

Sri Lanka Institute of Information Technology



# Gym Management System

Project Proposal  
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# Introduction

- Company or client/ background

Our Project client is Mansa Fitness Center gym, Fitness Studio, which is situated in Malabe, Western Province. Mansa Fitness is well established as the new gym specialists with years of experience. It is fully equipped gym with standard facilities, certified gym instructors, personal trainers, and great workout environment. There are nearly fifteen employees work in the Mansa fitness center. The main tasks that are carried out manually at Mansa are managing members, trainers, payments, client requests and workouts. They supply commercial gym equipment and products to gymnasiums and fitness centers worldwide. Their products designed by American professionals and experts under the principle of human motion mechanics. They are also offer Zumba, Aerobics and Spin classes. Their aim is to become to the top OEM in this line of gym professional fitness equipment. The main target of Mansa fitness is to help their members to get the best deal on commercial gym equipment and make the way to wellness.

- Problem face by client, Solutions, Benefits of the system.

The following is a list of issues that clients have encountered, solutions to those issues, and benefits of selected functions.

### **Workout Program Management:**

#### **Problem face by client**

- Difficulty in informing members about new workout programs being held at the gym.
- When members want to enroll in a workout program, there is no quick and easy way to do it.
- Difficulty for a member to find the type of workout program they want
- There is no proper mechanism for members to know about the workout programs which they have enrolled.
- When there is a change in a workout program, there is no way to notify the members who are enrolled in it.
- It is difficult for a gym owner to keep track of how popular a workout program is and how much revenue it generates.

#### **Solutions**

- Create a system to notify gym members by sending a notification or email when a new workout program is added.
- View all workout programs and create a page that can be enrolled with just a one click.
- Create a search bar where all workout programs can be searched.
- Create a sidebar where members can view all the workout programs they have enrolled for.
- Inform the enrolled members about any changes in the workout program via a notification or email.
- Create a system that can generate a complete report on how popular a workout program is and the revenue that comes from it.

#### **Benefits**

- A complete description of the workout program required for enrollment is readily available to members without meeting the gym owner.
- Saving time and money for members and the gym owner.
- A member can quickly find a workout program that suits them.
- By generating a report on ongoing workout programs, can gain an understanding of suitable workout programs to start in the future.

## **Workout Support Management:**

### **Problem face by client**

- When a gym member wants to get information about a workout, the owner has to spend a lot of time on it
- Members can't get proper understand about workouts
- Difficulty for members to find details about the type of workouts they prefer
- Lack of a systematic way for trainers to provide workout details to gym members
- Difficulty getting answers when a member has an issue with a workout
- Due to the busy schedule of the members, it is difficult to go to the gym regularly and check the accuracy of their workouts
- There is no way to notify members when a new workout is added or when an existing workout is updated
- There is no way for the admin to know the workouts that the members like and follow the most.

### **Solutions**

- Creating a page where you can view all the workouts in one place
- Create a page where members can view step-by-step details with images about each workout selected
- Create a search bar where members can search and find the workout of their choice from all the workouts.
- Create a system where trainers can create, update, delete workouts.
- Add a function to the system so that members can see the profile of the trainer who posted a workout and contact him directly.
- Create a web app that includes all the workouts that can be accessed even through a smartphone
- Inform members by email or notification when a trainer adds a new workout or updates an existing workout.
- Create a system where the admin can get a complete report on the workout most viewed by the members

### **Benefits**

- Awareness of exercises that help members train skills and develop new habits
- Members can get details about any workout they want
- Ability for members to follow a workout very accurately
- Ability for members to quickly find a workout of their choice
- Trainers can easily provide members with details about workouts
- Easy way for members to resolve issues regarding a workout
- Easy and quick access to workout details for members anywhere
- When a new workout is added or a change in an existing workout is made available to the members very quickly

- The admin can get an idea of the workouts that the gym members like the most

### **Feedback and Q&A Management:**

#### **Problem face by client**

- As a new member anyone can arise some problem and difficulties. So as a new member he doesn't know much about the procedure, what are the rules allowed things in gym likewise, so to solve the problem he/she can use the feedback and Q&A section.
- Customer feedback also plays an important role in the growth of a business. Even though the owner receives opinions from close customers, this may be biased as there is no mechanism to collect overall feedback, causing the gym to rely on false assessments.
- There is no proper mechanism to express their ideas to develop the service provide by the gym.

#### **Solutions**

- Create a page for submit feedback.
- Add tab for ask questions. (Suppose to add option ask question and answer by unknown).
- Add frequently ask questions tab.
- Add option to rate answers and the question.
- Add option to edit/modify the feedback.

