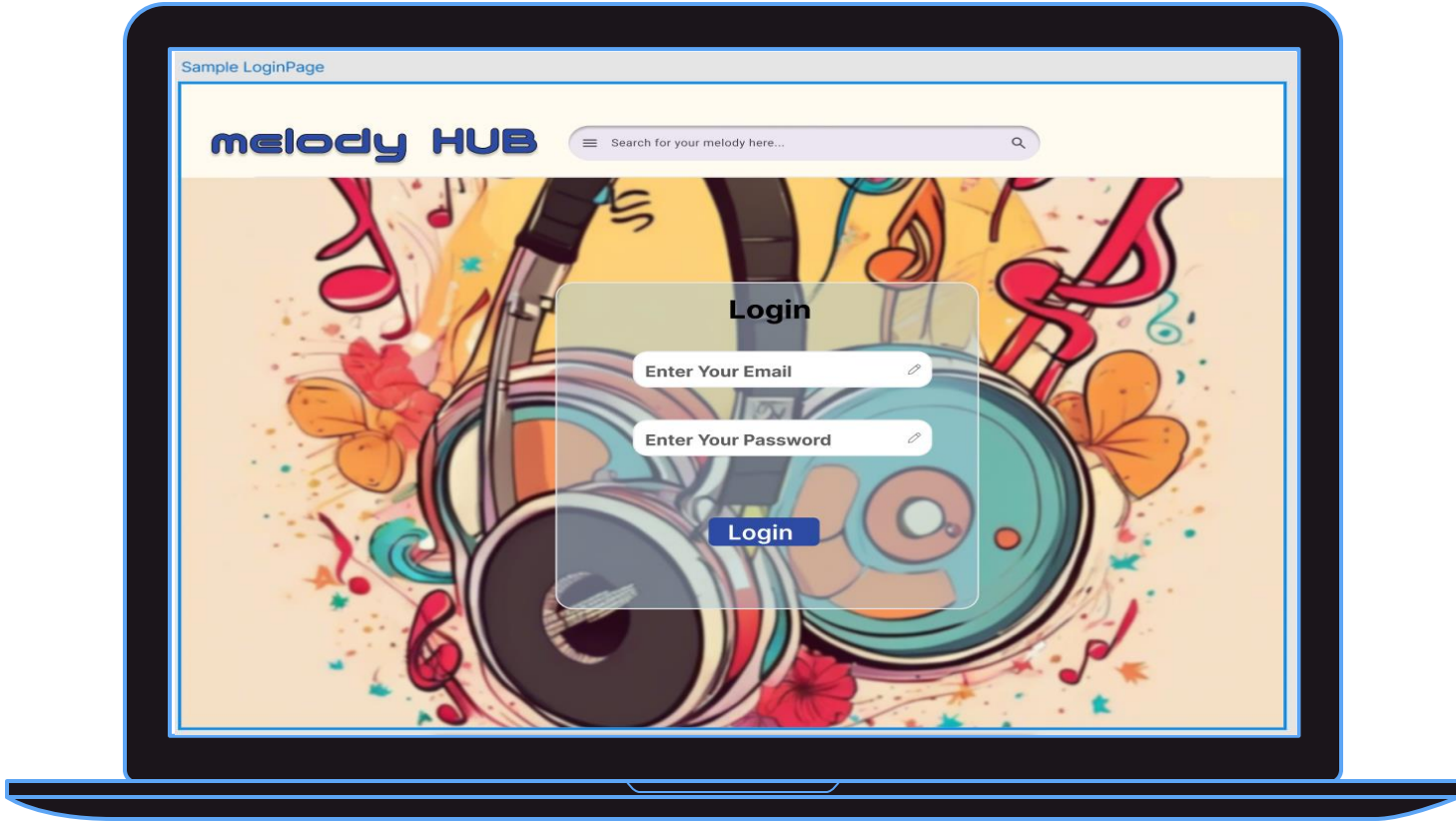


**Send Message**



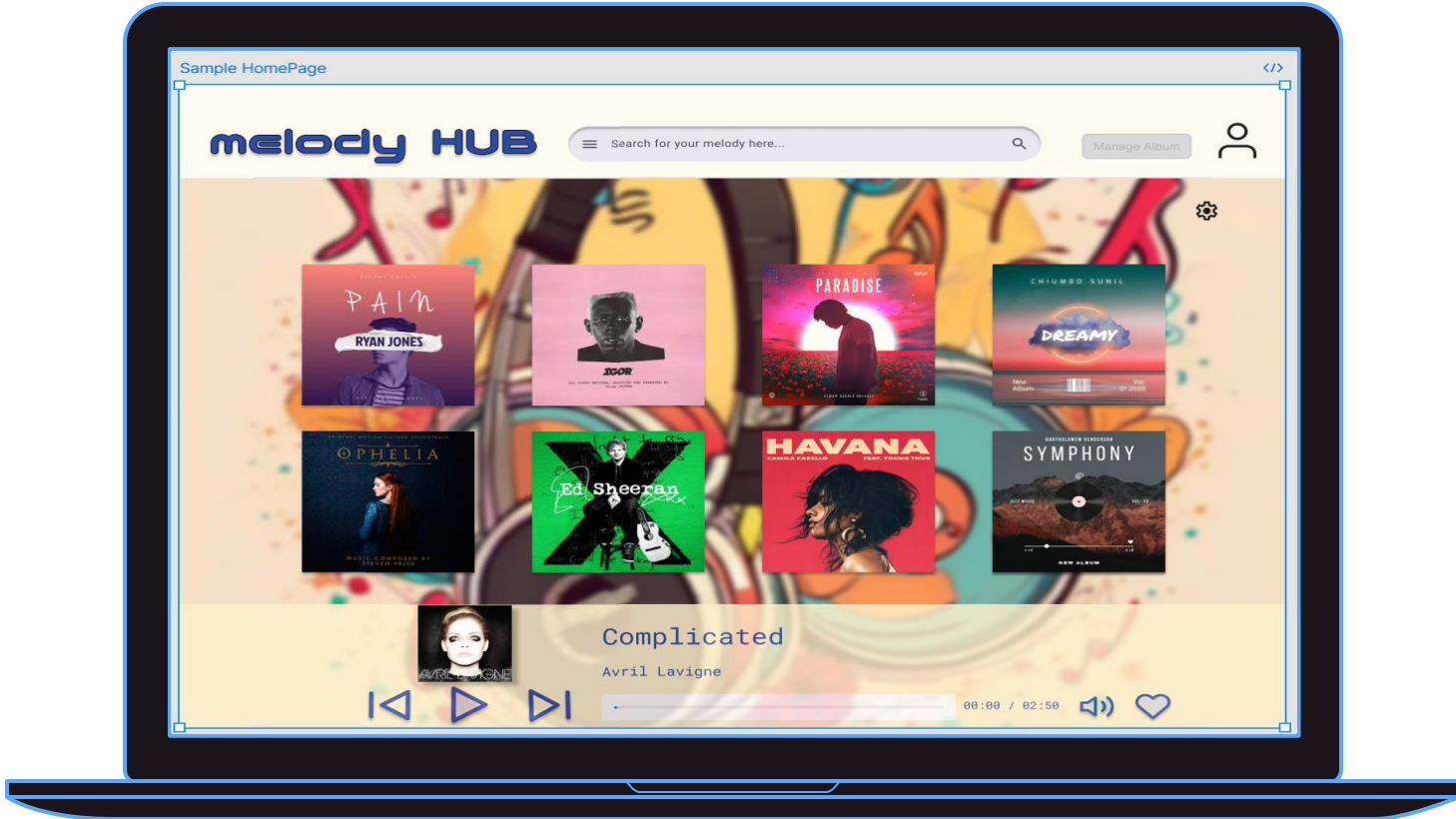
# Prototype Design

# Login Page





# Homepage



# Artist's Album Manage Section

Sample Manage Song

**melody HUB** Search for your melody here... Manage Album

### Add Song

Enter the Song Name

Enter the Artist Name

**Album**  
Select the existing Albums  
Select the Album

Save

### Create Album

Enter the Album Name

