

GymTracker Management System

HNDIT 3012 - Object-Oriented Programming

Version 1.0.0

Assignment Information

Assignment ID: Project 10 (Gym Membership & Attendance Tracker)

1 Project Overview

GymTracker is a digital solution designed to replace paper-based records in fitness centers. It allows administrators to manage memberships and revenue while providing instructors with an efficient way to track daily attendance and member status.

2 Features

- **Role-Based Access:** Distinct dashboards for Admins and Instructors.
- **Secure Authentication:** Password protection using SHA-256 Hashing.
- **Smart Registration:** Automated membership expiry calculation (Monthly, Quarterly, Annual).
- **Attendance Tracking:** High-speed scanning/entry saved via Binary Serialization.
- **Automated Reporting:** Generate summaries, export to .txt, and send Automated Email Alerts.
- **Key Navigation:** Mouse-free operation using system hotkeys.

3 Project Structure

```
GymTracker
|   pom.xml           # Maven Dependencies (Jakarta Mail, JavaFX)
|   project_structure.txt # Exported Folder Tree

+---data             # Persistence Layer
|       attendance.bin # Binary Attendance Logs
|       members.txt    # Member Records
|       users.txt      # Encrypted Login Credentials

+---src/main/java    # Source Code (MVC Layers)
|   +---controller    # UI Logic & Event Handlers
|   +---model          # OOP Structures (Member, Person, Billable)
|   \---service         # Data Access & Email Logic

+---src/main/resources # Assets
|   +---css            # Global Styling
|   \---view            # JavaFX FXML Layouts
```

4 Getting Started

Prerequisites

- **Java JDK:** Version 17 or higher.
- **Maven:** For dependency management.
- **Internet Connection:** Required for the Email Notification Service.

Installation & Running

1. Extract the GymTracker.zip file.
2. Open the project in NetBeans or your preferred IDE.
3. Right-click the project and select **Clean and Build**.
4. Run Launcher.java located in com.mycompany.gymtracker.main.

Default Credentials

For the initial login, use the sample administrator account:

- **Username:** admin
- **Password:** admin

Note: When creating new accounts for Admins or Instructors, each user must set their own private password for security.

5 Keyboard Shortcuts (Key Navigation)

The system is optimized for speed. Use the following keys on any dashboard:

Key	Action	Context
F1	Dashboard	Refresh statistics and return home.
F2	Members/Attendance	Quick jump to member management or check-in.
F3	Reports	(Admin Only) View and export summaries.
ESC	Logout	Exit Full-Screen mode and return to Login.
ENTER	Submit	Confirm login or register a new member.

6 Automated Email Service

The system automatically sends email notifications to the management (ravishkadihara@gmail.com) for the following triggers:

- **Login Alert:** Notifies when an Admin or Instructor logs into the system.
- **Report Generation:** Sends a digital summary whenever the Print button is clicked.