

Progress Report: Gym Management System

Mrunmai Nitin Magar-1002092125

Hruthik Reddy Chada-1002116689

Objective:

To assess understanding of software project management concepts and their application to a real-world gym management system project.

Part 1: Project Initiation

Project Proposal:

Client's Requirements: The client, Gym, requires the development of a comprehensive gym management system to streamline member management, class scheduling, trainer assignments, and billing.

Objectives:

- ☐ Improve member experience and satisfaction.
- ☐ Enhance administrative efficiency.
- ☐ Increase revenue through improved service offerings.

Scope: The scope includes member registration, class scheduling, trainer assignment, billing, and reporting.

Project Timeline:

- ☐ Project Start Date: August 30 2023
- ☐ Project End Date: November 15 2023

Feasibility Study:

Technical Feasibility: A preliminary technical assessment suggests that the project is feasible, given the availability of modern development tools and technologies.

Operational Feasibility: The gym already has an existing manual system that will be replaced by the new system, improving operational efficiency.

Economic Feasibility: The projected return on investment (ROI) indicates that implementing the gym management system is economically viable.

Cost and Time Estimation (Using zoho finance):

Estimation ID*
1

Project Name*
GYM MANAGEMENT

Client Name*
UNIVERSITY OF TEX

Project Duration*
08/30/2023 - 11/15/2023

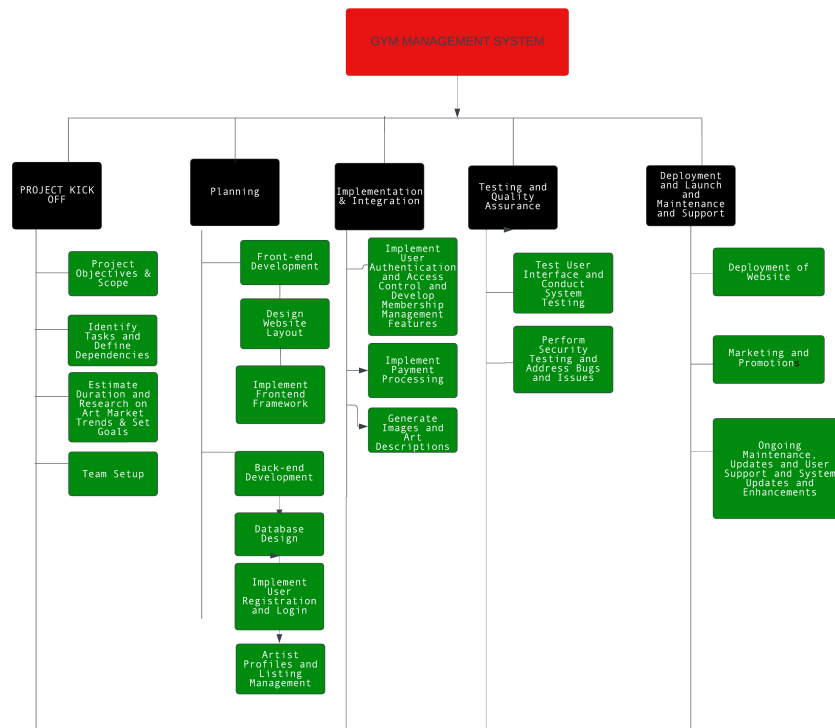
TASK NAME	BILLING METHOD		COST PRICE	ESTIMATE DURATION	ESTIMATION COST
Product Owner <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	180	58 Days	10440.00
Product Owner <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	140	60 Days	8400.00
Development Team <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	200	59 Days	11800.00
UI/UX Designer <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	185	59 Days	10915.00
QA/Testers <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	172	60 Days	10320.00
Database Administrator <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	177	60 Days	10620.00
DevOps Engineer <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	146	58 Days	8468.00 ⋮
Tools and Software <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	244	58 Days	14152.00
Infrastructure Costs <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	238	59 Days	14042.00
Maintenance and Support <small>This is a sample note for a task. Max text char will be 80.</small>	Cost per Day	▼	112	61 Days	6832.00