Enter the Artist Name

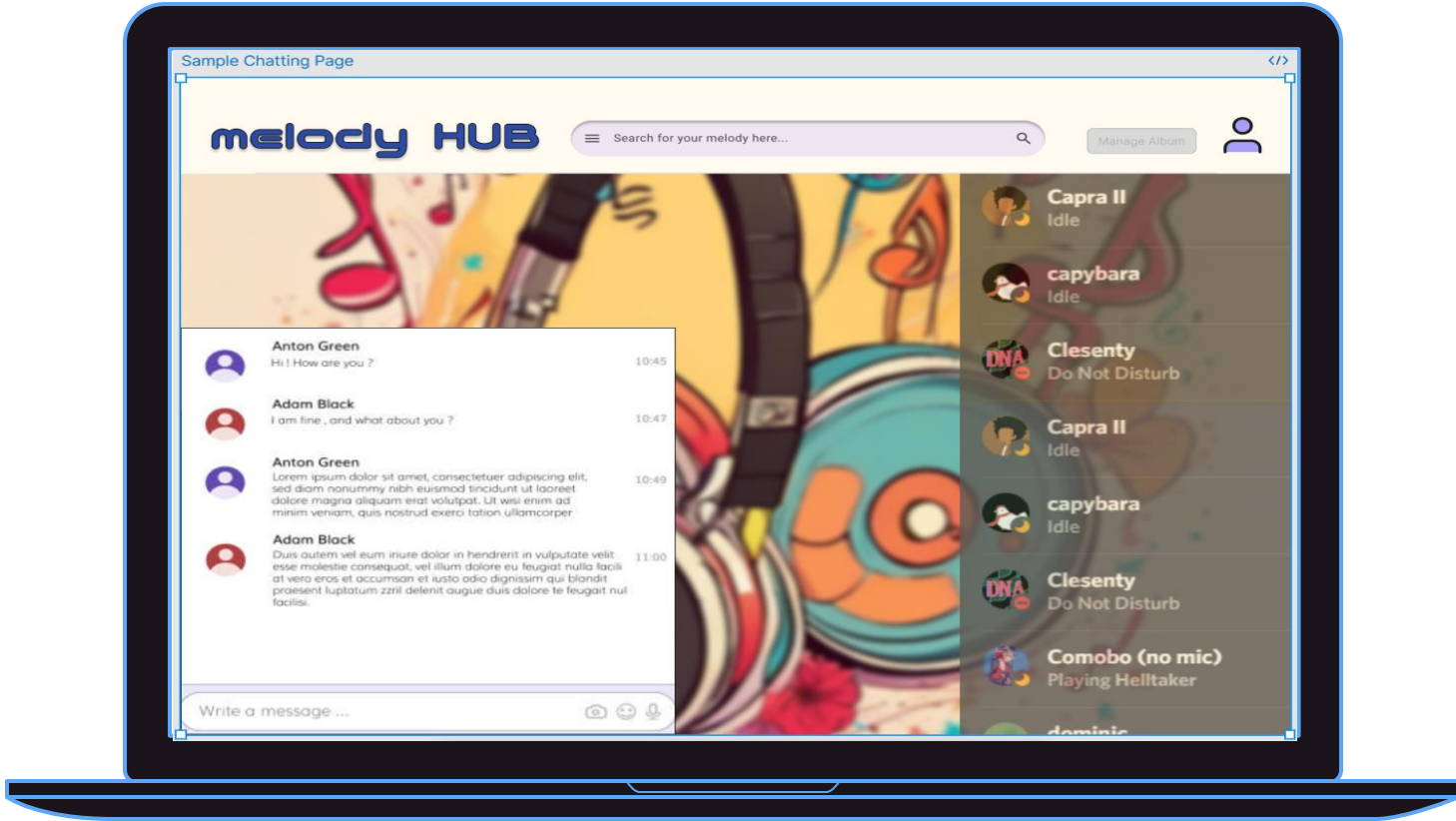
Save

### Statistics

Total number of albums = 0  
Total number of songs = 0

Download

# Chat Section



# Tools and Platforms Used



HTML



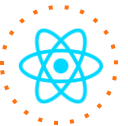
JS



CSS



Tailwind CSS



React



Node



VS Code



Git

# Conclusion

- Project Goals: To build a scalable and interactive music platform.
- Objective: Implement core music streaming functions, real-time chat, and OOP-based architecture.
- Future Work: Adding social networking features, mobile application development, enhancing search capabilities.





# Thank You

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# Credits

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by SlidesCarnival
- Web designs by Figma
- UML Diagrams by Visual Paradigms