

Topic:Smart Gym(Gym Management System)

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❖ **ABSTRACT**

In many Gyms, the payment receipts are in paper format. So it is very difficult for both gym members to keep all the paper receipts safely and to gym trainer to keep reminding for the fee receipts. Sometimes it creates a trouble when members lost their receipts. The other problem that can be faced by a gym owner is that if he/she wants to inform any message related to working or non-working days of gym, manually sending message become difficult.

The proposed Gym Management System is a software application designed to streamline and enhance the operations of a fitness center or gym. This system assists in managing various aspects of a gym, including member registration, scheduling, attendance tracking, billing, inventory management, and reporting. It serves as an efficient tool for both gym administrators and members, offering a user-friendly interface that simplifies tasks and improves the overall gym experience.

The development of the Gym Management System involves several stages, including requirements analysis, system design, implementation, testing, and deployment. Depending on whether it is a mini or main project, the complexity and depth of implementation may vary. A mini project might focus on specific functionalities, while a main project would encompass a comprehensive solution with more advanced features. For both mini and main projects, the Gym Management System can be developed as a web-based or desktop application, depending on the project scope and requirements.

In conclusion, the Gym Management System is a valuable tool for efficiently managing a gym's operations. It benefits both administrators and members by automating tasks, improving communication, and providing insights through reporting and analytics. The choice of scope and features will determine whether the project is suitable for a mini or main project, both of which offer opportunities to learn and implement software development principles.

❖ **TECHNOLOGIES**

- Frontend: HTML, CSS, JS
- Backend: (Python) Django
- Database: MySQL

❖ **MODULES**

1. Admin
2. Members
3. Consultant
4. Trainer
5. Ecommerce

➤ **Module Activities for Mini Project**

1. **Admin**

- User Management(create,edit,delete)
- View Attendance
- Approve leave letters
- View status
- Verify payment

- Class & Schedule Management
 - ◆ Add, edit, and remove classes from the schedule.
 - ◆ Assign trainers to classes and manage instructor availability.

- Generate Notification for specific members/trainers/all

- Billing and Payments
 - ◆ View and manage member payments, outstanding dues, and invoices.
 - ◆ Handle billing issues and disputes.

- Member Management
 - ◆ Access and update member profiles and contact information.
 - ◆ Handle member inquiries, requests, and issues.

- Appointment of consultants
 - ◆ Communicate with consultants about new member sign-ups and any special requirements.
 - ◆ Provide information for consultants to assist potential members.

- Trainer Interaction
 - ◆ Communicate with trainers about class assignments, schedule changes, and member feedback.
 - ◆ Coordinate with trainers for special classes or events.
- Membership Management
 - ◆ Create and manage different membership plans and pricing.
 - ◆ Handle membership renewals and cancellations.

2. Members

- Register
- Login
- Edit profile
- View class schedules
- Receive notifications
- View Attendance
- Apply leave
- Payment(Billing,payment history,receipt,dues)
- Feedback/Reviews
- Status
- Purchase products

3. Consultant

- Register/Login
- Membership sign-up
 - ◆ Assist new members membership
 - ◆ Provide info about classes etc.
- Consult Scheduling
- Member Interaction
- Receive particular notifications
- View status of members
- Member specific packages
 - ◆ Hourly/Weekly/Monthly

4. Trainer

- Register/Login
- Class Management
- Member interaction
- Tracking members
- Feedback
- Receive Salary notification
- Apply leave
- Receive particular notifications

➤ Module Activities for Major Project

1. Ecommerce

- Product catalog(Nutrients, Book on health, Gym Equipments)
- Product Listings(Description, Price, Images)
- Product management
 - ◆ Monitor product quantities and availability in real-time.
 - ◆ Receive alerts for low stock levels and restock products as needed.
- Online shopping
 - ◆ Enable users to browse the product catalog and add items to their shopping cart.
 - ◆ Provide a user-friendly interface for seamless shopping and navigation.
- Shopping cart(selected items, adjust quantities)
- Order tracking(monitor the status of their orders)
- Order history(purchases,orders,receipts)
- Wishlist
- Reviews & Ratings
- Notifications(order confirmation, shipping updates & delivery times)
- Payment(card,cash,upi)
- Delivery

Additional functions using Machine Learning

- **Recommendation Systems:**
Build a recommendation system that suggests workout routines, classes, or trainers to members based on their preferences, past activities, and goals.
- **Image Processing (Body Measurement):**
Develop a system that uses image processing to track body measurements and changes over time, assisting trainers and members in tracking progress.
- **Voice Command Integration:**
Incorporate voice recognition to allow members to interact with the system through voice commands, such as checking class availability or booking slots.
- **Health Risk Assessment:**
Develop a tool that assesses members' health risks based on their fitness levels, medical history, and lifestyle choices.
- **Class Capacity Management:**
Predict class attendance to adjust class capacities and prevent overcrowding.