

# Gym Management System

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## **1. Introduction**

Welcome to the project documentation for the Gym Management System. This document aims to provide a comprehensive overview of the system architecture, functionalities, installation instructions, and usage guidelines. The Gym Management System is developed using Python programming language and SQLite and is designed to streamline the operations of a gym facility, including employee and member management, trainer scheduling, and payment processing.

## **2. Project Overview**

The Gym Management System is developed to automate and simplify various tasks performed in a gym environment. It allows administrators, trainers, and members to efficiently manage their respective roles within the system. Key features include member registration and data, employee registration and data, payment management, and comprehensive reporting capabilities.

### 3. System Architecture

The Gym Management System is structured using a three-tier architecture:

- **Presentation Layer:**

- Graphic User Interface (GUI) developed using Tkinter library for Python.
- Provides interactive screens for employees.

- **Application Layer:**

- Python scripts that implement business logic and interact with the database.
- Handles user requests, processes data, and updates the database.

- **Data Layer:**

- SQLite database used to store information such as member details, trainer details and payment histories.
- Ensures data persistence and facilitates efficient data retrieval.

## 4. Features

Key features of the Gym Management System include:

- **Member Management:**

- Add, edit, and delete member profiles.
- Track member details, health state and membership status.
- Manage subscriptions and payments.

- **Employee Management:**

- Maintain employee profiles with specialties and availability.
- Track employee details and payroll information.

- **Payment Processing:**

- Manage membership fees, subscriptions, and payments.

- **Reporting and Analytics:**

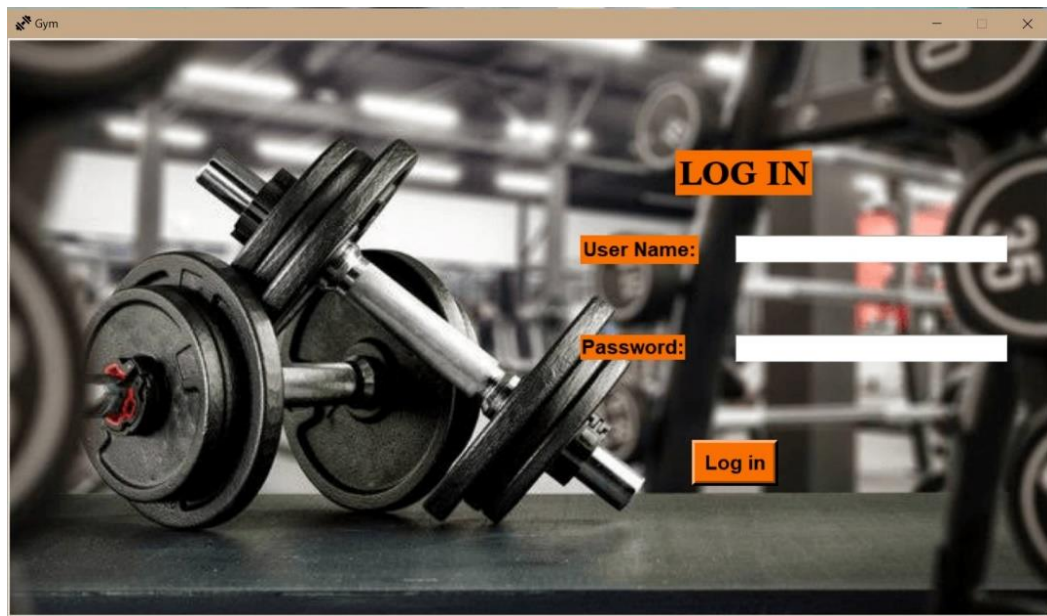
- Generate reports on member statistics, health state, and financial summaries.
- Generate reports on employee statistics, details and payroll information.



## 5. GUI (Graphic User Interface)

### 1. LOG IN

In this part, administrators and receptionist can enter their e-mail and password to login the system and go to welcome page.



