

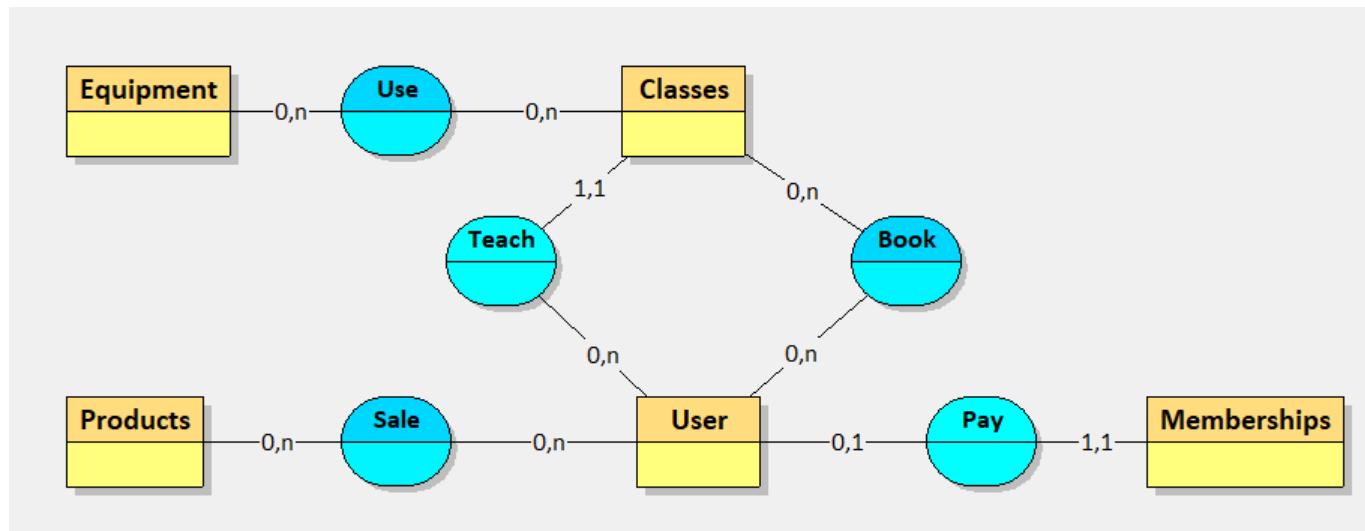
Gym Database Project

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.

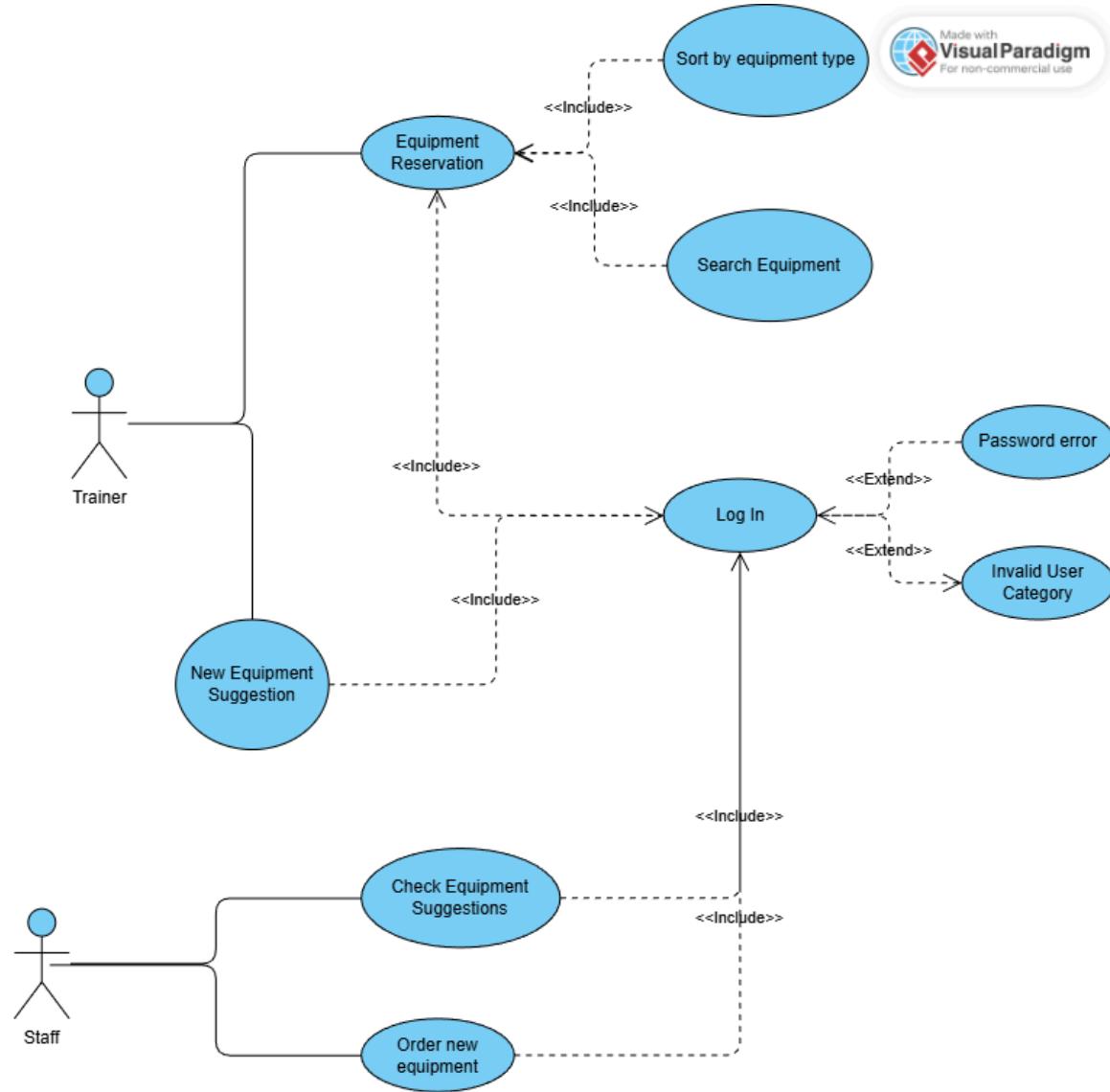


Logical Data Model

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

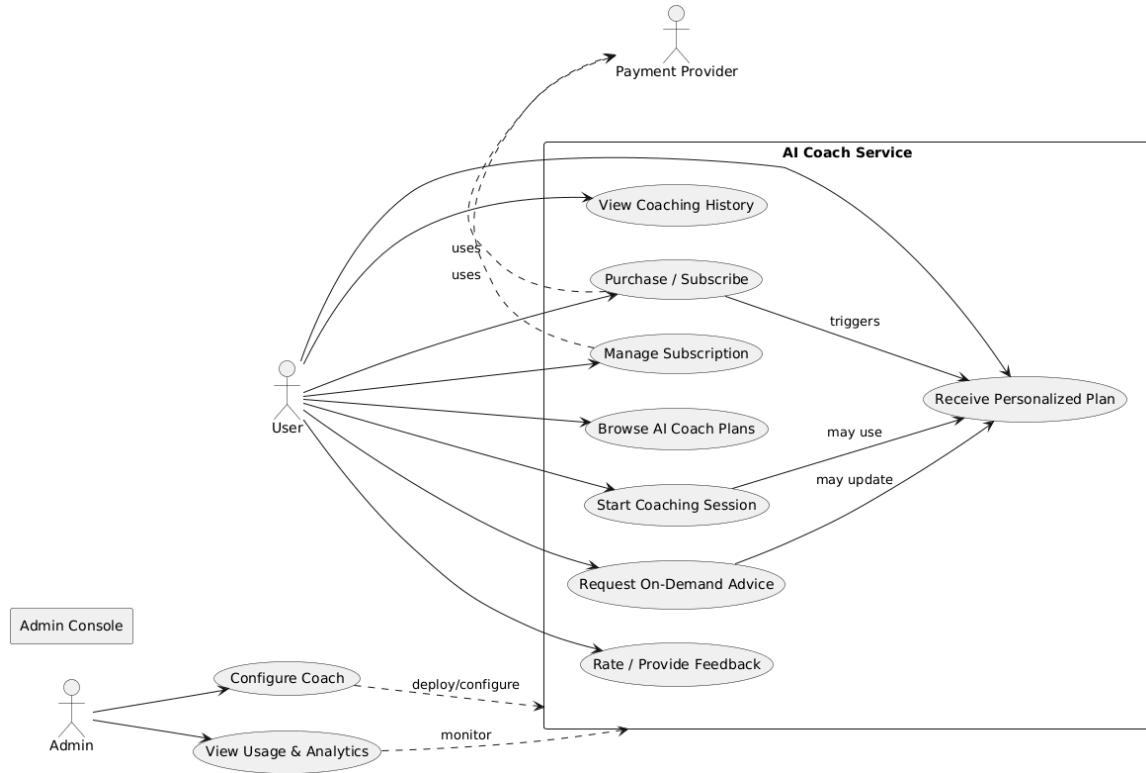
```
