



MelodyLink

Connecting Melodies, Uniting Hearts.

Software Requirement Specification

Prepared for:

IS2102 - Group Project 01

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1. Introduction

1.1 Problem Domain

In the current digital era, music is an integral part of our lives, easily accessible through various online platforms. However, a significant gap exists in the market for a comprehensive solution that encompasses all aspects of the music industry. Presently, there is no single platform for organizing, marketing, and booking music events, nor a proper notification system to alert users about upcoming events. Such as smaller events organized by schools, higher education institutes, and universities also lack promotion and advertising opportunities. This presents a significant opportunity to address these needs.

Furthermore, there is also an absence of platforms providing dedicated space for merchandise vendors and event equipment suppliers to sell and promote their services and products.

1.2 Proposed Solution

Our project aims to bridge this gap by developing MelodyLink, a multifaceted music application catering to a diverse range of stakeholders, including artists, members, merchandise vendors and event equipment suppliers, event organizers, and administrators.

MelodyLink is set to transform the music industry by creating an all-in-one platform that seamlessly connects all its stakeholders. Members will enjoy real-time event notifications, streamlined event booking, and ticketing. They will also search and listen to new music, and they can purchase merchandise through an integrated e-commerce section. Musical equipment renters and merchandise vendors will have a dedicated space to promote and sell their products, while event organizers will be empowered to create, advertise, and manage events, and send artist invitations. With MelodyLink, the entire music ecosystem is harmonized into a vibrant, interactive community that celebrates and fosters musical creativity and engagement.

1.3 Current System and Limitations

The current digital landscape for music is fragmented, with platforms like Spotify for music streaming, Eventbrite for event management, and Amazon for e-commerce operating in silos. While these platforms excel in their respective domains, they fail to provide an integrated solution tailored to the music industry. Smaller events, such as those organized by schools or universities, often lack affordable promotion tools, while music enthusiasts lack dedicated spaces to connect and build communities based on shared tastes.

Key limitations include the absence of a unified platform that connects music listening, event management, and e-commerce. Merchandise vendors and event equipment suppliers lack industry-specific spaces to promote their services. Event organizers face fragmented tools for managing and advertising events, while users lack personalized profiles that reflect their preferences and event history. These gaps present an opportunity for a comprehensive solution that harmonizes the music ecosystem.

1.4 Project Goals

1. Development of a Comprehensive Music Event Management Platform:

Create an all-encompassing application, MelodyLink, designed to serve multiple stakeholders within the music industry, including artists, event organizers, merchandise vendors, equipment suppliers, and general members.

2. Real-Time Event Notifications and Updates:

Implement a feature that provides real-time notifications and updates about upcoming music events, ensuring members are well-informed and can easily plan their attendance.

3. **Event Booking and Ticketing System:**
Develop an efficient system for booking events and purchasing tickets directly through the platform, streamlining the process for users.
4. **Music Listening Experience: (On Hold)**
Enable users to listen to songs by various artists, facilitating music discovery and enjoyment.
5. **Merchandise Vendors:** Provide dedicated space for merchandise vendors to promote and sell their products, enabling them to reach music event attendees and fans.
6. **Musical Equipment Renters:**
Offer a platform for musical equipment renters to showcase their services, making it easier for event organizers and performers to find and book equipment.
7. **Event Management for Organizers:**
Event organizers are able to create, advertise, and manage upcoming events, enhancing their ability to reach and engage with their target audience.
8. **Artist Engagement and Analysis: (On Hold)**
Facilitate a platform for artists to upload new creations, interact with their audience, receive invitations, and analyze ratings and reviews of their work, fostering a direct connection with their audience.
9. **Unique Market Positioning:**
Differentiate MelodyLink by integrating diverse features into a single application, providing a seamless and enriched user experience that addresses multiple needs within the music industry.

By achieving these goals, MelodyLink aims to revolutionize the music event organizing industry by bridging gaps, fostering stronger connections between stakeholders, and offering a comprehensive solution for music enthusiasts.

1.5 Objectives

MelodyLink distinguishes itself by integrating diverse features into a single application, creating a platform for music event organizers, event equipment suppliers, and merchandise vendors, offering a seamless and enriched user experience. Key differentiators include:

- Providing real-time updates about upcoming music events.
- Enabling members to book events and tickets efficiently.
- Provide a dedicated space for merchandise vendors to showcase and sell their products to event attendees and fans.
- Offer a platform for equipment suppliers to promote and rent out their musical gear and services to event organizers and performers.
- Allow event organizers to advertise and promote their events and receive new event organizing opportunities.
- Offering a dedicated space for artists to release their new creations for the audience and analyze ratings and reviews. (On Hold)
- Additionally artists can receive new opportunities to perform.(On Hold)

This project not only presents an exciting challenge but also has the potential to make a significant impact on the event organizing industry. By fostering stronger connections between event organizers, suppliers and artists and their audiences and providing a comprehensive, all-in-one solution for music enthusiasts, MelodyLink stands to revolutionize the way we engage with music events.

1.6 Assumptions

- User Base: Assumed initial user base size and growth rate, including demographics and usage patterns.
- Internet Access: Users have reliable and stable internet connections to stream music.
- Device Compatibility: Users will access the app on a variety of devices (desktops, mobiles, tablets) and it will function well across all these devices.
- Third-Party Library: Availability of a comprehensive and legally acquired music library.

- **Market Competition:** Assumptions about the competitive landscape and the app's unique selling propositions.
- **User Engagement:** Assumption that users will engage with the app regularly and use its features extensively.
- **Maintenance:** Assumption that ongoing maintenance and updates will be manageable within the given resources and constraints.
- **User Support:** Users will have access to support resources, and the app will include help features and documentation.
- **Data Volume:** Expected data volume for user interactions, and analytics will be within manageable limits.

2. Deliverables of the Project



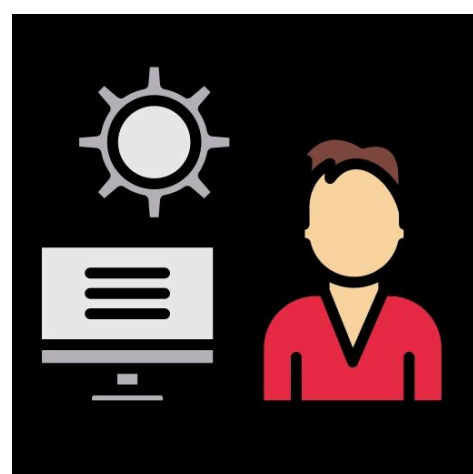
SRS Document



User Guide



Web based application
deployment instructions)



Administrators Manual (With

3. Technologies to be Used

1. Client side
 - HTML
 - CSS
 - JAVASCRIPT
2. Server side scripting language
 - PHP
3. Database used
 - MYSQL
4. Required libraries in php
 - PHPMailer-For email based notification system
 - User authentication via email
 - Password reset functionalities based on tokens.
5. External APIs-To integrate payment gateways,etc
6. Software Architecture: MVC

4. Feasibility Study

4.1 Technical Feasibility

Technical feasibility evaluates whether the project can be successfully implemented using available technologies.

We are planning on using HTML, CSS, and JavaScript to create a dynamic and interesting user interface for the proposed project. We'll utilize PHP and MySQL for the back end development. Furthermore, Visual Studio Code will be used as the source code editor for the system development. Its user-friendly features facilitate smooth coding, playing a major role in achieving the project's success.

Effective collaboration and version control will be done through the use of GitHub. In addition, we will use Draw.io and Canva for the designing purposes.

Laptops, network routers and mobile phones will be used as hardware to develop the project. We are planning to use a cloud based server to facilitate the deployment of the system because it can be accessed by any device easily. Additionally, all employees need to be equipped with mobile phones or laptops, ensuring that they have the necessary tools to access the system efficiently. This requirement is already satisfied, as a majority of companies have already provided these devices to their employees. Therefore the company has the required infrastructure to operate the system.

Since all the above-mentioned technologies are freely available and the team members have basic knowledge of using these technologies, the project is technically feasible.

4.2 Economic Feasibility

Economic feasibility assesses whether a project is viable and cost-effective. Our project employs a cost-efficient approach by utilizing open-source software and free tools for development, thereby eliminating software license expenses. While there will be development costs, they are manageable for our team. Operational costs will include utilities such as electricity and internet. The only additional deployment cost for the company will be the server facility.

Given that the overall expenses are manageable for the team, the project is deemed economically feasible.

4.3 Legal and ethical Feasibility

Legal and ethical feasibility evaluates whether the system can be executed without violating any legal and ethical principles.

The concept of this project aims to develop a multifaceted music application that serves the needs of a diverse range of stakeholders, including artists, fans, merchandise vendors and equipment renters, event organizers and administrators.

This is an original idea invented by all the team members and there is no existing online platform which has a similar business model. Therefore, there is no copyright issue for the system. In the aspect of user management, user identities are verified at the registration and login. This will ensure the security of the system by prevailing unauthorized access.

External parties cannot access any personal information without permission. The main purpose of this action is to protect the privacy of users. Moreover, all the login details and passwords are encrypted. It adds an extra layer of protection to the data.

Based on the fact that all the resources which will be used for the development of the system are open source, there are no legal concerns of the project as well. As mentioned above, there is no violation of legal and ethical principles. Therefore, the project is legally and ethically feasible.

4.4 Operational Feasibility

Operational feasibility assesses how effectively the proposed system addresses the current issues identified during the scope identification and requirements analysis phases. In our analysis, we discovered that the music industry lacks a comprehensive solution catering to the diverse needs of artists, members, suppliers, event organizers, and administrators.

Currently, there is no single platform where users can seamlessly book events and tickets , search and enjoy music, send invitations for artists for events, purchase merchandise and event equipment, and improve social connectivity of the music industry. Users face significant inconvenience with fragmented services across different platforms. To address these issues, MelodyLink will offer an all-in-one solution.

MelodyLink will provide features such as event booking and ticket booking, an e-commerce section for merchandise and event equipment.. Users will need a mobile phone or computer with internet access, which is not a barrier since most users already possess these devices. Basic IT knowledge will be sufficient to navigate the platform.

Since the proposed system comprehensively solves the existing problems without requiring special training or resources, the project is operationally feasible.

4.5 Schedule Feasibility

Schedule feasibility evaluates whether the project can be completed within a given time period.

The proposed timeline for the project is 10 months.

Estimated working hours per a week – 13 hours (by 1 member). Estimated working hours for 10 months – $13 * 40 = 520$ hours.

Estimated total working hours by 4 members – $13 * 40 * 4 = 2080$ hours.

We have planned to use iterative waterfall methodology for the development of the system.

The main reason for this is that this is a learning project, and since the system has no clients, there is a possibility of the requirements getting changed in future. As mentioned above, since there are more than 10 months to complete, the project schedule is feasible.

5. Requirements

5.1 Stakeholders / Actors

1. Member
2. Merchandise Vendors/ Event Equipment Suppliers
3. Event Organizers
4. Artists (On Hold)
5. Administrators

5.2 Scope of the System

1. In-Scope

The following functionalities and features will be included in the scope of MelodyLink.

1. User Registration and Login:
Implementation of secure user registration with and login functionalities, including social media login options.
2. Member profile:
Maintaining users personal details, purchased items, playlists, saved events, ticket details.
3. Artist Profiles: (On Hold)
Creation of detailed musician profiles showcasing their biography, albums and creations, and upcoming events.
Ability for artists to update their information and upcoming events.
Option to approve invitations from event organizers and members.
4. Event Organizer Profile:
Personal details, contact details and verified account details of the event organizer.

Option to approve invitations from members.

5. Supplier Profile:

Personal details, contact details and verified account details of the suppliers.

Option to approve invitations from members.

6. Real-Time Event Notifications:

Implement a notification system that provides real-time updates on upcoming music events, new products, new releases of the artists(On Hold) to keep members informed and engaged.

7. Search Features:

Allow users to search and listen to a wide variety of songs from artist, album, genre(On Hold), browse events ,merchandise and artists.

8. Accounts verification process:

Allow admin to verify Artist, Supplier and Event Organizer accounts.

9. Create Playlists:

Allow users to create and edit playlists.

10. Event Management and Booking:

Users can view and to book upcoming events.

Event advertising.

Event search and filtering options.

Booking request and confirmation process.

11. Merchandise and Event Equipment Store

Develop an e-commerce section for purchasing artist merchandise, event equipment including shopping cart functionality.

12. Payment Options:

Payment process for the subscription to obtain the membership.

