

Product Requirements Document

Music Events System

Software Design and Architecture
SWEN90007 SM2 2023 Project
Getters Setters

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1 Revision History

Date	Version	Description	Author
2023-08-02	1.00-D1	Initial document set-up	Sebastian Bobadilla Chara
2023-08-02	1.01-D1	Wrote the Proposal and Targeted Users sections of the Introduction, and set up the Actors table	Georgia Lewis
2023-08-03	1.02-D1	Completed Actors Table and refactored document structure, Added Use Cases Titles for all 3 actors	Anjaney C Mahajan
2023-08-0	1.03-D1	Completed Use Cases: UC1.1 (Login to System), UC1.2 (Logout of System), UC1.3 (View all Users), and UC1.4 (Delete User) and created latex template to for Use Cases for capturing actor roles, preconditions, main events flow, alternate flows, exception flows, and post-conditions.	Anjaney C Mahajan
2023-08-07	1.03-D1	Added Project Assumptions section.	Anjaney C Mahajan
2023-08-07	1.04-D1	Changed use case specification format to tables, also reviewed and checked current specifications.	Sebastian Bobadilla Chara
2023-08-08	1.05-D1	Completed Customer Use Cases 1 - 5 ('Register Customer Account' to 'View All Past Tickets')	Georgia Lewis
2023-08-08	1.06-D1	Completed Shared Use Cases	Anjaney C Mahajan
2023-08-08	1.07-D1	Completed Event Planner Use Cases 1 - 7 ('View All Managed Events' to 'Remove Event Planner From Event')	Joel Fressard Kenna
2023-08-09	1.08-D1	Completed Customer Use Cases 6 - 8 ('Purchase Tickets for an Event' to 'Cancel Tickets') and revised all Customer Use Cases	Georgia Lewis
2023-08-09	1.09-D1	Completed Customer Use Case 9 ('Search for Event') and all of the Optional Use Cases ('Lock Purchases', 'Search by Other Fields', and 'Limit Capacity of Venue')	Georgia Lewis
2023-08-08	1.10-D1	Completed Administrator Use Cases	Anjaney C Mahajan
2023-08-09	1.11-D1	Embellished tables with some L ^A T _E Xmagic, also reviewed the event flow sections of the specifications.	Sebastian Bobadilla Chara
2023-08-09	1.12-D1	Completed Event Planner Use Cases 8 - 10 ('View Ticket Holders for Event' to 'Cancel all Tickets for Event')	Joel Fressard Kenna
2023-08-09	1.13-D1	Added 'Filter Managed Events' optional Use Case and cleaned up optional Use Case tables	Joel Fressard Kenna
2023-08-10	1.14-D1	Created & finalised domain model, ready to put into the report.	Georgia Lewis

Date	Version	Description	Author
2023-08-10	1.15-D1	Added use case diagram, domain model diagram, and added description for domain model.	Sebastian Bobadilla Chara
2023-08-11	1.16-D1	Updated existing domain model diagram to the final version and revised the domain model description to match the new diagram.	Georgia Lewis
2023-08-11	1.17-D1	Enhanced Use Case Naming and Incorporated Cross-Referencing of Use Cases.	Anjaney C Mahajan
2023-08-11	1.18-D1	Completely rewrote domain model description to match refined model	Joel Fressard Kenna
2023-08-11	1.00	Reviewed and update use caes specifications, and added updated diagram for use cases.	Sebastian Bobadilla

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2 Introduction

2.1 Proposal

The chosen project for this document is a Music Event management system. This document describes in detail the appropriate SWEN90007 use cases for this system, including preconditions, postconditions, the flow of events, and any alternative or exception flows for each case. Also included is a use case diagram, and domain diagram, to assist in describing this system.

2.2 Targeted Users

The target audience for this document is the SWEN90007 students and teaching team. The targeted users of the end product of this project are an administrator, event planners, and live music event customers of the Music Events industry in Australia.

2.3 Conventions, Terms, Abbreviations

This section explains the conventions, terms, and abbreviations used throughout this report. These are listed in alphabetical order in the table below:

Term	Description
MES	Music Events System

Table 2: Conventions, Terms, and Abbreviations

3 Project Assumptions

- Users within the system are restricted from having multiple account types, meaning the same email cannot be used for roles such as Administrator, Event Planner, and Customer simultaneously.
- The system only supports having one Administrator in the system, and the default administrator account cannot be removed.
- The system only supports a singular ticket type for each section of a venue - all tickets are for adult, non-concession prices.
- The system only supports events within Australia.

4 Actors

The actors table for the online event booking application describes the distinct user roles and how they interact with the platform. It enables role assignment and management, ensuring appropriate access control and security.

Actor	Description
Administrator	The administrator of the Event Booking System manages the application and its different users and concert venues. They have authority over venue creation and management, event scheduling, and system configuration.
Event Planner	Event Planners are users who organize and manage concerts. They utilize the site to create new events, assign additional planners to these events, and manage ticket pricing.
Customer	The end user is a concert enthusiast seeking to purchase tickets. They use a system by creating an account in the system, they can buy tickets, keep track of them, and access information on their previous purchases.

Table 3: Actors in the System

5 Use Cases

5.1 Shared Use Cases

UC-S-01 Login

Actors	Administrator, Event planner, Customer
Brief description	Allows the user to authenticate and use the system.
Preconditions	<ul style="list-style-type: none">• The user is active in the database.• The user has no active session.
Post conditions	The user has successfully logged in.
Event flow	<ol style="list-style-type: none">1. The user selects the “Log in” option on the website.2. The user enters their email address and password.3. The user clicks the “submit” button to validate their credentials.
Exception flows	EF01 Invalid email and/or password <ol style="list-style-type: none">1. During step 2, the User enters an incorrect password for the provided email address, or an incorrect email address that is not in the system, or both.2. The User is redirected to the same page and prompted to re-enter their credentials.

