

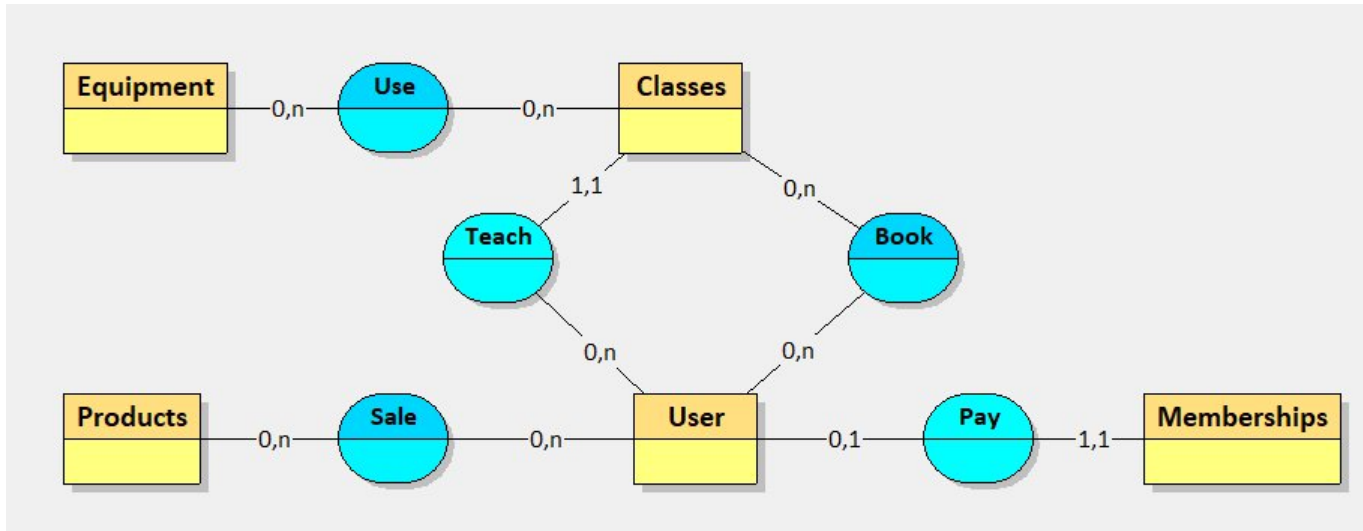
# Gym Database Project

## 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.

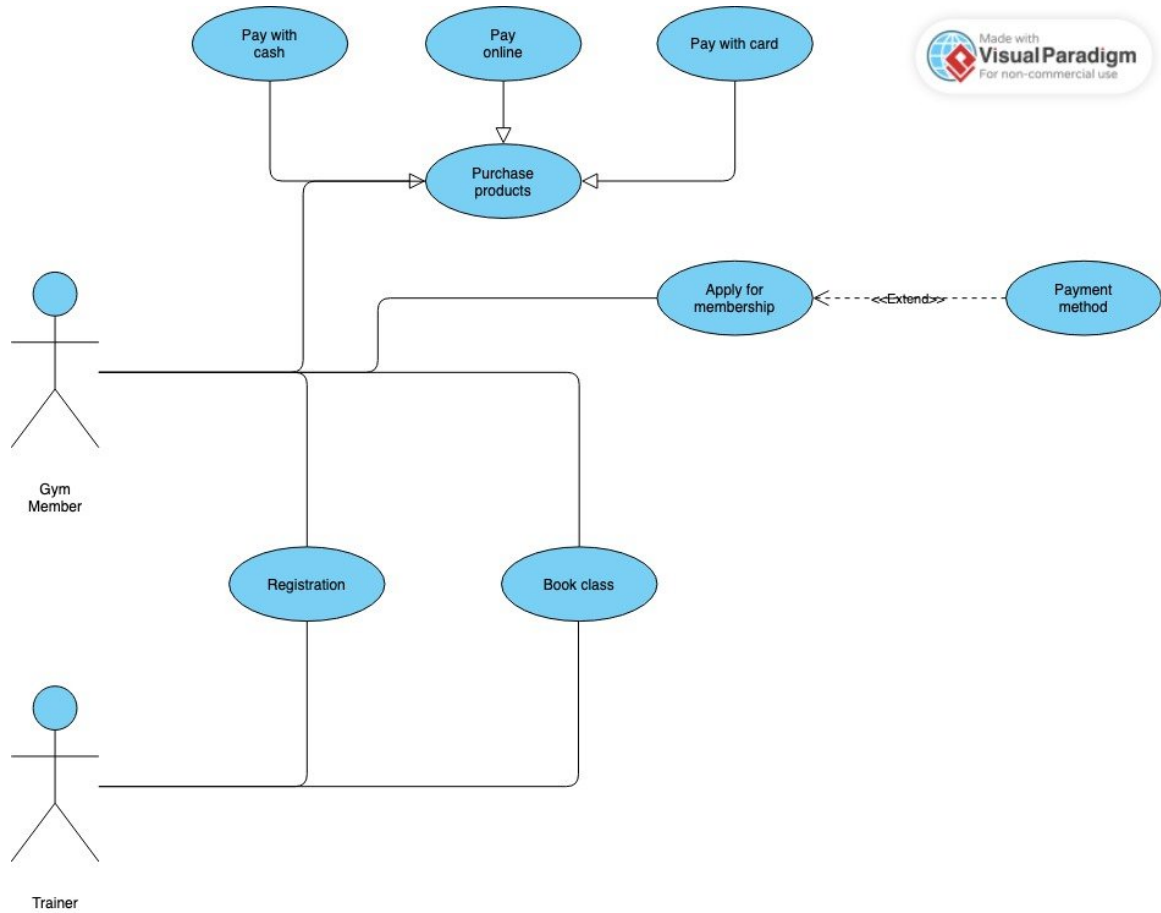


## Logical Data Model

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