Facilitate users to place orders and purchase merchandise and equipment tools.

13. Customer Support:

Implement customer support features, including FAQs to assist users with their issues and complaints.

14. Admin Panel:

Develop a comprehensive admin panel for managing users, content, and application settings.

2. Out Scope

The following items are not included in the scope of MelodyLink

1. Custom Mobile Application Development
Development of native mobile applications for iOS and Android beyond the scope of responsive web design. However, this is completely responsive for both web and mobile devices.
2. Streaming:
Enabling play-pause functions, playback functions
3. Multi-Language Support
Implementation of multi-language support is not included.
4. Third-Party Integrations Beyond Scope:
Integration with third-party services that are not crucial to the core functionalities, such as external music libraries or non-essential social media platforms.
5. Advanced Music Production Tools
Digital Audio Workstation (DAW) functionality
Advanced audio editing features
6. Rights Management: Complex digital rights management system for music
7. Personalized User Experience: Enable personalization features like tracking and creating playlists.
8. Live Streaming of Events: Comprehensive live streaming capabilities for concerts or events.
9. Courier services, delivery tracking and responding to customer inquiries and feedback.
10. Social Media Ingegration
11. Rating and Reviews for the events, products and songs.

5.3 Functional Requirements

1. User Registration and Authentication: Sign-up, Login, Password Recovery.
2. Real - Time Notifications: Alert users about new releases, new products and event updates.
3. Cart functionality for members
4. Event Management: Create, View, Book, Search, Edit event details
5. Merchandise Store: Develop an e-commerce section for purchasing musician merchandise, complete with shopping cart functionality.
6. Event Equipment Rental: Create a platform feature for renting event equipment, enabling suppliers to list gear and customers to book it easily.
7. Facilitate a platform for artists to upload creations.(On Hold)
8. Music Search and Listen: Search by song, artist, album, genre. (On Hold)
9. Playlists: Create, edit, playlists. (On Hold)
10. Search Feature: Events, merchandise.
11. User Profile(Member, Artist, Event Organizer, Supplier): Create, update, delete user profile and preferences.
12. Account verification process.

5.4 Quality Attributes.

5.4.1 Performance

1. Response Time: The app should load within 2-3 seconds,
2. Scalability: The app must handle a growing number of users without performance degradation, especially during peak usage times.
3. Throughput: The system should be able to process a high number of concurrent requests (e.g., 1000 requests per second).

5.4.2 Reliability

1. Uptime: The app should have at least 99.9% uptime, ensuring that it is available to users almost all the time.
2. Error Handling: The app should gracefully handle errors and provide meaningful error messages to users.
3. Backup and Recovery: Regular data backups and a recovery plan should be in place to prevent data loss.

5.4.3 Security

1. Data Protection: User data, including personal information and music preferences, should be securely stored and encrypted.
2. Authentication and Authorization: Strong authentication mechanisms (e.g., OAuth 2.0) and role-based access control (RBAC) should be implemented.

3. Secure Communication: All data exchanges between the client and server should use HTTPS to ensure secure communication.

5.4.4 Usability

1. User Interface: The app should have an intuitive, user-friendly interface that is easy to navigate.
2. Accessibility: The app should comply with accessibility standards (e.g., WCAG 2.1) to ensure it is usable by people with disabilities.
3. Responsiveness: The app should be responsive and work well on various devices and screen sizes.

5.4.5 Maintainability

1. Code Quality: The codebase should be well-documented, modular, and adhere to coding standards to facilitate easy maintenance and updates.
2. Testing: Comprehensive unit, integration, and end-to-end tests should be in place to ensure the app's functionality and reliability.
3. Continuous Integration/Continuous Deployment (CI/CD): Implement CI/CD pipelines to automate testing and deployment processes.

5.4.6 Compatibility

1. Browser Compatibility: The app should work seamlessly across all major browsers (e.g., Chrome, Firefox, Safari, Edge).
2. Device Compatibility: The app should function correctly on a range of devices, including desktops, tablets, and smartphones.
3. Operating System Compatibility: The app should be compatible with various operating systems, including Windows, macOS, iOS, and Android.

5.4.7 Scalability

1. Horizontal Scaling: The app should be able to scale horizontally by adding more servers to handle increased load.
2. Vertical Scaling: The app should support vertical scaling to enhance performance by upgrading server resources.

5.5 Constraints and Limitations

5.5.1 Technical Constraints

- Platform Compatibility: The app needs to be compatible across various devices and operating systems (iOS, Android, Windows, macOS, etc.).
- Scalability: The infrastructure should handle increasing numbers of users and data (songs, playlists, etc.) without performance degradation.
- Security: Ensuring user data is protected through encryption, secure authentication methods, and regular security audits.

5.5.2 Legal and Regulatory Constraints

- Licensing: Securing rights to stream, distribute, and sell music legally. This may involve negotiating with record labels, artists, and copyright holders.
- Compliance: Adhering to regional laws regarding data privacy (e.g., GDPR in Europe, CCPA in California) and content distribution.
- Accessibility: Meeting accessibility standards to ensure the app is usable by people with disabilities (e.g., WCAG compliance).

5.5.3 Financial Constraints

- Budget: Managing development costs, licensing fees, marketing expenses, and ongoing operational costs.

5.5.4 Time Constraints

- Development Timeline: Establishing realistic deadlines for various stages of the project (design, development, testing, launch).
- Market Timing: Releasing the app in a timely manner to capitalize on market opportunities or to avoid missing critical windows (e.g., holiday season, music festival seasons).

5.5.5 Resource Constraints

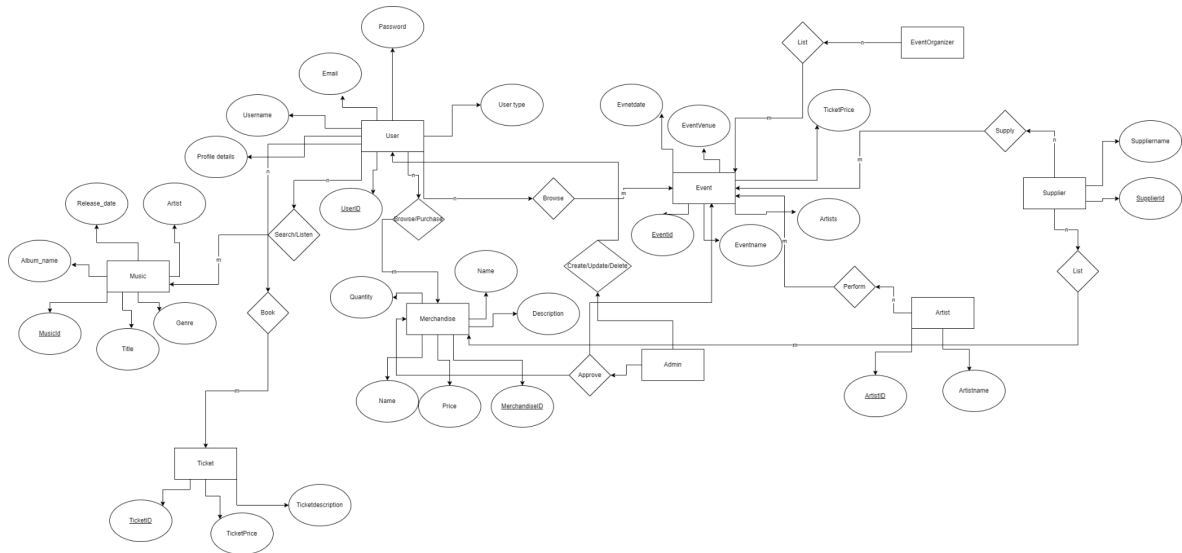
- Human Resources: Ensuring the availability of skilled developers, designers, project managers, and other necessary personnel.
- Technology Resources: Access to necessary development tools, servers, and software.
- Content Resources: Availability of a comprehensive music library and other media resources needed for the app.

5.5.6 User Constraints

- User Experience: Ensuring the app is user-friendly, intuitive, and engaging.
- Feedback and Support: Implementing mechanisms for user feedback and providing timely customer support.