UC-S-02 Logout

Actors	Administrator, Event planner, Customer
Brief description	Allows the user to end their session and exit the system.
Preconditions	<ul style="list-style-type: none">• The user has logged in (UC-S-01) and has an active session.
Post conditions	The user has successfully logged out.
Event flow	<ol style="list-style-type: none">1. The user selects the “Log out” option on the website.2. The user is redirected to the landing page.
Exception flows	EF02 User isn’t logged in. <ol style="list-style-type: none">1. During step 1, if a User attempts to initiate the log-out process using an HTTP or URL request (e.g., GET /logout) without being authenticated.2. The User is redirected to the login page and prompted to re-enter their password.

UC-S-03 Register

Actors	Event planner, Customer
Brief description	Allows the user to create an account in the system.
Preconditions	<ul style="list-style-type: none">• The User doesn't have an account with the Music Events System.
Post conditions	<ul style="list-style-type: none">• The User details are stored in the System Database.
Event flow	<ol style="list-style-type: none">1. The user selects the "Register" option on the website.2. The user completes the required fields.3. The user clicks the "submit" button.
Alternate flows	<p>AF01 Cancel Registration Process</p> <ol style="list-style-type: none">1. Between Step 2 and Step 4, users cancel the registration process.2. Users choose to navigate to a different page within the application or exit the application altogether.3. It's important to note that any data entered into the fields will be lost upon cancellation. <p>AF02 Duplicate Registration</p> <ol style="list-style-type: none">1. Upon completing, if a user submits a registration using an email that already exists in the system database,2. The system will redirect the user back to the registration page. <p>AF03 Empty Fields</p> <ol style="list-style-type: none">1. If a user submits a registration form with missing fields,2. The system will redirect the user back to the previous page.

UC-S-04 Edit account

Actors	Event planner, Customer
Brief description	Allows the user to edit their account in the system.
Preconditions	<ul style="list-style-type: none">• The User has an account with the Music Events System.• The user has logged in (UC-S-01) and has an active session.
Post conditions	<ul style="list-style-type: none">• The user details are updated in the System Database.
Event flow	<ol style="list-style-type: none">1. The user chooses the "Account Details" option from the website's menu.2. On the "Edit Details" page, the user proceeds to modify the desired fields.3. To validate their changes, the user clicks the "Update" button.
Alternate flows	<p>AF04 Cancel Edit Process</p> <ol style="list-style-type: none">1. Between Step 2 and Step 5, users cancel the edit process.2. Users choose to navigate to a different page within the application or exit the application altogether.3. It's important to note that any data entered into the fields will be lost upon cancellation. <p>AF03 Empty Fields</p> <ol style="list-style-type: none">1. If a user submits a registration form with missing fields,2. The system will redirect the user back to the previous page.

UC-S-05 Close Account

Actors	Event planner, Customer
Brief description	Allows the user to deactivate their account in the system.
Preconditions	<ul style="list-style-type: none">• The User has an account with the Music Events System.• The user has logged in (UC-S-01) and has an active session
Post conditions	<ul style="list-style-type: none">• The User is marked as "inactive" in the System Database
Event flow	<ol style="list-style-type: none">1. The user navigates to the "Account Details" option in the website's menu.2. Upon clicking "Delete Account," a confirmation pop-up appears, provides both a confirmation prompt and a warning detailing the consequences of this action.3. The user proceeds by clicking the "Confirm" button.
Alternate flows	<p>AF04 Cancel Delete Process</p> <ol style="list-style-type: none">1. Between Step 2 and Step 5, user cancels the delete process.2. The users choose to navigate to a different page within the application or exit the application altogether.3. The user's account remains unchanged and unaffected.

UC-S-06 Change password

Name	Edit Password
Actors	Administrator, Event Planner, Customer
Brief description	Allow the User to change the password associated with their account.
Preconditions	<ul style="list-style-type: none">• The User has a valid account in the system.
Post conditions	<ul style="list-style-type: none">• The changes that the User made to their password are stored in the database.• The User can now login using their email and their new password.
Event flow	<ol style="list-style-type: none">1. The User selects to “Change Password” on the website on their account page.2. The User enters their old password, and then their new password twice.3. The User selects to “Submit” to change their password.
Exception flows	<p>EF01 The User cancels the password change.</p> <ol style="list-style-type: none">1. The User selects to “Cancel” the password change.2. The changes they made are thrown away, and they are redirected to viewing their profile. The password they use to login is their old password. <p>EF02 Invalid password entered</p> <ol style="list-style-type: none">1. During step 2, the password entered is not a valid password.2. The User is notified and asked to enter a valid password. <p>EF03 Password entered does not match the password in the confirmation section</p> <ol style="list-style-type: none">1. The User is notified that the two passwords do not match, and asked to fix them.

5.2 Administrator Use Cases

UC-A-01 View All Users

Brief description	Allows the administrator to view all the users in the system
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged into (UC-S-01) the system with an active session.
Event flow	<ol style="list-style-type: none">1. The administrator clicks on the "View all users" option.2. A comprehensive table listing all users, along with their respective details, excluding passwords is presented.

UC-A-02 Create User

Brief description	Allows the administrator to create a user with a specified role: Admin, Event Planner, or Customer.
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged into (UC-S-01) the system with an active session.
Post Conditions	<ul style="list-style-type: none">• The entered user details are added to the application database, creating a new user record.
Event flow	<ol style="list-style-type: none">1. In the "All Users" (UC-A-01) page, the administrator clicks on the "Create New User" option.2. The administrator enters the required user details.3. The administrator submits the form to create the new user account.
Alternate flows	<p>AF01 Cancel Registration Process</p> <ol style="list-style-type: none">1. Between Step 2 and Step 4, users cancel the registration process.2. Users choose to navigate to a different page within the application or exit the application altogether.3. It's important to note that any data entered into the fields will be lost upon cancellation. <p>AF02 Duplicate Registration</p> <ol style="list-style-type: none">1. Upon completing, if a user submits a registration using an email that already exists in the system database,2. The system will redirect the user back to the registration page. <p>AF03 Empty Fields</p> <ol style="list-style-type: none">1. If a user submits a registration form with missing fields,2. The system will redirect the user back to the registration page.
Exception flows	<p>EF01 Role Selection Error</p> <ol style="list-style-type: none">(a) If, during step 3, the administrator fails to select a valid role option.(b) The system displays an error message prompting the administrator to select a valid role before proceeding.

