# Software Requirements Specification

for

# SportSync

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CS-B

# Table of Contents

# 1. Introduction

## 1.1 Purpose

*SportSync offers an app that makes it simple for athletes to join or request sports events nearby.*

## 1.2 Project Scope

*Athletes and sports fans who want to plan or take part in informal indoor or outdoor sporting events can use SportSync. While there are currently few sports venues booking services available, none of them combine team formation, site time voting and game scheduling into a single, cohesive app.*

# 2. Overall Description

## 2.1 Objective

*- To provide a smooth platform that makes it simple for athletes to plan, schedule, or participate in sports.*
*- To encourage community involvement by incorporating voting and team-building elements on a digital platform.*
*- A digital platform is being created to facilitate the organization of tournaments and friendly competitions.*

## 2.2 Problem Statement and Description

*Whether indoors or outdoors, planning informal sporting events can be difficult. Delays, cancellations, or incomplete teams may result from the process of locating players, verifying their availability, and arranging a venue. SportSync offers an app that makes it simple for athletes to join or request sports events nearby. The software makes sure that games are well-organized by giving teams or individuals the ability to complete slots and cast votes for the final venue and time. It simplifies the online venue reservation process, making it as simple as scheduling a movie. Due to the growing popularity of social sports and fitness, as well as the growing use of smartphones and online booking, the likelihood of success is strong. SportSync can fill a void in the market for sports fans with user engagement features and strategic relationships with sports facilities.*

## 2.3 Use Cases

- *Create a Sports Event*
- *Join a Sports Event*
- *Vote on Event Venue and Time*
- *Search for Events by Location*
- *Invite Friends to Events*

- *Create or Join a Team*
- *View Event Details*
- *Track Event Participation*
- *Book a Venue*
- *View Venue Availability*
- *Receive Notifications for Events*
- *Rate an Event or Venue*

## 2.4 Extended Use Cases

**Use Case 1:**

Create Event

**Actors:**

HostUser

**Description:**

HostUser creates a new event, specifying details like name, date, location, and maximum participants.

**Preconditions:**

The HostUser must be logged in.
Venue must be available.

**Main Success Scenario:**

| Actor | System |
|---|---|
| HostUser navigates to the "Create Event" page. | |
| | System displays a form to input event details. |
| HostUser fills in all required fields and submits the form. | |
| | System validates the input and checks venue availability. |
| | System creates the event and stores it in the database. |
| | System displays a confirmation message and event details. |

**Extensions:**

4a. Invalid Input:
4a1. System prompts the user to correct invalid fields.
4b. Venue Unavailable:
4b1. System suggests alternative venues or dates.

**Postconditions:**

Event is created and stored in the database.
Participants can now view and join the event.

**Use Case 2:**

Book Venue

**Actors:**

HostUser

**Description:**

HostUser books a venue for an event.

**Preconditions:**

The HostUser must be logged in.

Venue availability must be verified.

**Main Success Scenario:**

| Actor | System |
|---|---|
| HostUser selects a venue from the list of available venues. | |
| | System displays the venue details. |
| HostUser selects the desired date and time for the booking. | |
| | System verifies availability and confirms the booking. |
| | Booking details are saved in the database. |
| | System displays a confirmation message. |

**Extensions:**

4a. Venue Unavailable:

4a1. System suggests alternative dates or venues.

**Postconditions:**

Venue is booked and its availability is updated in the system.

**Use Case 3:**

Join Event

**Actors:**

ParticipantUser

**Description:**

ParticipantUser joins an existing event.

**Preconditions:**

The ParticipantUser must be logged in.

Event must not be full.

**Main Success Scenario:**

| Actor | System |
|---|---|
| ParticipantUser searches for events. | |
| | System displays a list of events. |
| ParticipantUser selects an event and clicks "Join." | |
| | System verifies availability and adds the user to the event. |
| | System updates the event participant list and displays a success message. |

**Extensions:**

4a. Event Full:
4a1. System displays a notification that the event is full.

**Postconditions:**

Participant is added to the event participant list.

**Use Case 4:**

Rate Event

**Actors:**

ParticipantUser

**Description:**

ParticipantUser rates a completed event.

**Preconditions:**

The ParticipantUser must have participated in the event.
The event must be completed.

**Main Success Scenario:**

| Actor | System |
|---|---|
| ParticipantUser navigates to the event page. | |
| | System displays a rating option. |
| ParticipantUser submits a star rating and optional comments. | |
| | System saves the rating and comments in the database. |
| | System updates the event’s overall rating and displays a success message. |

**Extensions:**

3a. Invalid Input:
3a1. System prompts the user to correct the input.

**Postconditions:**

Event rating is updated in the system.

**Use Case 5:**

Create Team

**Actors:**

ParticipantUser

**Description:**

ParticipantUser creates a team for a specific event.

**Preconditions:**

The ParticipantUser must be logged in.

**Main Success Scenario:**

| Actor | System |
|---|---|
| ParticipantUser selects an event and navigates to the "Create Team" option. | |
| | System displays a form to input team details. |
| ParticipantUser fills in the details and submits. | |
| | System creates the team and adds it to the event. |
| | System displays a confirmation message. |

**Extensions:**

3a. Invalid Input:
3a1. System prompts the user to correct invalid fields.

**Postconditions:**

Team is created and associated with the event.

**Use Case 6:**

Send Notification

**Actors:**

HostUser, System

**Description:**

HostUser sends notifications to participants regarding event updates.

**Preconditions:**

The HostUser must be logged in.
Participants must be registered for the event.

**Main Success Scenario:**

| Actor | System |
|---|---|
| HostUser selects an event and navigates to the "Send Notification" option. | |
| | System displays a notification form. |
| HostUser composes and sends the notification. | |
| | System delivers the notification to all participants. |
| | System displays a success message. |

**Extensions:**

4a. Notification Failure:

4a1. System retries sending or logs the error.

**Postconditions:**

Notification is delivered to participants.

**Use Case 7:**

Track Participation

**Actors:**

ParticipantUser

**Description:**

ParticipantUser tracks their participation in events.

**Preconditions:**

The ParticipantUser must be logged in.

**Main Success Scenario:**

| Actor | System |
|---|---|
| ParticipantUser navigates to their dashboard. | |
| | System displays a list of events they have joined. |
| ParticipantUser selects an event to view details. | |
| | System shows participation history and status. |

**Postconditions:**

Participants view their participation records.

**Use Case 8:**

Search Events

**Actors:**

ParticipantUser, HostUser

**Description:**

Users search for events based on criteria.

**Preconditions:**

User must be logged in.

**Main Success Scenario:**

| Actor | System |
|---|---|
| User enters search criteria. | |
| | System displays matching events. |
| User selects an event to view details. | |

**Extensions:**

2a. No Results Found:

2a1. System suggests alternative events.

**Postconditions:**

Search results are displayed to the user.

**Use Case 9:**

Book a Venue

**Actors:**

HostUser

**Description:**

The HostUser books a venue for an upcoming event.

**Preconditions:**

The HostUser must be logged in.

Venue must be available for the selected date and time.

**Main Success Scenario:**

| Actor | Systen |
|---|---|
| HostUser navigates to the "Book Venue" page. | |
| | System displays a list of available venues. |
| HostUser selects a venue, date, and time for booking. | |
| | System verifies venue availability. |
| | System confirms and saves the booking details. |

| | |
|---|---|
| | System displays a confirmation message with booking details. |

**Extensions:**

4a. Venue Unavailable:
4a1. System suggests alternative dates or venues.

**Postconditions:**

The venue is booked and its availability is updated in the system.

**Use Case 10:**

View Venue Availability

**Actors:**

HostUser, ParticipantUser

**Description:**

Users view the availability of a venue to plan their events.

**Preconditions:**

User must be logged in.

**Main Success Scenario:**

| Actor | System |
|---|---|
| User navigates to the "View Venue Availability" page. | |
| | System displays a list of venues. |
| User selects a venue to view its availability. | |
| | System retrieves and displays the venue's availability schedule. |

**Extensions:**

3a. Venue Not Found:
3a1. System displays a message that the venue does not exist.

**Postconditions:**

User views the availability status of the selected venue.

**Use Case 11:**

View Event Details

**Actors:**

ParticipantUser, HostUser

**Description:**

Users view detailed information about an event.

**Preconditions:**

Event must exist in the system.