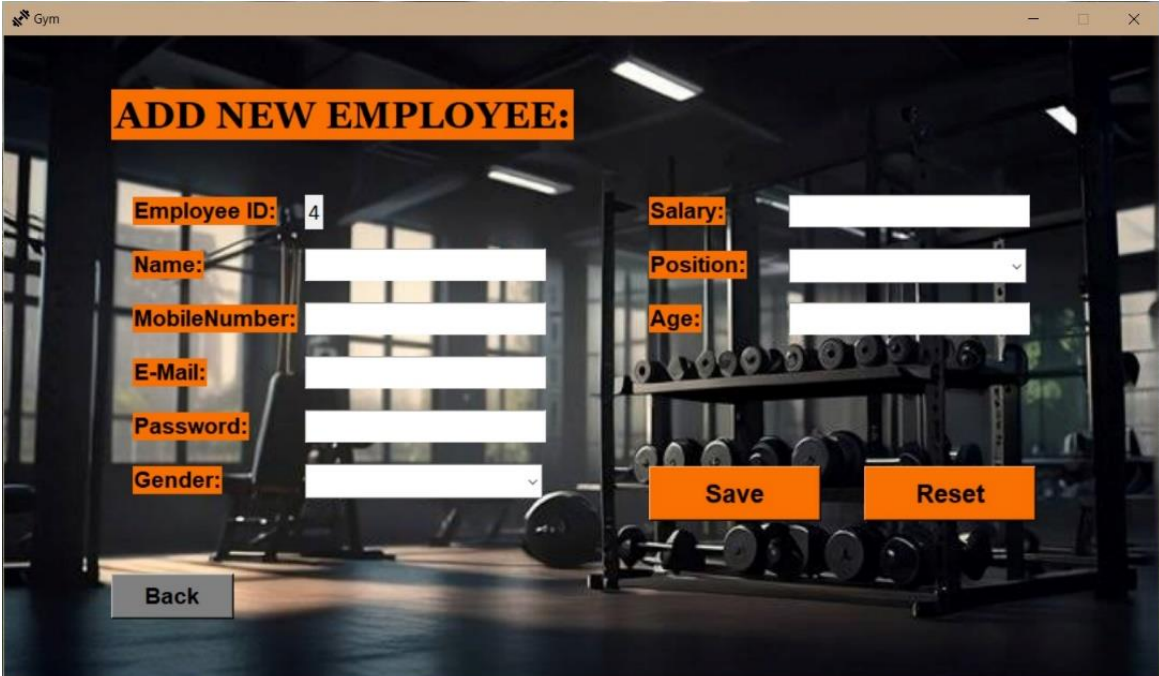
## 2. Welcome

Welcome page has eight buttons each button has special icon and go to different frames. We will get to know these frames.