UC-A-03 Update User Details

Brief description	Allows the administrator to update a user's account in the system
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged (UC-S-01) into the system with an active session.
Post conditions	<ul style="list-style-type: none">• The entered user details are updated to the database.
Event flow	<ol style="list-style-type: none">1. Within the "All Users" section, the administrator selects the user to be edited.2. The system displays the user's current details in an editable form.3. The administrator modifies the necessary user information.4. The administrator submits the form to update the user's details.
Alternate flows	<p>AF01 Cancel Update Process</p> <ol style="list-style-type: none">1. The user cancels the update process by navigating to a different page or exiting the application.2. Any uncommitted changes are lost. <p>AF02 Empty Fields</p> <ol style="list-style-type: none">1. The user attempts to submit the form with required fields not filled.2. The system will prompt the user to complete said fields. <p>AF03 User Not Found</p> <ol style="list-style-type: none">1. If the system cannot locate the specified user during the update process,2. The administrator is notified and the edit process is halted.

UC-A-04 Delete User

Brief description	Allows the administrator to remove a user from the system
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged (UC-S-01) into the system with an active session.
Post conditions	<ul style="list-style-type: none">• The user's database record is marked as inactive.
Event flow	<ol style="list-style-type: none">1. Within the "All Users" section, the administrator selects the user to be deleted.2. The administrator selects the "Delete User" option for the selected user.3. The system displays a confirmation pop up to confirm the deletion action.4. The administrator confirms the deletion.
Alternate flows	<p>AF01 Cancel Deletion Process</p> <ol style="list-style-type: none">1. The user navigates to another page or exits the application.2. Administrators choose not to proceed with user deletion. <p>AF02 User Not Found</p> <ol style="list-style-type: none">1. If the system cannot locate the specified user during the deletion process,2. The administrator is notified and the deletion process is halted.

UC-A-05 View All Venues

Brief description	Allows the administrator to view all venues registered in the system
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged into (UC-S-01) the system with an active session.
Event flow	<ol style="list-style-type: none">1. The administrator clicks on the "View All Venues" option available in the navigation bar.2. As a result, administrators are presented with a comprehensive table listing all venues.

UC-A-06 Create Venue

Brief description	Allows the administrator to create a venue in the system
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged (UC-S-01) into the system with an active session.
Post Conditions	<ul style="list-style-type: none">• The entered Venue details are added to the application database, creating a new Venue record.
Event flow	<ol style="list-style-type: none">1. In the "All Venues" page (UC-A-05), the administrator clicks on the "Create New Venue" option.2. On the create venue page, the administrator enters the venue details.3. Once all information is provided, the administrator submits the form to create the new venue.
Alternate flows	<p>AF01 Cancel Creating Venue Process</p> <ol style="list-style-type: none">1. During the venue creation process, the users can cancel the process.2. Users choose to navigate to a different page within the application or exit the application altogether.3. It's important to note that any data entered into the fields will be lost upon cancellation. <p>AF02 Duplicate Venue</p> <ol style="list-style-type: none">1. Upon completing, if a user submits a venue with the same name.2. The system will redirect the user back to the creation page. <p>AF03 Empty Fields</p> <ol style="list-style-type: none">1. If a user submits a registration form with missing fields,2. The system will redirect the user back to the previous page.
Exception flows	<p>EF01 Section Type Error</p> <ol style="list-style-type: none">(a) If, during step 3, the administrator fails to select a section type option.(b) The system displays an error message prompting the administrator to select a valid type before proceeding.

UC-A-07 Edit Venue

Brief description	Allows the administrator to edit details of an existing venue in the system.
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged into (UC-S-01) the system with an active session.• A venue to be edited exists in the system.
Post Conditions	<ul style="list-style-type: none">• The venue details are updated.
Event flow	<ol style="list-style-type: none">1. Within the "All Venues" section, the administrator searches for and selects the venue to be edited.2. The administrator selects the "Edit Venue" option for the selected venue.3. The system displays the venue's current details in an editable form.4. The administrator modifies the necessary venue information.5. Once the changes are made, the administrator submits the form to update the venue's details.
Alternate flows	<p>AF01 Cancel Edit Process</p> <ol style="list-style-type: none">1. Between Step 2 and Step 3, the administrator cancels the editing process.2. The administrator chooses not to proceed with the venue details modification. <p>AF02 Venue Not Found</p> <ol style="list-style-type: none">1. If the system cannot locate the specified venue during the editing process,2. The administrator is notified, and the edit process is halted.
Exception flows	<p>EF01 Section Type Error</p> <ol style="list-style-type: none">(a) If the administrator fails to select a valid section type option,(b) The system displays an error message prompting the administrator to select a valid type before proceeding.

UC-A-08 Delete Venue

Brief description	Allows the administrator to remove a venue from the system
Preconditions	<ul style="list-style-type: none">• The administrator is currently logged (UC-S-01) into the system with an active session.• A venue to be deleted exists in the system.
Post conditions	<ul style="list-style-type: none">• The venue's database record is marked as inactive.
Event flow	<ol style="list-style-type: none">1. Within the "All Venues" section, the administrator searches for and selects the venue to be deleted.2. The administrator selects the "Delete Venue" option for the selected venue.3. The system displays a confirmation popup to confirm the deletion action.4. The administrator confirms the deletion.
Alternate flows	<p>AF01 Cancel Deletion Process</p> <ol style="list-style-type: none">1. The administrator cancels the deletion process.2. The administrator chooses not to proceed with the venue deletion. <p>AF02 Venue Not Found</p> <ol style="list-style-type: none">1. If the system cannot locate the specified venue during the deletion process,2. The administrator is notified, and the deletion process is halted.

