

Database Management System Lab Project Report On "Gym Management System"

In partial fulfillment
For the award of degree of
"Bachelor of Technology"
(Computer Science with AI-ML)

Submitted to:

Ms. Neny Pandel Assistant Professor CEIT -DEPARTMENT

Submitted by:

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DECLARATION

I hereby declare that the project work entitled "" submitted to the SGVU Jaipur, is a record of an original work done by me under the guidance of **Ms. Neny Pandel**, Assistance Professor, Dept. of Computer Engineering And Information Technology, Gyan Vihar School of Engineering and Technology, SGVU.

This project work is submitted in the partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science & Engineering. This result embodied in this project have not been submitted to any other University or Institute for the award of any degree or diploma.



Student's Sign

Submitted To:

Ms. Neny Pandel (Assistant Professor)

CERTIFICATE

This is to certify that the people report entitled "Receipt Generator" Submitted to Suresh Gyan Vihar University, Jaipur in partial fulfilment of the requirement for the award of the degree of Bachelor of Technology, is an authentic and original work carried out by **Shyam Bihari Kumar (99695)** under my guidance.

The matter embodied in this project is genuine work done by the student and has not been submitted whether to this university or to any university for the fulfilment of the requirement of any course of study.

Ms. Neny Pandel Assistant Professor

Dr. Sohit Agarwal HOD, CEIT

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I would like to acknowledge that this project was completed entirely by me and not by someone else.

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ABSTRACT

The Gym Management System is a comprehensive software solution designed to streamline and enhance the operations of fitness centers and gyms. In today's health-conscious society, managing a fitness facility efficiently is a complex task that requires meticulous planning and organization. This system offers a digital platform to facilitate member management, employee oversight, class scheduling, billing and payments, equipment tracking, and attendance monitoring.

The system's primary objective is to empower gym owners, staff, and members to achieve their fitness and business goals effectively. It simplifies administrative tasks, improves member engagement, and provides insights into the gym's performance through data analytics.

The Gym Management System is developed using a robust technology stack to ensure data security, user-friendly interfaces, and seamless integration with payment gateways and communication channels. It simplifies the daily operations of fitness centers, providing members with a convenient and engaging experience while facilitating efficient management and growth for gym owners.

As fitness and wellness continue to be a priority for individuals worldwide, this system plays a pivotal role in managing gym facilities efficiently, boosting member satisfaction, and driving business success. Its scalability and potential for future enhancements make it a valuable tool for the fitness industry, contributing to healthier communities and stronger fitness businesses.

INTRODUCTION

In the modern fitness industry, gym management has become increasingly complex due to the growing number of health-conscious individuals seeking fitness services. A Gym Management System is a digital solution designed to simplify and enhance the administration and operations of fitness centers, gyms, and health clubs. This system serves as a bridge between gym owners, staff, and members, offering a range of tools and functionalities to streamline day-to-day activities and improve the overall member experience.

The Gym Management System encompasses various aspects of gym administration, including member management, employee oversight, class scheduling, billing and payments, equipment tracking, attendance monitoring, and data analytics. Its primary objective is to create a more efficient, organized, and engaging fitness environment for both members and gym personnel.

By leveraging technology, gym owners can easily manage memberships, facilitate class bookings, and track financial transactions. Employees benefit from features like work schedule management and role assignment, enabling them to deliver better services to members. Additionally, members can enjoy the convenience of booking fitness classes, keeping track of their fitness progress, and making online payments.

This system is built on a robust technology stack to ensure data security, user-friendly interfaces, and seamless integration with payment gateways and communication channels. It simplifies daily gym operations, allowing fitness center owners to focus on business growth and member satisfaction. In an era where fitness and well-being are paramount, a Gym Management System is an indispensable tool for managing gym facilities efficiently, contributing to healthier communities and thriving fitness businesses.

WORKING

The Gym Management System (GMS) is a software solution designed to automate and streamline the various administrative and operational tasks within a fitness center or gym. Here's a brief overview of how it works:

1. Member Registration and Management:

Members sign up and provide their personal details and fitness goals.

The system stores this information securely in a database.

2. Employee Management:

Gym staff are registered in the system with their roles and responsibilities.

