

Unified Mentor

# Trainix – Gym Management System

Internship Project Report

Submitted by: Shivani Jain

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## 1. Introduction

The **Trainix – Gym Management System** is a web-based application designed to simplify gym operations by providing an intuitive interface for managing members, tracking payments, and maintaining billing records.

This project was developed as part of a 3-month internship under **Unified Mentor**, with the objective of gaining hands-on experience in full-stack web development using **Firebase** and **JavaScript**.

## 2. Objective

The main goal of this project is to design and develop a **lightweight, user-friendly gym management system** that:

- Allows **admins** to manage member details, payments, and reports.
- Enables **members** to log in and view their personal billing and membership information.
- Demonstrates the use of **Firebase Authentication** and **Firestore Database** using local emulators for safe testing.

## 3. Scope of the Project

This project focuses on local and educational use. It is fully **emulator-based**, meaning all Firebase services (Auth and Firestore) run locally, ensuring **data privacy** and **offline compatibility**.

Future versions can include:

- Real-time attendance tracking.
- Subscription renewal notifications.
- Integration with wearable fitness devices.

## 4. System Requirements

### Hardware Requirements

- Processor: Intel i3 or above
- RAM: 4 GB or more

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Storage: Minimum 500 MB free space

## Software Requirements

- OS: Windows 10 / 11
- Browser: Chrome / Edge (latest)
- Firebase Emulator Suite
- Code Editor: VS Code

## 5. Technologies Used

Layer	Technology
Frontend	HTML5, CSS3, Vanilla JavaScript
Backend	Firebase Firestore (Emulator), Firebase Authentication
Environment	Firebase Emulator Suite
Version Control	Git & GitHub

## 6. Features Implemented

### Admin Dashboard

- Secure Admin Login/Signup using Firebase Authentication (Emulator).
- Add, Edit, and Delete gym members.
- Add **Bills** (Paid/Unpaid) for each member.
- Export data in **CSV or PDF format**.
- Visual analytics using **Chart.js** (Revenue & Active Members).

### Member Dashboard

- Member login using **Name** and **Member ID**.
- View personal details and bill history.
- Responsive and clean interface.

### System Features

- Fully local setup using Firebase emulators (safe for demo/testing).

- Unified **logging system** (logs every action to Firestore).
- Persistent session handling for both admin and member.
- Responsive UI for desktop and mobile screens

## 7. Firestore Data Schema

### Collection: Members

Field	Type	Description
Member Id	String	Auto-generated Id
Name	string	Member's name
Phone	String	Contact number
Package	String	Subscription
Start Date	Date	Membership start date
Created At	Timestamp	Record creation date

### Collection: Bills

Field	Type	Description
Member Id	String	Reference to number
Amount	Number	Bill amount
Status	String	Paid/Unpaid
Date	Date	Bill date
Created At	Timestamp	Record creation date

### Collection: members

Field	Type	Description
Level	String	Info/Warn/Error
Message	String	Log message
Meta	Object	Metadata info
Created At	Timestamp	Log time

## 8. System Design Overview

### Architecture:

- The system uses **modular JavaScript files** (UI.js, db.js, auth.js, etc.) for better maintainability.
- **Firestore** stores all data (members, bills, logs).
- **Firebase Authentication Emulator** manages user sessions locally.

The UI is fully dynamic and responsive.

### Modules:

1. **Authentication Module** – handles admin login/signup and member login.
2. **Member Management Module** – adds, edits, and deletes members.
3. **Billing Module** – creates and lists bills.
4. **Analytics Module** – shows charts for gym performance.
5. **Export Module** – exports member data as CSV or PDF.

## 9. Project Setup & Execution

Live site link: <https://shivanie07.github.io/Trainix-Gym-Management-System/>

### Local Setup (Optional)

1. Clone the repository:

```
bash
```

```
git clone https://github.com/shivanie07/Trainix-Gym-Management-System
```

2. Open the project in VS Code.
3. Start firebase emulators: `bash firebase emulators:start`
4. Open index.html in a browser.