5.3 Event Planner Use Cases

UC-E-01 View All Managed Events

Brief description	Allow the user to view a list of all events that they manage
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account (UC-S-01).
Post conditions	<ul style="list-style-type: none">• The User is able to see a list of all events that they manage.
Event flow	<ol style="list-style-type: none">1. The User navigates to the "Your Managed Events" page2. The list of events that the User is able to manage is displayed.
Exception flows	<p>EF01 The User manages no events</p> <p>(a) No list appears, and a message indicating that the user has no upcoming events is displayed.</p> <p>EF02 The User manages at least one event that has been cancelled.</p> <p>(a) The event list appears as per usual, except with all cancelled events crossed out and labelled "Cancelled".</p>

UC-E-02 View Event Details

Brief description	Allow the user to view the details of a single event that they manage
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into (UC-S-01) their account• The User is currently on the "Your Managed Events" page (UC-E-01)
Post conditions	<ul style="list-style-type: none">• The User is redirected to the "Event Details" page for the event• The event owner is visible on the page• The number of sold and remaining tickets for the event are visible on the page• All other event details are visible on the page• A "View Managers" button is present on the page
Event flow	<ol style="list-style-type: none">1. The User selects an event from the list of managed events2. The User is redirected to the "Event Details" page, where more details around the selected event are visible

UC-E-03 Create Event

Brief description	Allow the user to create a new event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)
Post conditions	<ul style="list-style-type: none">• A new event is created in the database with details as specified by the User• The newly created event records the User as its manager• The newly created event records the User as its owner• The User is redirected to the "Event Details" (UC-E-02) page, which displays details about the newly created event
Event flow	<ol style="list-style-type: none">1. The User navigates to the "Your Managed Events" (UC-E-01) page2. The User clicks the "Create a New Event" button3. The User is redirected to the "Create Event" page4. The User fills out event details.5. The User fills out prices for each section of the venue6. The User clicks the "Create" button.
Alternate flows	<p>AF01 Cancel</p> <ol style="list-style-type: none">1. The User cancels the event creation by clicking the "Cancel" button.2. The user is redirected to the "Your Managed Events" page. Note that no new event is created in the system, and all data entered into the page is lost.
Exception flows	<p>EF01 Overlapping Events at Venue</p> <ol style="list-style-type: none">(a) There is already an event booked at the same venue that overlaps with the period entered by the user.(b) A validation message is displayed indicating that an event is already in use during the selected period.(c) Note that in this flow no new event is created in the system, the User is not redirected away from the page, and all entered data remains present in the page fields. <p>EF02 Empty or Invalid Fields</p> <ol style="list-style-type: none">(a) One or more of the fields are either missing, or populated with invalid data.(b) A validation message is displayed for each empty or invalid field.(c) Note that in this flow no new event is created in the system, the User is not redirected away from the page, and all entered data remains present in the page fields.

UC-E-04 Update Event

Brief description	Allow the user to update an existing event that they manage
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage
Post conditions	<ul style="list-style-type: none">• The selected event is updated in the database with new details as specified by the User• The User is redirected to the "Event Details" page, which displays details about the updated event
Event flow	<ol style="list-style-type: none">1. From the "Event Details" page, the User clicks the "Edit" button2. The User is redirected to the "Edit Event" page3. The user fills out event details.4. The User fills out prices for each section of the venue5. The User clicks the "Update" button.
Alternate flows	See alternate flows described in UC-E-03 Create Event
Exception flows	All exception flows described in UC-E-03 Create Event also apply to this use case.

UC-E-05 View Event Managers

Brief description	Allow the user to view the event planners who manage an event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage
Post conditions	<ul style="list-style-type: none">• A list of all event planners who manage the event is displayed to the user within the "Event Details" page• The list clearly displays a name and email for each event planner managing the event• If the User is the owner of the event, a "Remove Manager" button and "Assign as Owner" button should be present for each planner in the list• An option to hide the list of event planners is displayed to the user within the "Event Details" page• The "View Managers" button is replaced with a "Hide Managers" button
Event flow	<ol style="list-style-type: none">1. From the "Event Details" page, the User clicks the "View Managers" button
Alternate flows	AF01 View and then hide event managers <ol style="list-style-type: none">1. After completing step 1, the User clicks the "Hide Managers" button2. The User is redirected to the original version of the "Event Details" page, where the list of planners is no longer visible

UC-E-06 Add Manager to Event

Brief description	Allow the user to add other event planners as managers of an event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage• At least one event planner other than the User exists in the system
Post conditions	<ul style="list-style-type: none">• An additional event planner is added as a manager of the event• The User is redirected to an updated version of the "Event Details" page, which now displays the newly added planner as one of the event's managers.
Event flow	<ol style="list-style-type: none">1. From the "Event Details" page, the User clicks the "Add Manager" button2. A subpage containing a search bar (with "Search" button), "Cancel" button, and "Add" button is displayed to the User3. The User enters the name of the event planner they wish to add in the search bar4. The User clicks "Search"5. The search bar displays a list of event planners matching the search query6. The User selects one of the options returned by the search7. The User clicks the "Add" button
Alternate flows	<p>AF01 User cancels</p> <ol style="list-style-type: none">1. At any point between steps 2 and 6, the User selects "Cancel"2. The search subpage is closed. No change is made to the event or its managers, and all selected data is lost.
Exception flows	<p>EF01 The User's search yields no results</p> <ol style="list-style-type: none">(a) After completing steps 1 to 4, no matches are found for the name entered by the User(b) A "No results found" notification is displayed by the search bar(c) The user may repeat steps 1 and 4 with a different query string if they wish, or click "Cancel" and close the card <p>EF02 The User clicks "Add" without selecting new manager</p> <ol style="list-style-type: none">(a) The user clicks "Add" when no event planner has been selected(b) A notification advising the user to select a planner to add is displayed. No change is made to the event or its managers.

UC-E-07 Remove Manager from Event

Brief description	Allow the user to remove other event planners as managers of an event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage• The User is currently viewing the event's list of managers• The User is the owner of the event• The event has at least one manager who is not the User
Post conditions	<ul style="list-style-type: none">• An event planner is removed as a manager of the event• The User is redirected to an updated version of the "Event Details" page, which no longer displays the removed planner as one of the event's managers.
Event flow	<ol style="list-style-type: none">1. While viewing the event's list of managers, the User clicks one of the "Remove Manager" buttons displayed alongside the list of managers.2. The user confirms the action through a pop up.