#### **Benefits**

- Sava time, without visiting the gym solve problems.
- Easy to express some ideas that help to improve the performance of the service that we can have.
- After refer the feedback, comments we can get good idea about the place and the service that they provide.

## **Workout Schedule Management:**

### **Problem face by client**

- There is no proper mechanism to update new workout schedule plans.
- There is difficulty in creating workout schedules and tracking progress of the members while there are also many problems in managing time slots for workout programs.
- Failure to share issues related to workout schedules with trainers.
- There is difficulty in informing missing workout schedules to the members.

### **Solutions**

- Introduce an update function to update workout schedules easily.
- Members can find out all the predefined and new workout schedule plans through the system.
- There is a request function to request customized workout schedules.
- There is a create function to create workout schedules according to member's requirements.
- Sending notifications related to missing workout schedules to the members.
- There is a calendar in member profile to show their workout schedule.

### **Benefits**

- Being updated on new workout schedules.
- Trainers can find out about member's requirements.
- Members will be able to request customized workout schedules.
- Members being update on missing workout schedules.

## **Employee Management:**

### **Problem face by client**

- Difficulties of using written member registration forms.
- Unable to find employee information.
- When the data is changed, the data of all the documents will be changed.
- If the employee needs the payment details and attendance details, it will not be available at that time.
- Failure to send the data to the relevant employee after preparing the new schedule.

### **Solutions**

- Create a registration form to register employees.
- Create a separate profile for each employee and include the details of those employees.
- Create an auto generated working schedules for each employee and shows calendar in each profile to inform working schedule.

### **Benefits**

- Save time and make time management easier.
- Easy to change data.
- Develop relationships with employees and members solve problems quickly



## **Member Management:**

### **Problem face by client**

- Difficulties of using written member registration forms.
- Searching for member details through documents is a time-consuming task.
- Difficulties of updating member's details through documents.
- Difficulties of finding payment details and attendance details.
- There is no proper mechanism to get workout progress.
- Failure to send the data to the relevant members after their membership expired.

### **Solutions**

- Create an easy way of registering members through the system.
- Create separate profile including their work out details, payment details and attendance details.
- Introduce a search function to get each member's details one by one.
- Introduce an update function to update member details easily.
- Introduce Automatically send reminder messages via email and mobile phone.
- Create an easy way to get workout progress reports.

### **Benefits**

- Easy registration of a member.
- Saving time when searching member details.
- Easy to update member details.
- Reduce using documents.

## **Trainer Account and event Management:**

### **Problem face by client**

- There is a manual method for releasing new events.
- It is difficult to keep up with the most recent events.
- There is no way automatic way to find trending events and track sign up rate of events.
- If an event is changed or canceled, there is no proper mechanism to notify the members.
- Failure to notify the appropriate members about the recent events.
- They need to create a report summarizing the events.

### **Solutions**

- Allow members to browse events and register for events.
- Introduce a submit function for trainers to update workout schedules easily.
- create a function that allows trainers to fully handle events after publishing the events.
- Develop a notification system to notify the members about new events/ event changes.
- Develop a UI to give trainers to manage their profile.

### **Benefits**

- Trainers can manage their profiles.
- Members are kept up to date on the latest events.
- More members are now taking part in events.
- Members can now register for events.
- Members are notified when an event is canceled or modified, as well as when the event they signed up for is too short and the event they registered for is about to start.

## **Personal Trainer Management:**

### **Problem face by client**

- They need to introduce personal trainer package system to the customers.(30 Day Initiator Program , 90 Day Mass Gainer Program,90 Day Shred Program ,Holistic Meal Plan).
- There is a manual method for the store personal trainer details .It is non-effective method to store data in a system and takes a long time to find the data.
- They need to generate a report about most popular trainer package.
- The possibility of information being false and erroneous in old system.
- Unable to find personal trainer information.
- When the data is changed , the data of all document will be changed.
- If the customer needs the personal trainer information, it will not available at that time.
- Failure to send the package detail to the relevant customers.
- Customers can't get proper understand about packages providing services.