### 3. Add New Employee

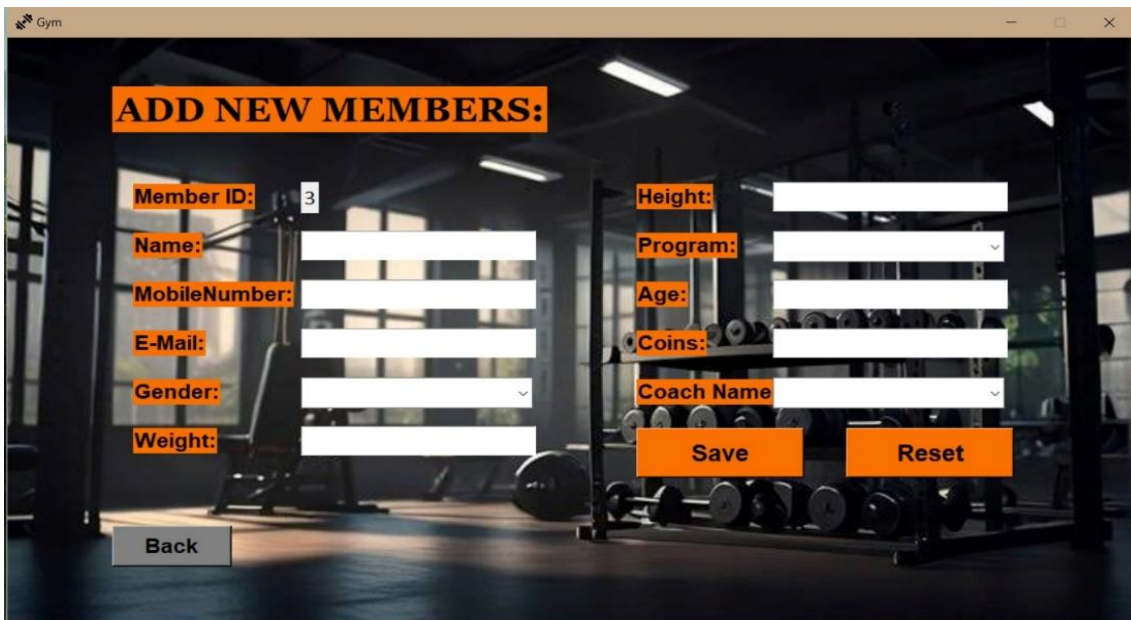
administrator use this frame when he needs to add a new employee through his unique ID, Name, Mobile Number, E-mail, Password, Gender, Salary, Position and Age. All data must be filled in and click on save. Back button takes you back to the welcome page.



The screenshot shows a web application window titled "Gym" with a background image of a gym. The main heading is "ADD NEW EMPLOYEE:". Below this, there are two columns of input fields. The left column contains: "Employee ID:" with the value "4", "Name:", "MobileNumber:", "E-Mail:", "Password:", and "Gender:" with a dropdown arrow. The right column contains: "Salary:", "Position:" with a dropdown arrow, and "Age:". At the bottom, there are three buttons: "Back" (grey), "Save" (orange), and "Reset" (orange).

## 4. Add New Member

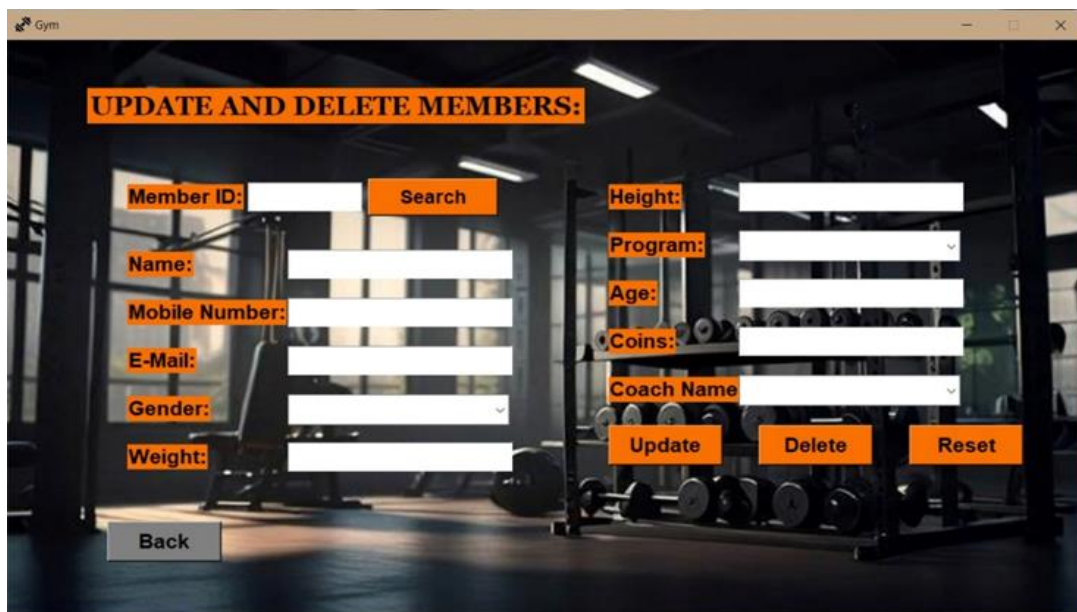
administrator use this frame when he needs to add a new member in gym through his unique ID, Name, Mobile Number, E-mail, Gender, Weight, Hight, Program, Age, Coins and Coach Name. All data must be filled in and click on save. Back button takes you back to the welcome page.