Equipment = (#Id_Equipment COUNTER, Name VARCHAR(50), Type VARCHAR(50), PurchaseDate DATE, MaintenanceDate DATE, Price VARCHAR(50), Brand VARCHAR(50), Condition_ VARCHAR(50));
User_ = (#Id_User COUNTER, Name VARCHAR(50), Email VARCHAR(50), Phone VARCHAR(50), DoB DATE, JoinDate DATE, Role VARCHAR(50), 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 Equipment Management



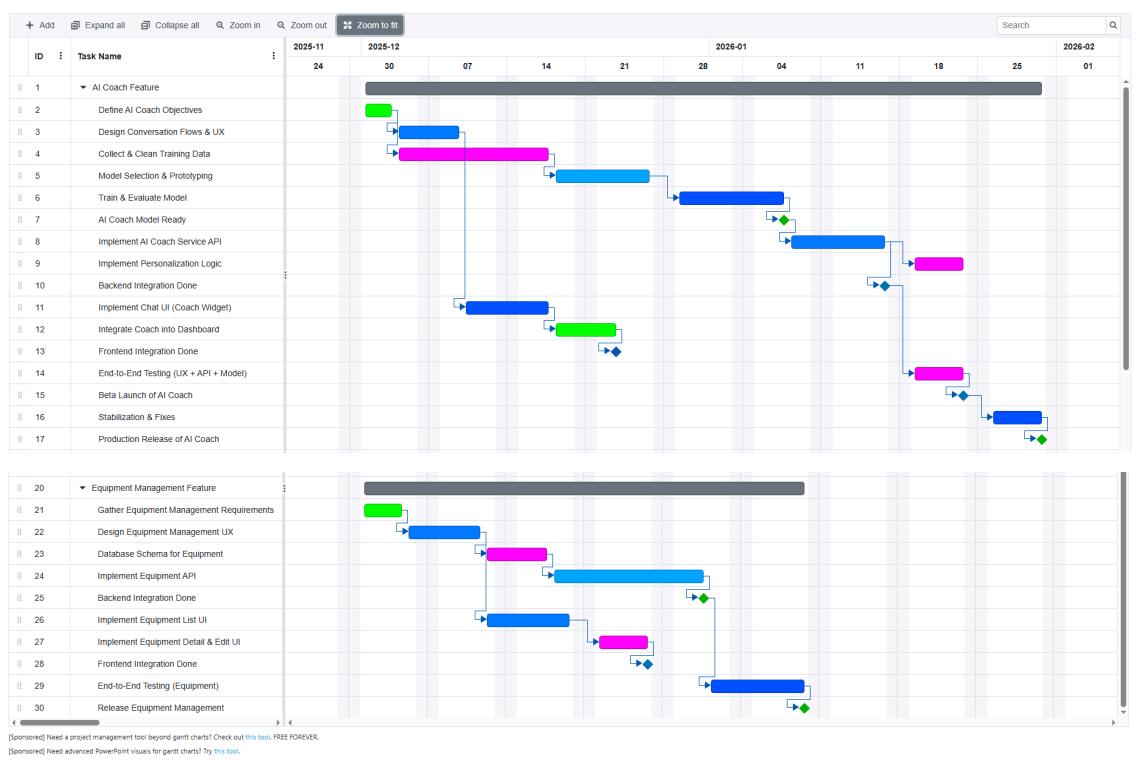
Valentin GONCALVES
Ilies NASR
Angel BOURDIOL

Use case diagram : AI COACH/TRAINER

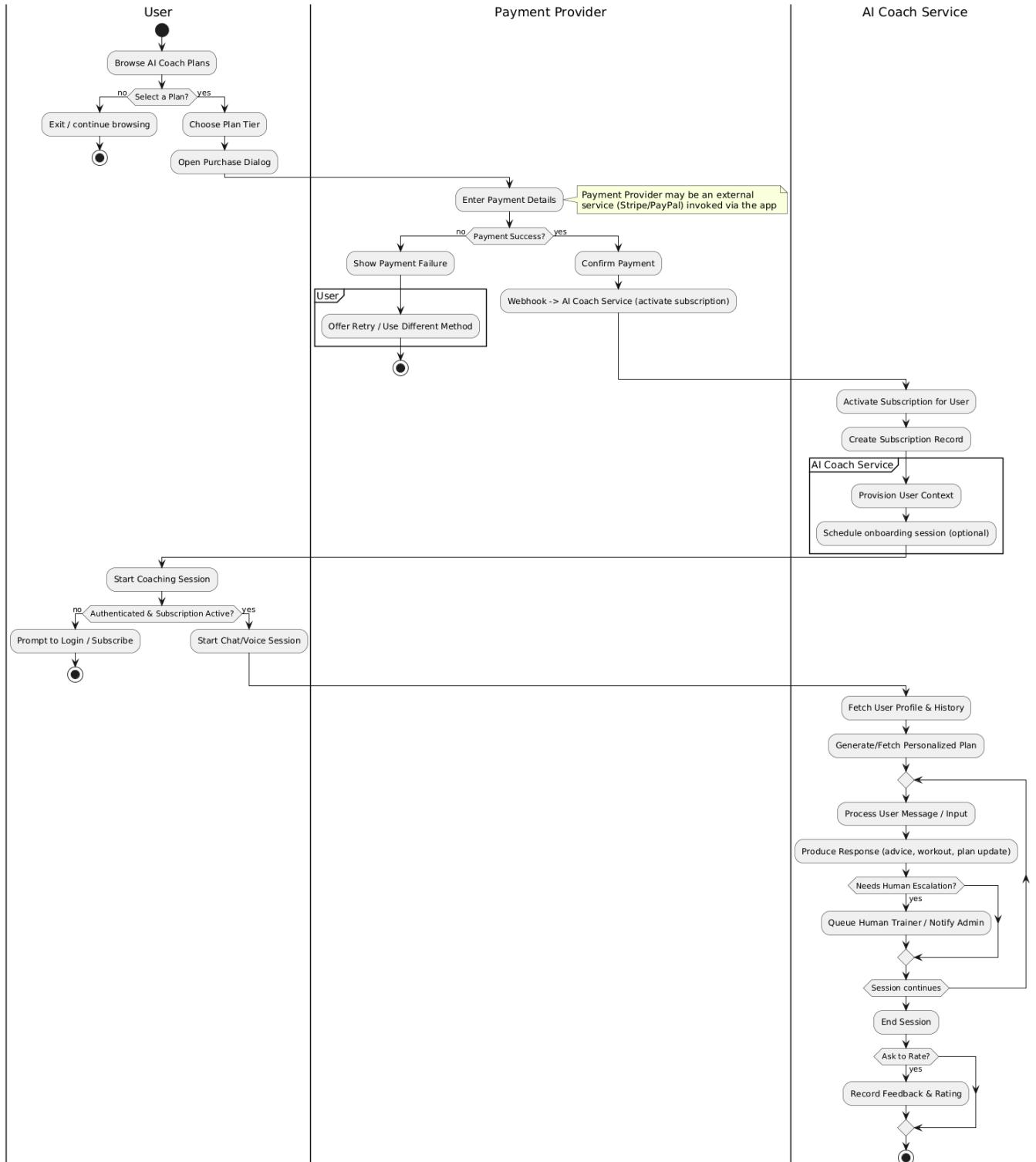


Valentin GONCALVES
Ilies NASR
Angel BOURDIOL

Gantt diagram

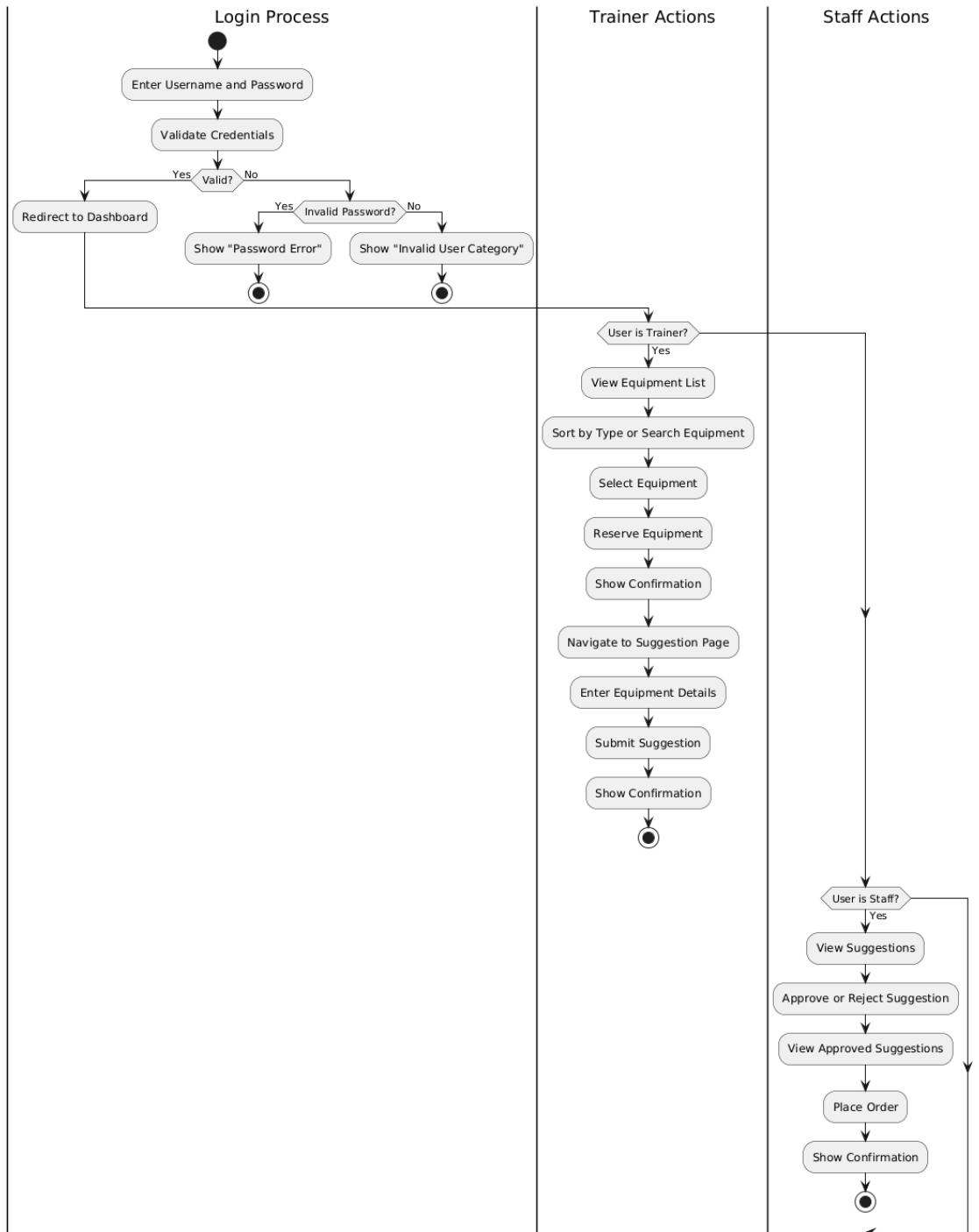


Valentin GONCALVES
 Ilies NASR