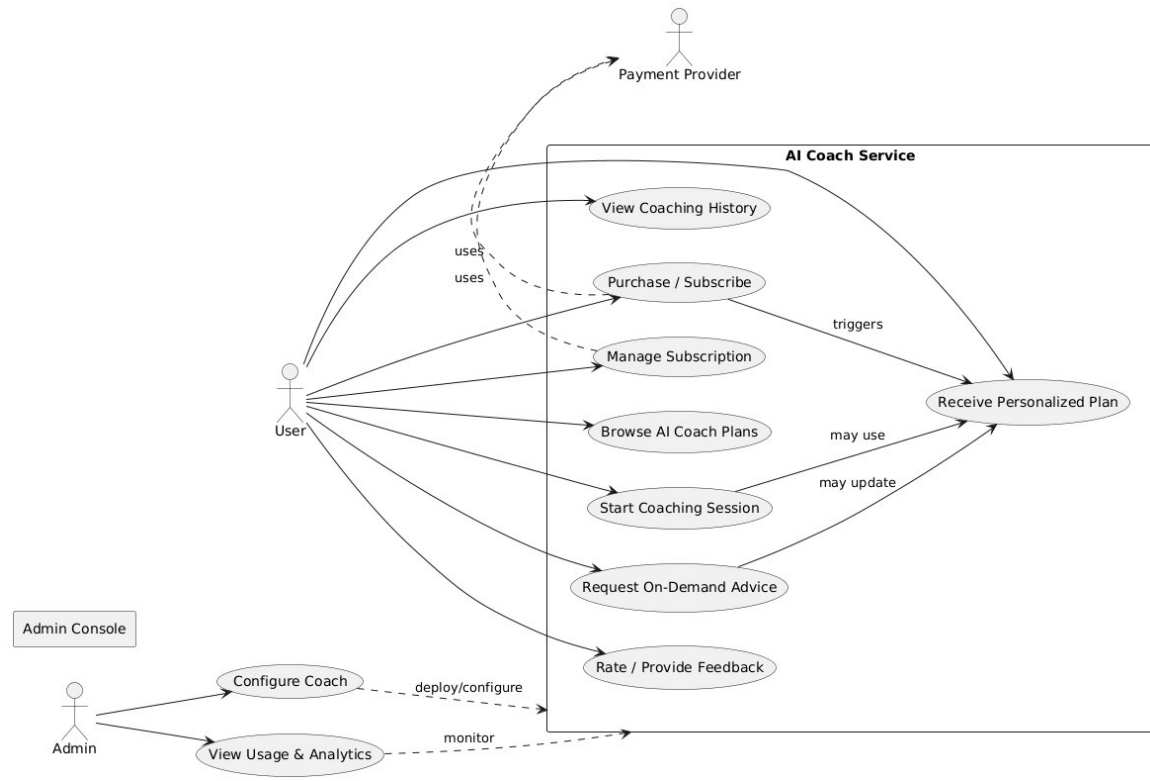
```
Equipment = (Id_Equipment COUNTER, Name VARCHAR(50), Type VARCHAR(50), PurchaseDate DATE, MaintenanceDate DATE, Price VARCHAR(50), Brand VARCHAR(50), Condition_ VARCHAR(50));
User_ = (Id_User COUNTER, Name VARCHAR(50), Email