UC-E-08 View Ticket Holders for Event

Brief description	Allow the manager of an event to see all customers who hold tickets to that event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage
Post conditions	<ul style="list-style-type: none">• The User is able to see a list of all ticket holders for the event.
Event flow	<ol style="list-style-type: none">1. From the "Event Details" page, the User selects "View Ticket Holders"2. A "Ticket Holders" subpage with a list of ticket holders is opened and displayed.
Alternate flows	AF01 User views then hides ticket holder information <ol style="list-style-type: none">1. After completing steps 1 and 2, the User selects "Close"2. The "Ticket Holders" subpage is closed, and the user sees the standard "Event Details" page
Exception flows	EF01 There are currently no ticket holders for the event <ol style="list-style-type: none">(a) The User completes step 1.(b) No list appears, and instead a message indicating that there are currently no ticket holders for the event is displayed(c) N.B. The "Ticket Holders" subpage does not open in this flow

UC-E-09 Cancel Event Ticket for Customer

Brief description	Allow the manager of an event to cancel tickets that have been issued for the event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage• There is at least one ticket holder for the event the User is viewing• The User is viewing the "Ticket Holders" subpage on the "Event Details" page for an event they manage
Post conditions	<ul style="list-style-type: none">• The selected ticket holding customer of the event the User was viewing is cancelled.
Event flow	<ol style="list-style-type: none">1. While on the "Ticket Holders" subpage, the User selects "Cancel all issued tickets"2. The "Ticket Holders" subpage is closed, and the "Event Details" page is updated to reflect new ticket counts

UC-E-10 Cancel All Tickets for Event

Brief description	Allow the manager of an event to cancel tickets that have been issued for the event
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" (UC-E-02) page for an event that they manage• There is at least one ticket holder for the event the User is viewing• The User is viewing the "Ticket Holders" subpage on the "Event Details" page for an event they manage
Post conditions	<ul style="list-style-type: none">• All tickets currently issued to the event the User was viewing are cancelled.
Event flow	<ol style="list-style-type: none">1. While on the "Ticket Holders" subpage, the User selects "Cancel all issued tickets"2. The "Ticket Holders" subpage is closed, and the "Event Details" page is updated to reflect new ticket counts (i.e. 0)

5.4 Customer Use Cases

UC-C-01 View Upcoming Tickets

Name	View All Upcoming Tickets
Brief description	Allows a User to view the tickets they have purchased for events that are upcoming/currently happening.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system. (UC-S-01)• The User has purchased a ticket to an event.• The event that the User purchased the ticket to is in the future and has not been cancelled.
Post conditions	<ul style="list-style-type: none">• The User is able to view the ticket and details about the event.
Event flow	<ol style="list-style-type: none">1. The User navigates to their tickets page.2. The User selects to "View Upcoming Tickets".3. The list of purchased tickets for upcoming events appears, in date order.
Alternate flows	AF01 The User is searching for the event. <ol style="list-style-type: none">1. The User navigates to a page for an event for which they've already purchased tickets.2. The User is notified that they already have purchased tickets for this event.3. The User selects to view their tickets, and is redirected to Step 3.
Exception flows	EF01 There are no tickets purchased for upcoming events. <ol style="list-style-type: none">1. The User completes step 2.2. An empty list is shown, with a message that the User has no events upcoming. EF02 The User has purchased a ticket for an event in the future but the event has been cancelled. <ol style="list-style-type: none">3. The User completes step 2, and a list of all events is shown.4. The event that has been cancelled is crossed out and labelled "Cancelled".

UC-C-02 View Past Tickets

Name	View All Past Tickets
Brief description	Allows the User to view the tickets for past events that they bought tickets.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system. (UC-S-01)• The User has purchased a ticket to an event.• The event that the User purchased the ticket to is in the past.
Post conditions	<ul style="list-style-type: none">• The User is viewing the details of the ticket.
Event flow	<ol style="list-style-type: none">1. The User navigates to their tickets page.2. The User selects to "View Past Tickets".3. The list of purchased tickets for past events appears, in date order.
Alternate flows	AF01 The User is searching for the event. <ol style="list-style-type: none">1. The User navigates to a page for an event for which they've already purchased tickets.2. The User is notified that they already have purchased tickets for this event.3. The User selects to view their tickets, and is redirected to Step 3.
Exception flows	EF01 There are no tickets purchased for past events. <ol style="list-style-type: none">1. The User completes step 2.2. An empty list is shown, with a message that the User has no past events. EF02 The User has purchased a ticket for an event in the past but the event has been cancelled. <ol style="list-style-type: none">3. The User completes step 2, and a list of all past events is shown.4. The event that has been cancelled is crossed out and labelled "Cancelled".

UC-C-03 Purchase Ticket

Name	Purchase Ticket to Event
Brief description	Allows the User to purchase a ticket to an event.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system. (UC-S-01)• The event that the user wishes to purchase tickets for is upcoming, has tickets available, and has sales open.
Post conditions	<ul style="list-style-type: none">• The User has purchased a ticket to an event.• The User can view their ticket in their upcoming tickets page.
Event flow	<ol style="list-style-type: none">1. The User navigates to the event search page.2. The User searches for the event that they wish to purchase a ticket for by the name of the event.3. The User selects the event that they want to buy tickets for.4. The User selects the number of tickets that they want to purchase.5. The User inputs the names to be on each of the tickets.6. The User inputs their billing address.7. The User selects "Purchase".8. The User is then redirected to a confirmation page with information about the event.
Alternate flows	<p>AF01 The User has a link to the event page.</p> <ol style="list-style-type: none">1. Instead of steps 1-3, the User enters the link in their search bar on their web browser to the event page, and is taken directly to the page with the details of the specified event.2. The User then continues from step 4. <p>AF02 The User wishes to purchase more tickets for an event they already have tickets for.</p> <ol style="list-style-type: none">1. The User navigates to the list of their upcoming tickets.2. The User selects the tickets of the event that they wish to purchase more tickets for.3. The User selects the name of the event that they wish to purchase more tickets for, and is redirected to the page with this event's details.4. The User then continues from step 4, and the number of tickets that they purchase is then added onto the number of tickets that they have already purchased.
Exception flows	<p>EF01 The User cancels the operation.</p> <ol style="list-style-type: none">(a) In any of the steps 1-6, the User may select to "Cancel", and the operation will abort. No tickets will be reserved and the User will be redirected to the homepage.