**Main Success Scenario:**

| Actor | System |
|---|---|
| User navigates to the "Search Events" page or their dashboard. | |
| | System displays a list of events. |
| User selects an event from the list. | |
| | System retrieves and displays detailed information about the event, including name, description, date, time, location, and participants. |

**Extensions**:

3a. Event Not Found:

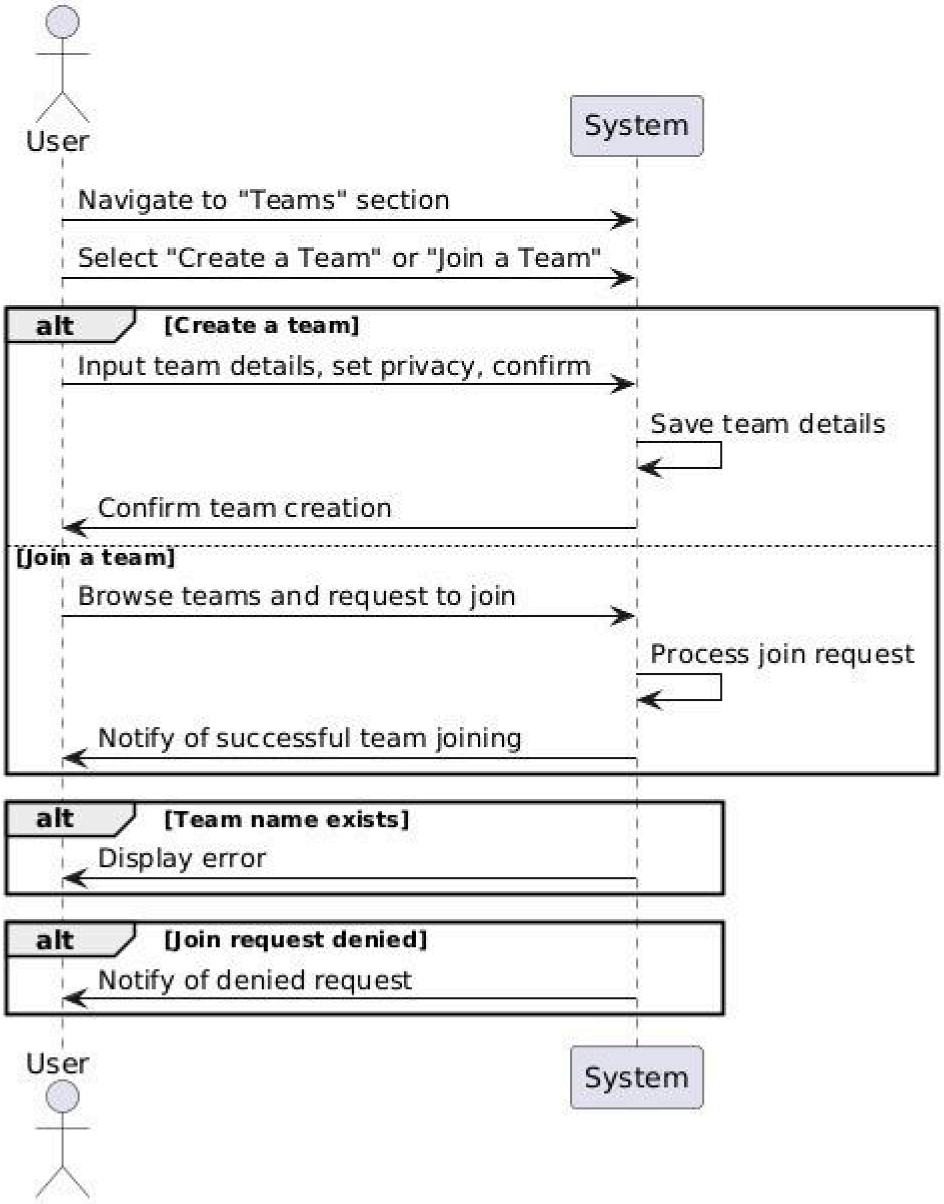
3a1. System displays a message that the event does not exist.

**Postconditions**

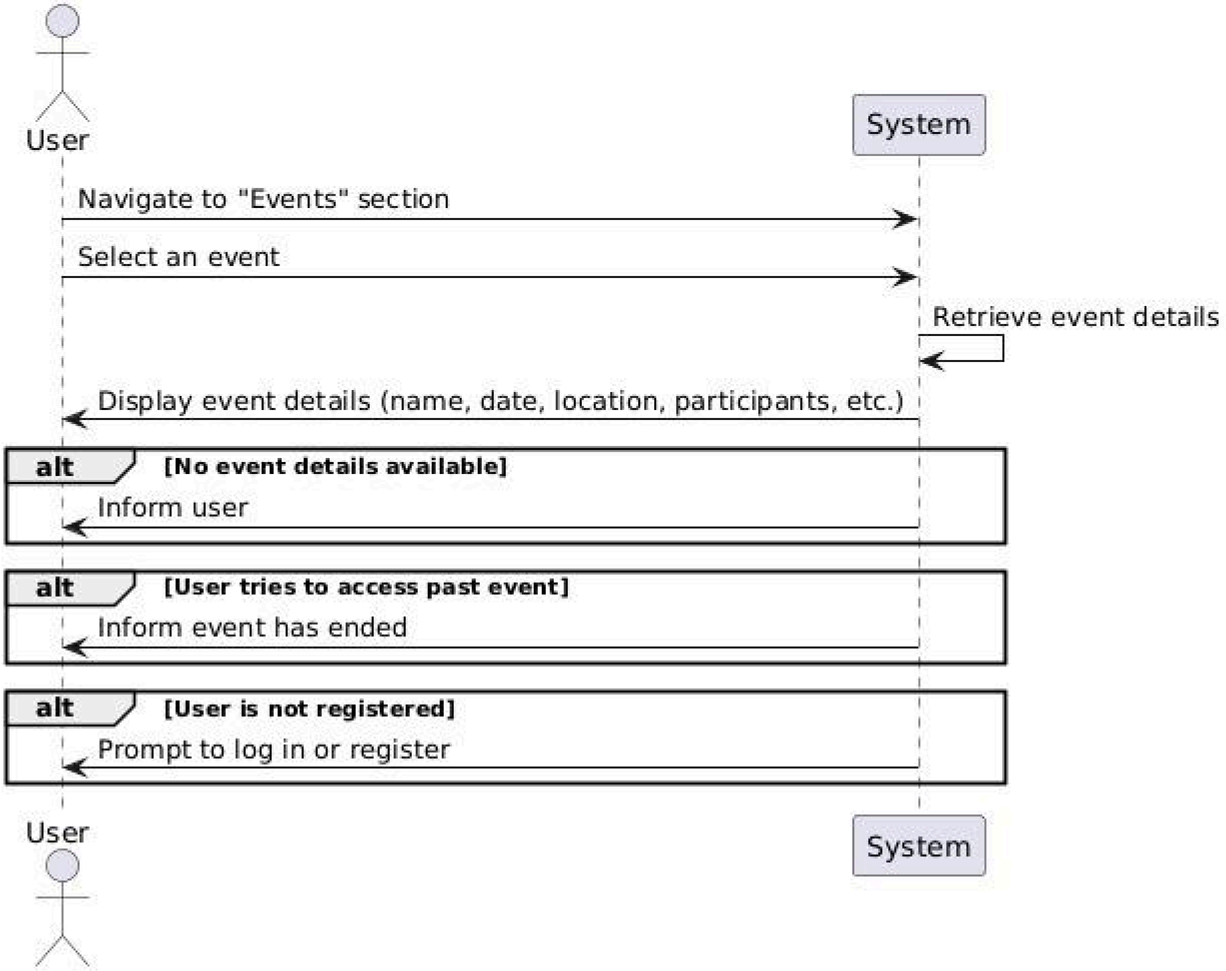
Event details are displayed to the user.