+ Add New Task

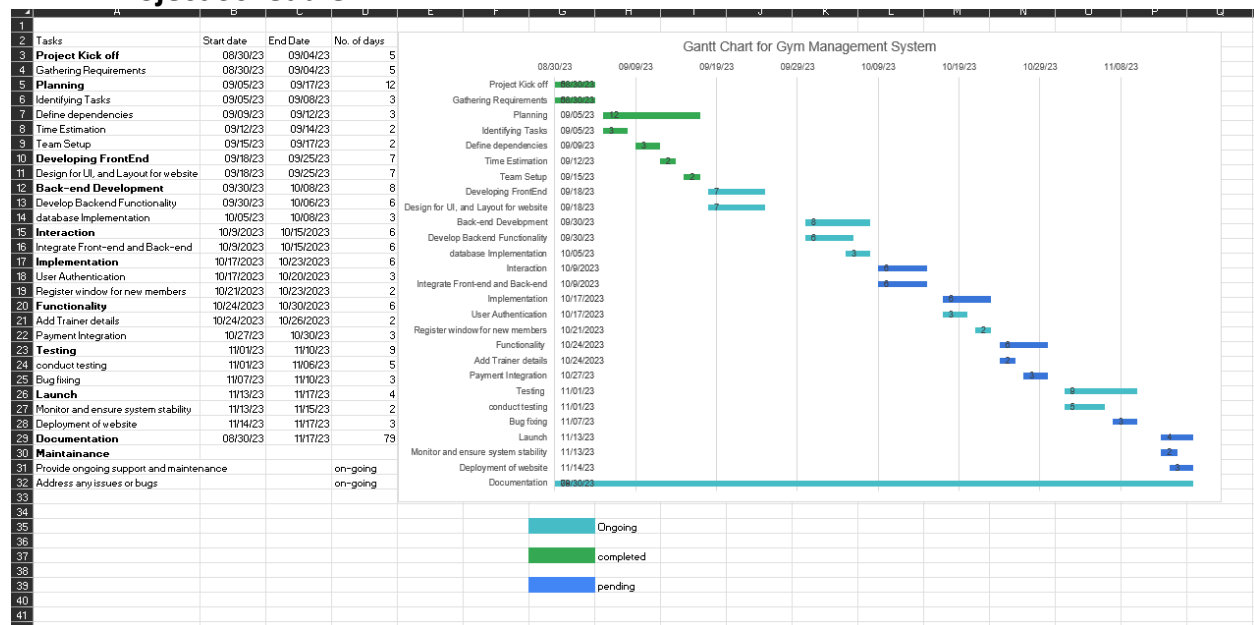
Total Estimation Cost \$ 105989.00

Part 2: Project Planning :

□ Work Breakdown Structure (WBS)



□ Project Schedule



☐ Resource Allocation

We will allocate human resources, hardware, and software as follows:

- ☐ Developers: Hruthik
- ☐ Designers: Mrunmai
- ☐ Database Administrator: Hruthik
- ☐ Server Resources: Mrunmai
- ☐ Software Licenses: Mrunmai, Hruthik

A detailed resource allocation plan is included in the project documentation.

Part 3: Risk Management

☐ Risk Identification

1. Technical Integration Issues (Technical Risk):

- ☐ *Likelihood:* Medium
- ☐ *Impact:* High

2. Data Security Breach (Technical Risk):

- ☐ *Likelihood:* High
- ☐ *Impact:* High

3. Scope Creep (Organizational Risk):

- ☐ *Likelihood:* Medium
- ☐ *Impact:* Medium

4. Insufficient Staff Training (Organizational Risk):

- ☐ *Likelihood:* Medium
- ☐ *Impact:* Medium

5. Market Competition (External Risk):

- ☐ *Likelihood:* High
- ☐ *Impact:* Medium

☐ Risk Assessment

RISKS	LIKELIHOOD	IMPACT	PRIORITY
Technical Integration Issues	Medium	High	High
Data Security Breach	High	High	High
Scope Creep	Medium	Medium	Medium
Insufficient Staff Training	Medium	Medium	Medium
Market Competition	High	Medium	Medium

☐ **Risk Mitigation**

For Technical Integration Issues:

- ☐ Establish a dedicated integration team with expertise in handling complex integrations.

For Data Security Breach:

- ☐ Implement robust security measures, including encryption, access controls, and regular security assessments.

For Scope Creep:

- ☐ Clearly define and document the project scope.
- ☐ Implement change control procedures to assess and approve scope changes.
- ☐ Educate stakeholders about the importance of adhering to the defined scope.

For Insufficient Staff Training:

- ☐ Develop a comprehensive training program for staff.
- ☐ Provide user-friendly documentation and resources.
- ☐ Offer ongoing support and training sessions.

For Market Competition:

- ☐ Continuously monitor and analyze the competitive landscape.
- ☐ Implement marketing strategies to differentiate from competitors.
- ☐ Stay agile and adaptable to changing market dynamics.