UC-C-04 View Ticket Details

Name	View Ticket for Event
Brief description	Allows the User to view their tickets for a particular event.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system. (UC-S-01)• The User has purchased a ticket to an upcoming event. (UC-C-03)
Post conditions	<ul style="list-style-type: none">• The User is viewing the details of a ticket that they have purchased for an event.
Event flow	<ol style="list-style-type: none">1. The User navigates to their upcoming tickets page.2. The User selects the event for whose tickets they wish to view.3. The User selects the ticket they want to view from the list of tickets that they have purchased.4. The ticket is loaded up on the interface, and the user is able to view the details of the ticket, including ticket number, name, event name, performer, venue, and event time.
Alternate flows	<p>AF01 The User searches the upcoming event that they have already purchased tickets for using the event search function.</p> <ol style="list-style-type: none">1. The User selects the event that they wish to view.2. The User is notified that they have already purchased tickets to this event, and is given a link to view those tickets.3. The User selects this link and is redirected to the page containing these tickets.4. The User continues from step 3. <p>AF02 The User is given a link to the upcoming event that they have already purchased tickets for.</p> <ol style="list-style-type: none">1. The User enters the link in their search bar on their web browser to the event page, and is taken directly to the page with the details of the specified event.2. The User is notified that they have already purchased tickets to this event, and is given a link to view those tickets.3. The User selects this link and is redirected to the page containing these tickets.4. The User continues from step 3.
Exception flows	<p>EF01 The User cancels the operation</p> <ol style="list-style-type: none">1. At any point, the User selects to "Cancel", and they are returned to the homepage of the system.

UC-C-05 Cancel Ticket

Name	Cancel Ticket
Brief description	Allows the User to cancel a ticket that they have purchased for an upcoming event.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system. (UC-S-01)• The User has purchased a ticket to an upcoming event. (UC-C-03)
Post conditions	<ul style="list-style-type: none">• The User no longer has the ticket that they have purchased.• The ticket that they purchased is returned to the pool of tickets for this event, and is available for other Users to purchase.
Event flow	<ol style="list-style-type: none">1. The User views the details of the upcoming event that they have purchased the tickets for that they wish to cancel. <i>[See UC-C-08]</i>2. The User selects the tickets that they wish to cancel.3. The User selects to "Cancel" the tickets.4. The User selects to "Confirm" the cancellation.5. The tickets are removed from their account, and the User can no longer view them. If all tickets for a particular event are deleted, this event is removed from the list of upcoming events for the User.
Exception flows	<p>EF01 The User cancels the cancellation at any point.</p> <ol style="list-style-type: none">1. In step 2, the User selects to "Unselect", or in step 3 or 4, the User selects to go "Back".2. The operation is cancelled and the User continues to keep their tickets.

UC-C-06 Search for Events

Name	Search for Events
Brief description	Allows the User to search for events that they are interested in.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system. (UC-S-01)
Post conditions	<ul style="list-style-type: none">• The User is viewing information about an event that they are interested in.
Event flow	<ol style="list-style-type: none">1. The User searches for the event that they wish to know more about by typing the event's name into the search area.2. The User is given a list of events that match what they typed into the search area.3. The User selects the event that they are interested in learning about, and the information about that event is given.
Alternate flows	AF01 The User selects the wrong event. <ol style="list-style-type: none">1. After step 3, the User selects to go "Back", and returns to the list of events that matched their search terms.2. The User continues from step 2.
Exception flows	EF01 The User cancels the search at any point. <ol style="list-style-type: none">1. At any point, the User selects to go "Back".2. The User is returned to the homepage of the system. EF02 No events match their search <ol style="list-style-type: none">1. The User is notified that there are no events that match their search, and encouraged to try again.

UC-C-07 View Calendar of Events

Name	View Calendar of Events
Brief description	Allows the User to view upcoming events in a calendar.
Preconditions	<ul style="list-style-type: none">• The User has an account in the system.• The User is logged into their account on the system.
Post conditions	<ul style="list-style-type: none">• The User is viewing information about an event that they are interested in.
Event flow	<ol style="list-style-type: none">1. The User navigates to a calendar view of events by month that they are interested in.2. The User selects the event that they are interested in learning about, and the information about that event is given.
Alternate flows	AF01 The User selects the wrong event. <ol style="list-style-type: none">1. After step 3, the User selects to go "Back", and returns to the list of events that matched their search terms.2. The User continues from step 2.
Exception flows	EF01 The User cancels the view at any point. <ol style="list-style-type: none">1. At any point, the User selects to go "Back".2. The User is returned to the homepage of the system. EF02 No events match the time period they are looking for <ol style="list-style-type: none">1. The User is notified that there are no events in that time period, and encouraged to try again.

5.5 Optional Use Cases

UC-O-01 Lock Purchases

Name	Lock Purchases
Actors	Event Planner
Brief description	Allows the user to lock purchasing of new tickets for an event in the presence of any issues.
Preconditions	<ul style="list-style-type: none">• The User is an event planner with a valid account.• The User is logged into this account. (UC-S-01)• The User has created an event for which they wish to lock-/unlock purchasing of tickets.
Post conditions	<ul style="list-style-type: none">• If the User unlocks purchasing, customers are able to purchase tickets to this event.• If the User locks purchasing, customers are unable to purchase tickets to this event.
Event flow	<ol style="list-style-type: none">1. The User navigates to the list of events they are managing.2. The User selects the event for which they want to change the purchasing permissions.3. The User moves the toggle to Lock or Unlock the purchasing depending on what they wish to do.