The screenshot shows a web application window titled "Gym" with a background image of a gym interior. The main heading is "ADD NEW MEMBERS:". Below this, there are two columns of input fields. The left column contains: "Member ID:" with a text input containing "3", "Name:" with a text input, "MobileNumber:" with a text input, "E-Mail:" with a text input, "Gender:" with a dropdown menu, and "Weight:" with a text input. The right column contains: "Height:" with a text input, "Program:" with a dropdown menu, "Age:" with a text input, "Coins:" with a text input, and "Coach Name" with a dropdown menu. At the bottom of the form are three buttons: "Back" (grey), "Save" (orange), and "Reset" (orange).

## 5. Update And Delete Members

administrator use this frame when he needs to update or delete a member in gym through his unique ID we can search for the member if it exists, Name, Mobile Number, E-mail, Gender, Weight, Height, Program, Age, Coins and Coach Name. All data must be filled in and click on update or delete when change data or delete when he need to delete the member. Back button takes you back to the welcome page.

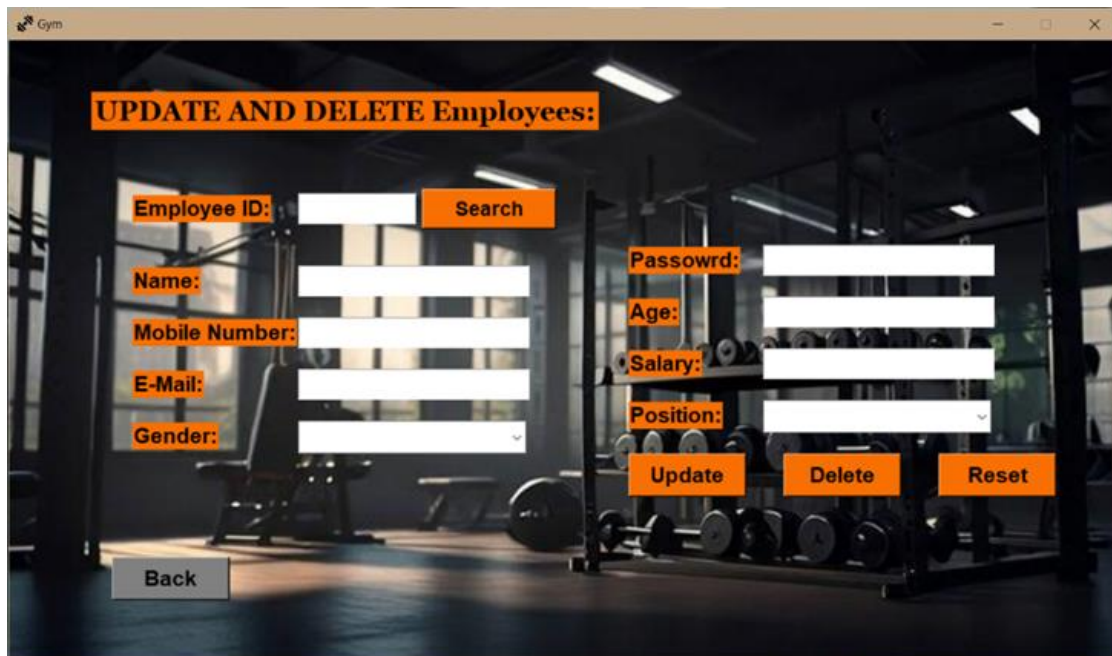


The screenshot shows a web application window titled "Gym" with a background image of a gym interior. The main heading is "UPDATE AND DELETE MEMBERS:". Below this, there are two columns of input fields. The left column contains: "Member ID:" with a text input and a "Search" button; "Name:" with a text input; "Mobile Number:" with a text input; "E-Mail:" with a text input; "Gender:" with