# 3. System Sequence Diagrams

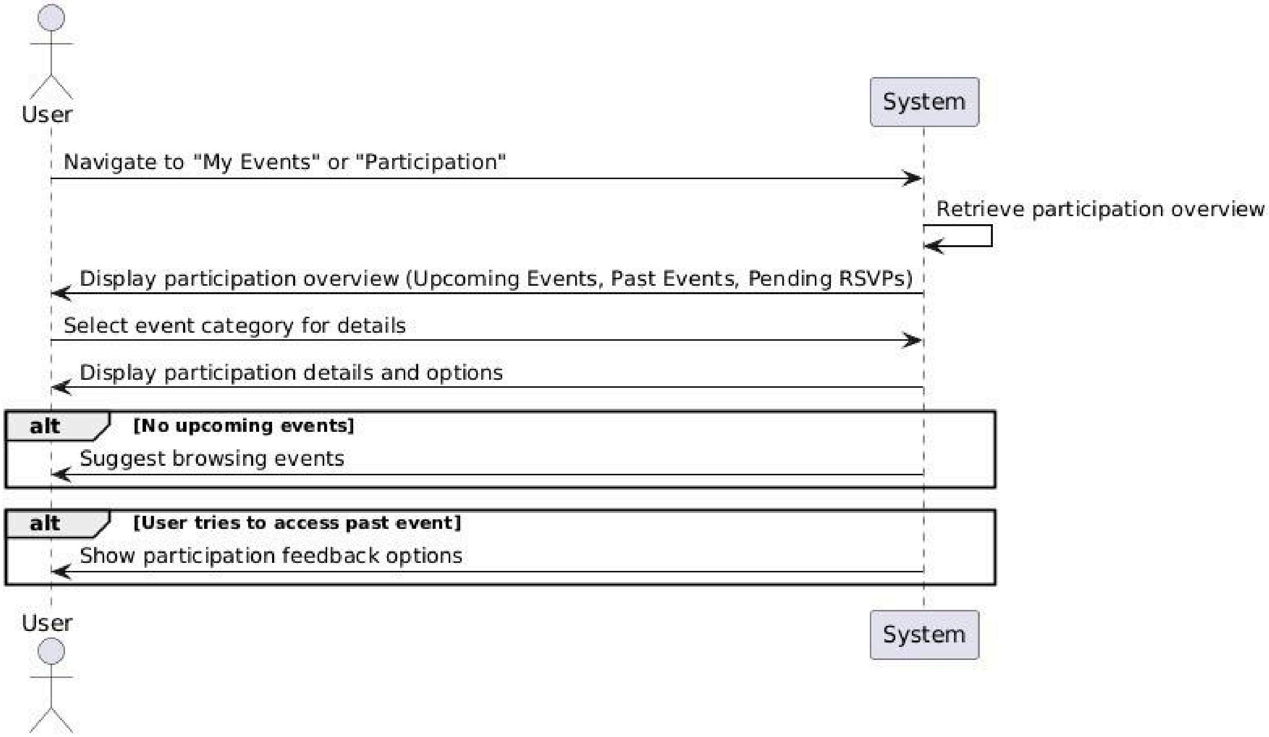
**Use Case 1:**



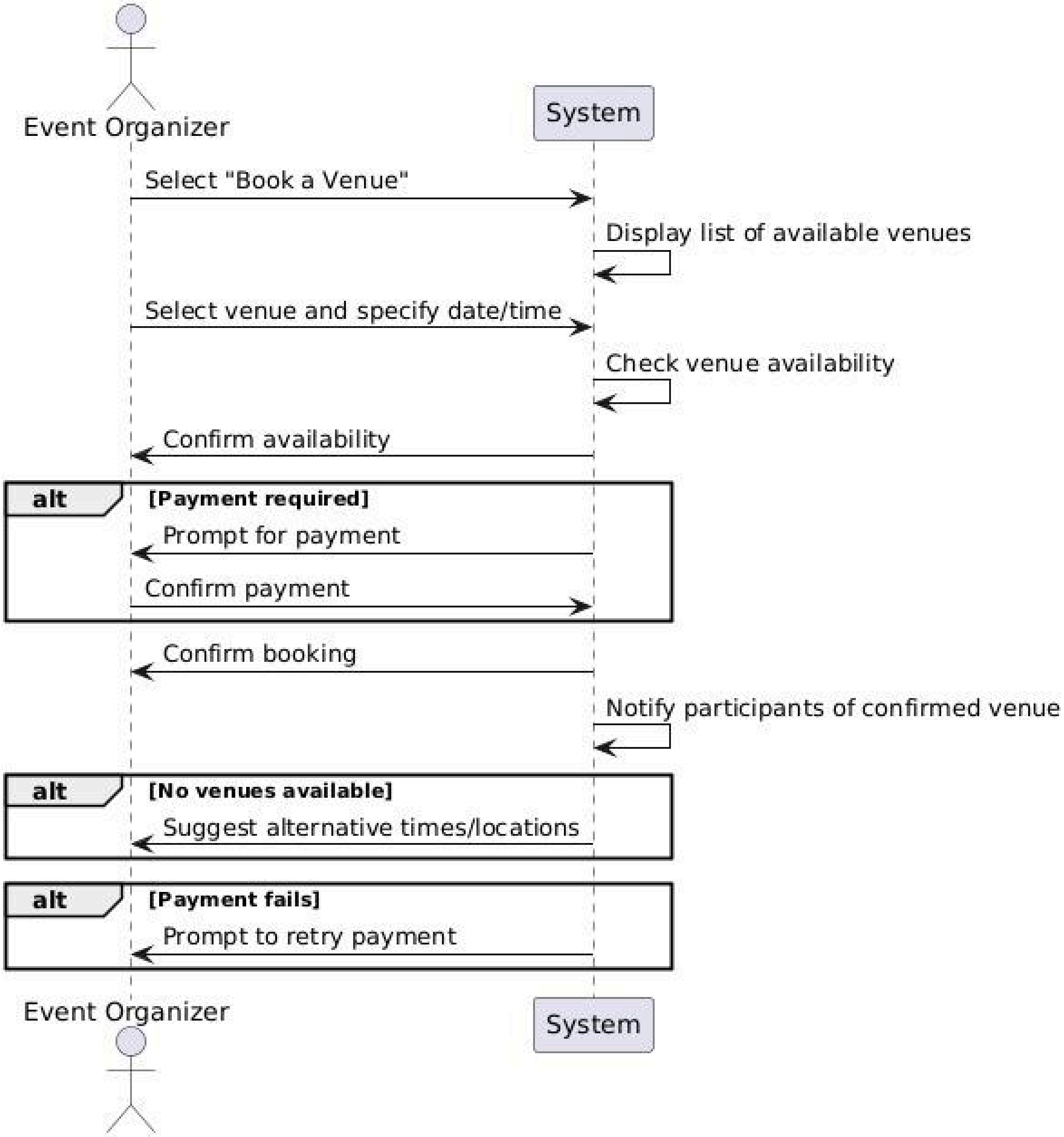
**Use Case 2:**


User
System
Navigate to "Events" section
Select an event
Retrieve event details
Display event details (name, date, location, participants, etc.)
alt
[No event details available]
Inform user
alt
[User tries to access past event]
Inform event has ended
alt
[User is not registered]
Prompt to log in or register
User
System

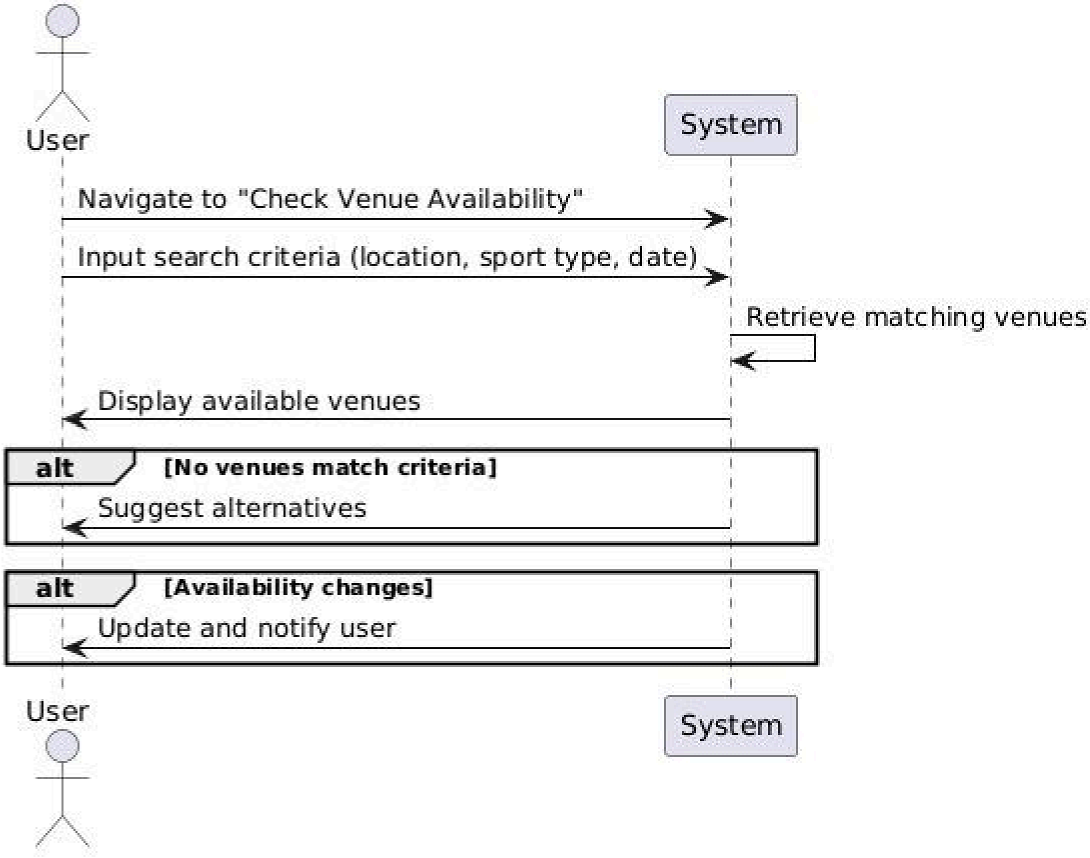
## Use Case 3:


User
System
Navigate to "My Events" or "Participation"
Retrieve participation overview
Display participation overview (Upcoming Events, Past Events, Pending RSVPs)
Select event category for details
Display participation details and options
alt
[No upcoming events]
Suggest browsing events
alt
[User tries to access past event]
Show participation feedback options
User
System

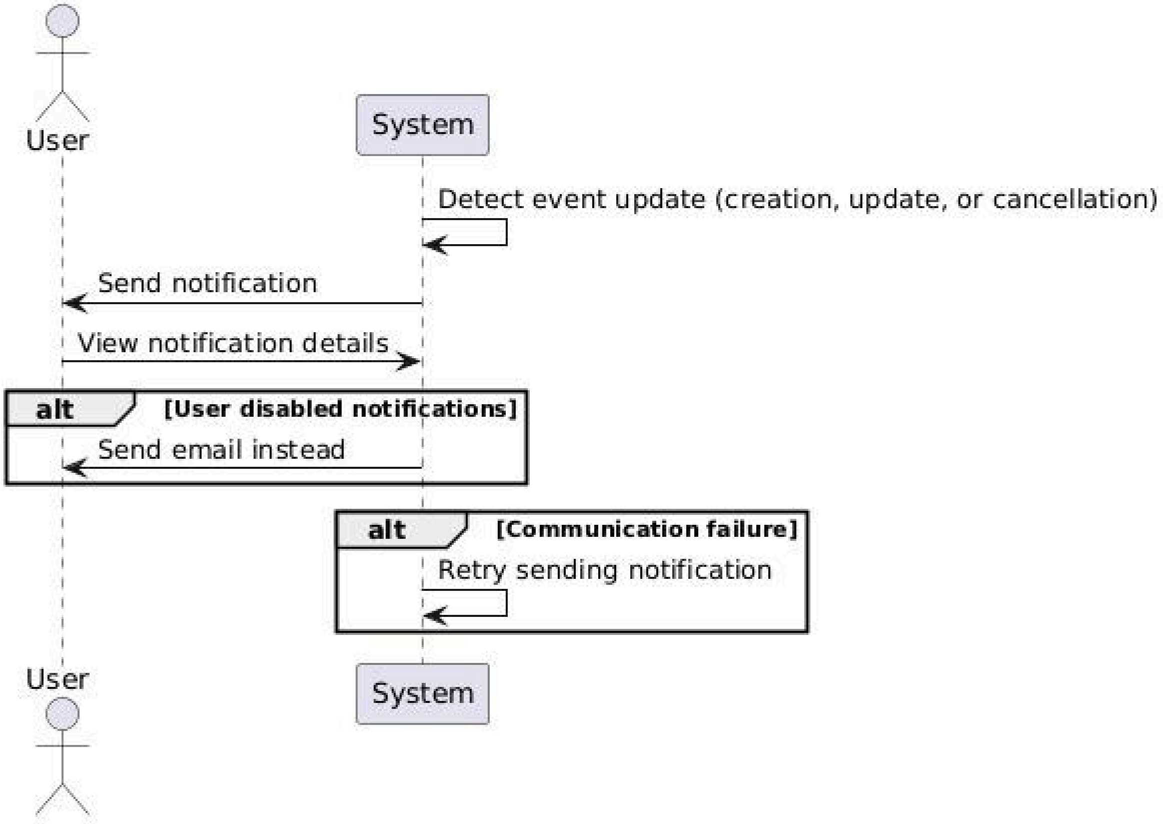
## Use Case 4:


Event Organizer
System
Select "Book a Venue"
Display list of available venues
Select venue and specify date/time
Check venue availability
Confirm availability
alt
[Payment required]
Prompt for payment
Confirm payment
Confirm booking
Notify participants of confirmed venue
alt
[No venues available]
Suggest alternative times/locations
alt
[Payment fails]
Prompt to retry payment
Event Organizer
System

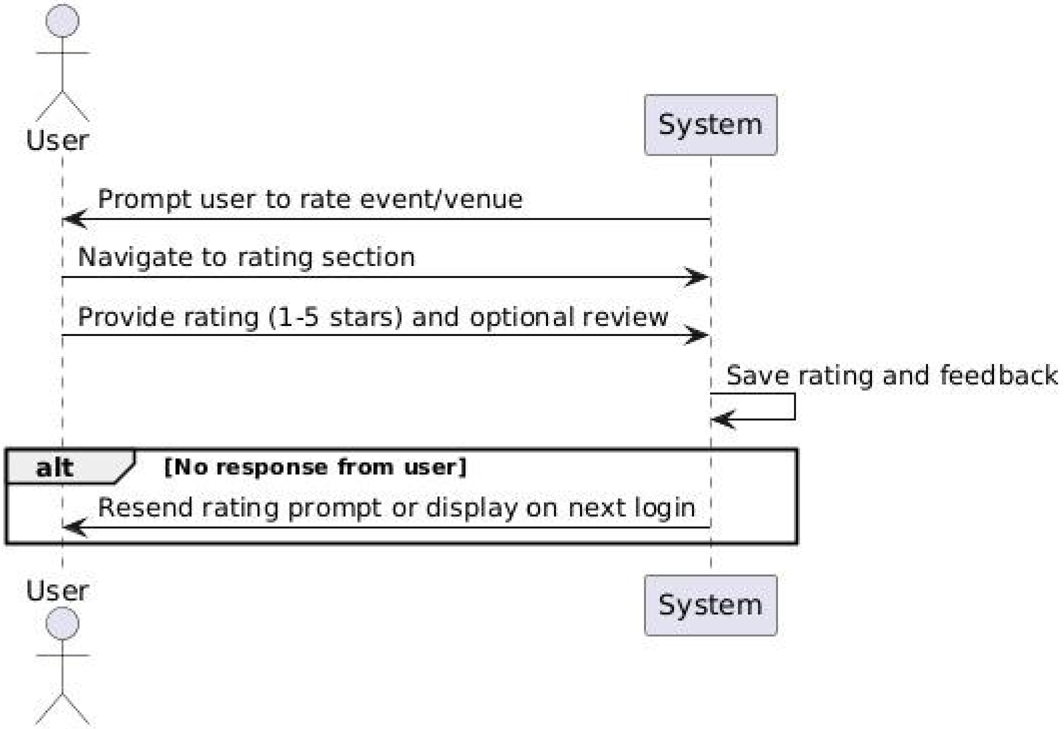
## Use Case 5:


User
System
Navigate to "Check Venue Availability"
Input search criteria (location, sport type, date)
Retrieve matching venues
Display available venues
alt
[No venues match criteria]
Suggest alternatives
alt
[Availability changes]
Update and notify user
User
System

