Project Documentation: Leisure & Sales Platform

Use Case Diagram Overview

This system allows users to interact with leisure services and shopping features through a role-based access structure. The use case diagram is divided into two main groups:

A. Must-Have Functionality - Booking and Ordering:

- Actor: Customer

  - Use Case: Register & Login

    - Description: Allows a new or existing user to authenticate.

  - Use Case: Browse & Book Activities

    - Description: Users can browse available leisure activities and make bookings.

  - Use Case: View & Purchase Items

    - Description: Customers can view items, add them to cart, and place orders.

B. Supporting System Management Use Cases:

- Actor: Admin

  - Use Case: Manage Users & Roles

    - Description: Admin can create and assign roles (e.g., Leisure Coordinator, Sales Manager).

- Actor: Sales Manager

  - Use Case: Manage Orders

    - Description: View and update customer orders, including order status.

- Actor: Leisure Coordinator

  - Use Case: Manage Activities

    - Description: Add, update or delete leisure activities in the system.

All actors interact with relevant system components according to their role-based permissions.

ERD Diagram Overview

The Entity Relationship Diagram is designed to support all system use cases. Here's a breakdown:

Entities and Attributes:

1. User (id PK, username, email, password, role)

   - Roles include: Admin, Customer, Sales Manager, Leisure Coordinator

2. Activity (id PK, name, description, date, price, coordinator_id FK to User)

   - Linked to the user who created or manages the activity

3. Booking (id PK, user_id FK, activity_id FK, date_booked, status)

   - Allows customers to book specific leisure activities

4. Item (id PK, name, description, price, stock)

   - Products for purchase, managed by Sales Manager

5. Order (id PK, user_id FK, total_price, status, date_ordered)

   - Linked to the user who placed the order

6. OrderItem (id PK, order_id FK, item_id FK, quantity, price)

   - Line items for each order placed

Relationships:

- A User can place many Orders and Bookings

- A User (coordinator) can manage many Activities

- Each Booking is linked to one Activity and one User

- Each Order can contain multiple OrderItems

- Each OrderItem links an Item to an Order

The ERD fully supports the primary and supporting use cases, enabling clear mapping between roles, activities, bookings, and sales.

Test Features & Scenarios Overview

Each use case is covered by at least one behavior-driven test case written in Gherkin syntax.

1. register_login.feature

   - Scenario: User successfully registers and logs in

2. book_activity.feature

   - Scenario: Customer books a leisure activity

3. purchase_items.feature

   - Scenario: Customer adds items to cart and completes checkout

4. manage_orders.feature

   - Scenario: Sales manager updates the status of a customer's order

5. manage_activities.feature

   - Scenario: Leisure coordinator adds a new activity

6. admin_manage_users.feature

  - Scenario: Admin creates a Sales Manager user and assigns role

These test cases align with the system's use case diagram and confirm all critical paths are functioning as expected.