a dropdown menu; and "Weight:" with a text input. The right column contains: "Height:" with a text input; "Program:" with a dropdown menu; "Age:" with a text input; "Coins:" with a text input; and "Coach Name" with a dropdown menu. At the bottom of the form, there are three buttons: "Update", "Delete", and "Reset". A "Back" button is located at the bottom left of the form area.



## 6. Update And Delete Employees

The update and delete employees frame contains: Employee ID as a text field for entering the Employee ID to search for an existing employee's details. Employee Information Fields like name, mobile number, e-mail, gender, password, age, salary, and position. Action Buttons: update, delete, reset. A Back button is provided, to return to the previous page.

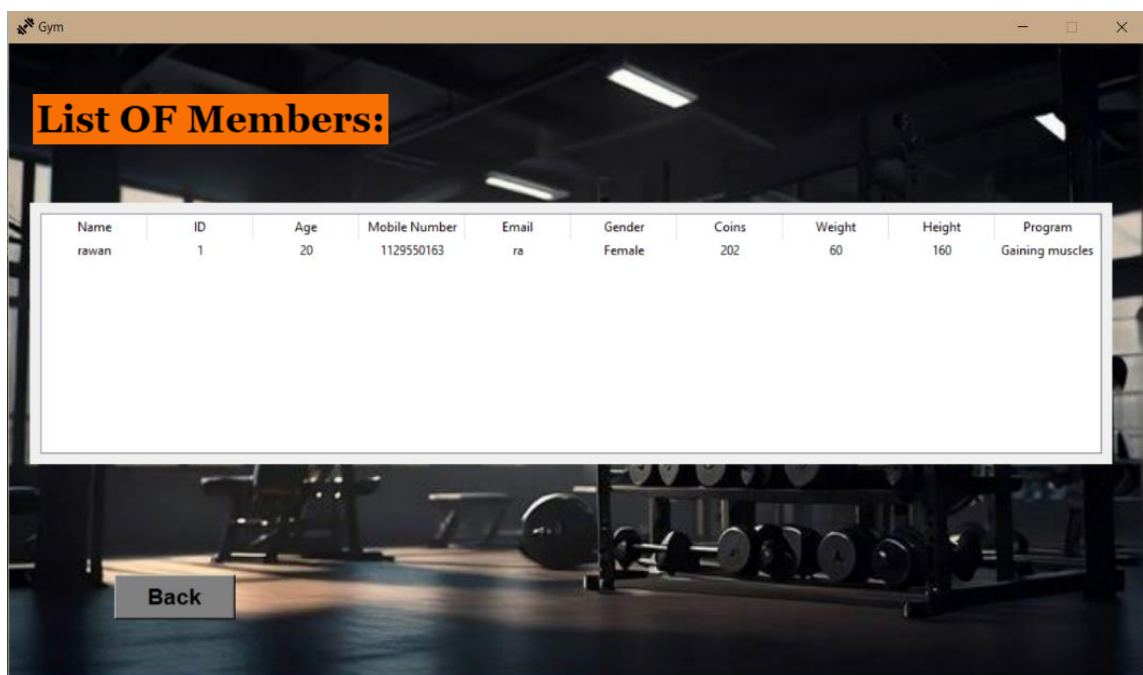


The screenshot shows a web application window titled "Gym" with a background image of a gym. The main heading is "UPDATE AND DELETE Employees:". The form contains the following fields and buttons:

- Employee ID:** A text input field followed by an orange "Search" button.
- Name:** A text input field.
- Mobile Number:** A text input field.
- E-Mail:** A text input field.
- Gender:** A dropdown menu.
- Password:** A text input field.
- Age:** A text input field.
- Salary:** A text input field.
- Position:** A dropdown menu.
- Action Buttons:** Three orange buttons labeled "Update", "Delete", and "Reset" are positioned below the form fields.
- Back Button:** A grey button labeled "Back" is located at the bottom left of the form area.