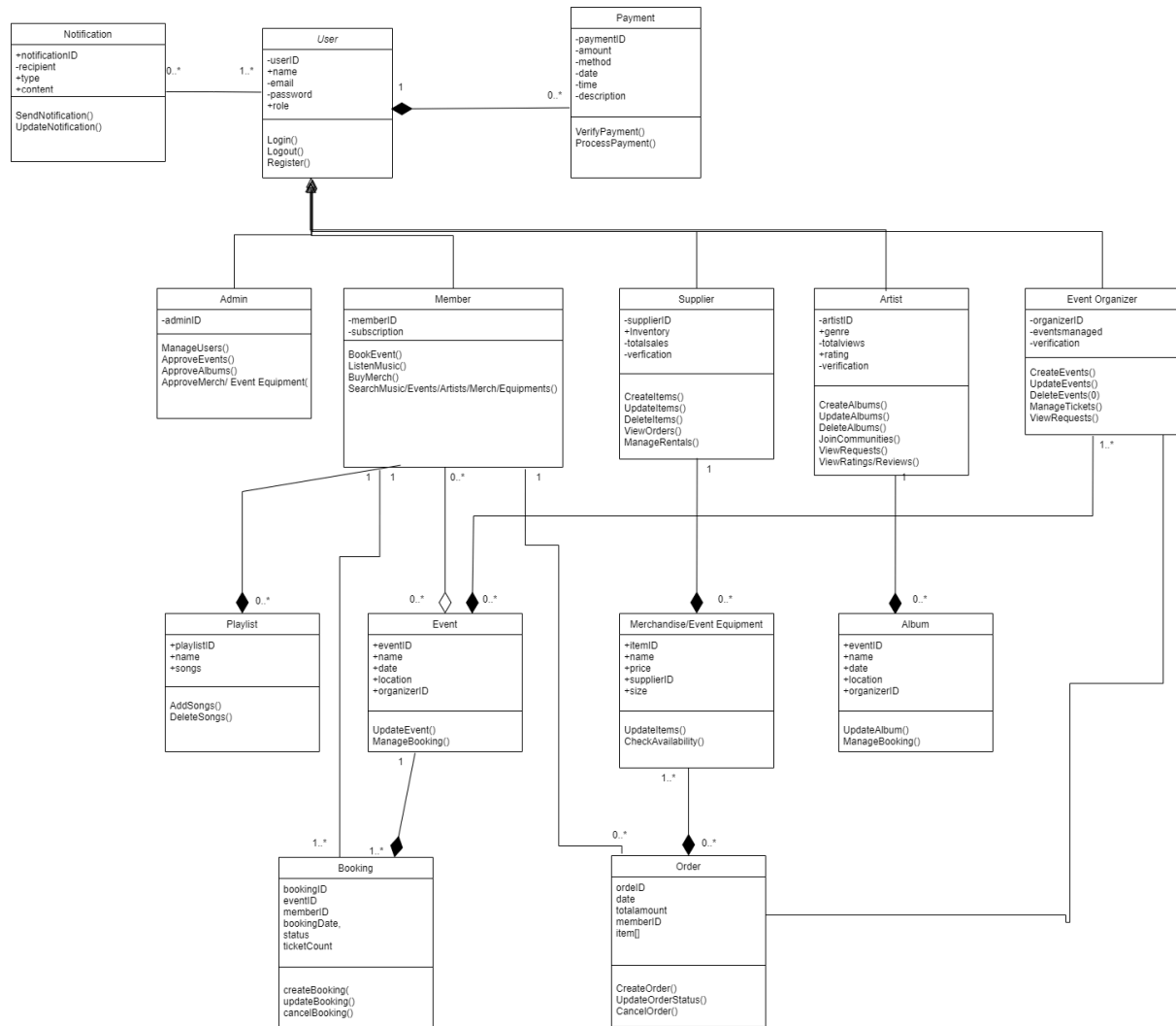
6. System Design Diagrams

6.1 ER Diagram

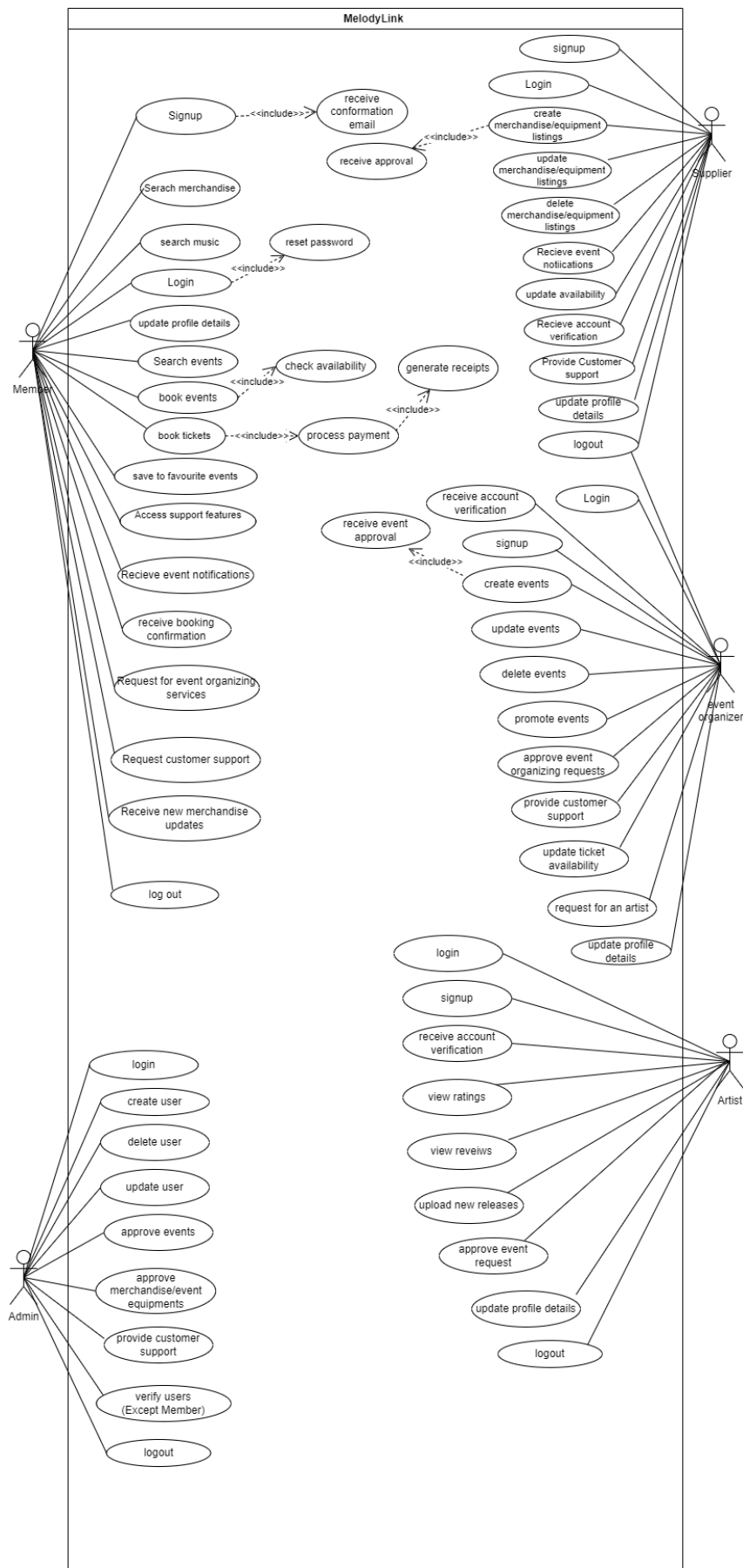


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6.2 Class Diagram



6.3 Use Case Diagram



Use Case ID	01
Use Case Name	Sign Up
Primary Actor/s	Guest User, Registered User, Suppliers, Event Organizers, Artists
Description	The user creates an account on the platform.
Pre-Conditions	All so The user has access to the music application's signup page.
Main Scenario	<ul style="list-style-type: none"> • User visits the website • Select the "Sign Up" option • Creates a unique username • Creates password
Exceptions	<ul style="list-style-type: none"> • Username is one that already exists • Password doesn't contain at least one number and one special character • The password is too short
Post-Conditions	A new user account has been added and receives confirmation email.

Use Case ID	02
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Use Case Name	Search events
Primary Actor/s	Guest User, Registered User
Description	Allow users to search events by date, venue, artist and time.
Pre-Conditions	The user has access to the music application.
Main Scenario	<ul style="list-style-type: none"> • User visits the events page • User searches and filtered out the event he is interested, filtered according to his liking • Melody link displays the filtered out event listings
Exceptions	None
Post-Conditions	None

Use Case ID	03
Use Case Name	Browse merchandise/ equipments

Primary Actor/s	Guest User, Member
Description	To purchase merchandise related to a favorite music artist or band
Pre-Conditions	User needs to be logged in
Main Scenario	<ul style="list-style-type: none"> • Visit the website • Search merchandise and event equipment. • View details of the merchandise and event equipment.
Exceptions	None
Post-Conditions	None

Use Case ID	04
Use Case Name	Search Music
Primary Actor/s	Guest User, Member

Description	Allow users to search a wide variety of songs from different artists and genres.
Pre-Conditions	None
Main Scenario	<ul style="list-style-type: none"> • Visit the website • Filter by song, artist, genre • View details of the interested song.
Exceptions	None
Post-Conditions	Filters will reset for subsequent visits.

Use Case ID	05
Use Case Name	Login

Primary Actor/s	Admin, Member, Suppliers, Event Organizers, Artists
Description	Users can log in to the system.
Pre-Conditions	Users need to have a username and a password.
Main Scenario	<ul style="list-style-type: none"> · Click on the login button. · Enter username and Password. · If the username and password are correct, then will display the home page.
Exceptions	<ul style="list-style-type: none"> ● Username is incorrect ● Password is incorrect ● User is already signed in ● User entered the incorrect password more than 5 times
Post-Conditions	The user is logged in

Use Case ID	06
Use Case Name	Update profile details
Primary Actor/s	Member, supplier, event organizer, artist
Description	Allow users to update, view and delete personal details.
Pre-Conditions	Users need to log into the system.
Main Scenario	<ul style="list-style-type: none"> • Click on the Profile button. • Select Delete, Update, or View. • After doing the task click save.
Exceptions	<ul style="list-style-type: none"> • When the internet connection breaks down, showing connection error. • Validation error.
Post-Conditions	<p>Profile details updated.</p> <p>Receive confirmation message.</p>

Use Case Id	07
Use Case Name	Search events
Primary Actor	Member,guest user
Description	The Member searches for events by entering keywords related to event names, locations, or dates.
Pre-Conditions	The Member must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. The Member navigates to the search events page. 2. The Member enters the search keywords. 3. The system processes the keywords and retrieves matching events. 4. The system displays the search results to the Member
Exceptions	The system displays an error message if no matching events are found.
Post-Conditions	The search results are displayed to the Member

Use Case Id	08
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Use Case Name	Book events
Primary Actor	Member
Description	The Member books tickets for events.
Pre-Conditions	The Member must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. User navigates to the events page. 2. System displays a list of available events. 3. Include:User searches and filters out the event he/she is interested 4. User selects the event to view its details. 5. System displays the event details, including date, time, location, and availability. 6. User clicks on the "Book Now" button. 7. System displays a booking form. 8. User fills in the booking details (e.g., number of tickets, attendee information). 9. User submits the booking form. 10. System validates the booking details. 11. System processes the booking and confirms availability. 12. Include:User is redirected to a payment gateway where he does the online payment 13. System saves the booking details. 14. System sends a confirmation email to the user. <p>System displays a confirmation message to the user indicating that the event has been booked successfully.</p>
Exceptions	Event Fully Booked:

	<ol style="list-style-type: none"> 1. System shows a message indicating that the event is fully booked. 2. Users can choose to be added to a waiting list if available. <p>Payment Failure:</p> <ol style="list-style-type: none"> 1. System encounters an error during payment processing. <p>System shows an error message indicating that the payment failed and prompts the user to try again or use a different payment method</p>
Post-Conditions	<p>The event is booked successfully by the user.</p> <p>The user receives a confirmation of the booking.</p> <p>The booking details are saved in the system.</p>

Use Case Id	09
Use Case Name	Book tickets
Primary Actor	Member
Description	This use case describes how a member books tickets for an event through the MelodyLink platform.

Pre-Conditions	Member must be logged into the system. Events must be available for booking.
Main Scenario	<ol style="list-style-type: none"> 1. Member navigates to the "Events" section. 2. Member searches for an event. 3. System displays search results. 4. Member selects an event from the search results. 5. System displays event details. 6. Member selects the type and number of tickets. 7. System checks ticket availability. 8. Member proceeds to checkout. 9. Member enters payment details. 10. System processes the payment. 11. System generates a receipt. 12. System confirms the booking and sends a confirmation to the member.
Exceptions	<ol style="list-style-type: none"> 1. Event is sold out (System displays a sold-out message).

	2. Payment processing fails (System displays a payment error message and allows the member to retry).
Post-Conditions	Ticket booking is confirmed, and the member receives a confirmation message and receipt

Use Case Id	10
Use Case Name	Browse merchandise/ equipments
Primary Actor	member
Description	This use case describes how a member browses merchandise and equipment available on the MelodyLink platform.
Pre-Conditions	Member must be logged into the system. Merchandise and equipment must be available in the store.
Main Scenario	<ol style="list-style-type: none"> 1. Member navigates to the "Store" section. 2. System displays categories of merchandise and equipment. 3. Member selects a category. 4. System displays a list of items in the

	<p>selected category.</p> <p>5. Member can filter and sort items based on various criteria (e.g., price, popularity).</p> <p>6. Member selects an item to view details.</p> <p>7. System displays detailed information about the selected item, including images, description, price, and availability.</p>
Exceptions	<p>1. No items available in the selected category (System displays a message indicating no items found).</p>
Post-Conditions	None

Use Case Id	11
Use Case Name	Buy merchandise
Primary Actor	Member
Description	This use case describes how a member purchases merchandise from the MelodyLink platform.
Pre-Conditions	

	<p>Member must be logged into the system. Merchandise must be available for purchase. Member must have items in the shopping cart.</p>
Main Scenario	<p>Member navigates to the shopping cart.</p> <p>System displays the items in the cart, including quantities and prices.</p> <p>3. Member reviews the cart and makes any necessary adjustments (e.g., change quantity, remove items).</p> <p>4. Member proceeds to checkout.</p> <p>5. System prompts the member to enter shipping details.</p> <p>6. Member enters and confirms shipping details.</p> <p>7. System prompts the member to enter payment information.</p> <p>8. Member enters and confirms payment information.</p> <p>9. System processes the payment.</p> <p>10. System generates an order confirmation and receipt.</p> <p>11. System sends order confirmation and receipt to the member via email.</p>

Exceptions	1. Payment processing fails (System displays a payment error message and allows the member to retry).
Post-Conditions	Member's order is confirmed, payment is processed, and the member receives a confirmation message and receipt. The system updates the inventory.

Use Case Id	12
Use Case Name	Rent equipments
Primary Actor	member
Description	This use case describes how a member rents equipment from the MelodyLink platform.
Pre-Conditions	Member must be logged into the system. Equipment must be available for rent. Member must have selected equipment to rent.
Main Scenario	<p>1. Member navigates to the "Store" section and selects the "Equipment Rental" category.</p> <p>2. System displays available equipment for rent.</p>

	<p>3. Member selects equipment and views detailed information about the selected item, including rental terms, price, and availability.</p> <p>4. Member adds the equipment to the rental cart.</p> <p>5. Member reviews the rental cart and proceeds to checkout.</p> <p>6. System prompts the member to enter rental period details.</p> <p>7. Member enters and confirms rental period details.</p> <p>8. System prompts the member to enter payment information.</p> <p>9. Member enters and confirms payment information.</p> <p>10. System processes the payment.</p> <p>11. System generates a rental confirmation and receipt.</p> <p>12. System sends rental confirmation and receipt to the member via email.</p>
Exceptions	<p>1. Equipment not available for the selected rental period (System displays a message indicating unavailability).</p> <p>2. Payment processing fails (System displays a payment error message and allows the member to retry).</p>

Post-Conditions	Member's rental is confirmed, payment is processed, and the member receives a confirmation message and receipt. The system updates the inventory and rental records.
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Use Case Id	13
Use Case Name	Create playlist (On Hold)
Primary Actor	Member
Description	The Member creates a new playlist by adding selected songs.
Pre-Conditions	The Member must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. The Member navigates to the playlist page. 2. The Member clicks on "Create Playlist". 3. The Member adds songs to the playlist. 4. The Member saves the playlist.
Exceptions	The system displays an error message if the playlist creation fails.
Post-Conditions	The new playlist is saved and displayed to the Member.