UC-O-02 Filter search

Actors	Customer, Event Planner
Brief description	Allows the User to search for events by time, location, performer, or venue, rather than just name.
Preconditions	<ul style="list-style-type: none">• The User has an account.• The User is logged into their account. (UC-S-01)
Post conditions	<ul style="list-style-type: none">• The User is able to view details about the event that they are interested in. (UC-C-06)
Event flow	<ol style="list-style-type: none">1. The User navigates to the search area.2. The User enters details that they want events to have, including location, time, performer, or venue.3. A list of events that match these parameters are shown.4. The User can then select an event that they are interested in, and view details about that event.
Exception flows	EF01 No events match their search <ol style="list-style-type: none">1. The User is notified that there are no events that match their search, and encouraged to try again.

UC-O-03 Transfer Ownership of Event

Brief description	Allow the User to add other event planners as managers of an event
Actors	Event Planner
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User manages at least one event• The User has navigated to the "Event Details" page for an event that they manage• The User is currently viewing the event's list of managers• The User is the owner of the event• The event has at least one manager who is not the User
Post conditions	<ul style="list-style-type: none">• The event is updated in the system so that it is owned by the newly selected manager• The User is redirected to an updated version of the "Event Details" page, which displays the selected manager as the event owner
Event flow	<ol style="list-style-type: none">1. While viewing the event's list of managers, the User clicks the "Assign as Owner" button displayed next to one of the managers

UC-O-04 Filter Managed Events

Brief description	Allow the user to view a filtered subsection of the events that they manage
Actors	Event Planner
Preconditions	<ul style="list-style-type: none">• The User has an account in the system• The User is logged into their account (UC-S-01)• The User is currently on the "Your Managed Events" page• The User is currently viewing a list of their managed events
Post conditions	<ul style="list-style-type: none">• The events displayed on the managed events page are filtered by name based on the User's search query
Event flow	<ol style="list-style-type: none">1. The User enters the name of the event they wish to view in the search bar2. The User clicks "Search"3. The displayed list of events is filtered, and a "Clear Search" button is displayed next to the search bar
Alternate flows	AF01 User clears search <ol style="list-style-type: none">1. At any point after step 2, the User clicks the "Clear Search" button2. The displayed list of events reverts to the original, un-filtered view
Exception flows	EF01 The User's search yields no results <ol style="list-style-type: none">(a) After completing step 1, no matches are found for the event name entered by the user(b) A "No matching events" notification is displayed by the search bar(c) No filter is applied to the list of managed events - in other words, all events remain visible(d) The user may repeat step 1 and 2 with a different query string if they wish

6 Use Case Diagram

In Figure 1 the Use Case diagram made with PlantUML can be seen. In it, the use cases colored in yellow are the ones that are considered as optional use cases, or extensions to the system that would make its functioning better but are not vital.

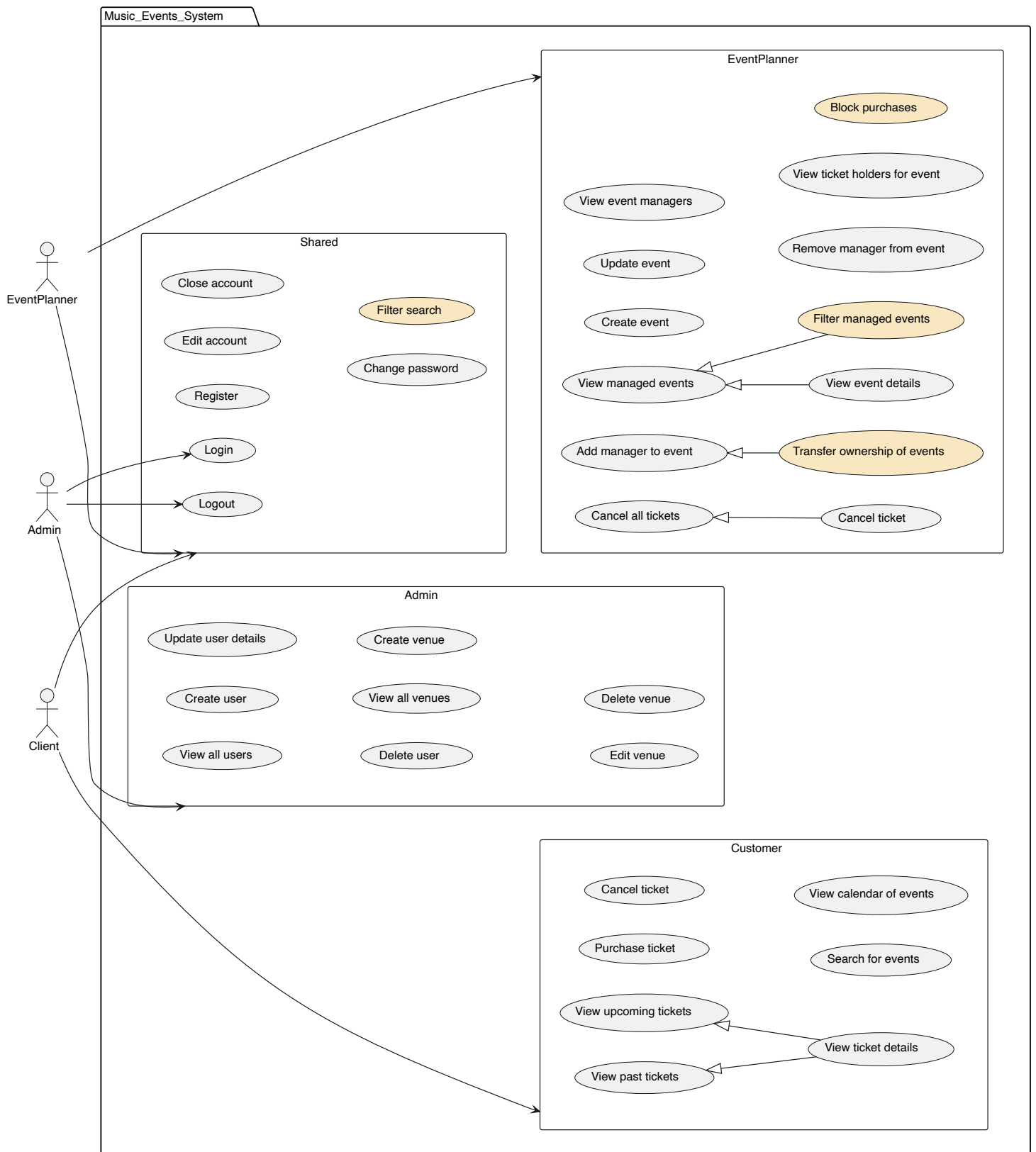


Figure 1: Use case diagram

7 Domain Model

7.1 Description

The following points serve as a brief sketch of the domain, and should be used as a reference when viewing the domain model (Section 7.2)