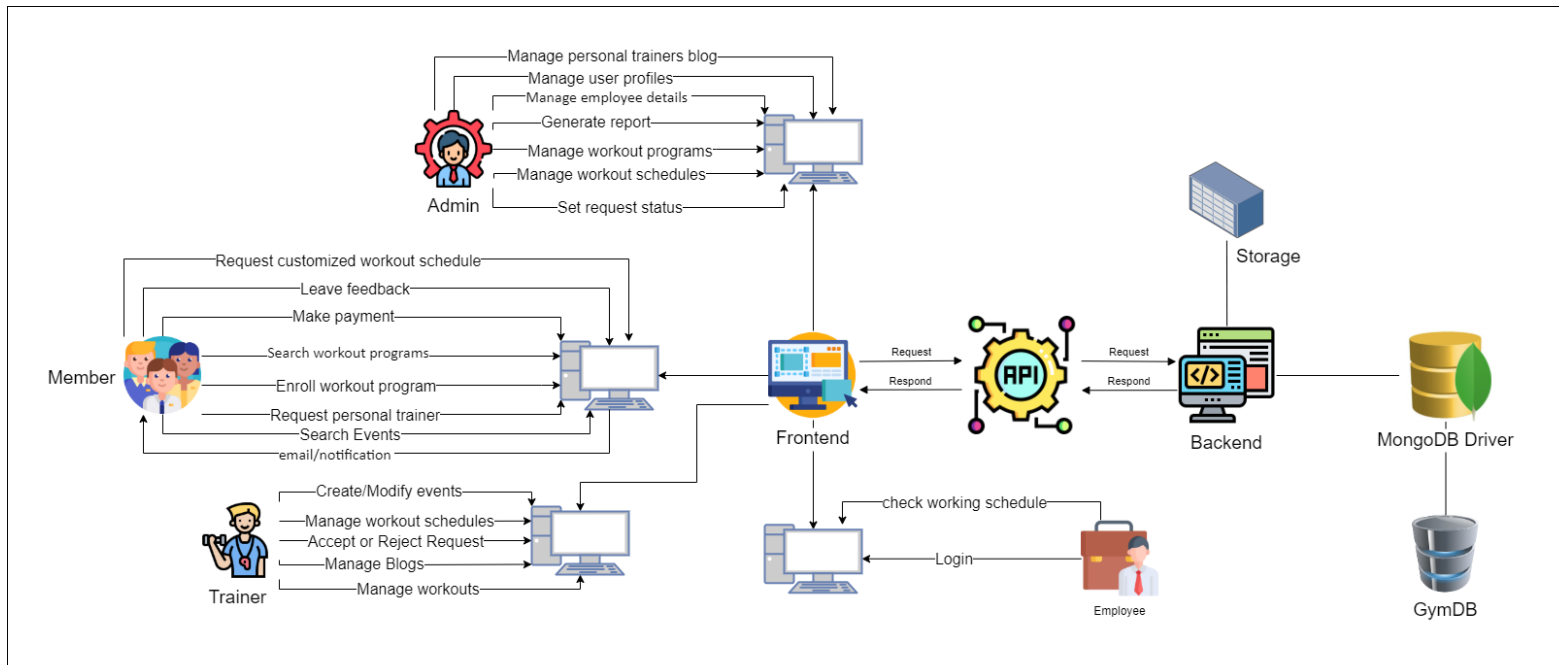
### **Solutions**

- Create an automated system by maintained by administrator.
- Create a separate blog for each personal trainer and include the details of those personal trainers.
- Uploading the personal trainer's available time slots and more information about personal trainer.
- Provide access to the customers to view Personal trainer blogs.

### **Benefits**

- Save time and make time management easier.
- Easy to change data.
- Develop relationships with customer and personal trainer solve problem quickly.
- High efficiency.

# System Overview Diagram



# Functions of the project

## ❖ **Workout Program Management**

The Workout Schedule Management function is based on two user levels, those are Admin level and Member level. Both member and the system admin can perform CRUD operations in this function. The system admin can create, update and delete workout programs. Members will be notified via notification or email when a new workout program is added by the system admin. All members can view and enroll for workout program of their choice. Members can search and find their favorite workout programs from the system. Also members can view their enrolled workout program from the side panel. Also, when a system admin makes a change to a workout program, all the enrolled members will be notified via email or email. This system allows the admin to get details about the most popular workout programs and a complete report on the revenue generated by it.

## ❖ **Workout Support Management**

The Workout Support Management function is based on three user levels, those are trainer level , member level and administrator level. Trainer and administrator can do the CRUD operation in this function. Trainer can Insert, Update ,Delete and Read workouts to the system that can increase member demand. They can create new workouts also send an email / notification about the new workout to all their members. Member can view predefined workouts and search workouts on search bar using workout name. The administrator generates a Monthly report on the most viewed/popular and most frequently searched workouts and administrator can decide the wishes of the members and make future decisions.

