

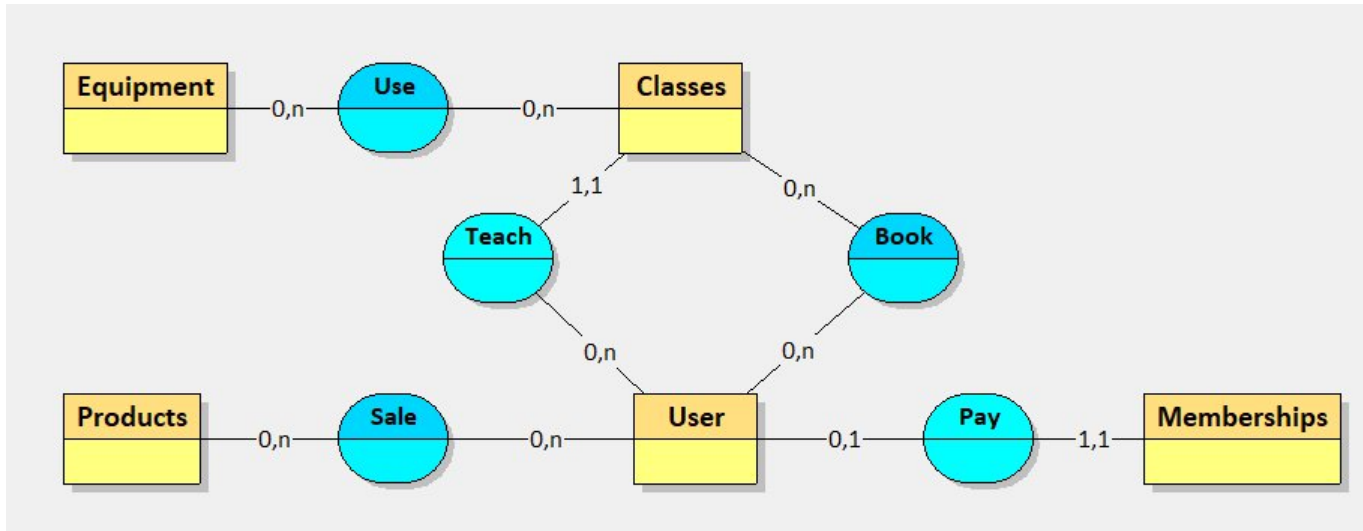
Gym Database Project

Introduction

This document presents the design of a Gym Management Database System. The system models the main entities of a gym, like users, equipment, products, classes and bookings. It also shows the relationships between these entities through an ER diagram and a logical data model.

Entity-Relationship Diagram

The following diagram illustrates the Entity-Relationship (ER) model for the gym database. It shows the entities, their attributes, and the relationships among them.