These tables provide a clear overview of the identified risks, their assessments, and corresponding mitigation plans for the Gym Management System project.

Part 4: Project Monitoring and Control

Monitoring Metrics

1. Project Timeline: Milestone Achievement

- ☐ **KPI Description:** This metric assesses the accomplishment of vital project milestones within their scheduled timeframes.
- ☐ **Calculation:** Calculate the percentage of achieved milestones in relation to the total planned milestones.
- ☐ **Significance:** This KPI offers project stakeholders visibility into the project's advancement, ensuring that critical milestones are met as per the original schedule. It aids in detecting any deviations from the timeline promptly.

2. Budget Management: Budget Deviation

- ☐ **KPI Description:** This indicator evaluates the difference between the planned budget and the actual project expenditures.
- ☐ **Calculation:** Determine the budget variance by subtracting actual expenditures from the originally planned budget.

- ☐ **Significance:** The monitoring of budget variance is crucial for financial oversight. It enables early detection of potential budget overruns or instances where allocated funds are not fully utilized.
- 3. **Resource Allocation: Resource Efficiency**
 - ☐ **KPI Description:** This metric tracks the efficient utilization of project resources, including developers, designers, and other team members.
 - ☐ **Calculation:** Calculate resource efficiency as a percentage by comparing actual work hours to available work hours.
 - ☐ **Significance:** Efficient resource allocation is essential for maximizing project productivity and ensuring that resources are deployed effectively. This KPI aids in identifying any resource constraints or underutilization.

Change Control Process

1. **Change Identification and Documentation:**
 - ☐ Recognize and record potential changes to the project scope, considering input from stakeholders and team members.
 - ☐ Utilize a standardized change request form to gather essential details like the rationale, impact, benefits, and risks associated with each change.
2. **Change Request Review:**
 - ☐ Form a dedicated change control board (CCB) to review and assess change requests.
 - ☐ Evaluate each request's feasibility, implications for project objectives, budget, schedule, and potential risks.
3. **In-depth Impact Analysis:**
 - ☐ Conduct a thorough analysis of the potential consequences of each change.
 - ☐ Examine how changes may affect project timelines, budget, resource allocation, and overall project goals.
 - ☐ Identify and assess any associated risks.
4. **Prioritization of Change Requests:**
 - ☐ Prioritize change requests based on their significance and impact.
 - ☐ Categorize changes into critical, high-priority, medium-priority, or low-priority.
 - ☐ This prioritization informs decisions on which changes warrant further consideration.
5. **Review and Approval:**
 - ☐ Hold regular CCB meetings to discuss and make decisions on change requests.
 - ☐ Review impact assessments and prioritize changes during these sessions.
 - ☐ Seek approval from senior stakeholders for critical or high-priority changes.

- ☐ Approve changes that align with project objectives and don't jeopardize overall success.
- 6. Documentation of Approved Changes:**
 - ☐ After approval, document the changes thoroughly.
 - ☐ Maintain records, including the approved change request, impact analysis, and any updated project documentation.
- 7. Implementation of Changes:**
 - ☐ Task the project team with executing approved changes.
 - ☐ Ensure seamless integration into the project plan and communicate changes to stakeholders.
- 8. Monitoring and Control:**
 - ☐ Continuously monitor the progress and impact of implemented changes.
 - ☐ Track their effect on project schedule, budget, and quality.
 - ☐ Be prepared to make further adjustments if needed.
- 9. Communication of Changes:**
 - ☐ Keep all stakeholders informed about approved changes and their implications.
 - ☐ Maintain transparent and ongoing communication throughout the change management process.
- 10. Closure of Change Requests:**
 - ☐ Once a change is successfully implemented and achieves its objectives, close the associated change request.
 - ☐ Update project documentation to reflect the finalized project configuration.

Quality Assurance

- 1. Quality Standards and Strategic Planning:**
 - ☐ Establish stringent and meticulously detailed quality benchmarks encompassing the facets of functionality, performance, security, and usability.
 - ☐ Formulate a comprehensive quality assurance strategy replete with explicitly defined objectives, roles, and responsibilities.
- 2. Testing Rigor and Defect Vigilance:**
 - ☐ Execute an exhaustive array of testing modalities, spanning functional, usability, performance, security, and compatibility assessments.
 - ☐ Institute an airtight defect monitoring and remediation framework to promptly address identified issues.
- 3. User-Centric Orientation:**

- ❑ Undertake User Acceptance Testing (UAT) as a litmus test to ensure complete alignment with end-user prerequisites.
- ❑ Continuously assimilate user-driven feedback to facilitate an agile and user-centric system refinement approach.