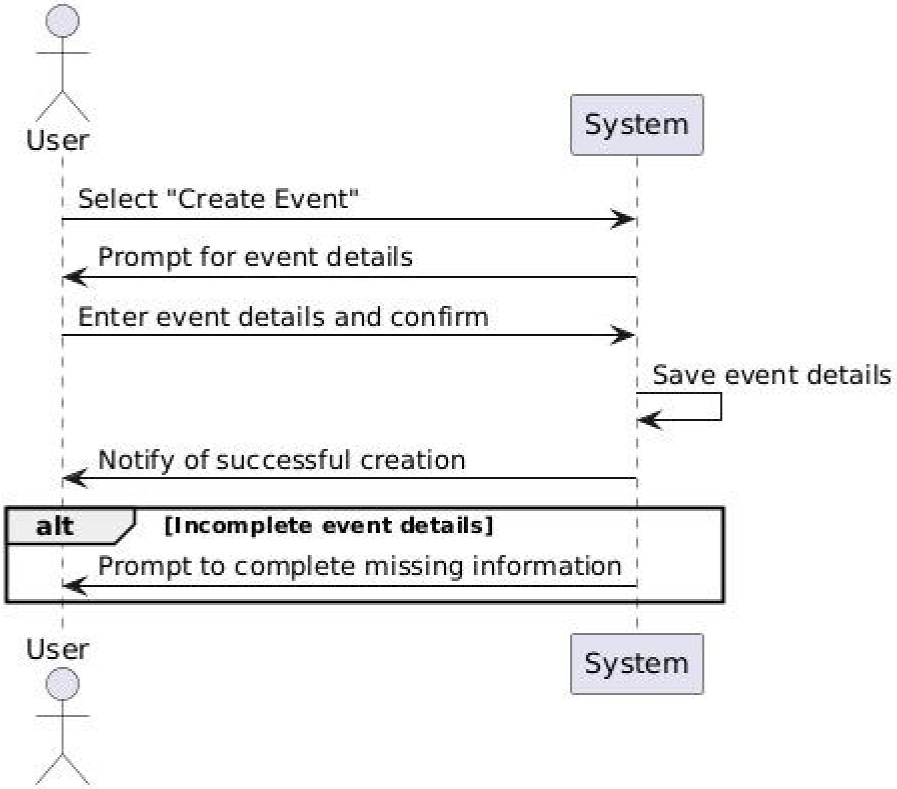
**Use Case 6:**


User
System
Detect event update (creation, update, or cancellation)
Send notification
View notification details
alt
[User disabled notifications]
Send email instead
alt
[Communication failure]
Retry sending notification
User
System

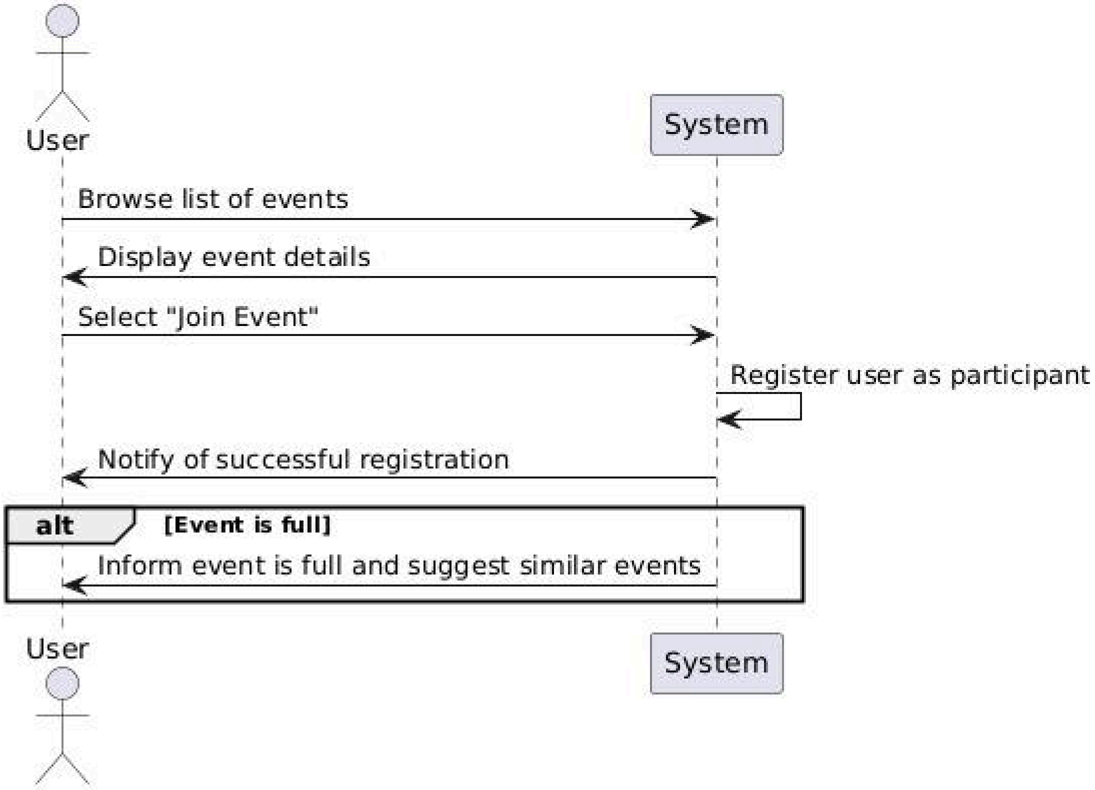
## Use Case 7:


User
System
Prompt user to rate event/venue
Navigate to rating section
Provide rating (1-5 stars) and optional review
Save rating and feedback
alt
[No response from user]
Resend rating prompt or display on next login
User
System

**Use Case 8:**

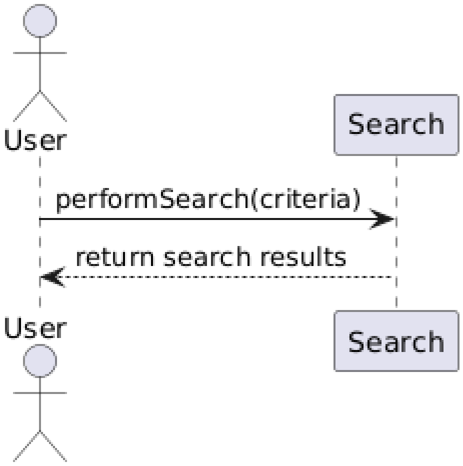

User
System
Select "Create Event"
Prompt for event details
Enter event details and confirm
Save event details
Notify of successful creation
alt
[Incomplete event details]
Prompt to complete missing information
User
System

## Use Case 9:

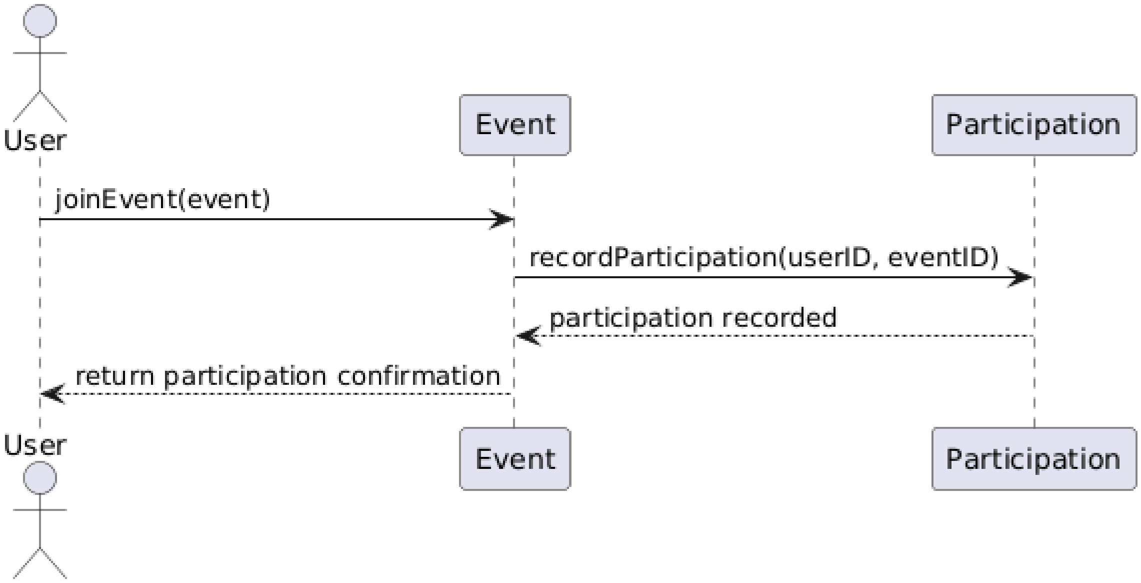

User
System
Browse list of events
Display event details
Select "Join Event"
Register user as participant
Notify of successful registration
alt
[Event is full]
Inform event is full and suggest similar events
User
System

