

# Gym Management System Requirements

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## 1 Introduction

The Gym Management System is designed to streamline and automate the operations of a gym by managing client profiles, training plans, nutrition plans, and coach assignments. The system aims to improve usability, efficiency, and scalability while ensuring high performance and robust security. This document outlines the functional and non-functional requirements of the system and includes categorized requirements using the MoSCoW method.

## 2 Requirements

### 2.1 Functional Requirements

The functional requirements are categorized using the MoSCoW method:

#### Must Have

- **REQ.001:** The system must allow gym administrators to create, view, update, and delete client profiles.
- **REQ.002:** The system must allow gym administrators to create and manage training plans for clients.
- **REQ.003:** The system must allow gym administrators to create and manage nutrition plans for clients.
- **REQ.004:** The system must allow assigning coaches to specific clients.
- **REQ.005:** The system must authenticate users (admin, coaches, and clients) using secure login credentials.
- **REQ.006:** The system must display a dashboard summarizing client statistics, active plans, and assigned coaches.
- **REQ.007:** The system must allow coaches to update and monitor the progress of their assigned clients.

#### Should Have

- **REQ.008:** The system should send automated notifications to clients regarding upcoming training sessions or nutrition updates.
- **REQ.009:** The system should allow clients to view their training and nutrition plans.
- **REQ.010:** The system should allow clients to track their progress and log completed workouts.
- **REQ.011:** The system should support multiple roles, such as admin, coach, and client.

#### Could Have

- **REQ.012:** The system could integrate with wearable fitness devices for real-time data synchronization.
- **REQ.013:** The system could generate reports on client progress over time.
- **REQ.014:** The system could allow online payments for membership and coaching services.

#### Won't Have

- **REQ.015:** The system will not provide live video streaming for virtual workouts.
- **REQ.016:** The system will not include AI-based personalized training plans in this version.

## 2.2 Non-Functional Requirements

The non-functional requirements define the system's quality attributes:

- **REQ.017 (Performance):** The system should respond to user actions within 2 seconds under normal load.
- **REQ.018 (Security):** The system must use encryption to secure user credentials and sensitive data.
- **REQ.019 (Scalability):** The system must be able to support up to 1,000 concurrent users.
- **REQ.020 (Usability):** The system should have an intuitive user interface that requires minimal training.
- **REQ.021 (Availability):** The system must have 99.9% uptime.
- **REQ.022 (Compatibility):** The system should be accessible on web browsers (Chrome, Firefox, Safari, Edge).

## 2.3 Use Case Scenarios

The following use case scenarios outline typical interactions with the system:

- **Use Case 1: Managing Client Profiles**
  - Actor: Admin
  - Description: Admin creates, updates, or deletes client profiles in the system.
- **Use Case 2: Assigning Coaches to Clients**
  - Actor: Admin
  - Description: Admin assigns a coach to a specific client.
- **Use Case 3: Viewing Training Plans**
  - Actor: Client
  - Description: Client logs in and views their assigned training plan.
- **Use Case 4: Monitoring Client Progress**
  - Actor: Coach
  - Description: Coach updates progress and monitors client performance.
- **Use Case 5: Automated Notifications**
  - Actor: System
  - Description: System sends automated reminders for training sessions or nutrition updates to clients.