Use Case Id	14
Use Case Name	Save to favourite events

Primary Actor	Member
Description	This use case describes how a member saves events to their list of favourite events on the MelodyLink platform.
Pre-Conditions	Member must be logged into the system. Events must be available for viewing and saving.
Main Scenario	<ol style="list-style-type: none"> 1. Member navigates to the "Events" section. 2. System displays a list of upcoming events. 3. Member selects an event they are interested in. 4. System displays detailed information about the selected event. 5. Member clicks the "Save to Favourite Events" button. 6. System confirms the event has been saved to the member's favourites list. 7. Member can view their list of favourite events in their profile.
Exceptions	<ol style="list-style-type: none"> 1. System error occurs while saving the event (System displays an error message and the event is not saved).
Post-Conditions	The selected event is added to the member's list of favourite events. The member can access their favourite events list from their

	profile.
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Use Case Id	15
Use Case Name	Access support features
Primary Actor	Member
Description	The Member accesses support features to get help with issues or questions.
Pre-Conditions	The Member must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. The Member navigates to the support page. 2. The Member views the available support options. 3. The Member selects a support feature to use (e.g., FAQs, live chat).
Exceptions	<p>Inability to contact any support person due to insufficient support personnel to handle issue</p> <p>Connection issue might disrupt communication among user and support</p>
Post-Conditions	The Member accesses the selected support feature.

Use Case Id	16
Use Case Name	Receive event notifications

Primary Actor	member
Description	The Member receives notifications about upcoming events.
Pre-Conditions	The Member must be logged in and subscribed to event notifications.
Main Scenario	<ol style="list-style-type: none"> 1. The system detects an upcoming event. 2. The system sends a notification to the Member. 3. The Member receives the notification.
Exceptions	The Member does not receive the notification if they are not subscribed.
Post-Conditions	The Member is notified about the upcoming event.

Use Case Id	17
Use Case Name	Receive booking confirmation
Primary Actor	Member
Description	This use case describes how a member receives a booking confirmation after successfully booking an event on the MelodyLink platform.
Pre-Conditions	<p>Member must be logged into the system.</p> <p>Member must have successfully booked an event.</p>

Main Scenario	<ol style="list-style-type: none"> 1. Member navigates to the "Events" section and selects an event to book. 2. System displays detailed information about the selected event. 3. Member proceeds to book the event by completing the booking process (selecting seats, entering payment information, etc.). 4. System processes the booking and payment. 5. System generates a booking confirmation and receipt. 6. System sends the booking confirmation and receipt to the member via email. 7. Member receives a notification within the MelodyLink platform confirming the booking. 8. Member can view the booking confirmation details in their profile under "My Bookings".
Exceptions	<ol style="list-style-type: none"> 1. Payment processing fails (System displays a payment error message and allows the member to retry). 2. System error occurs during booking process (System displays an error message and the booking is not completed).

Post-Conditions	Member receives a booking confirmation via email and within the MelodyLink platform. The booking details are accessible in the member's profile under "My Bookings"

Use Case Id	18
Use Case Name	Request for event organizing services
Primary Actor	member
Description	The Member requests services for organizing an event.
Pre-Conditions	The Member must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. The Member navigates to the event organizing page. 2. The Member fills out the event organizing request form. 3. The Member submits the request. 4. The system processes and confirms the request.
Exceptions	The system displays an error message if the request submission fails.
Post-Conditions	The event organizing request is submitted and confirmed.

Use Case Id	19
Use Case Name	Request customer support(On hold)
Primary Actor	member
Description	The Member requests support for issues or inquiries.
Pre-Conditions	The Member must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. The Member navigates to the support page. 2. The Member selects a support option (e.g., live chat, email support). 3. The Member submits their support request. 4. The system processes the request and provides support.
Exceptions	The system displays an error message if the support request submission fails.
Post-Conditions	The support request is submitted and processed.

Use Case Id	20
Use Case Name	Receive new merchandise updates
Primary Actor	Member

Description	The Member receives updates about new merchandise.
Pre-Conditions	The Member must be logged in and subscribed to merchandise updates.
Main Scenario	<ol style="list-style-type: none"> 1. The system detects new merchandise. 2. The system sends an update notification to the Member. 3. The Member receives the update notification.
Exceptions	The Member does not receive the update if they are not subscribed.
Post-Conditions	The Member is notified about new merchandise.

Use Case Id	21
Use Case Name	logout
Primary Actor	Member, Admin, Supplier, event organizer, artist
Description	Allows users to securely log out of the application
Pre-Conditions	Users must be logged in
Main Scenario	<ol style="list-style-type: none"> 1. User selects the logout options. 2. System ends the user's session. 3. User is redirected to the login page or home page.
Exceptions	<ol style="list-style-type: none"> 1. System fails to end the session due to a server error.

Post-Conditions	User is logged out and the session is terminated
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Use Case Id	22
Use Case Name	Create user
Primary Actor	Admin
Description	Create new user accounts
Pre-Conditions	Admin must be logged in.
Main Scenario	1. Provide details for new users. 2. System creates the user account.
Exceptions	Validation errors in user details. Email already registered.
Post-Conditions	New user accounts are created and active.

Use Case Id	23
Use Case Name	Delete user
Primary Actor	Admin
Description	Delete existing user accounts
Pre-Conditions	Admin must be logged in.

Main Scenario	<ol style="list-style-type: none"> 1. Select a user account to delete. 2. System removes the user account.
Exceptions	User account not found. Unauthorized access.
Post-Conditions	User accounts are removed from the system.

Use Case Id	24
Use Case Name	Update user
Primary Actor	Admin
Description	Update details of existing user accounts
Pre-Conditions	Admin must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. Select a user account to update. 2. Modify user details. 3. System saves updated information.
Exceptions	User account not found. Validation errors in updated details.
Post-Conditions	User account details are updated.

Use Case Id	25
Use Case Name	Approve events
Primary Actor	Admin
Description	Admin approves events submitted by users or organizers.
Pre-Conditions	Admin must be logged in. Events must be submitted and pending approval.
Main Scenario	<ol style="list-style-type: none"> 1. Admin navigates to the event approval section. 2. Admin reviews submitted events. 3. Admin approves or rejects events. 4. System updates the event status and notifies the submitter.
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Event status is updates, and submitter is notified.

Use Case Id	26
Use Case Name	Approve merchandise /event equipments

Primary Actor	Admin
Description	Admin approves merchandise and event equipment listings submitted by vendors.
Pre-Conditions	Admin must be logged in. Listings must be submitted and pending approval.
Main Scenario	<ol style="list-style-type: none"> 1. Admin navigates to the merchandise/equipment approval section. 2. Admin reviews submitted listings. 3. Admin approves or rejects listings. 4. System updates the listing status and notifies the submitter.
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Listing status is updated, and submitter is notified.

Use Case Id	27
Use Case Name	Provide customer support
Primary Actor	Admin
Description	Admin provides customer support to

	users.
Pre-Conditions	Admin must be logged in. Users must have submitted support requests.
Main Scenario	<ol style="list-style-type: none"> 1. Admin navigates to the customer support section. 2. Admin reviews support requests. 3. Admin responds to support requests. 4. System logs the support interaction.
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Support requests are addressed ,and interactions are logged.

Use Case Id	28
Use Case Name	Verify supplier event organizer accounts

Primary Actor	Admin
Description	Admin verifies and approves supplier and event organizer accounts.
Pre-Conditions	Admin must be logged in. Accounts must be pending verification.
Main Scenario	<ol style="list-style-type: none"> 1. Admin navigates to the account verification section. 2. Admin reviews supplier/event organizer accounts. 3. Admin verifies and approves accounts. 4. System updates the account status and notifies the submitter.
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Account status is updated, and submitter is notified.

Use Case Id	29
Use Case Name	Create merchandise/equipment listings
Primary Actor	Supplier
Description	Supplier creates new listings for merchandise or event equipment.
Pre-Conditions	Supplier must be logged in.
Main Scenario	<ol style="list-style-type: none"> 1. Supplier navigates to the listing creation section. 2. Supplier enters listing details (e.g., product name, description, price). 3. Supplier submits the listing. 4. System saves the listing and marks it as pending approval.
Exceptions	<ol style="list-style-type: none"> 1. Missing required information (System prompts supplier to complete required fields).
Post-Conditions	New listing is created and pending approval from admin.

Use Case Id	30
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Use Case Name	Update merchandise/ equipment listings
Primary Actor	Supplier
Description	Supplier updates existing merchandise or event equipment listings.
Pre-Conditions	Supplier must be logged in. Listings must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Supplier navigates to the listing management section. 2. Supplier selects a listing to update. 3. Supplier updates listing details. 4. System saves the updated listing and marks it as pending approval.
Exceptions	<ol style="list-style-type: none"> 1. Missing required information (System prompts supplier to complete required fields).
Post-Conditions	Listing is updated and pending approval from admin.

Use Case Id	31
Use Case Name	Delete merchandise/ equipment listings
Primary Actor	supplier

Description	Deletes existing merchandise or event equipment listings.
Pre-Conditions	Supplier must be logged in. Listings must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Supplier navigates to the listing management section. 2. Supplier selects a listing to delete. 3. Supplier confirms the deletion. 4. System removes the listing.
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Listing is removed from the system

Use Case Id	32
Use Case Name	Receive event notifications
Primary Actor	Supplier

Description	Supplier receives notifications about upcoming events
Pre-Conditions	Supplier must be logged in. Events must be scheduled
Main Scenario	<ol style="list-style-type: none"> 1. System sends event notifications to the supplier. 2. Supplier receives notifications via email or in-app alerts. 3. Supplier views the event details.
Exceptions	System error (System fails to send notifications).
Post-Conditions	Supplier is informed about upcoming events.

Use Case Id	32
Use Case Name	Update availability
Primary Actor	Supplier
Description	Supplier updates the availability status of their merchandise or equipment.
Pre-Conditions	Supplier must be logged in. Listings must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Supplier navigates to the availability management section. 2. Supplier updates the availability status. 3. System saves the updated status.

Exceptions	System error (System displays an error message)
Post-Conditions	Availability status is updated in the system

Use Case Id	33
Use Case Name	Receive account verification
Primary Actor	Supplier, event organizer, artist
Description	User receives notification about their account verification status
Pre-Conditions	User must have submitted an account for verification.
Main Scenario	<ol style="list-style-type: none"> 1. System verifies the user's account. 2. System sends verification status notification to the user. 3. User receives the notification and checks the status.
Exceptions	1. System error (System fails to send notifications).
Post-Conditions	User is informed about the verification status of their account.

Use Case Id	34
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Use Case Name	Provide customer support
Primary Actor	Supplier
Description	Supplier provides customer support to their clients
Pre-Conditions	Supplier must be logged in. Customers must have submitted support requests
Main Scenario	<ol style="list-style-type: none"> 1. Supplier navigates to the customer support section. 2. Supplier reviews support requests. 3. Supplier responds to support requests. 4. System logs the support interaction.
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Support requests are addressed, and interactions are logged.

Use Case Id	35
Use Case Name	Create events
Primary Actor	Event organizer
Description	Event organizer creates new events on the platform.
Pre-Conditions	Event Organizer must be logged in.

Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the event creation section. 2. Event Organizer enters event details (e.g., event name, date, location). 3. Event Organizer submits the event. 4. System saves the event and marks it as pending approval.
Exceptions	Missing required information (System prompts Event Organizer to complete required fields).
Post-Conditions	New event is created and pending approval from the admin.

Use Case Id	36
Use Case Name	Update events
Primary Actor	Event Organizer
Description	Event Organizer updates existing events
Pre-Conditions	Event Organizer must be logged in. Events must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the event management section. 2. Event Organizer selects an event to update. 3. Event Organizer updates event details. 4. System saves the updated event and

	marks it as pending approval.
Exceptions	1. Missing required information (System prompts Event Organizer to complete required fields).
Post-Conditions	Event is updated and pending approval from the admin.

Use Case Id	37
Use Case Name	Delete events
Primary Actor	Event Organizer
Description	Event Organizer deletes existing events.
Pre-Conditions	Event Organizer must be logged in. Events must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the event management section. 2. Event Organizer selects an event to delete. 3. Event Organizer confirms the deletion. 4. System removes the event.
Exceptions	1. System error (System displays an error message).
Post-Conditions	Event is removed from the system.

Use Case Id	38
Use Case Name	Promote events
Primary Actor	Event Organizer
Description	Event Organizer promotes events through the platform
Pre-Conditions	Event Organizer must be logged in. Events must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the event promotion section. 2. Event Organizer selects an event to promote. 3. Event Organizer chooses promotion options. 4. System processes the promotion request
Exceptions	<ol style="list-style-type: none"> 1. System error (System displays an error message).
Post-Conditions	Event is promoted as per the selected options.