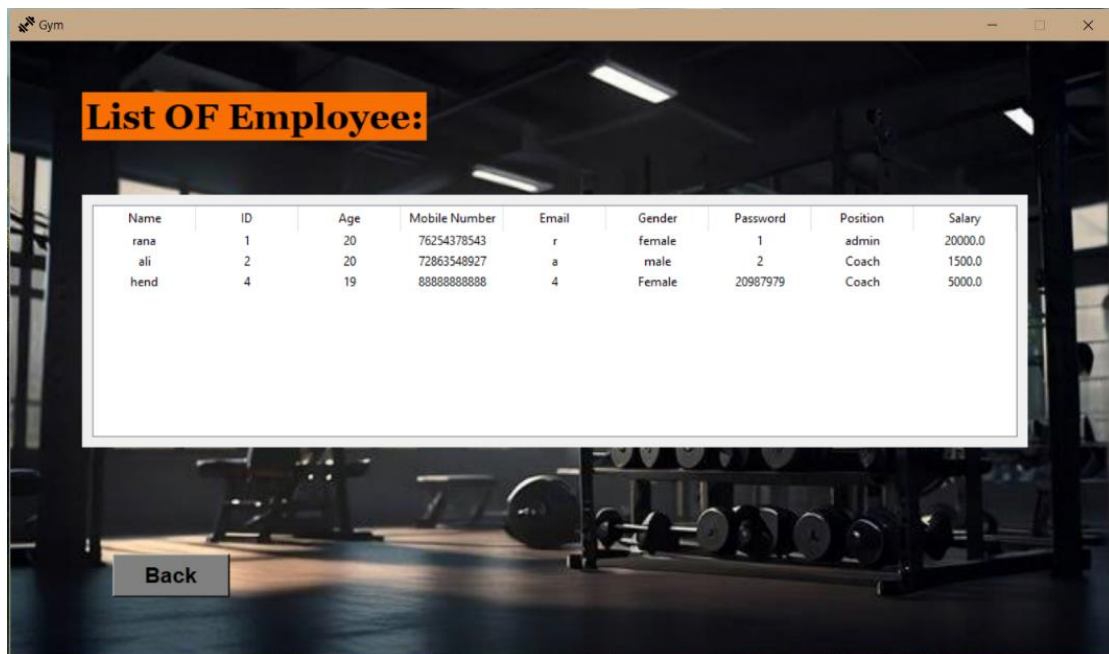
## 7. List OF Members

The frame contains A Table that shows the Name, ID, age, mobile number, e-mail, gender, coins, weight, height and program of members. A Back button is provided, to return to the previous page.