## ❖ **Feedback and Q&A Management**

Members are login using his/her login credentials, Members can provide feedback to Trainers. He/she is also able to view provided feedback details, update feedback details and delete provided feedback. Also, the member can ask questions by posting questions, viewing their posted questions, updating posted question details, and deleting posted questions. They can answer other members' questions which are posted in the Q&A section and view their provided answers, update the provided answer details, and delete provided answers. Trainers also log in using his/her login credentials, In the feedback section, the trainers can view feedback provided to him/her. In the Q&A section, the trainer can answer other members' questions posted in the Q&A section. Trainers can view answers that are provided by themselves, update/modify answer details and delete answers that are provided by them. And there is a section for frequently asked questions for users' easiness

### ❖ **Workout Schedule Management**

The Workout Schedule Management function is based on three user levels, those are member level, Administrator level and trainer level. Trainer, member, and admin can do the CRUD operations in this function. Trainer and Admin can Insert, Delete, Update and view workout schedules. Member can view predefined workout schedule plans. If member did not achieve his/her requirements member can create a request for the customized workout schedule through a form via the system. Also, member can edit or delete their requests. Trainer can view all requests and responds from members. Members can view their workout schedule on calendar which is provided by the gymnasium. If member did not attend or miss his/her workout schedule the member will inform it through a notification. The Administrator generates a monthly report on the most popular predefined workout schedule.

### ❖ **Employee Management**

This tool can be used to manage all the gym's personnel information. This is based on two user levels: admin level and employee level. In this function, the administrator can do CRUD activities. Employees can only read and update. Assign User Roles to each employee by the administrator. Basically, for each employee, a separate profile is established that has all the necessary information, such as the employee's name, date of birth, id number, employee's number, telephone number, e-mail address, working experience, and qualifications. After registration, appropriate employees will receive login credentials through email or mobile phone. The employer can then see their profile, payment information, attendance information, and work schedule. Employees can utilize the employee request form to communicate about their leaves, requests, and inquiries. The administrator has the ability to deactivate an employee.

### ❖ **Member Management**

The user level and the administrator level are the two user levels for this gym management function. An admin can use this function to add a new member to the GYM Management System, update the member's information, and remove the member from the system. Admins can also use the member's ID to search the member's profile. Admin can create any type of report based on the information provided by members. A Member can also be deactivated by the administrator. A member's profile password, email, contact number, and profile photo are the only things that can be changed on their side. Members can use the member request option to request changes to their personal information. Members can also use this member request option to inform us of any requests or inquiries they may have. As a result, all members will receive an email and a text message reminder on their renewal date, whether it is monthly, quarterly, or annually.

### ❖ **Trainer account and event Management**

Admins are responsible to create new trainer accounts. Once the admin has created the trainer accounts, the trainers can view and update their account information, including changing their usernames and passwords. And also, Members can get information about all trainers. Trainers are eligible to create events as the gymnasium plans to hold many events for both promotional purposes and the benefit of the members. If the details of an already existing event need to be changed or deleted, they can view the event created on a calendar and update or delete the events through an interface. The Events will be automatically sorted based on the user's history and preferences, and members will be able to easily enroll in events. Members will be notified via notification or email when a new event is added, as well as changes to and cancellations of events to which they have previously responded. The Trainers generate reports on event attendance at the end of the month

### ❖ **Personal Trainer Management**

This Personal Trainer Handling function is based on three user levels, those are customer level, personal trainer level and administrator level. Admin, personal trainer and customer can do the CRUD operation in this function. Personal trainer can create their blogs and they can insert, update, delete their blog details. Customer can create request by using a form and they can search any prior request that were made by using request id and the request can also be deleted if no longer needed. The administrator generates a Monthly report on the most popular trainer package and admin can also add, remove and update personal trainer's details to this system. After the personal trainer accept customer's request the system automatically sends a personal message to the customer

# Tools and Technologies

- **Programing language** : JavaScript
- **Software** : Visual Studio Code - source-code editor
- **Tools** : Git - DevOps tool used for source code management
- **Technologies** : MERN Stack
  - MongoDB - document database
  - Express.js - Node.js web framework
  - React.js - a client-side JavaScript framework
  - Node.js - the premier JavaScript web server
- JavaScript, often abbreviated JS, is a programming language that is one of the core technologies of the World Wide Web. In the beginning JavaScript was a language for the web client (browser). Then came the ability to use JavaScript on the web server (with Node.js).
- Visual Studio Code is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.
- MERN stands for MongoDB, Express, React, Node, after the four key technologies that make up the stack. Express and Node make up the middle (application) tier. Express.js is a server-side web framework, and Node.js the popular and powerful JavaScript server platform.