 Angel BOURDIOL
[Activity diagram : Ai coach](#)



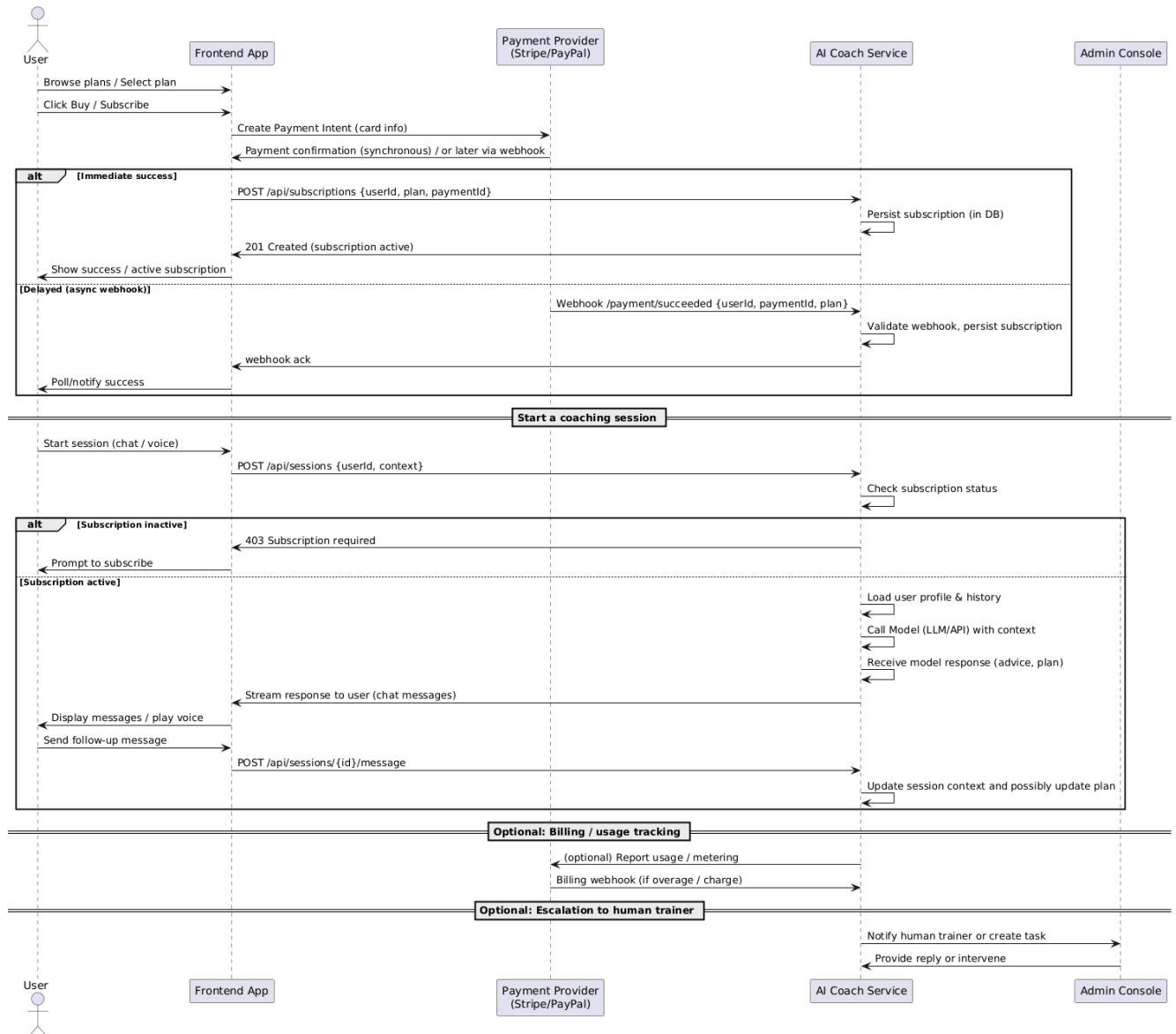
Valentin GONCALVES
Ilies NASR
Angel BOURDIOL

Activity diagram : Equipment Management



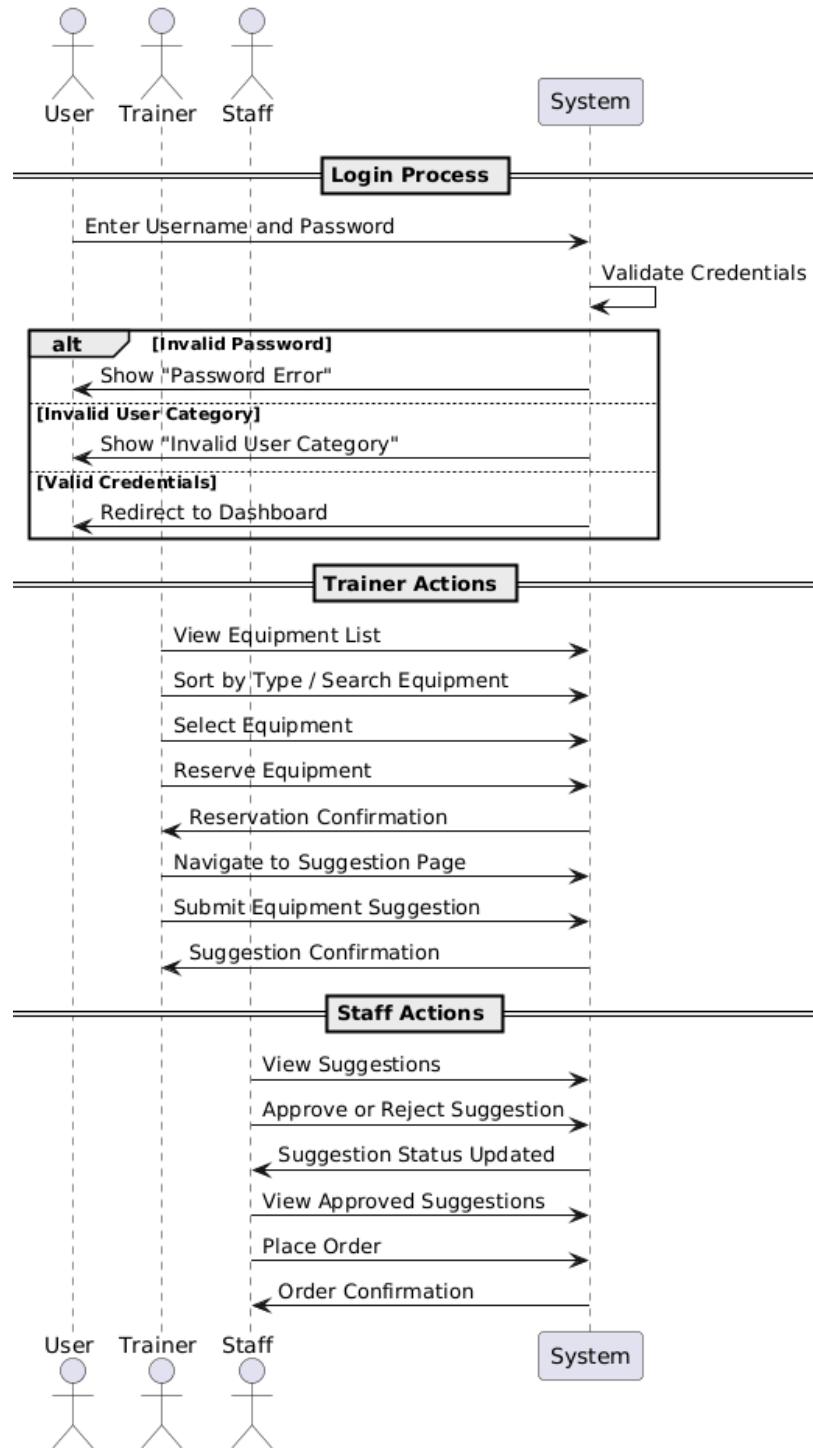
Valentin GONCALVES
 Ilies NASR
 Angel BOURDIOL

Sequence diagram : Ai coach



Valentin GONCALVES
Ilies NASR