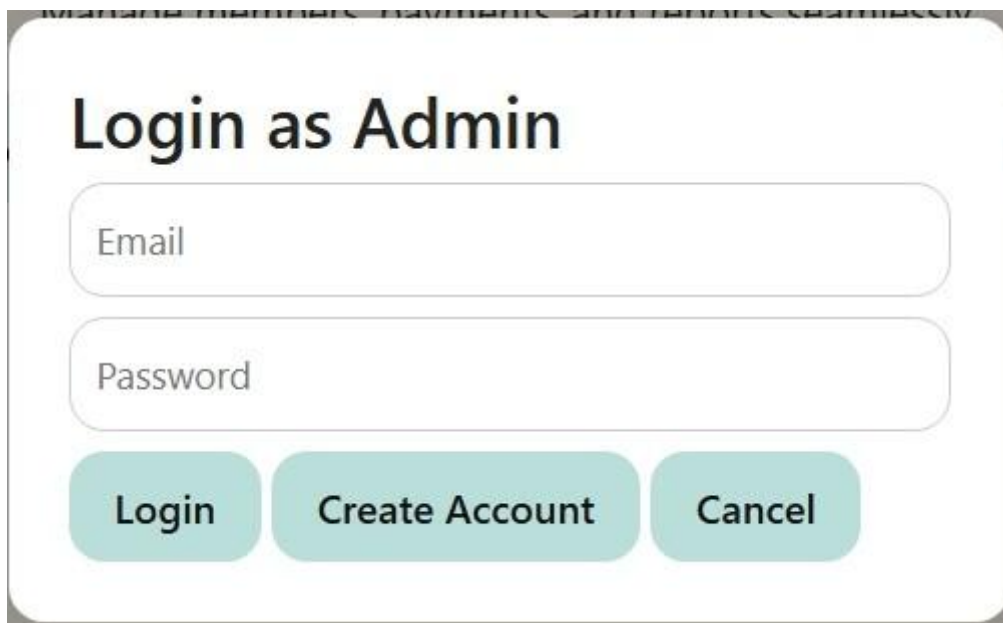
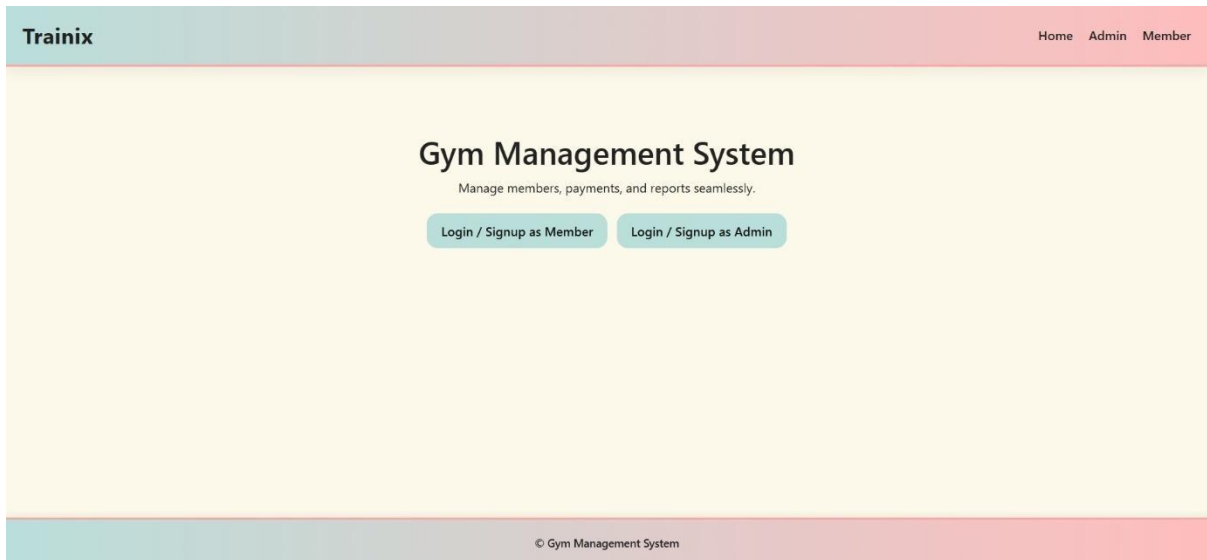
### Emulator URLs