Use Case Id	39
Use Case Name	Rent equipments from supplier
Primary Actor	Event Organizer
Description	Event Organizer rents event equipment from suppliers

Pre-Conditions	Event Organizer must be logged in. Suppliers must have listed equipment
Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the equipment rental section. 2. Event Organizer selects equipment to rent. 3. Event Organizer submits the rental request. 4. System processes the rental request
Exceptions	1. Equipment not available (System displays an error message).
Post-Conditions	Equipment rental request is processed and confirmed.

Use Case Id	40
Use Case Name	Approve event organizing requests.
Primary Actor	Event Organizer.
Description	Event Organizer approves requests from users to organize events.
Pre-Conditions	<p>Event Organizer must be logged in.</p> <p>Users must have submitted organizing requests.</p>
Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the request management section. 2. Event Organizer reviews organizing requests.

	3. Event Organizer approves or rejects requests. 4. System updates the request status.
Exceptions	1. System error (System displays an error message).
Post-Conditions	Organizing requests are approved or rejected, and users are notified.

Use Case Id	41
Use Case Name	Provide customer support
Primary Actor	Event Organizer
Description	Event Organizer provides customer support to users.
Pre-Conditions	Event Organizer must be logged in. Users must have submitted support requests.
Main Scenario	1. Event Organizer navigates to the customer support section. 2. Event Organizer reviews support requests. 3. Event Organizer responds to support requests. 4. System logs the support interaction
Exceptions	1. System error (System displays an error message).
Post-Conditions	Support requests are addressed, and interactions are logged.

Use Case Id	42
Use Case Name	Update ticket availability
Primary Actor	Event Organizer
Description	Event Organizer updates the availability status of event tickets
Pre-Conditions	Event Organizer must be logged in. Events must exist.
Main Scenario	<ol style="list-style-type: none"> 1. Event Organizer navigates to the ticket management section 2. Event Organizer updates the availability status. 3. System saves the updated status.
Exceptions	System error (System displays an error message).
Post-Conditions	Ticket availability status is updated in the system.

Use Case Id	43
Use Case Name	Upload new releases (On Hold)
Primary Actor	Artist
Description	The artist uploads new music releases or other creative works to the platform for public distribution.

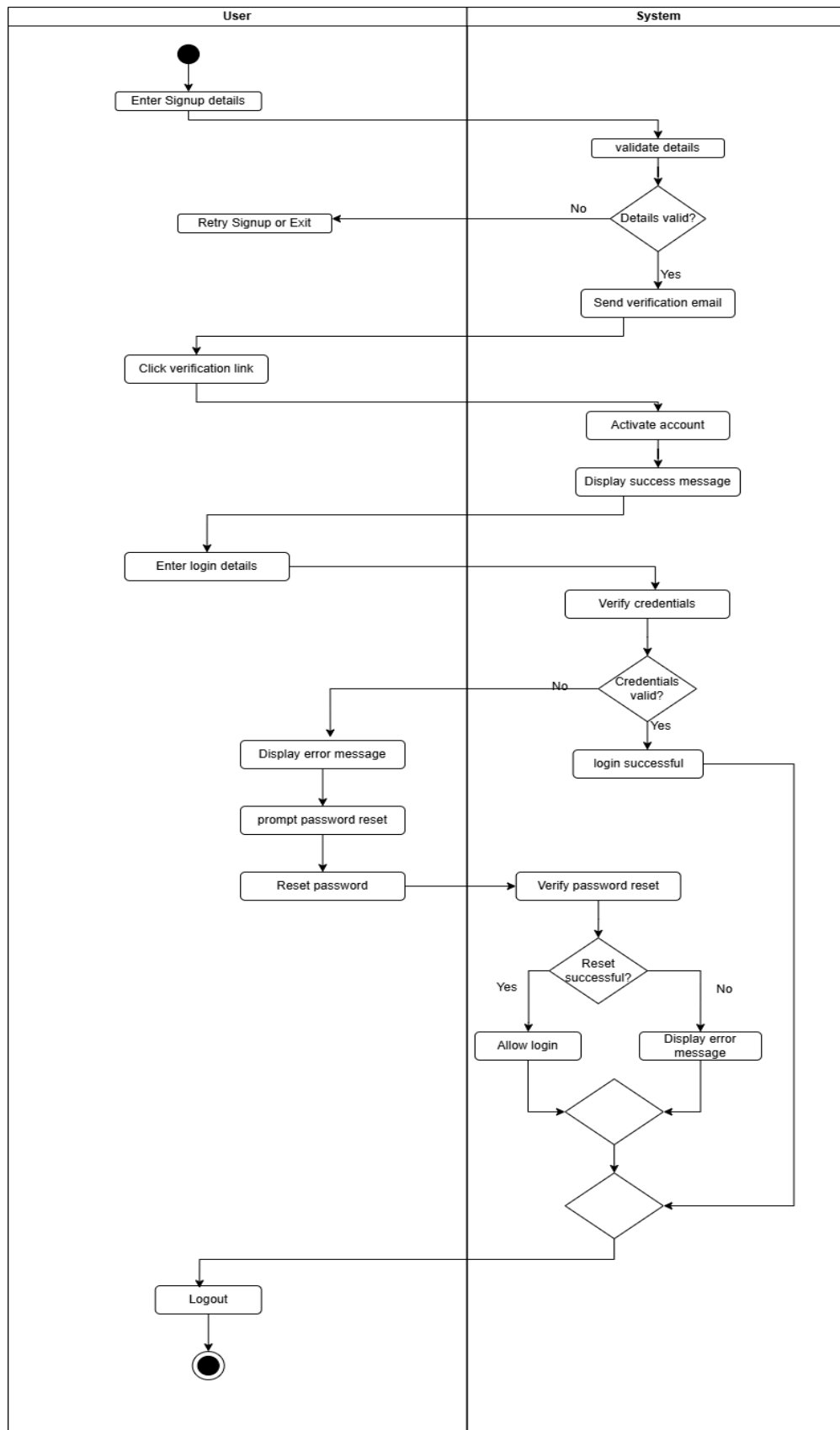
Pre-Conditions	<p>Artist must be logged into the platform.</p> <p>Artist must have new releases ready for upload.</p>
Main Scenario	<p>Artist logs into the platform.</p> <p>Artist navigates to the upload section.</p> <p>Artist selects the files or content to be uploaded (e.g., audio files, artwork, descriptions).</p> <p>System validates the uploaded content (format, size, etc.).</p> <p>Artist confirms the upload.</p> <p>System processes and stores the new releases on the platform.</p> <p>Platform notifies users and updates content availability.</p>
Exceptions	<p>Invalid file format or size (System prompts artist to upload compatible files).</p> <p>Upload failure (System displays an error message and prompts the artist to retry).</p> <p>System error (System displays an error message).</p>
Post-Conditions	<p>New releases are successfully uploaded and available for public access on the platform.</p>

Use Case Id	44
Use Case Name	Approve event request

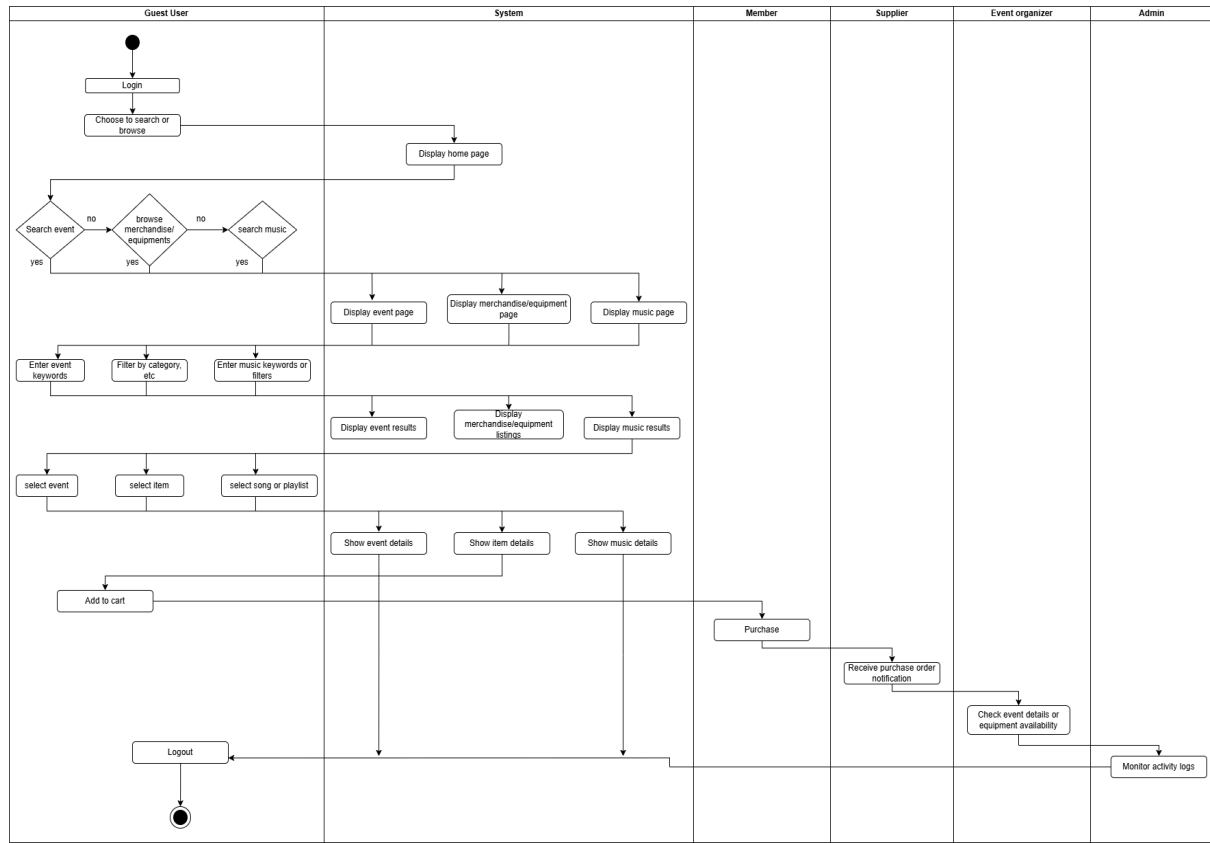
Primary Actor	Artist
Description	The admin approves a request from an artist or organizer to host an event on the platform.
Pre-Conditions	Admin must be logged into the platform. An event request must exist and be pending approval.
Main Scenario	<p>Admin logs into the platform.</p> <p>Admin navigates to the pending event requests section.</p> <p>Admin selects the event request to review.</p> <p>Admin reviews event details, including date, time, location, and purpose.</p> <p>Admin evaluates event relevance and compliance with platform policies.</p> <p>Admin approves the event request.</p> <p>System updates event status to approved.</p> <p>Platform notifies the artist or organizer of approval.</p>
Exceptions	<p>Event request details incomplete or unclear (Admin requests additional information from the artist or organizer).</p> <p>Admin rejects the event request (System notifies artist or organizer with reasons for rejection).</p> <p>System error (System displays an error message).</p>
Post-Conditions	Event request is either approved and scheduled on the platform or rejected with reasons provided to the artist or organizer.