VARCHAR(50), Phone VARCHAR(50), DoB DATE, JoinDate DATE, Role VARCHAR(50),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



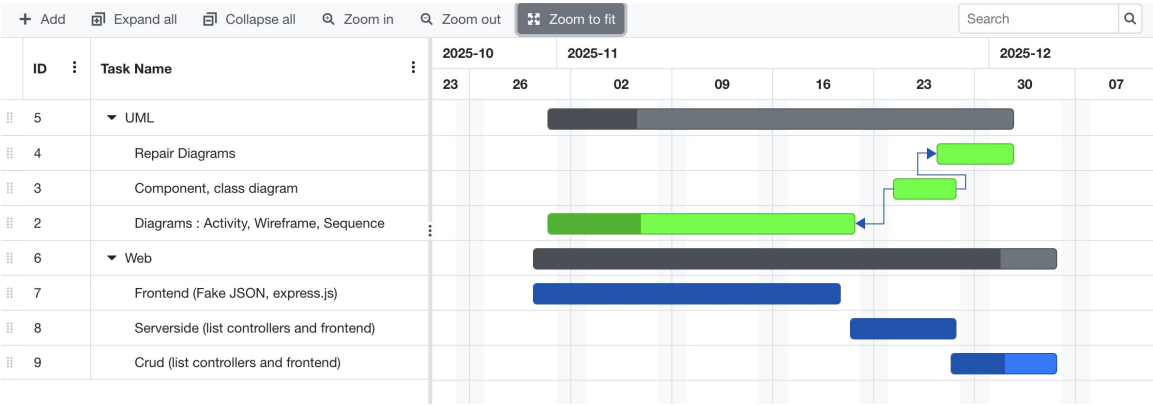
Valentin GONCALVES  
Ilies NASR  
Angel BOURDIOL