## 8. List OF Employee

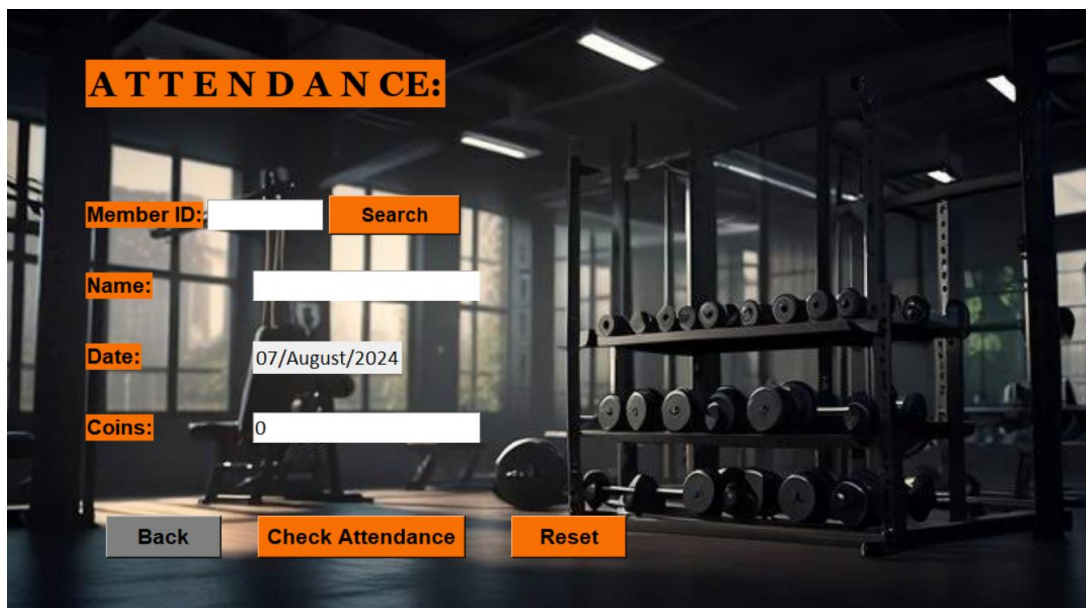
The frame contains a table that shows Employee Details such as the Name, ID, age, mobile number, e-mail, gender, password, position and salary. A Back button is provided, to return to the previous page.





## 9. Checking attendance

The checking attendance frame contains All the essential info to handle attendance-related information such as member ID, name. It's responsible for checking member's attendance by decreasing its coins by one each time he attends. Once he is out of coins, it displays a message requests him to recharge.



The image shows a digital interface for checking attendance, overlaid on a background of a gym with dumbbell racks. The interface has an orange header with the text "ATTENDANCE:". Below this, there are four input fields with orange labels: "Member ID:" followed by a white input box and an orange "Search" button; "Name:" followed by a white input box; "Date:" followed by a white input box containing the text "07/August/2024"; and "Coins:" followed by a white input box containing the number "0". At the bottom of the interface, there are three buttons: a grey "Back" button, an orange "Check Attendance" button, and an orange "Reset" button.