Angel BOURDIOL

Sequence diagram : Equipment Management



Valentin GONCALVES
Ilies NASR
Angel BOURDIOL
Wireframe : Ai coach



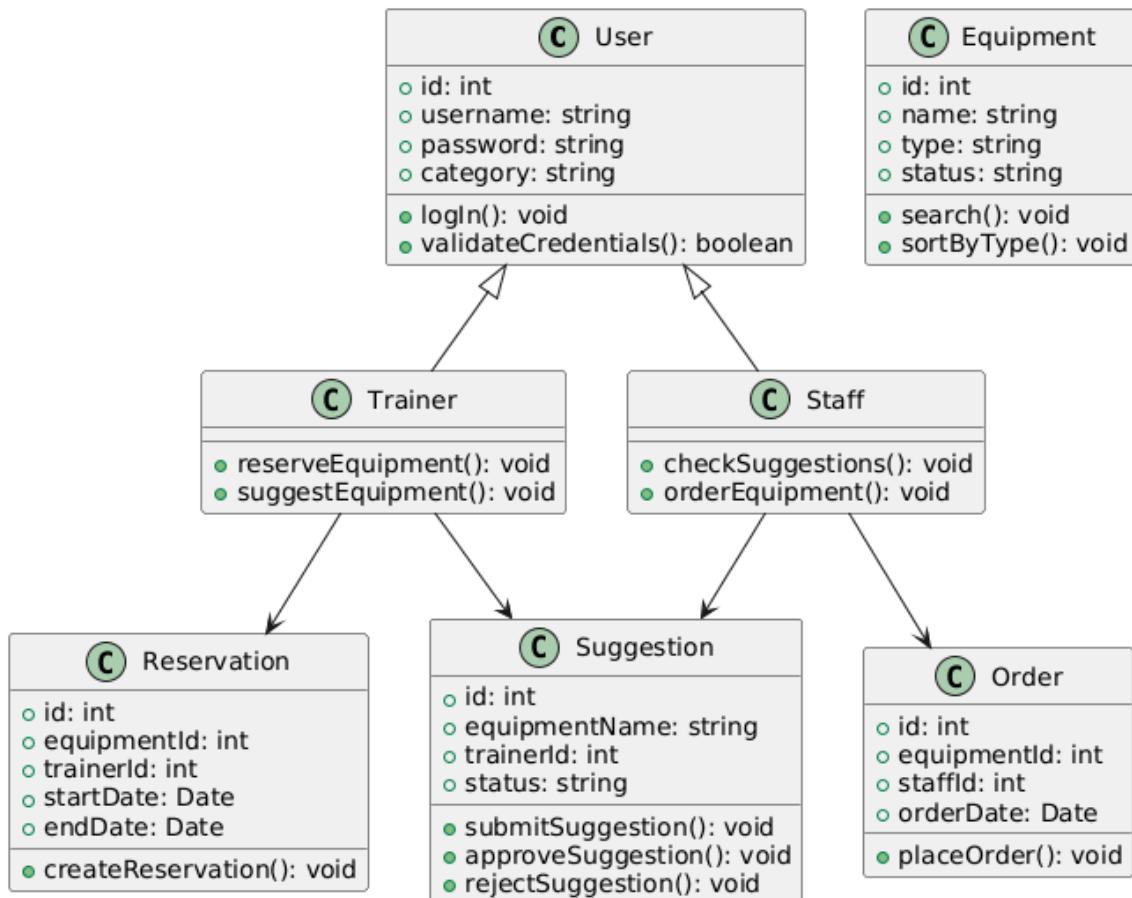
Wireframe : Equipment Management

The wireframe displays two main sections. On the left, under the heading 'Equipment', there are four equipment cards