6.4 Activity Diagrams

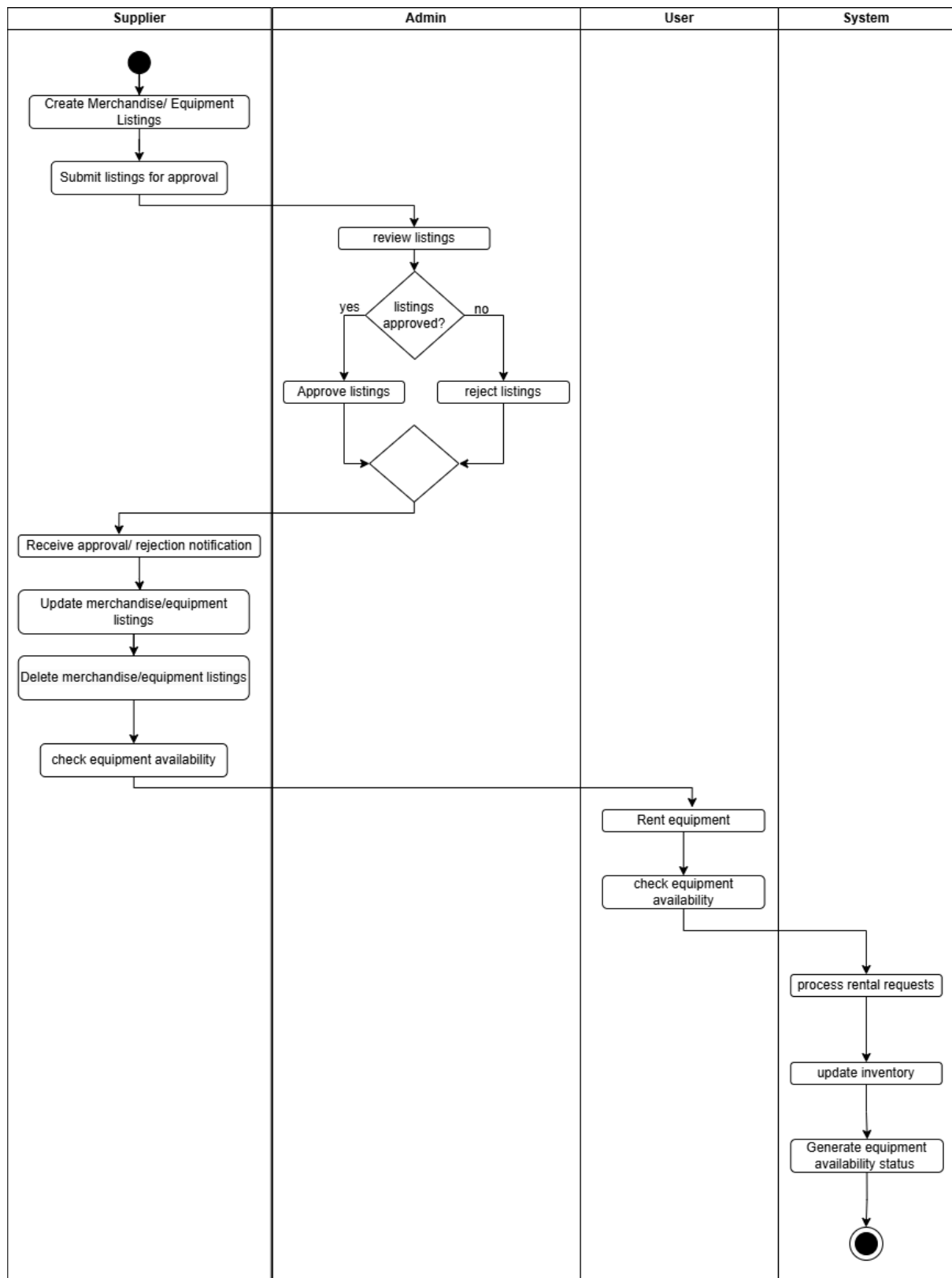
1. Signup and Login



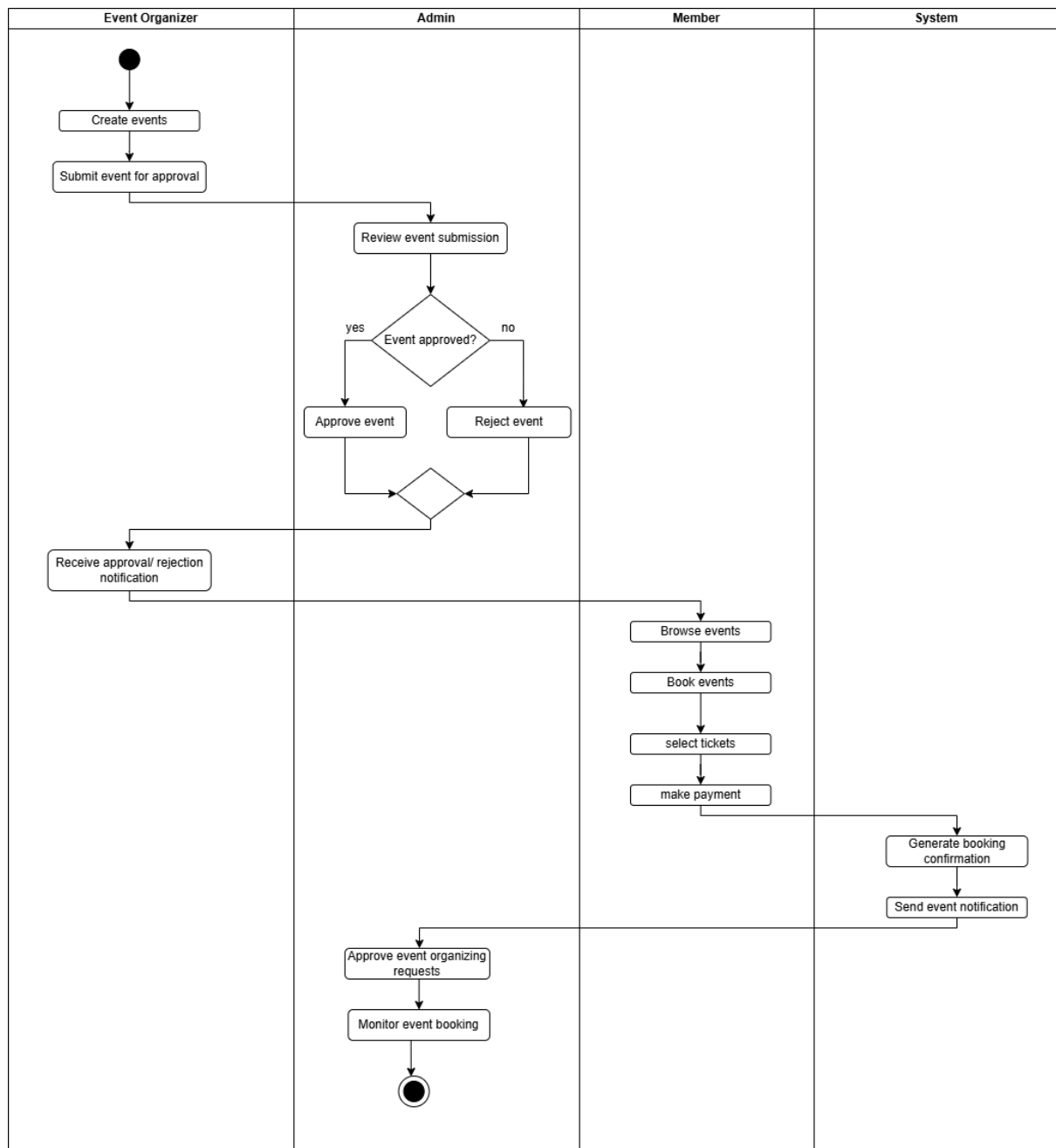
2. Searching and Browsing



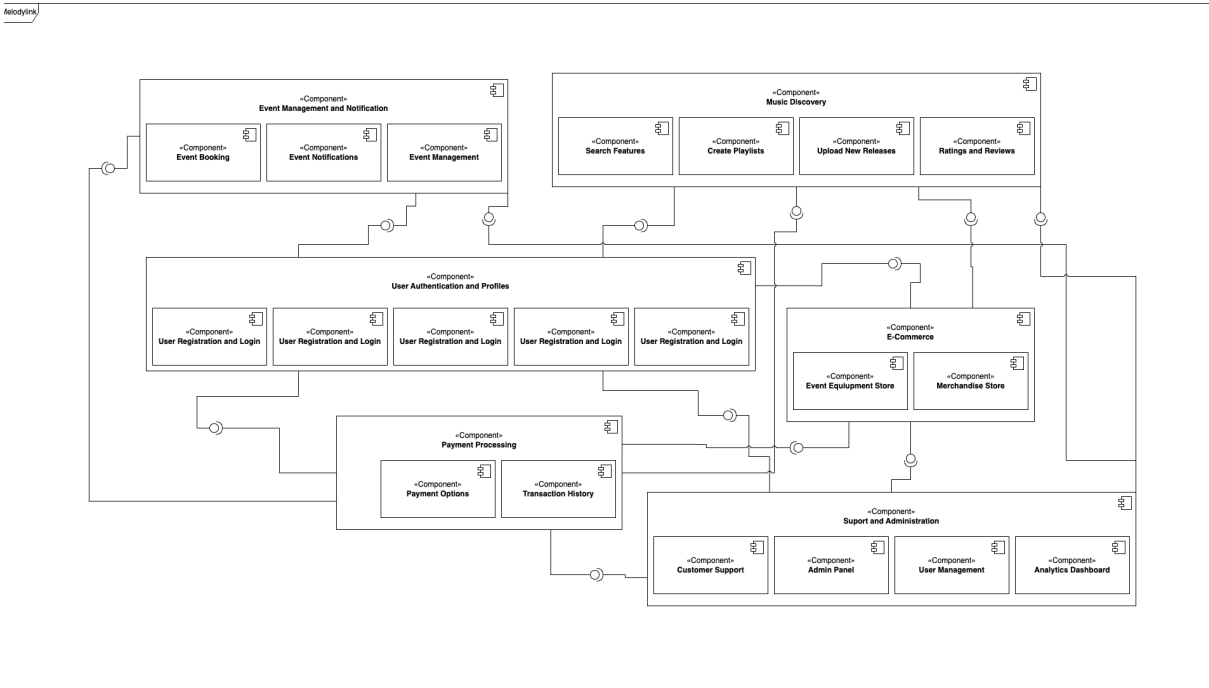
3. Merchandise and Equipment Management



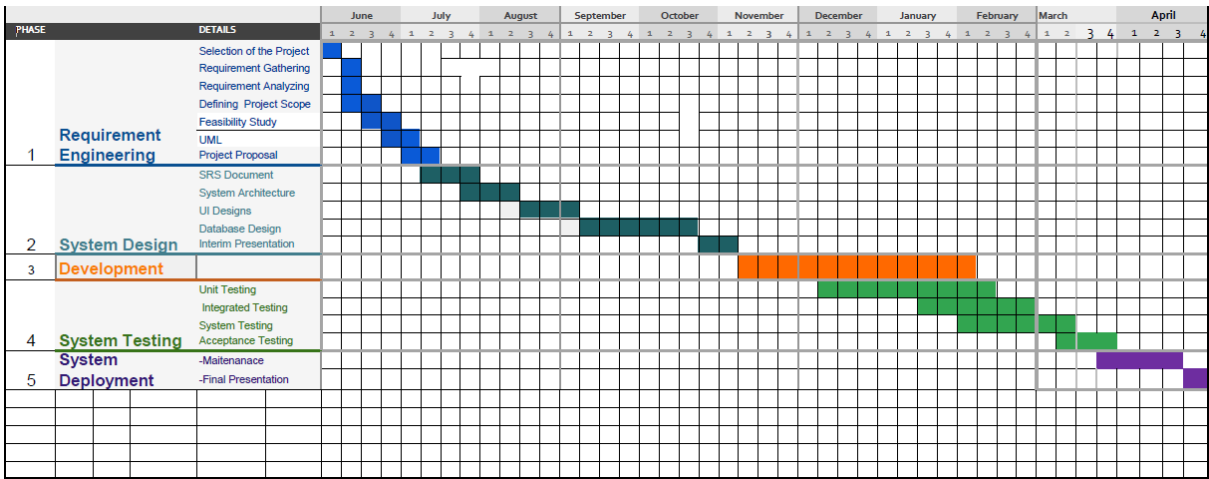
4. Event Management



6.5 Component Diagram



7. Project Timeline



8. Completeness of the Project

8.1 Functionalities Completed

1. User Registration and Login

The user registration and login modules have been developed and tested, for simplified access. Secure password management and recovery features are fully functional. Also has implemented best practices to prevent SQL injections.

2. User Profile Management

- For Users (Members): Users can update their personal details, view their favorite songs(on hold), access ticket information, and manage playlists(on hold) from their profile.
- For Musicians (Partially Implemented and On Hold): Musicians can update their profiles, including their biography. They can also track ratings, reviews, and engagement with their content.
- For Suppliers: Suppliers can manage their merchandise and equipment listings, update availability, and track customer inquiries.
- For Event Organizers: Event organizers can create, update, or delete events from their profile. They can also track ticket sales, manage equipment rentals, and view requests for event-organizing services.

3. Music Search and Discovery (Partially Implemented and On Hold)

Pages with music player functionalities with play and pause functions have been implemented.

4. Event Management

Event listing pages with venue, time and artist performing have been implemented.

4. Merchandise Store

Frontend interfaces for browsing merchandise, viewing product details, and adding items to the shopping cart have been implemented.