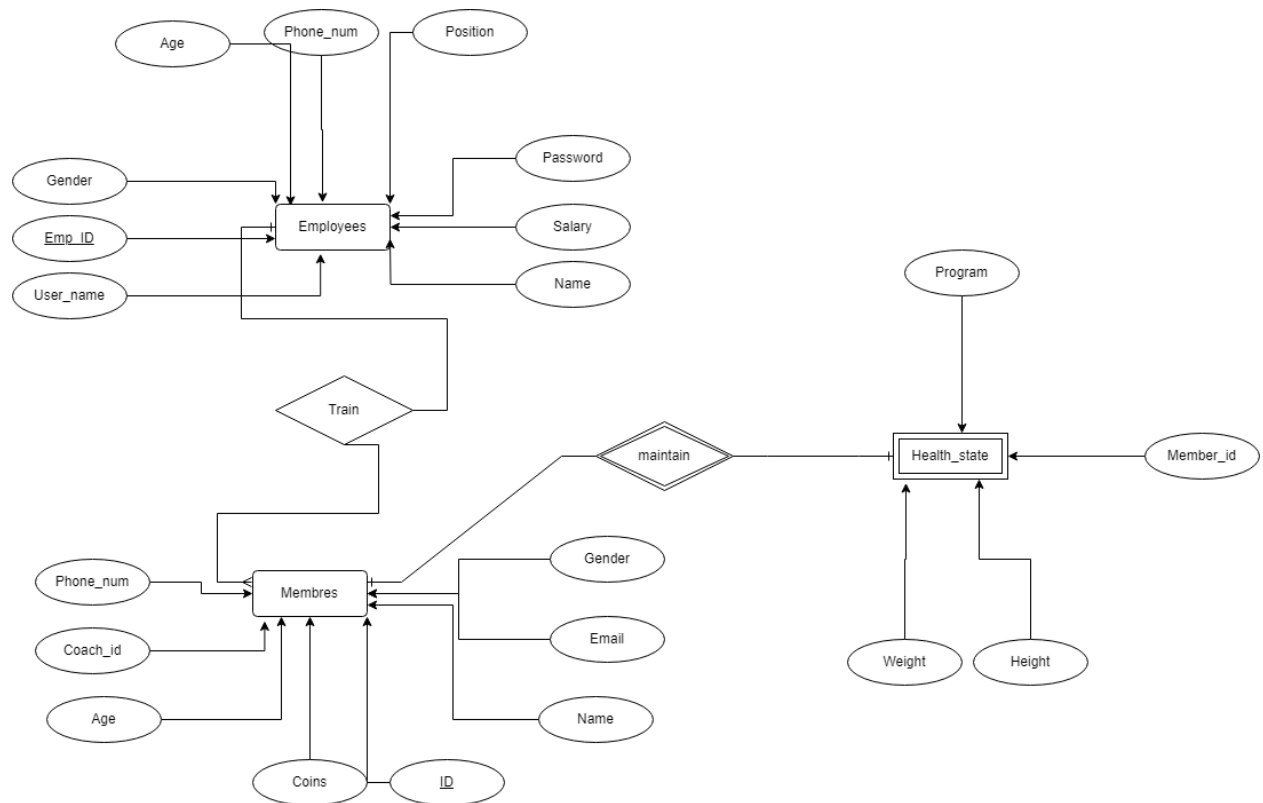
## 10. Log Out

Logout button to return to the login page.



## 6. Database

### . ERD (Entity-Relationship Diagram)



## • Mapping

### Employees

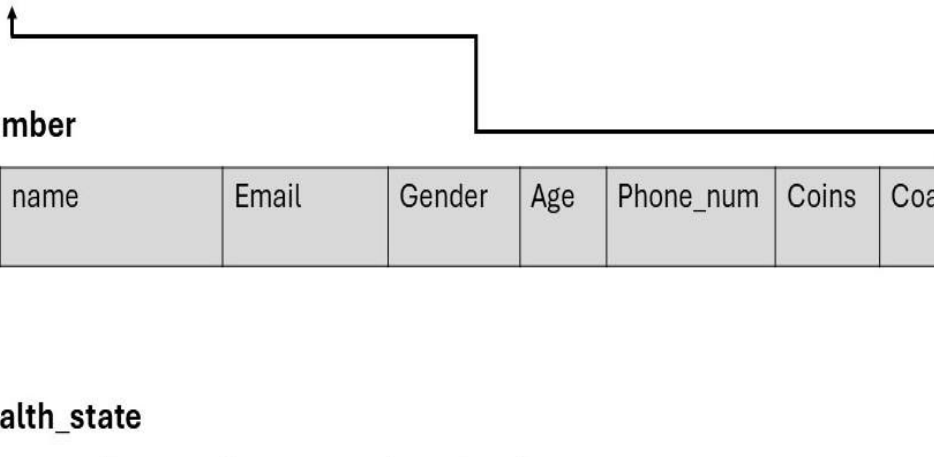
<u>Emp_id</u>	name	User_name	Pasword	Age	Phone_num	Position	Gender	salary
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### Member

<u>Id</u>	name	Email	Gender	Age	Phone_num	Coins	Coach_id
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### Health\_state

<u>Member id</u>	program	weight	height
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## **7. Conclusion**

The Gym Management System is designed to enhance operational efficiency, improve member satisfaction, and optimize administrative tasks in a gym setting. With its modular architecture, user-friendly interface, and robust features, it provides a scalable solution for managing gym operations effectively.

**THANK YOU**