labeled 'Equipment 1', 'Equipment 2', 'Equipment 3', and 'Equipment 8', each with a 'Reserve' button. Below them is another card for 'Equipment 5' with a 'Reserve' button. A callout bubble for 'Equipment 1' shows a reservation form with two input fields: 'jj/mm/aaaa' and 'jj/mm/aaaa'. At the bottom left is a 'Request new equipment' button, and below it is a 'Request equipment' form with fields for 'Type', 'Brand', and 'Model'. On the right, under the heading 'STAFF EQUIPMENT MANAGEMENT', is a table titled 'Current reservations' showing two entries. Below it is a section titled 'Equipment suggestions' with a table header.

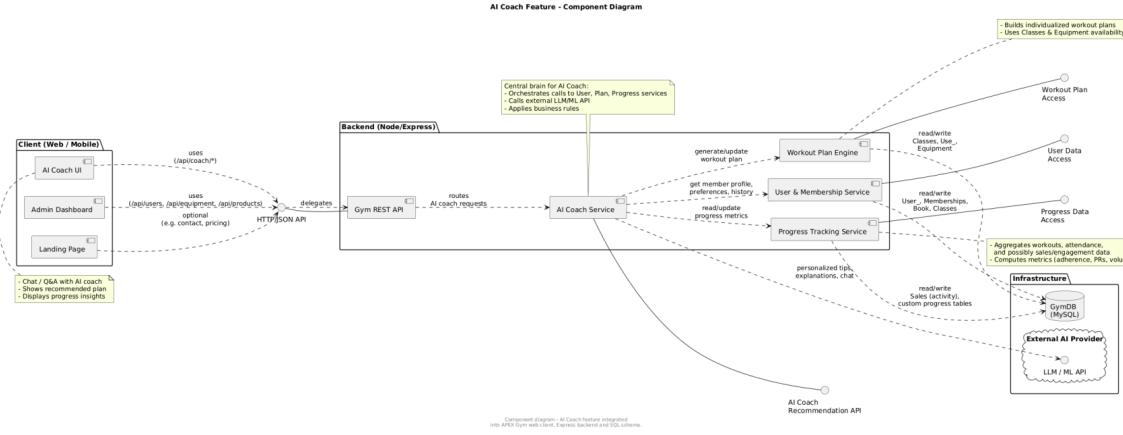
Equipment	Trainer	Start Date	End Date	Status
Equipment 1	Takenori Akagi	31/01/2012	28/02/2012	Taken
Equipment 2	Antonin CREK	24/02/2012	30/02/2012	Reserved

Type	Brand	Model	User

Class Diagram: Equipment Management



Component Diagram: AI Coach



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.