4. Documentation, Compliance, and Proficiency Enhancement:

- ❑ Craft comprehensive documentation that serves as an indispensable resource for end-users and support personnel.
- ❑ Meticulously scrutinize compliance with industry regulations and standards.
- ❑ Conduct structured and informative end-user training sessions to elevate proficiency and user adoption.

5. Code Scrutiny and Performance Enhancement:

- ❑ Conduct methodical and exacting code reviews aimed at elevating the caliber of coding.
- ❑ Pursue an unceasing trajectory of performance optimization, eliminating operational inefficiencies and enhancing system responsiveness.

6. Quality Audits and Risk Mitigation:

- ❑ Convoke regular and systematic quality audits, meticulously assessing the alignment with established quality parameters.
- ❑ Vigilantly assess and proactively mitigate the full spectrum of quality-associated risks throughout the project's complete lifecycle.

Part 5: Design

Design Goals

- User-friendly interface.
- Scalable and maintainable database design.

Design Approach

We will follow the Agile development methodology and use the Entity-Relationship (ER) diagram for database design. The design will prioritize user experience and performance.

ER Diagram



Part 6: Implementation

We will use the following tools and technologies for implementation:

Text Editors / Integrated Development Environments (IDEs):

- ☐ Visual Studio Code
- ☐ PHPStorm
- ☐ Notepad++
- ☐ Eclipse PDT

Web Servers:

- ☐ Apache HTTP Server

Database Management:

- ☐ phpMyAdmin: A web-based tool for managing MySQL databases.
- ☐ MySQL Workbench

Local Development Environment:

- ☐ XAMPP

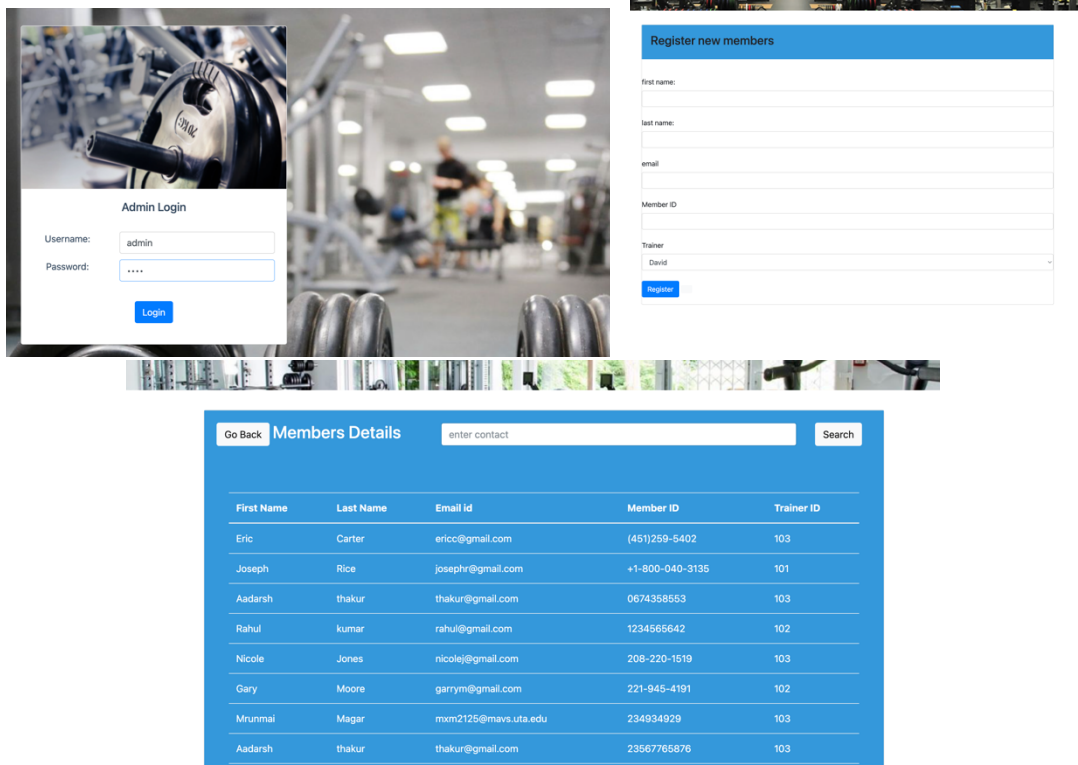
Front-End Frameworks and Libraries:

- ☐ Bootstrap
- ☐ CSS

Web Browsers:

- ☐ Google Chrome, Mozilla Firefox, Microsoft Edge

Snapshots:



Part 7: Testing

Test Case ID	Test Case Description	Expected Result	Status
TC001	Verify the homepage loads successfully	Homepage is visible and loads without errors	Pass
TC002	Test the member registration process	User can successfully register as a gym member	Pass
TC003	Validate login functionality	Admin can log in with valid credentials	Pass
TC004	Test for browser compatibility	The website works well on major browsers (Chrome, Firefox, Safari, Edge)	Pass
TC005	Check if the navigation menu is responsive and functional	Menu items should be clickable and lead to the correct pages	Pass

Also, we tried to conduct testing using 'Katalon', but unfortunately due to some technical issues, we could not complete it. In the future stages of our project, we will implement testing using it.

☐ Level 4 Testing

User Registration and Login:

Test Scenario: Ensure that users can successfully register and log in to the Gym Management System website.

Test Case 1: Admin Login

1. Open the Gym Management System website.
2. Go to the login page.
3. Enter valid email and password.
4. Click the "Log In" button.
5. Verify successful login and redirection to the user dashboard.
6. Attempt to log in with incorrect credentials.
7. Confirm that the system displays an error message.

Test Case 2: New User Registration

1. Open the Gym Management System website.
2. Navigate to the registration page.

3. Fill in valid registration details, including name, email, password, and contact information.
4. Click the "Register" button.
5. Verify that a confirmation message is displayed.

3. Membership Subscription and Payment:

Test Scenario: Verify that users can be added to different membership plans and complete payment transactions.

Test Case 3.1: Membership Subscription

1. Log in to the Gym Management System website.
2. Navigate to the membership subscription section.
3. Select a membership plan (e.g., monthly, quarterly, annual) and proceed to subscribe.
4. Confirm that the system calculates the correct subscription fee based on the chosen plan.
5. Check if subscription details, including the plan type and duration, are displayed accurately.

Test Case 3.2: Payment Processing

1. Continue from the previous test case.
2. Proceed to the payment process for the selected subscription.
3. Note payment methods (e.g., credit card, PayPal, cash, etc.) to check for successful transactions.

Test Case 4: View all clients and their details.

1. Open the Gym Management System website.
2. Click on 'member details' button.
3. Verify that a page with details including members' names, emails, contact numbers, trainer's ID number is displayed.

Part 7: Management Tools

Projects / My Kanban Project

GYM MANAGEMENT SYSTEM

HR

Invite

TO DO 5

Project launch

✓

KAN-2

Marketing and Promotion

✓

KAN-3

Maintenance

✓

KAN-4

Deployment

✓

KAN-11

IN PROGRESS 8

Front-end Developing

✓

KAN-5

Design website

✓

KAN-6

Implement Front-End Framework

✓

KAN-7

Back-end Development

✓

KAN-8

DONE 5 ✓

Project planning and kickoff

✓

KAN-13

✓

Gathering Requirements

✓

KAN-14

✓

Identifying Tasks

✓

KAN-15

✓

Time Estimation

✓

KAN-16

✓

GYM MANAGEMENT SYSTEM

HR

Invite

TO DO 5

Define dependencies

✓

KAN-17

+ Create issue

IN PROGRESS 8

Database Connection

✓

KAN-9

Testing

✓

KAN-10

Quality Assurance

✓

KAN-12

Documentation

✓

KAN-18

DONE 5 ✓

Team setup

✓

KAN-19

✓

Part 8: Remaining Tasks

Schedule for Remaining Tasks

The following is a schedule for the remaining tasks:

Task	Start	End	Duration
Interaction	10/09/2023	10/15/2023	6
Integrate Front-end and Back-end	10/09/2023	10/15/2023	6
Functionality	10/27/2023	10/30/2023	3
Add Trainer Details	10/27/2023	10/30/2023	3
Payment Integration	10/27/2023	10/30/2023	3
Testing	10/30/2023	11/03/2023	5
Unit testing	10/30/2023	11/1/2023	3
Integration testing	10/30/2023	11/01/2023	3
System testing	11/02/2023	11/03/2023	2
User acceptance testing	11/02/2023	11/03/2023	2
Deployment	11/04/2023	11/6/2023	3
Deploy the system to production	11/04/2023	11/05/2023	1.5
Train users on the system	11/05/2023	11/06/2023	1.5
Launch	11/13/2023	11/17/2023	4
Documentation	08/30/2023	11/17/2023	79