# 4. Sequence Diagram

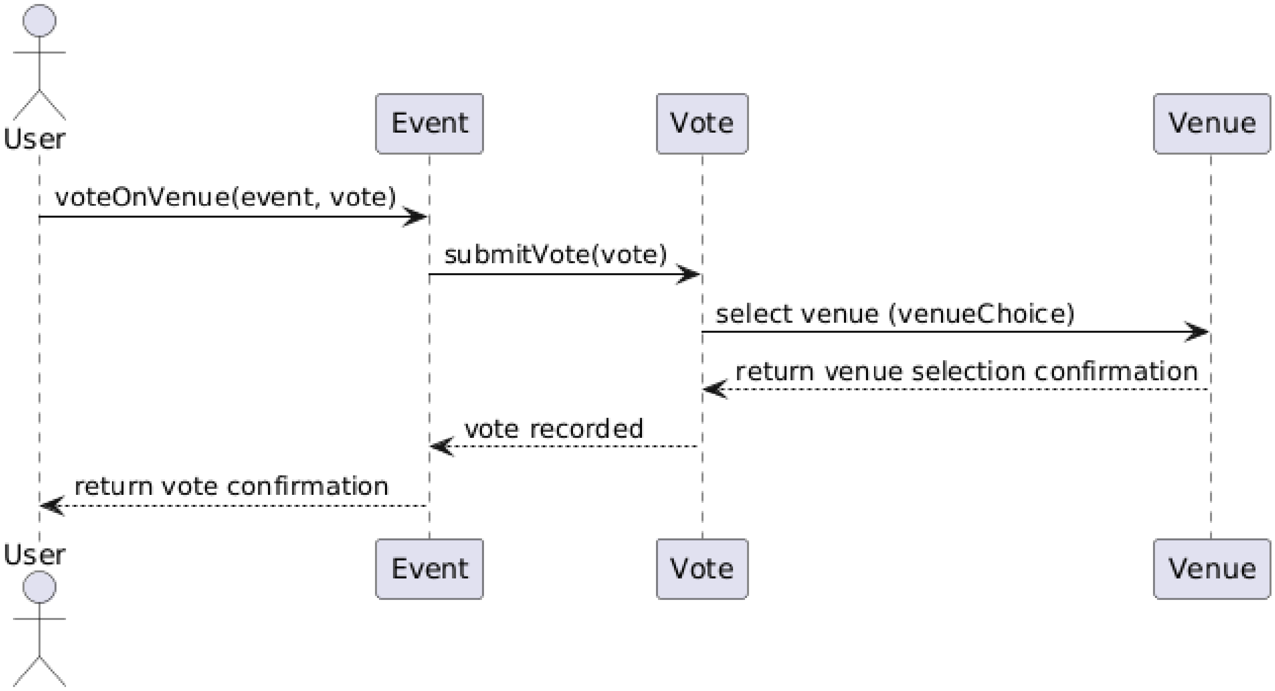
**Use Case 1:**



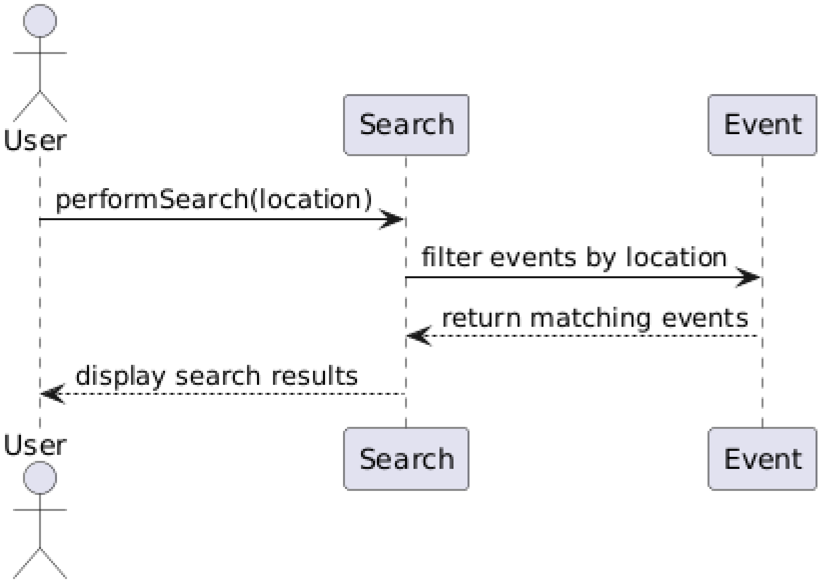
**Use Case 2:**



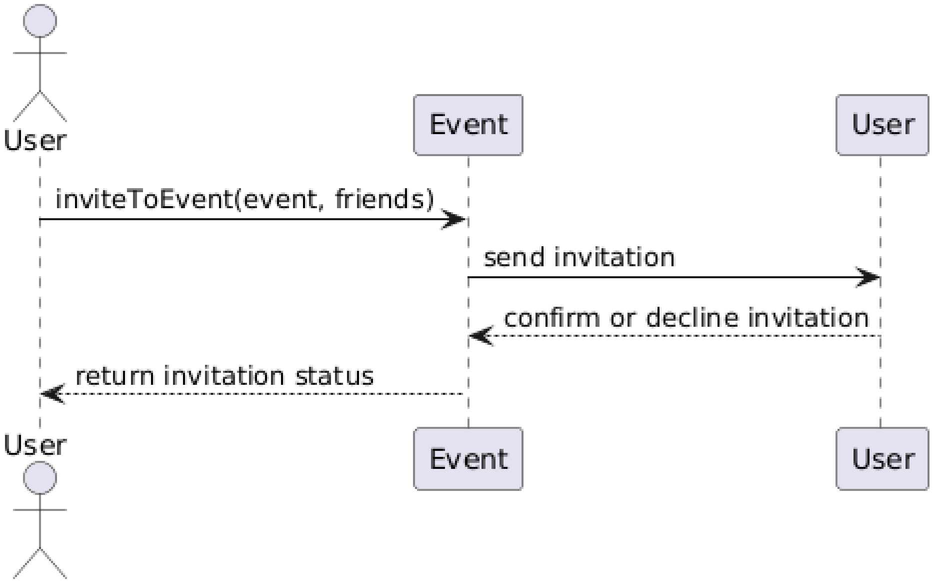
## Use Case 3:



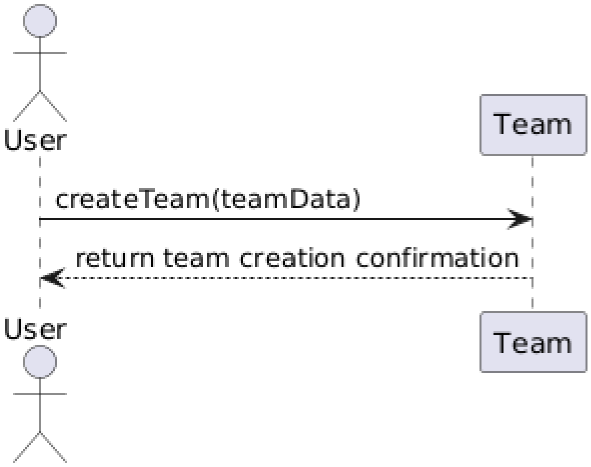
## Use Case 4:



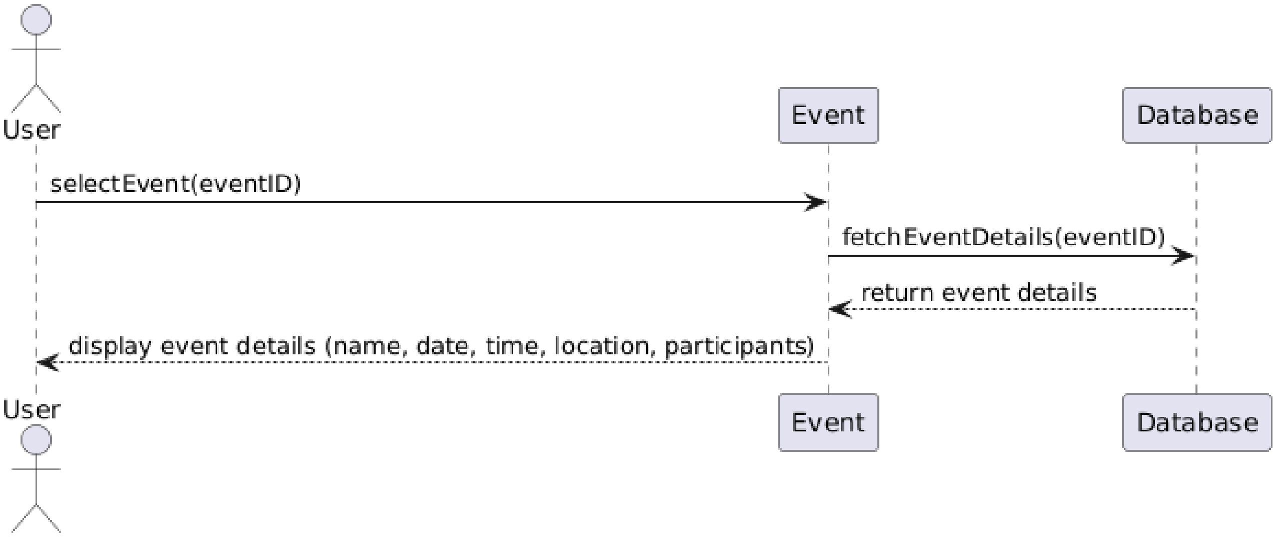
## Use Case 5:



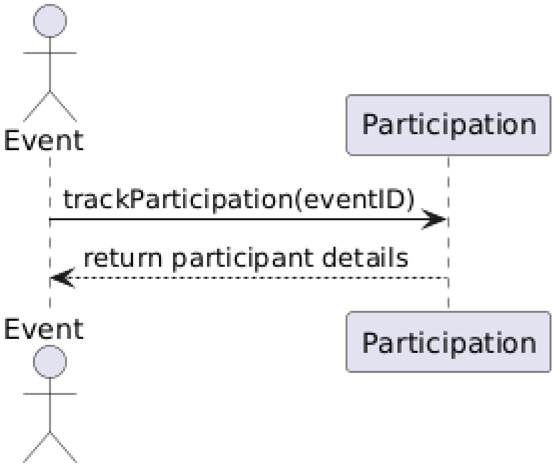
## Use Case 6:



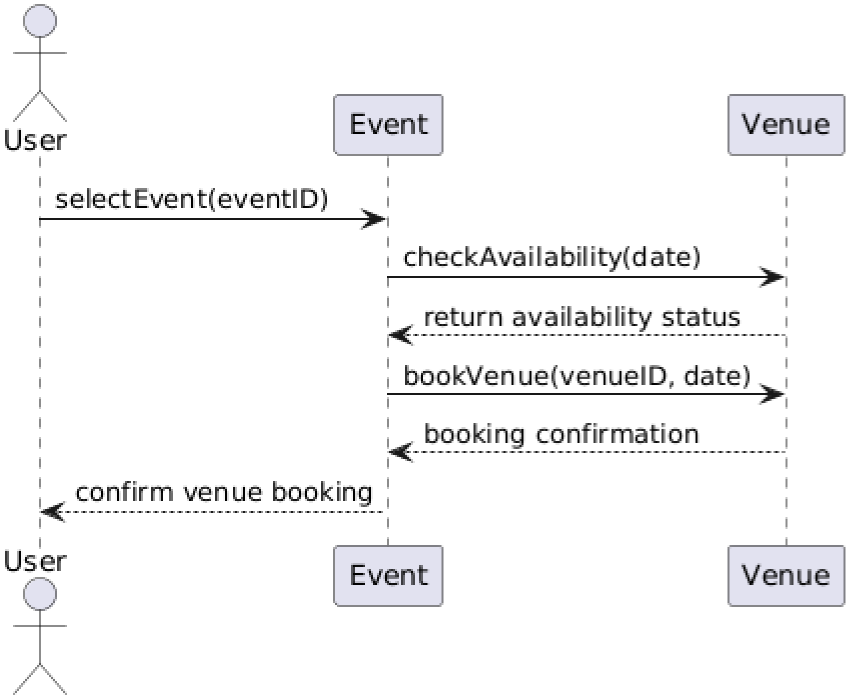
## Use Case 7:


User
Event
Database
selectEvent(eventID)
fetchEventDetails(eventID)
return event details
display event details (name, date, time, location, participants)
User
Event
Database

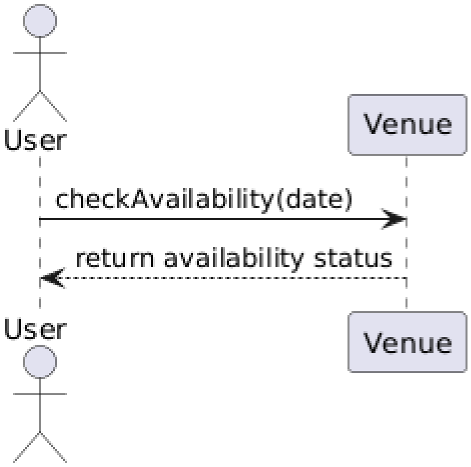
## Use Case 8:



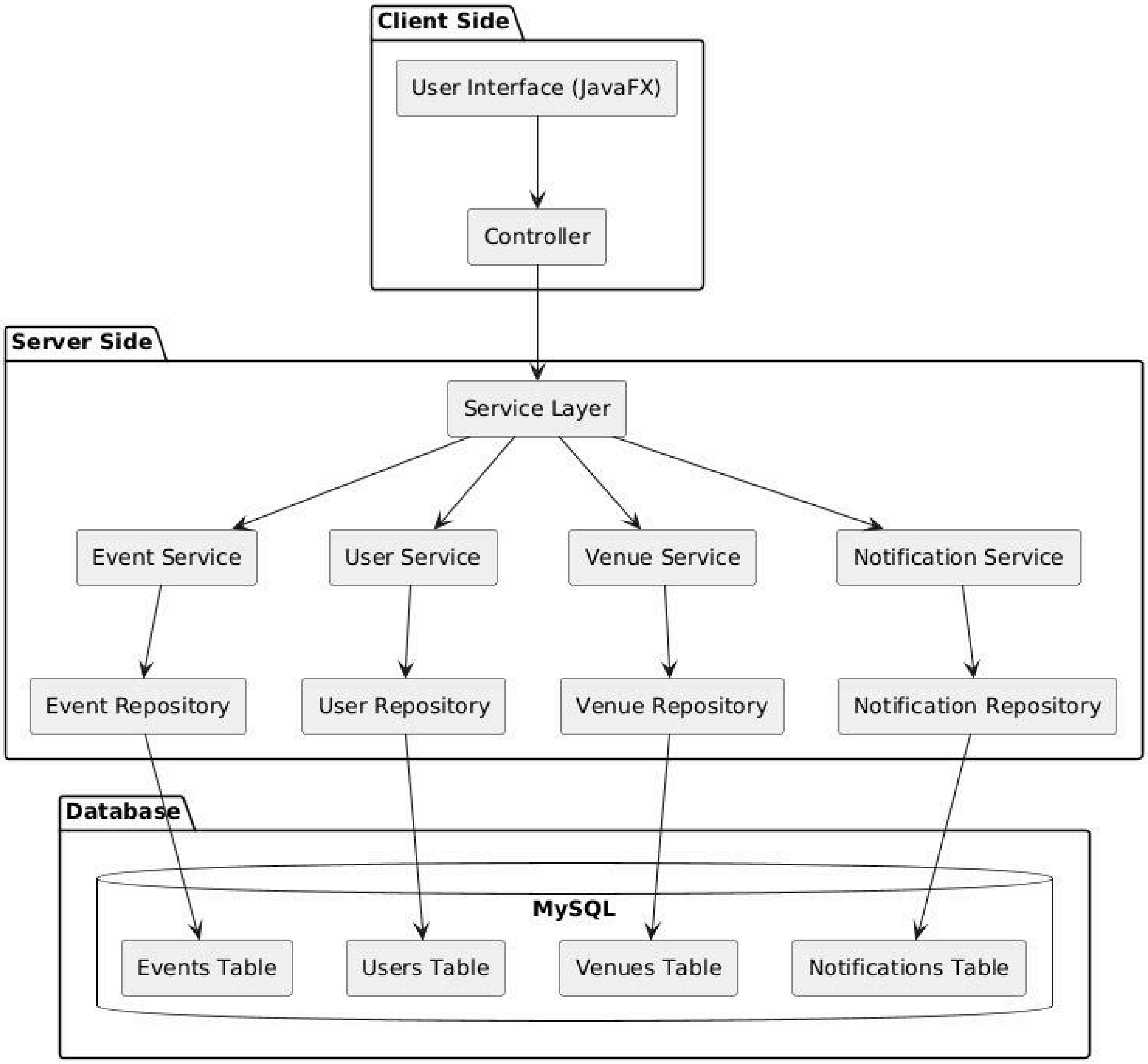
## Use Case 9:



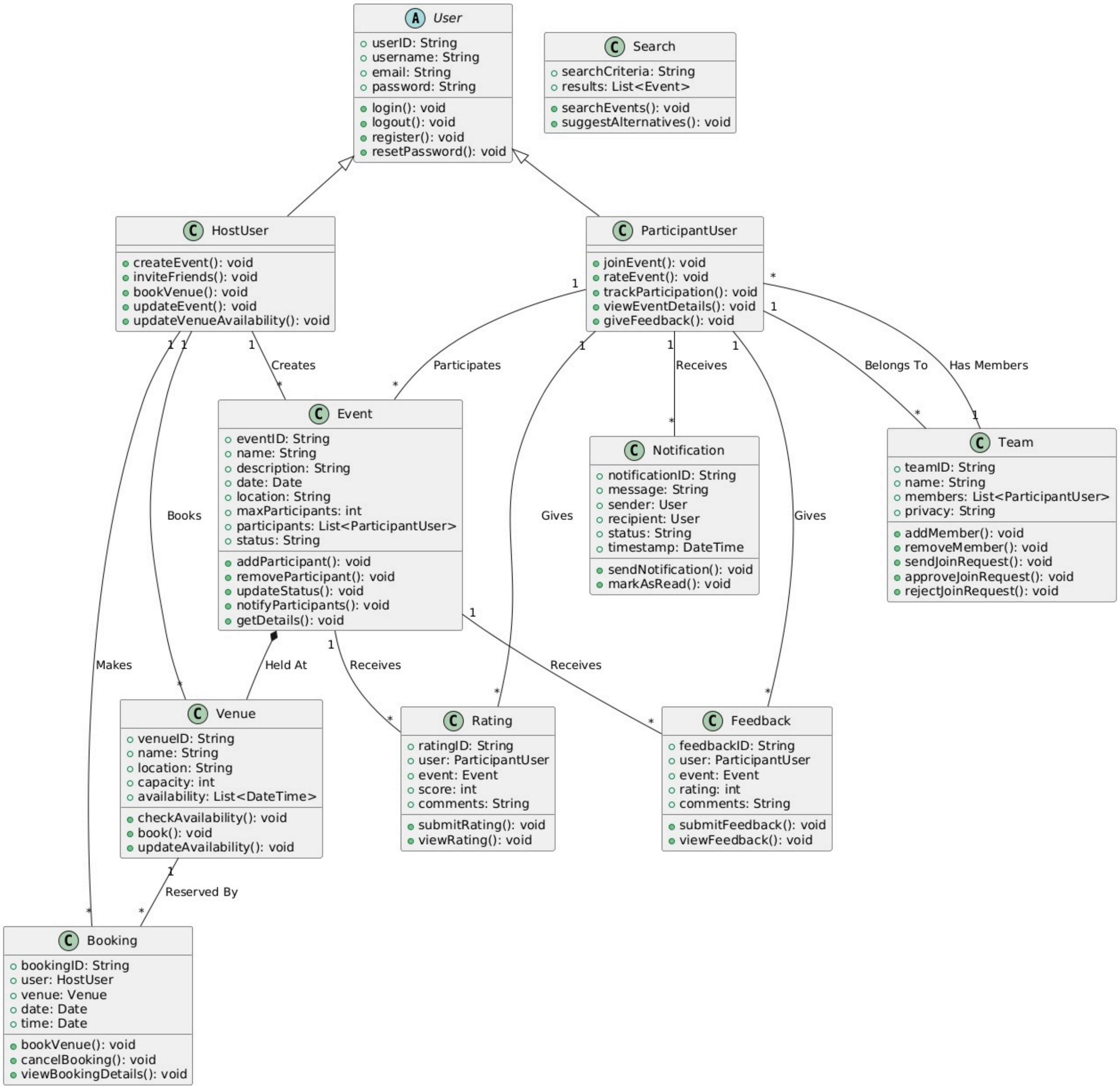
## Use Case 10:



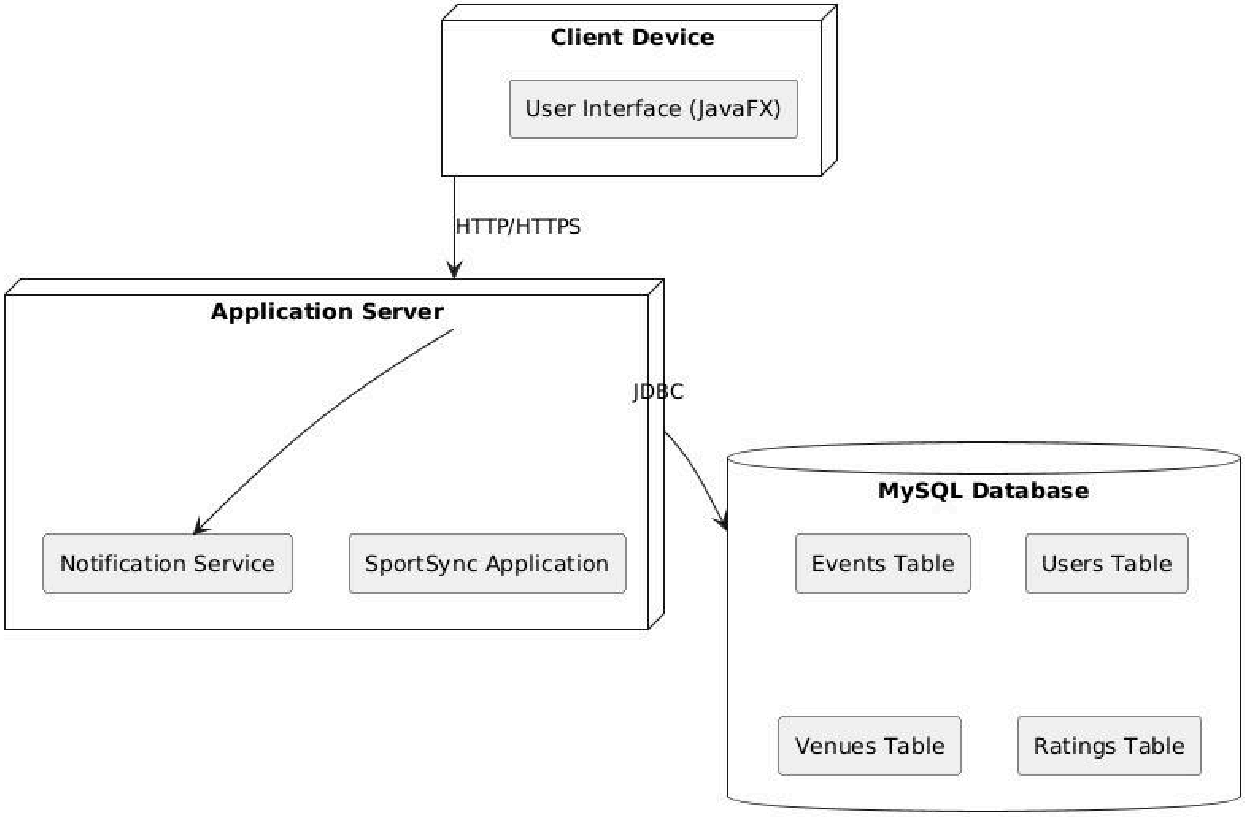
# 5. Component Diagram



# 6. Class Diagram



# 7. Deployment Diagram


Client Device
User Interface (JavaFX)
HTTP/HTTPS
Application Server
Notification Service
SportSync Application
JDBC
MySQL Database
Events Table
Users Table
Venues Table
Ratings Table