6. Admin Panel

A comprehensive admin panel has been developed to manage users, events, content, and system settings. Features such as user verification and article/event approval are functional.

8.2 Functionalities yet to complete

- Customer Support: Implement customer support features, including FAQs to assist users with their issues.
- Payment process.
- Save Functionality.

8.3 Each Member's contribution

Member 1 - 22020071 Ariyarathne U.G.S.T

Student Index Number: 22020071

Student Name: Ariyarathne U.G.S.T

Group Number: IS10

Group Name: Melodylink

Components implemented

1. Member Home Page
2. Member Dashboard
3. Viewing Member's booked and saved events, purchased products and music library
4. Member Profile and Settings
5. Member Music Page View
6. Artist Home Page
7. Artist Dashboard
8. Viewing Artist's released songs, rating and reviews, communities, and event organizer requests.
9. Testing

Description of the Component(s):

1. Member Home Page

Designed and implemented the main landing page for members after login. It that display quick access to key features.

2. Member Dashboard

Developed the member dashboard with personalized stats and navigation.

This included integrating music library access, event bookings, and product purchases.

3. **Viewing Member's booked and saved events, purchased products and music library**

Implemented viewing of booked and saved events for members and developed functionality to view purchased product details. And built the member music library to view personalized playlists.

4. **Member Profile and Settings**

Developed the member profile management module, allowing users to view and update their personal information, change passwords, and manage their account settings.

5. **Member Music Page**

Designed the music detail view for members with viewing popular artist and popular albums with search functionality.

6. **Artist Home Page**

Developed the artist home page with quick stats and actions.

7. **Artist Dashboard**

Implemented the artist dashboard, including stats, recent releases, and communities.

8. **Viewing Artist's released songs, rating and reviews, communities, and event organizer requests.**

Implemented the interface and backend logic for artists to add, edit, and delete their music releases (albums/songs), including file upload handling and validation. Each release card supports edit and delete actions, and the UI is optimized for responsiveness and ease of use. And developed modules for artists to view their ratings and reviews, join and interact with communities, and respond to event organizer requests, supporting artist-fan engagement and collaboration.

9. **Testing**

Designed and executed test cases for all main user flows and validation scenarios

Member 2 - 22020241 Fonseka W H L

Student Index Number: 22020241

Student Name: Fonseka W H L

Group Number: IS10

Group Name: Melodylink

Components implemented

1. Landing Page
2. Event equipment supplier dashboard
3. Event equipment supplier Profile
4. Event equipment supplier equipments page
5. Filter Options for Event equipments
6. Event equipment supplier requests page
7. Form Validations for equipment adding/updating
8. Testing

Description of the Component(s):

1. Landing Page

The Landing Page serves as the entry point for users, showcasing an overview of the platform's features. It includes navigation links to key sections like supplier dashboards and equipment browsing.

2. Event Equipment Supplier Dashboard

This dashboard provides suppliers with a centralized interface to manage their activities. It displays key metrics like monthly revenue, equipment count, and pending requests.

3. Event Equipment Supplier Profile

The Profile component allows suppliers to view and edit their personal and business information. It includes fields for contact details, business name, and other relevant data.

4. Event Equipment Supplier Equipments Page

This page lists all equipment managed by the supplier, enabling them to add, update, or delete items. It serves as the main hub for equipment inventory management.

5. Filter Options for Event Equipments

Filter Options enable users to sort equipment based on criteria like type. This enhances the user experience by making equipment selection more efficient.

6. Event Equipment Supplier Requests Page

The Requests Page displays incoming requests from event organizers to buy or rent equipment. Suppliers can accept requests and view associated details.

7. Form Validations for Equipment Adding/Updating

This component ensures data integrity by validating inputs when adding or updating equipment. It checks for required fields, valid formats, and logical values like positive quantities.

8. Testing

The Testing component involves creating and executing test cases to verify the functionality of supplier-related features. It ensures reliability and correctness of operations like equipment management and request handling.

Member 3-22020705 Perera M I Y

Student Index Number: 22020705

Student Name: Perera M I Y

Group Number: IS10

Group Name: Melodylink

Components implemented

1. Sign in/Sign up
2. Forgot Password
3. Merchandise viewing
4. Add to cart System
5. Viewing cart, editing and removing items from the cart
6. Real time Email notification system for new merchandise drops
7. Merchandise supplier dashboard
8. Member dashboard
9. Testing

Description of the Component(s):

Sign In / Sign Up

Allows users to securely create an account (Sign Up) or access their existing account (Sign In) using verified credentials like email and password.

Forgot Password

Provides users with an easy way to reset their password via a secure email link if they forget their login credentials.

Merchandise Viewing

Enables users to browse available merchandise items with detailed information, including product images, descriptions, prices, and stock status.

Add to Cart System

Lets users add desired merchandise items to a virtual shopping cart, where selections are saved before proceeding to checkout.

Viewing Cart, Editing, and Removing Items from the Cart

Allows users to view all the items they have added to their cart, update quantities, modify options (like size or color if available), or remove items before final purchase.

Real-Time Email Notification System for New Merchandise Drops

Automatically sends instant email alerts to users when new merchandise is released, keeping them updated and encouraging early purchases.

Merchandise Supplier Dashboard

A dedicated panel for suppliers where they can upload new merchandise, manage existing listings, track stock levels, and view order summaries.

Member Dashboard

A personalized area where members can track their orders, manage account settings, save favorite items, and view recommended merchandise based on their interests.

Testing

The phase where all functionalities (sign-in, shopping cart, notifications, dashboards, etc.) are thoroughly checked for bugs, performance issues, and user experience problems to ensure a smooth and error-free application.

Member 4 - 22020332 Heshan T G D R

Student Index Number: 22020332

Student Name: Heshan T G D R

Group Number: IS10

Group Name: Melodylink

Components Implemented:

1. Event Creation Component
2. Event Updating Component
3. Event Deletion Component

4. Event Management Dashboard
5. Equipment Rental Management
6. User Event Viewing Interface
7. Event Booking System
8. Search and Filter Options for Events
9. Form Validations for Event and Booking Management
10. Testing

Description of the Component(s):

1. **Event Creation Component:** This component allows event organizers to create new events by providing details such as event name, date, time, location, and description. The system includes a form with input fields and validation to ensure all mandatory fields are filled correctly. Upon submission, the event is saved and displayed in the management dashboard.
2. **Event Updating Component:** Event organizers can edit existing events to update details like date, location, or description. The component includes a form pre-populated with the event's current details, with validations to prevent invalid updates (e.g., past dates). Updated events are reflected in the management dashboard and user-facing event listings.
3. **Event Deletion Component:** This component enables organizers to delete events from the system. A confirmation prompt is implemented to prevent accidental deletions. The system restricts deletion of events with active bookings, displaying an error message to the user.
4. **Event Management Dashboard:** A centralized dashboard for event organizers to view, filter, and manage all their events. Events can be filtered by status (e.g., upcoming, completed) and sorted by date or name. The dashboard displays key event details and provides quick access to edit or delete options.
5. **Equipment Rental Management:** This component allows organizers to rent equipment (e.g., speakers, chairs) for their events. Organizers can select equipment from an inventory, check availability, and confirm rentals. The system prevents renting unavailable equipment and links rental details to the respective event.
6. **User Event Viewing Interface:** Regular users can browse all published events through a dedicated interface. The component displays event details (e.g., name, date, location) in a user-friendly format, with options to view additional details or proceed to booking.

7. **Event Booking System:** Users can book available events through this component. The system checks for slot availability and confirms bookings, displaying a confirmation message and adding the booking to the user's profile. It prevents booking for fully booked events with an appropriate error message.
8. **Search and Filter Options for Events:** Users can search for events using keywords (e.g., event name or location) and filter events by criteria such as date or category. The component ensures relevant events are displayed based on the search query or filter applied, improving user experience.
9. **Form Validations for Event and Booking Management:** All forms (e.g., event creation, updating, equipment rental, and booking) include client-side and server-side validations to ensure data integrity. Examples include checking for valid dates, mandatory fields, and correct formats (e.g., email or phone number). Error messages guide users to correct invalid inputs.
10. **Testing:** Comprehensive test cases were developed and executed to validate the functionality of all components. This includes testing event CRUD operations, equipment rental processes, user event viewing and booking, and edge cases like invalid inputs or unavailable resources. Test cases ensured the system behaves as expected under various scenarios.

9. Test Cases

Scenario TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
1	Login Scenario with Valid User	1.1	Auth page is loading	Enter registered mail ,and its correct password	It successfully signing into relevant dashboard to control	It sign in to dashboard	pass
	Login	1.2	Auth	Not	It display	It display	pass

	Scenario withan InvalidU ser		page is loading	entered registered mail,ande ntered a random password	yan alert “Invalid Email or Passwor d”	alert“Inv alid Emailor Passwor d”	
2	Register Scenario with valid registere d email and password	2.1	Auth page is loaded	Enter full name,ema il, password, user type	It successf ully registers and direct to the login page	It successf ully registers and direct to the login page	pass
	Register Scenario with invalid details	2.2	Auth page is loaded	Enter invalid details to full name,ema il, password, user type	Alerts and ask for correct details	Alerts and ask for correct details	pass

Scenario 1: Event Creation

Scenario TID	Scenario Descripti on	Test Cas e ID	Pre-Con dition	Steps to Execute	Expected Result	Actual Result	Statu s
1	Create a new event with valid details	1.1	User is logged in as an event organize r, dashboar d is loaded	1. Navigate to "Create Event" section 2. Enter valid event details (e.g., name, date, time, location, description)<	Event is created successfully , and user is redirected to the event managemen t page with a	Event is created and displayed in the manageme nt page	Pass

				br>3. Click "Save"	confirmatio n message		
1	Create an event with missing mandatory fields	1.2	User is logged in as an event organizer, dashboard is loaded	1. Navigate to "Create Event" section 2. Leave mandatory fields (e.g., event name) blank 3. Click "Save"	Error message is displayed indicating missing mandatory fields, event is not created	Error message shown, event not created	Pass

Scenario 2: Event Updating

Scenario TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
2	Update an existing event with valid details	2.1	User is logged in as an event organizer, at least one event exists	1. Navigate to "Manage Events" section 2. Select an event to edit 3. Update details (e.g., change date or description) 4. Click "Update"	Event is updated successfully, updated details are reflected in the event management page	Event details are updated and displayed correctly	Pass

2	Update an event with invalid date (past date)	2.2	User is logged in as an event organizer, at least one event exists	1. Navigate to "Manage Events" 2. Select an event to edit 3. Enter a past date 4. Click "Update"	Error message is displayed indicating invalid date, event is not updated	Error message shown, event not updated	Pass
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Scenario 3: Event Deletion

Scenario TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
3	Delete an existing event	3.1	User is logged in as an event organizer, at least one event exists	1. Navigate to "Manage Events" 2. Select an event 3. Click "Delete" and confirm	Event is deleted successfully, removed from the event management page	Event is removed from the list	Pass
3	Attempt to delete an event with active bookings	3.2	User is logged in as an event organizer, event has active user bookings	1. Navigate to "Manage Events" 2. Select an event with bookings 3. Click "Delete"	Error message is displayed indicating the event cannot be deleted due to active bookings	Error message shown, event not deleted	Pass

Scenario 4: Event Management

Scenario TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
4	View all managed events	4.1	User is logged in as an event organizer, events exist	1. Navigate to "Manage Events" section	All events created by the organizer are displayed with correct details (e.g., name, date, status)	Events are listed correctly	Pass
4	Filter events by status (e.g., upcoming, completed)	4.2	User is logged in as an event organizer, events exist	1. Navigate to "Manage Events" section 2. Select filter for "Upcoming" events	Only upcoming events are displayed	Only upcoming events shown	Pass

Scenario 5: Event Equipment Renting

Scenario TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
5	Rent equipment for an event	5.1	User is logged in as an event organizer, event exists, equipment	1. Navigate to "Equipment Rental" section 2. Select an event 3. Choose equipment (e.g.,	Equipment is rented successfully, rental details are added to the event	Equipment rental confirmed and linked to event	Pass

			t inventory is available	speakers, chairs) 4. Confirm rental			
5	Attempt to rent unavailabl e equipment	5.2	User is logged in as an event organizer, event exists, equipmen t is out of stock	1. Navigate to "Equipment Rental" section 2. Select an event 3. Choose out-of-stock equipment 4. Confirm rental	Error message is displayed indicating equipment is unavailabl e	Error message shown, rental not complete d	Pass