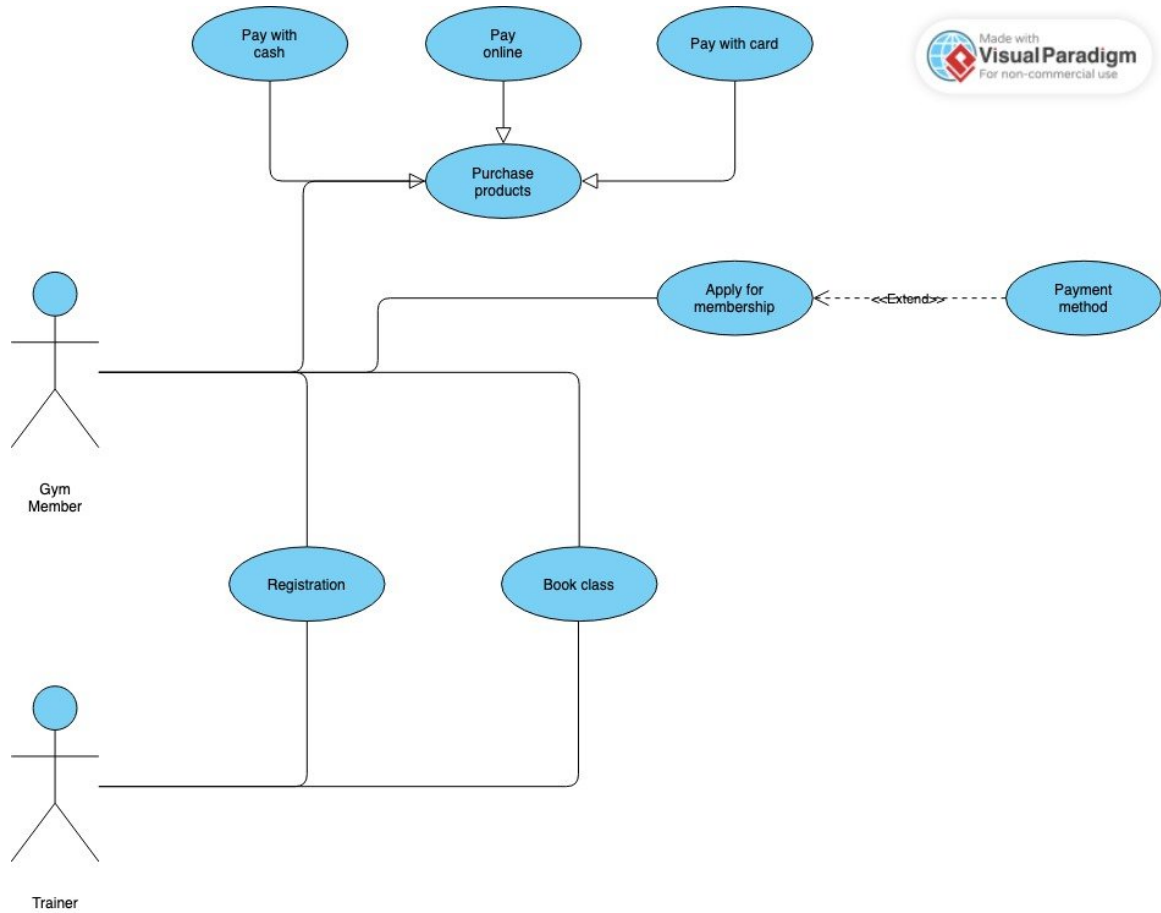


Logical Data Model

The logical data model represents the database structure in terms of tables, columns, and relationships. Below is the logical model for the gym database:

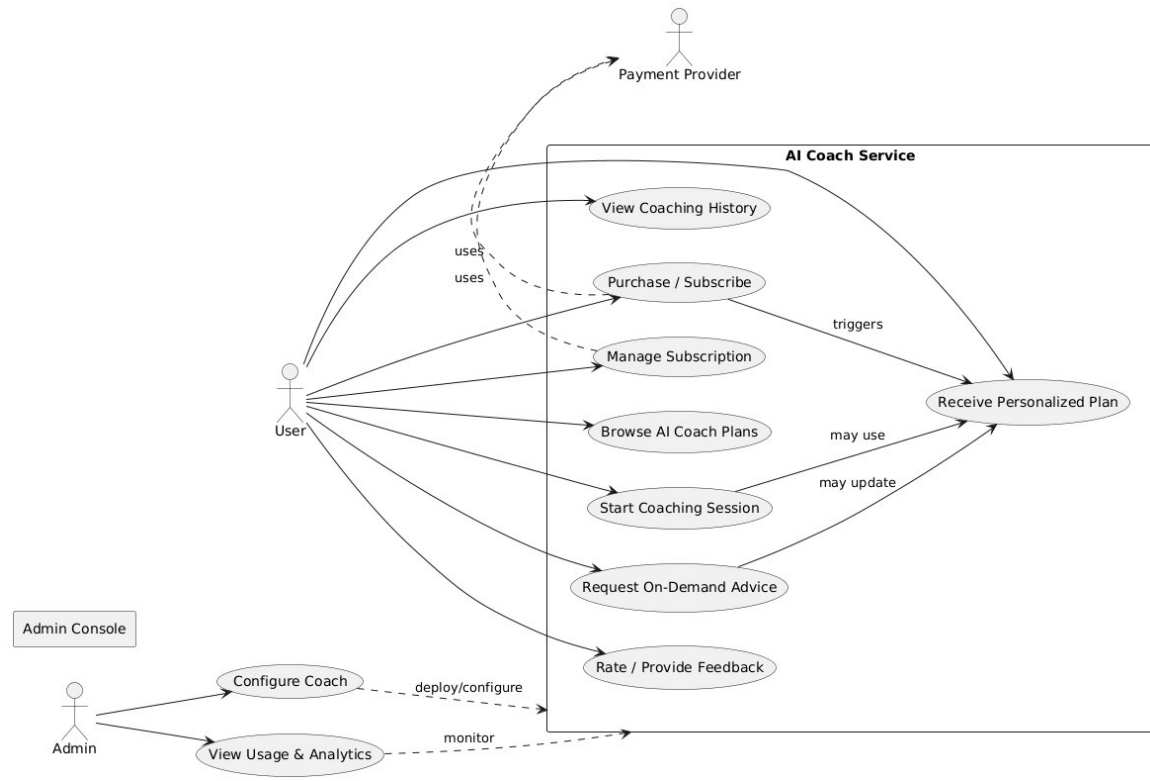
```
Equipment = (Id_Equipment COUNTER, Name VARCHAR(50), Type VARCHAR(50), PurchaseDate DATE, MaintenanceDate DATE, Price VARCHAR(50), Brand VARCHAR(50), Condition_ VARCHAR(50));
User_ = (Id_User COUNTER, Name VARCHAR(50), Email VARCHAR(50), Phone VARCHAR(50), DoB DATE, JoinDate DATE, Role VARCHAR(50), Speciality VARCHAR(50), Salary VARCHAR(50));
Products = (Id_Products COUNTER, ProductName VARCHAR(50), Category VARCHAR(50), Description TEXT, Price CURRENCY, StockQuantity VARCHAR(50), DateAdded VARCHAR(50), Brand VARCHAR(50));
Sales = (#Id_Products, #Id_User, Id_Sales COUNTER, Quantity VARCHAR(50), TotalPrice CURRENCY, PaymentMethod VARCHAR(50), SaleDate DATE, BillingAddress TEXT);
Classes = (Id_Classes COUNTER, ClassName VARCHAR(50), Schedule DATETIME, Capacity INT, DifficultyLevel VARCHAR(50), Room VARCHAR(50), #Id_User);
Memberships = (Id_Memberships COUNTER, StartDate DATE, EndDate DATE, Price CURRENCY, MembershipType VARCHAR(50), Status VARCHAR(50), PaymentMethod VARCHAR(50), #Id_User);
Use = (#Id_Classes, #Id_Equipment);
Book = (#Id_Classes, #Id_User, Date_ DATETIME);
```

Use Case Diagram



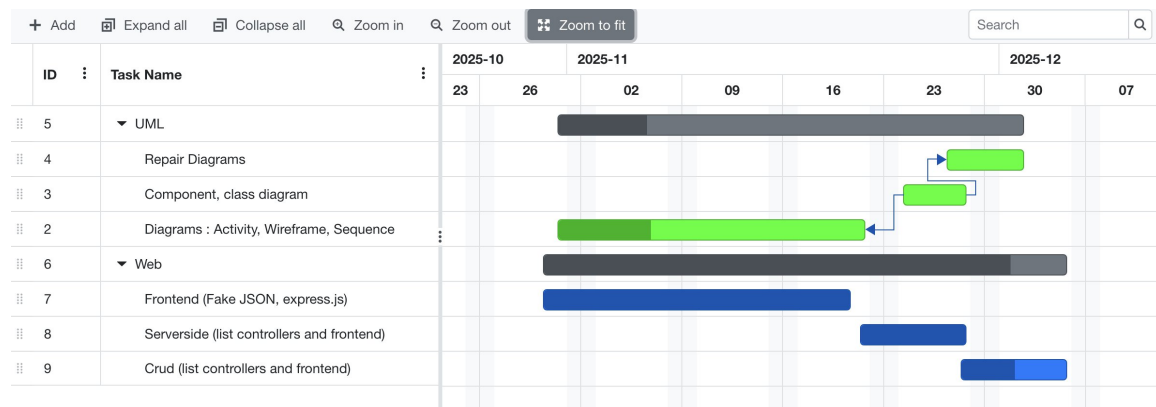
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Use case diagram : AI COACHES/TRAINERS