## Use case diagram : AI COACH/TRAINER



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Gantt diagram

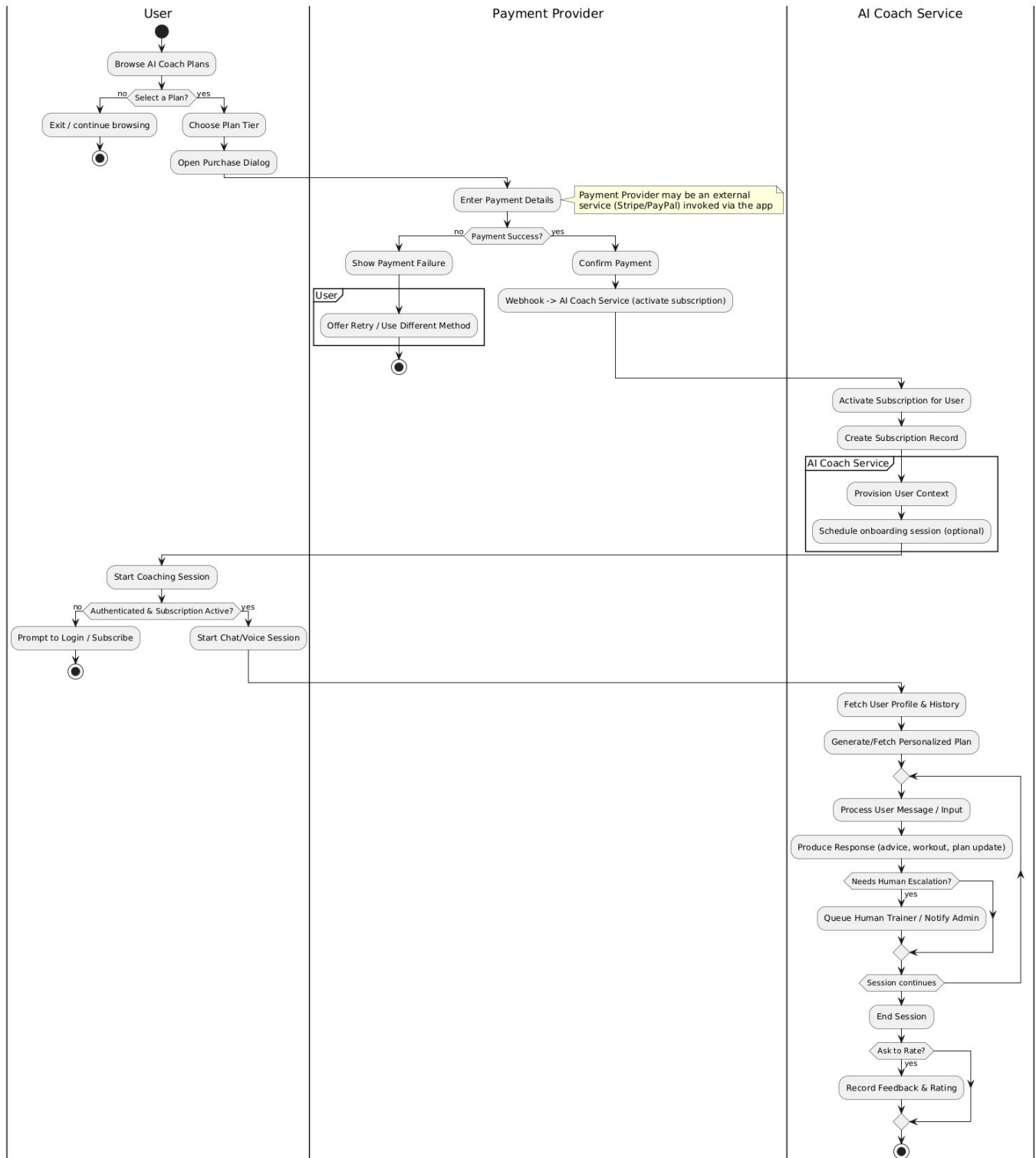


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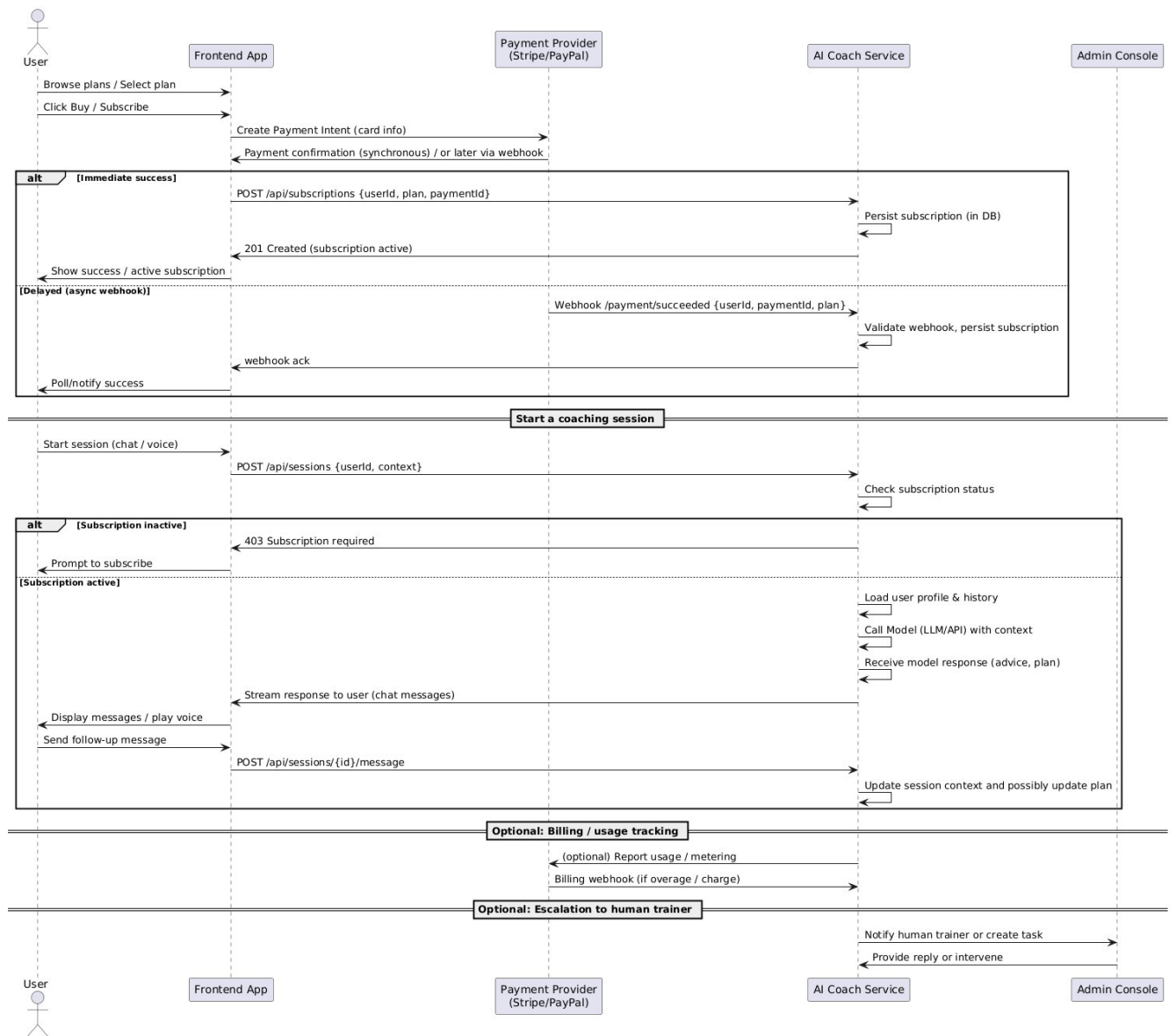