Scenario 6: User Viewing Events

Scenari o TID	Scenario Descriptio n	Test Cas e ID	Pre-Cond ition	Steps to Execute	Expected Result	Actual Result	Statu s
6	View available events as a user	6.1	User is logged in as a regular user, events are published	1. Navigate to "Events" section	All published events are displayed with details (e.g., name, date, location)	Events are listed correctl y	Pass

6	Search for events by keyword	6.2	User is logged in as a regular user, events are published	1. Navigate to "Events" section 2. Enter a keyword (e.g., "music") in the search bar 3. Submit search	Only events matching the keyword are displayed	Relevant events shown	Pass
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Scenario 7: User Booking Events

Scenario TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
7	Book an event with available slots	7.1	User is logged in as a regular user, event has available slots	1. Navigate to "Events" section 2. Select an event 3. Click "Book" and confirm	Booking is successful, confirmation message is displayed, booking appears in user's profile	Booking confirmed and visible in profile	Pass
7	Attempt to book a fully booked event	7.2	User is logged in as a regular user, event has no available slots	1. Navigate to "Events" section 2. Select a fully booked event 3. Click "Book"			

Test Cases for Event Equipment Supplier

Scenario ID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
8	Add new equipment	8.1	Supplier is logged into the system	Navigate to "Add Equipment" section. Enter equipment details (e.g., name, type, quantity).	New equipment is added and visible in the equipment list.	New equipment is added and visible in the equipment list.	Pass
	Add new equipment with missing required fields	8.2	Supplier is logged into the system	Navigate to "Add Equipment" section. Leave required fields (e.g., name) empty.	Error message displayed: "Equipment name is required."	Error message displayed: "Equipment name is required."	Pass
	Add new equipment with invalid data	8.3	Supplier is logged into the system	1. Navigate to "Add Equipment" section. Enter invalid equipment details (e.g., negative quantity).	Error message displayed.	Error message displayed.	Pass

9	Update existing equipment	9.1	Supplier is logged in, equipment exists in system	Go to "Equipment List". Select an equipment. Update details (e.g., quantity). Click "Update".	Equipment details are updated successfully and reflected in the list.	Equipment details are updated successfully and reflected in the list.	Pass
	Update equipment with invalid data	9.2	Supplier is logged in, equipment exists in system	Go to "Equipment List". Select an equipment. Update with invalid data (e.g., empty name). Click "Update".	Error message displayed: "Equipment name cannot be empty."	Error message displayed: "Equipment name cannot be empty."	Pass
	Delete existing equipment	9.3	Supplier is logged in, equipment exists in system	Go to "Equipment List". Select an equipment. Click "Delete". Confirm deletion.	Equipment is removed from the list.	Equipment is removed from the list.	Pass

10	Modify profile page	10.1	Supplier is logged into the system	1. Navigate to "Profile" section. 2. Update details (e.g., contact info). 3. Click "Save".	Profile details are updated successfully and visible on the profile page.	Profile details are updated successfully and visible on the profile page.	Pass
11	Accept equipment request from event organizer.	11.1	Supplier is logged in, a request exists	Go to "Requests" section. 2. Select a pending request. 3. Click "Accept".	Request status changes to "Accepted", event organizer is notified.	Request status changes to "Accepted", event organizer is notified.	Pass
12	View monthly revenue and equipment summary	12.1	Supplier is logged in, transactions exist	Navigate to "Summary" section. 2. Select current month.	Displays total revenue and number of equipments for the month accurately.	Displays total revenue and number of equipments for the month accurately.	Pass

Scenario o TID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
TID-01	Sign In / Sign Up	TC-01	User is on login/signup page	1. Open login/signup page 2. Enter valid/invalid credentials 3. Click Sign In/Sign Up	User logs in or signs up successfully; error shown for invalid inputs	Successful user login other wise error message if wrong credentials present	Pass
TID-02	Forgot Password	TC-02	User has an existing account	1. Click "Forgot Password" 2. Enter registered email 3. Check email and reset password	Password reset link sent and password successfully updated	User can successfully reset password	Pass
TID-03	Merchandise Viewing	TC-03	User is logged in or guest access enabled	1. Navigate to merchandise section	Merchandise items display correctly with full details	Member can view the	Pass

				2. View item details		available merchandise	
TID-04	Add to Cart System	TC-04	Merchandise is available	1. Select merchandise 2. Click "Add to Cart" button	Item added to cart and cart count updated		Pass
TID-05	Viewing Cart, Editing and Removing Items	TC-05	Items are present in the cart	1. Go to cart 2. Edit quantity or remove item	Changes are updated correctly in cart		Pass
TID-06	Real-Time Email Notification System	TC-06	New merchandise is uploaded	1. Upload new merchandise 2. Check user email inbox	Users receive real-time notification about new merchandise		Pass
TID-07	Merchandise Supplier Dashboard	TC-07	Supplier is logged in	1. Login as supplier 2. Navigate to dashboard 3. Manage products	Supplier can upload, edit, delete products successfully		Pass

TID-08	Member Dashboard	TC-08	Member is logged in	1. Login as member 2. Navigate to dashboard	Member can view their account and merchandise activities		Pass
TID-09	Testing	TC-09	System is fully developed	1. Perform all the above test cases 2. Record results	All functionalities work without critical bugs		Pass

Scenario **Scenario** **Test** **Pre-Con** **Steps to** **Expected** **Actual** **Statu**
TID **Description** **Case** **dition** **Execute** **Result** **Result** **s**
ID

TID-10	Merchandise vendor adds products with description, price, and images	TC-10	Vendor is logged into the dashboard	1. Navigate to "Add Product" section 2. Enter product details (name, description, price) 3. Upload images 4. Save the product	Product is successfully listed and visible in the store	Product details were added and the item appeared correctly in the online shop	Pass
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TID-11	Merchandise vendor edits or deletes listed products	TC-11	Vendor has existing products listed	1. Navigate to "Manage Products" 2. Choose a product 3. Edit details and save changes OR delete the product	Product is updated or removed successfully from the store	The selected item was either updated with new information or deleted from the store as intended	Pas s
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TID-12	Merchandise vendor manages profile information	TC-12	Vendor is logged into the dashboard	1. Navigate to "Profile Settings" 2. Update personal information (name, email, etc.) 3. Save changes	Profile information is updated and reflected immediately	The vendor's profile changes were saved and displayed correctly	Pas s
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Test Cases for Artist

Scenario ID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
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4	Update artist profile with valid data	4	Auth page is loaded	1. Enter valid username, email, phone, address. 2. Upload a valid profile picture (jpg, <2MB). 3. Submit the form.	Successfully updated profile, redirected to update page, success message shown.	-	pass
5	Update artist profile with invalid email	5	Auth page is loaded	1. Enter valid username, phone, address. 2. Enter invalid email (e.g., "invalid"). 3. Submit the form.	Form shows email error, not submitted.	-	pass
6	Change artist password with valid data	6	Auth page is loaded	1. Enter new password (≥ 6 chars). 2. Confirm password matches. 3. Submit the form.	Password updated successfully, success message shown.	-	pass
7	Change password with mismatch	7	Auth page is loaded	1. Enter new password (≥ 6 chars). 2. Enter a different	Form shows mismatch error, password not updated.	-	pass

				confirm password. 3. Submit the form.			
8	Add new album with valid data	8	Auth page is loaded	1. Enter valid album name, release date, genre. 2. Upload valid album cover (jpg, <2MB) and track (mp3, <10MB). 3. Submit the form.	Album added successfully, redirected to releases page, success message shown.	-	pass
9	Add album with existing album name	9	Auth page is loaded	1. Enter an album name that already exists for the artist. 2. Enter valid release date, genre, cover, track. 3. Submit the form.	Form shows album name error, not submitted.	-	pass
10	Delete an album	10	Auth page is loaded	1. Navigate to releases page. 2. Select an album to	Album deleted, redirected to releases page, success	-	pass

				delete. 3. Confirm deletion.	message shown.		
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Test Cases for Member

Scena rio ID	Scenario Descript ion	Tes t Ca se ID	Pre-Con dition	Steps to Execute	Expected Result	Actu al Resu lt	Stat us
11	Register a new user with valid data	11	Registra tion page is loaded	1. Select user type (e.g., member). 2. Enter valid name, email, password, confirm password. 3. Submit the form.	User registered successfully, message "register_success,You are now registered and can log in" shown.	-	pass
12	Register a user with existing email	12	Registra tion page is loaded	1. Select user type (e.g., member). 2. Enter a name, an email that already exists, password, confirm	Form shows "Email is already registered" error, registration not completed.	-	pass

				password. 3. Submit the form.			
13	Login with valid credentials	13	Login page is loaded	1. Enter a valid email and password for an existing user (e.g., member). 2. Submit the form.	Redirected to appropriate dashboard (e.g., /Member_Homepage/Homepage for member), session variables set.	-	pass
14	Login with invalid credentials	14	Login page is loaded	1. Enter a valid email but incorrect password. 2. Submit the form.	Form shows "Invalid credentials" error, login not completed.	-	pass
15	Load dashboard data for member	15	User is logged in as a member	1. Navigate to the dashboard page (/users/dashboard).	Dashboard loads with member info, recent activities, playlists, recently played, and recommended songs.	-	pass
16	Update user profile with valid data	16	User is logged in, settings page loaded	1. Enter valid username, email. 2. Upload a valid profile picture. 3	Profile updated successfully, message "profile_updated, Your profile has been updated." shown, session username updated.	-	pass

				. Submit the form.			
17	Update user profile with password mismatch	17	User is logged in, settings page loaded	1. Enter valid username, email. 2. Enter new password and a different confirm password. 3. Submit the form.	Form shows "Passwords do not match" error, profile not updated.	-	pass
18	Logout user	18	User is logged in	1. Navigate to logout page (/users/logout).	Session destroyed, redirected to login page (/users/login).	-	pass

Scenario ID	Scenario Description	Test Case ID	Pre-Condition	Steps to Execute	Expected Result	Actual Result	Status
19	Load member profile	19	User is logged in as a member	1. Navigate to the profile page (/Member_Profile/profile).	Profile page loads with member details (username, email, phone, address, profile picture).	-	pass

20	Update member profile with valid data	20	User is logged in, update page loaded	1. Enter valid username, email, phone, address. 2. Upload a valid profile picture (jpg, <2MB). 3. Submit the form.	Profile updated successfully, message "profile_updated", Your profile has been updated." shown, session username updated.	-	pass
21	Update member profile with invalid email	21	User is logged in, update page loaded	1. Enter valid username, phone, address. 2. Enter invalid email (e.g., "invalid"). 3. Submit the form.	Form shows "Please enter a valid email address." error, profile not updated.	-	pass
22	Load member tickets	22	User is logged in as a member	1. Navigate to the tickets page (/My_Tickets/index) .	Tickets page loads with member info, upcoming bookings, past bookings, and saved events.	-	pass
23	Load music library for member	23	User is logged in as a member	1. Navigate to the music library page (/Music_Library/index).	Music library page loads with member info and list of albums with artist info.	-	pass

Appendix

Functionalities of each user

Member

- Login and Authentication
- User Profile: Maintain personal details, liked songs, and interesting events.
- Music Search and Discovery: Access and listen to a wide variety of songs from different artists.
- Event booking: View and book upcoming events, receive event notifications.
- Merchandise Store: Browse and purchase merchandise from their favorite artists.
- Social Features: Rate and review songs and albums, participate in discussions.
- Interactive Music Exercises: Engage with interactive exercises for learning music theory.
- Customer Support: Access support features, including FAQs and contact options.
- Logout from the System

Merchandise Vendors/Suppliers

- Login and Authentication
- Product Listings: Manage and update merchandise listings, including descriptions, prices, and inventory.
- Logout from the System.

Event Organizers

- Login and Authentication
- Event Creation and Management: Create, update, and manage event listings.
- Booking Management: Handle booking requests and confirmations.
- Event Promotion: Advertise upcoming events and promotions.
- Customer Support: Provide contact details to get further information
- Logout from the System.

Administrators

- Login and Authentication
- User Management: Oversee user registrations, profiles, and permissions.
- Content Management: Manage and moderate content, including songs, events, and blog posts.
- System Maintenance: Ensure smooth operation and maintenance of the application.
- Customer Support: Provide support and assistance to users, handle escalated issues.
- Logout from the System

Artists (On Hold)

- Login and signup
- Receive account verification
- View ratings
- View reviews
- Upload new releases
- Approve event request
- Update profile details
- Logout from the System