1. Due to significant overlap in behaviour (eg. logging in, logging out) and core data *Customers*, *Administrators*, and *Event Planners* are all derived from *User*, which represents a basic user of the system and holds user data including a contact email and name. *Aministrators*, *Event Planners*, and *Customers* may all log-in and log-out of the system, and both *Event Planners* and *Customers* may edit account information and even delete their own accounts.
2. The *Administrator* is able to manage *Customers* and *Event Planners*. They are also responsible for managing, adding, and adding *Venues*.
3. *Event Planners* manage and create *Events* and are associated with a list of *Events* that they manage.
4. *Customers* represent the end-users of the system and are able to purchase tickets to events. They are associated with their billing *Address*, as well as with the *Tickets* they've booked.
5. *Venues* are named and located at an *Address*. They are associated with all *Sections* that make up the *Venue* (as in reality, a venue might be divided up into different seating areas, for example a VIP area and General admission section). The total capacity of the venue can be inferred from the sum of capacities of its associated *Sections*.
6. *Sections* represent the different sections of a venue, and store the section name and capacity.
7. *Events* represent musical shows and performances, and capture the name, start time, duration, and musical artist for a performance. They are associated with a *Venue* and also contain pricing information for each *Section* of the *Venue* as a series of *SectionPrices*. This captures the fact that a VIP ticket for an event might have a different price to a general admission ticket.
8. *Addresses* contain location information, including street addresses etc., as well as the location's *State or Territory*, which is modelled as an Enum.
9. *Tickets* that *Customers* purchase are associated with the venue *Section* in which the customer will be seated, and also store the ticket holder name and the ticket price at time of purchase. Additionally, tickets are associated with the *Event* they grant admission to.

7.2 Domain Model Diagram

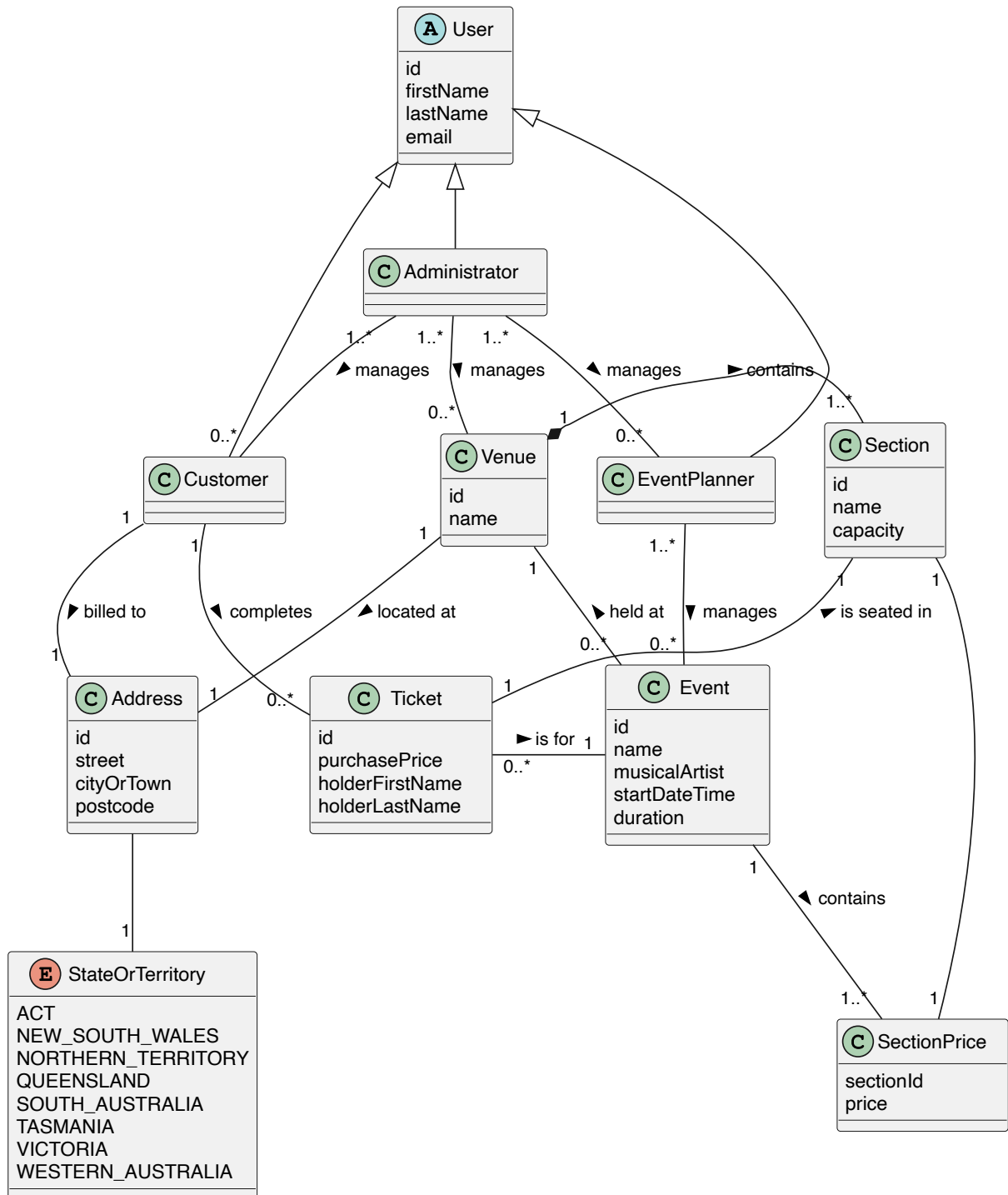


Figure 2: Domain model diagram