## Work distribution among members

	<b>Student Id &amp; Name With initials</b>	<b>Brief Description of the Function</b>
1	IT20665234 - Silva D.T.T	<b><u>Workout Program Management</u></b> <ul style="list-style-type: none"> <li>• Create workout programs</li> <li>• Send email/notification to members</li> <li>• Update workout programs</li> <li>• Create member enrollment</li> <li>• Search workout programs</li> <li>• Delete workout programs</li> <li>• Retrieve workout programs</li> <li>• Generate monthly report</li> </ul>
2	IT20655716 - Welagedara P.G.R.D.P	<b><u>Workout Support Management</u></b> <ul style="list-style-type: none"> <li>• Create new Workouts</li> <li>• Add new Workouts to the system</li> <li>• Send email / notification to the all members</li> <li>• Update inserted Workouts</li> <li>• Search workouts using workout name</li> <li>• Delete Workouts</li> <li>• Review predefined workouts</li> <li>• Generate most viewed / popular or frequently searched workout reports</li> </ul>

3	IT20652050 - Muhandiram K.M.G.K.W	<b><u>Feedback and Q&amp;A management</u></b> <ul style="list-style-type: none"> <li>• Create feedback</li> <li>• Update feedback</li> <li>• View feedback</li> <li>• Delete feedback</li> <li>• search questions</li> <li>• Create Q&amp;A</li> <li>• Delete Q&amp;A</li> <li>• Update Q&amp;A</li> <li>• Create Q&amp;A</li> <li>• Sort unanswered questions by time posted time</li> </ul>
4	IT20916626 - Gangoda G.G.W.N	<b><u>Workout Schedule Management</u></b> <ul style="list-style-type: none"> <li>• Create workout schedules</li> <li>• Delete workout schedules</li> <li>• Update workout schedules</li> <li>• View workout schedules</li> <li>• Create Requests through a form</li> <li>• Edit and Delete requests</li> <li>• Send notifications</li> <li>• Create a calendar</li> <li>• Generate a monthly Report</li> </ul>

5	IT20664244 - Ranahansa R.A.K.S	<b><u>Employee Management</u></b> <ul style="list-style-type: none"> <li>• Add employee details</li> <li>• Create Employee profile</li> <li>• Create Employee Login</li> <li>• View Employee details</li> <li>• Update employee details</li> <li>• Delete employee details</li> <li>• Create and view working schedule</li> <li>• Send request and inquires</li> <li>• Fill leave form</li> <li>• View salary details and attendance details</li> <li>• Generate employee's reports</li> </ul>
6	IT20653040 - Perera U.K.T	<b><u>Member Management</u></b> <ul style="list-style-type: none"> <li>• Add member details • Create member profile</li> <li>• Create Member Login • view Member details</li> <li>• update member details • delete member details</li> <li>• view workout schedule</li> <li>• Send request and inquires</li> <li>• View payment details</li> <li>• Generate member's report</li> </ul>

7	IT20665470 - Lakshan D.A.T	<b><u>Trainer Account and Event Management</u></b> <ul style="list-style-type: none"> <li>• Create events</li> <li>• Update events</li> <li>• Delete events</li> <li>• View events</li> <li>• Send notifications</li> <li>• Register for events</li> <li>• Sort events</li> <li>• View profile</li> <li>• Update profile</li> <li>• Generate monthly report</li> </ul>
8	IT20650834 - De Zoysa R.L	<b><u>Personal Trainer Management</u></b> <ul style="list-style-type: none"> <li>• Create Request through a form</li> <li>• Update/Edit Request</li> <li>• Delete Request</li> <li>• Search Request by Request id</li> <li>• Accept or Reject Request</li> <li>• Send notifications</li> <li>• View personal trainer package</li> <li>• Create personal trainer blogs they can add their details</li> <li>• Update personal trainer details</li> <li>• Delete personal trainer details</li> <li>• Generate a monthly Report</li> </ul>

# Project management plan

		Task Name	Weeks													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
DESIGN	1	Client Meeting														
	2	Creating the Charter/Scrum activity														
	3	Project proposal Presentation														
	4	UI Design														
	5	ER Diagram Creation														
BUILD	6	Member Management														
	7	Employee Management														
	8	Workout Support Management														
	9	Workout Program Management														
	10	Workout Schedule Management														
	11	Feedback and Q&A Management														
	12	Trainer Account Management														
	13	Personal Trainer Management														
TEST	14	Testing														
	15	Evaluation														