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Gantt diagram

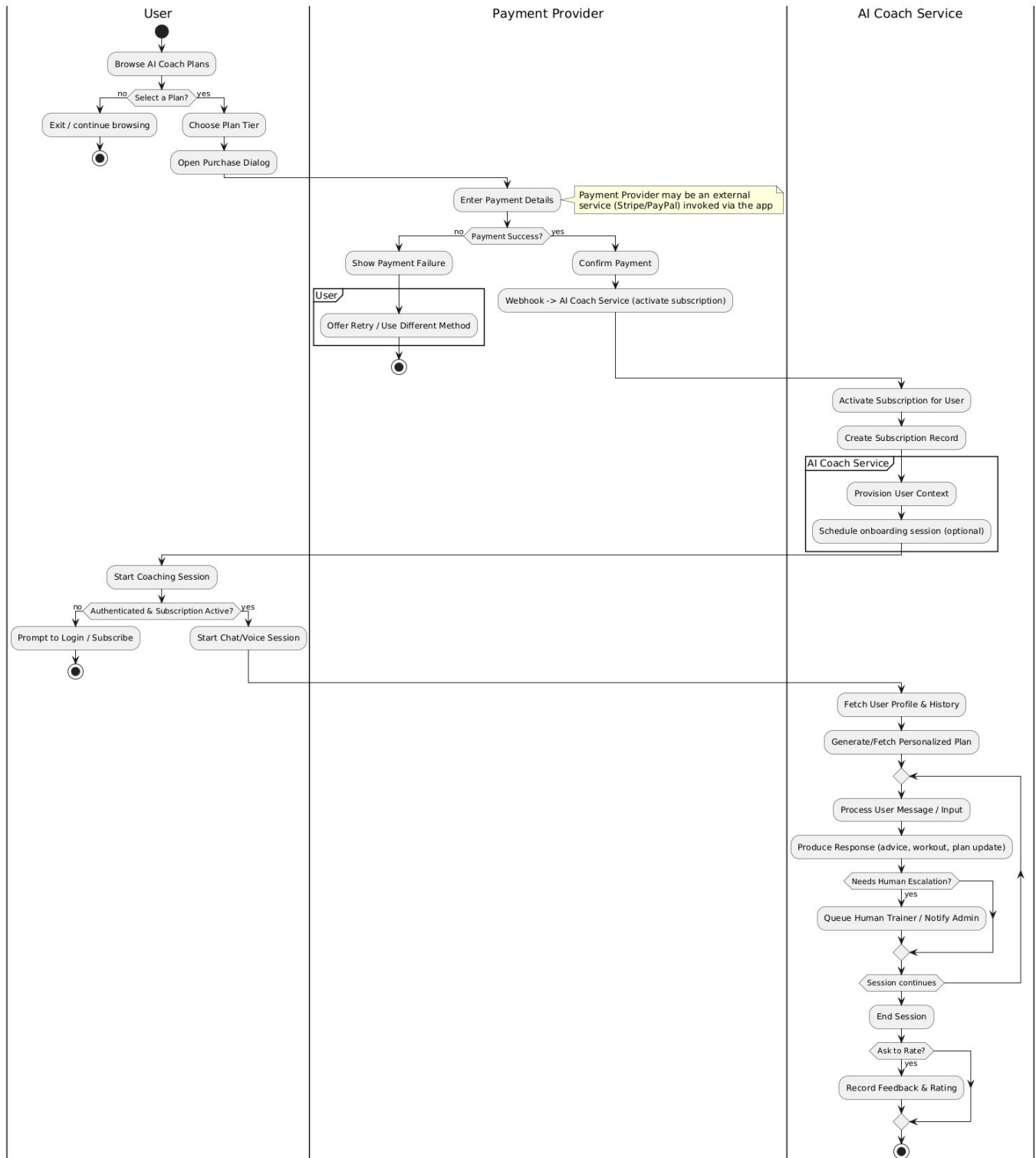


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Activity diagram : Ai coach

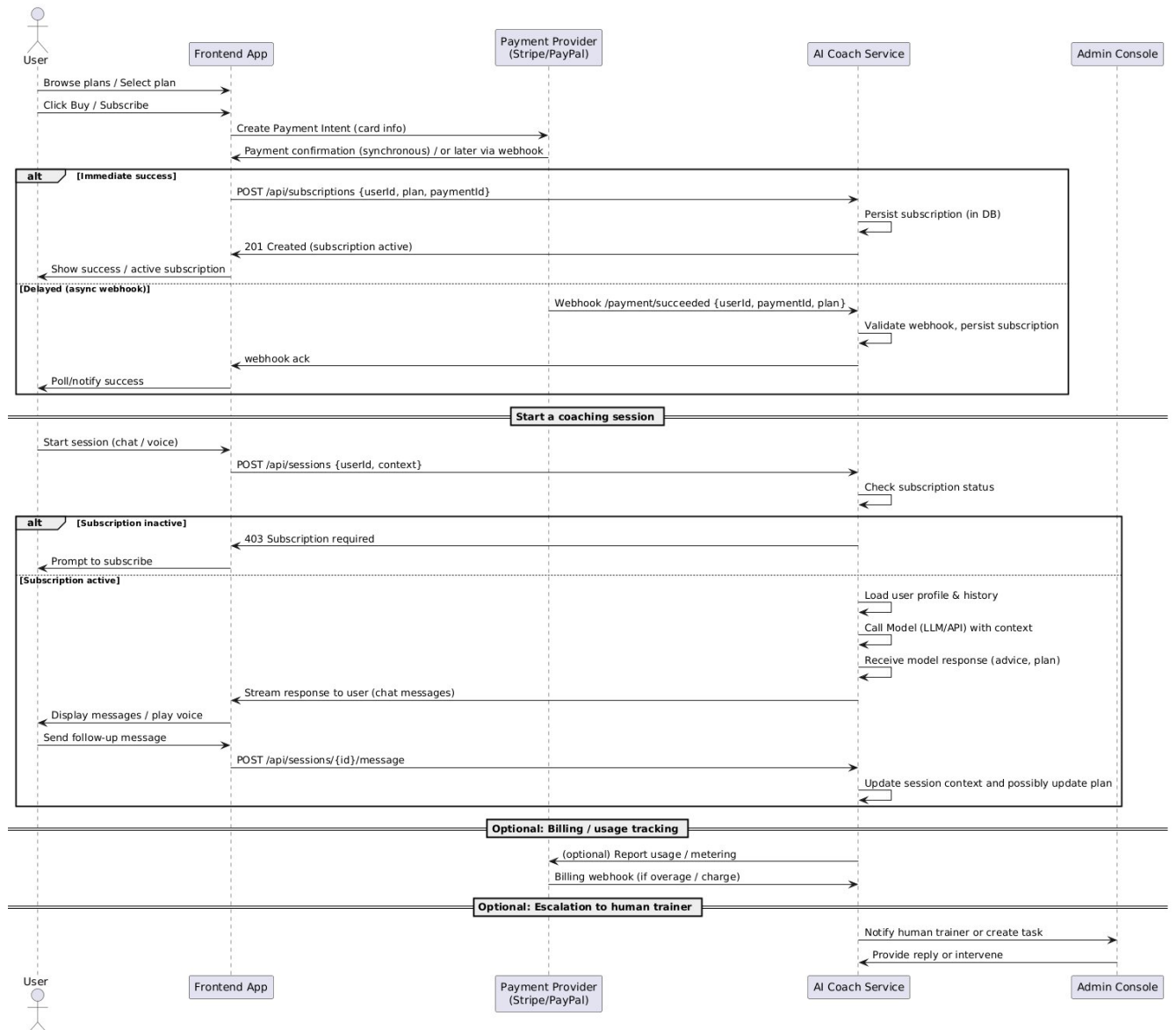


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Sequence diagram : Ai coach



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Conclusion

This database model provides a foundation for implementing a functional gym management system. It ensures that all essential aspects such as memberships, class schedules, trainer assignments, equipment tracking, and member bookings are properly represented.