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## Activity diagram : Ai coach

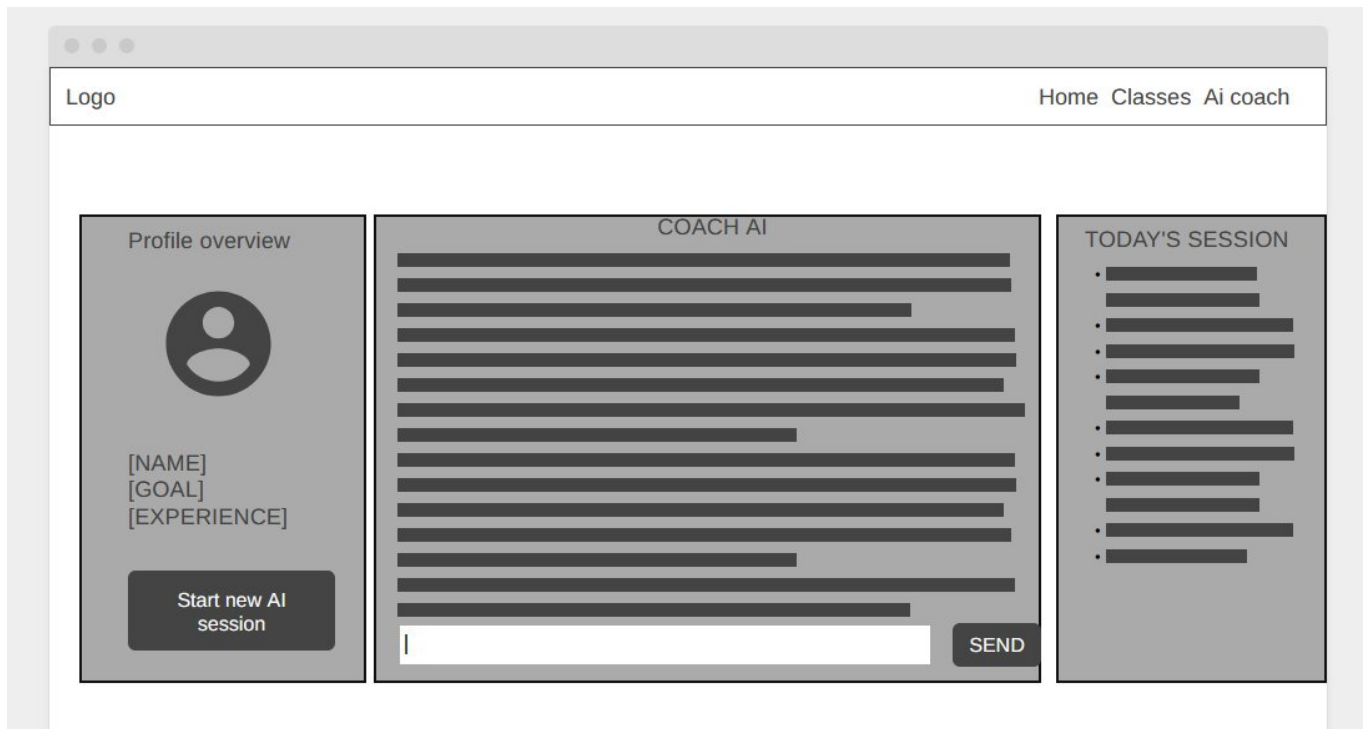


## Sequence diagram : Ai coach



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## Wireframe : 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.