- Auth Emulator: <http://localhost:9099>

- Firestore Emulator: <http://localhost:8080>

## 10. Output & Screenshots

### 1. Home / Login Page



## Sign Up as Admin

Sign Up

Already have an account? Login

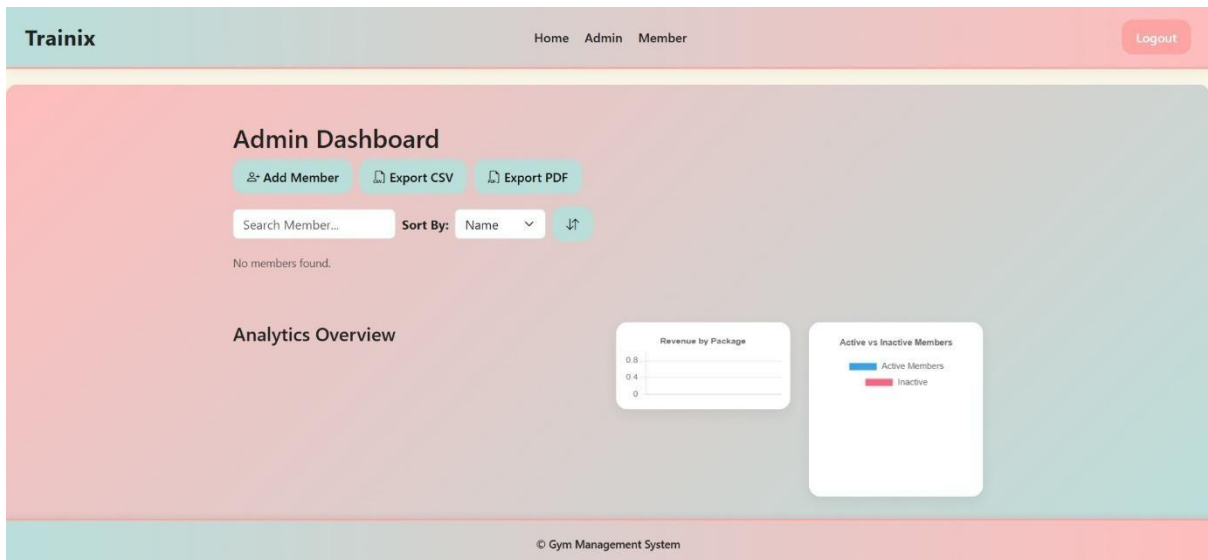
Cancel

## Member Login


Login

Cancel

## 2. Admin Dashboard



### Edit Member



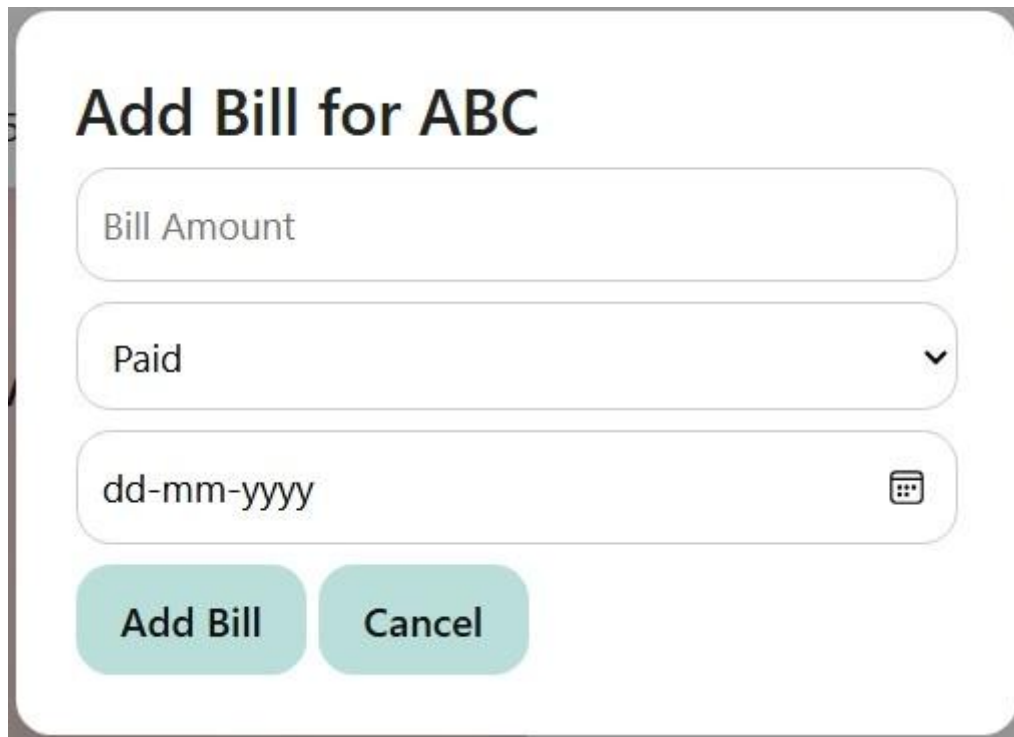
Update

Cancel

+ Add Bill

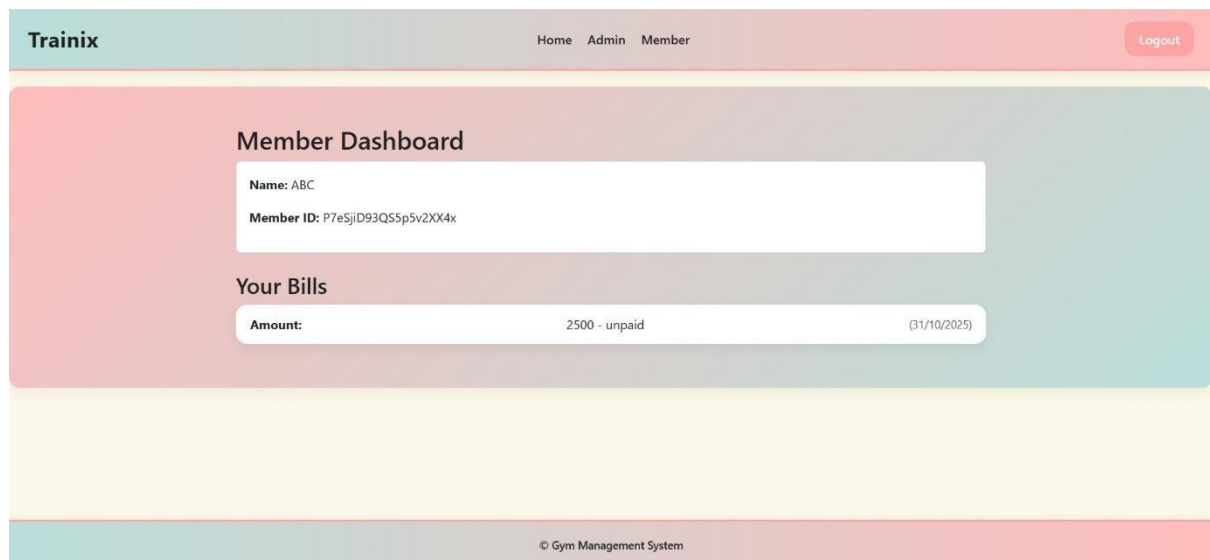


### 3. Add Bill Interface



The image shows a mobile app interface for adding a bill. It features a title 'Add Bill for ABC' at the top. Below the title are three input fields: a text field for 'Bill Amount', a dropdown menu currently showing 'Paid', and a date field with the placeholder 'dd-mm-yyyy' and a calendar icon. At the bottom of the form are two buttons: 'Add Bill' and 'Cancel'.

### 4. Member Dashboard



The image shows a web application interface for a member dashboard. The header has the brand name 'Trainix' on the left and navigation links 'Home', 'Admin', and 'Member' in the center, with a 'Logout' button on the right. The main content area is titled 'Member Dashboard' and displays member information: 'Name: ABC' and 'Member ID: P7eSjID93QS5p5v2XX4x'. Below this is a section titled 'Your Bills' which shows a single bill entry: 'Amount: 2500 - unpaid' with a due date of '(31/10/2025)'. The footer contains the text '© Gym Management System'.

## 11. Challenges Faced

- Debugging Firebase Emulator connections and authentication setup.
- Ensuring proper logout flow for both admin and member users.
- Structuring Firestore collections to support clean data retrieval.

- Maintaining responsive design and modular JavaScript architecture.

## 12. Learning Outcomes

- Hands-on experience with Firebase Authentication and Firestore.
- Improved understanding of frontend-backend integration.
- Exposure to data visualization with Chart.js.
- Strengthened debugging, version control, and documentation skills.

## 13. Conclusion

The Trainix – Gym Management System successfully fulfills its purpose as a simple yet effective platform to manage gym operations.

It is fully functional in local emulator mode and demonstrates strong technical understanding of web development principles using Firebase.

This project served as an excellent learning experience during the internship at Unified Mentor, bridging the gap between academic knowledge and real-world application.

## 14. GitHub Repository

Project Link: <https://github.com/shivanie07/Trainix-Gym-Management-System>

## 15. Acknowledgement

I would like to express my sincere gratitude to **Unified Mentor** for providing this internship opportunity, continuous support, and guidance throughout the project.

This experience has been invaluable in improving my practical skills in full-stack web development and project execution.

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## End of Report