The system assigns permissions and tracks work schedules.

3. Class Scheduling and Booking:

Gym administrators create and manage class schedules, including yoga, spinning, or aerobics.

Members can view the class schedule and book slots in advance.

4. Billing and Payments:

The system tracks member fees, membership plans, and payment history.

It generates invoices and provides options for online payments.

5. Equipment and Inventory Management:

Gym equipment and inventory are tracked, including maintenance schedules and replenishment needs.

When equipment maintenance is due, the system generates alerts.

6. Attendance Tracking:

The GMS records member check-ins for classes and open gym sessions.

This data helps monitor member attendance and engagement.

7. Reporting and Analytics:

The system generates reports and visual analytics on membership statistics, revenue, and attendance.

These insights assist gym owners in decision-making and improving operations.

8. User Interfaces:

The system provides user-friendly interfaces for members to manage their profiles, book classes, and view payment history.

It also offers admin panels for gym staff to manage the system efficiently.

9. Security and Integration:

The GMS ensures data security through user authentication and authorization.

It integrates with payment gateways for financial transactions and uses communication channels for notifications g e

10. Mobile and Web Access:

Members and staff can access the system via web and mobile applications, making it convenient and accessible. The Gym Management System operates on a well-defined technology stack, ensuring the security and stability of the system. It simplifies gym operations, improves member engagement, and provides valuable insights for gym owners and administrators. This streamlined approach to gym management allows fitness centers to deliver a better experience to their members and maintain an efficient and thriving business.

11. Integration:

Integration with payment gateways for seamless online payments.

Integration with communication channels for notifications and reminders.

A well-implemented Gym Management System simplifies the administrative tasks of fitness centers, improves member engagement, and provides valuable insights to help gym owners make informed decisions. It contributes to a smoother, more organized, and successful fitness business while offering convenience and engagement for members.

REQUIREMENT

The requirements for a Gym Management System project can be categorized into functional and non-functional requirements. Here's a more detailed breakdown:

Functional Requirements:

1. Member Management:

Registration of new members, including personal information and fitness goals. Updating member profiles with contact details, photos, and medical history. Tracking membership status, renewal dates, and membership plans. Generating unique membership IDs or cards.

2. Employee Management:

Registration of gym employees with their personal information and roles. Assignment of roles, permissions, and access levels for staff. Scheduling and shift management for employees.

3. Schedule and Booking:

Management of class schedules for different fitness activities and times. Member booking for classes, allowing reservations in advance. Waitlist management in case classes are full.

4.Billing and Payments:

Tracking member fees and payment history. Generation of invoices for membership dues. Online payment processing with multiple payment gateways.

5.Equipment and Inventory Management:

Tracking gym equipment inventory and maintenance schedules. Automated alerts for equipment maintenance and replacement. Managing inventory levels for consumables like towels and cleaning supplies.

6.Attendance Tracking:

Recording member check-ins for both scheduled classes and open gym sessions. Monitoring and reporting on member attendance to track engagement.

7. Reporting and Analytics:

Generation of detailed reports on membership statistics, revenue, and attendance. Data analytics and data visualization tools for informed decision-making.

8. Security and Data Management:

User authentication and authorization to ensure data security. Secure storage of sensitive member and financial data.

9.User Interfaces:

User-friendly interfaces for members to manage their profiles, book classes, and view payment history. Admin panels for gym staff to efficiently manage the system.

10. Mobile and Web Access:

Accessibility via web and mobile applications for members and staff to access the system from anywhere.

Non-Functional Requirements:

1.Performance:

The system should be responsive and handle multiple concurrent users without slowdowns.

2.Scalability:

It should be easy to scale the system to accommodate a growing number of members and transactions.

3. Security:

The system must ensure the privacy and security of member and financial data through encryption, user access controls, and regular security updates.

4. Usability:

The user interfaces should be intuitive, ensuring that both members and staff can use the system without extensive training.

5. Reliability:

The system should have a backup and recovery system to prevent data loss in case of technical failures.

6.Integration:

It should seamlessly integrate with payment gateways for online payments and other external systems or applications as required.

7. Compliance:

The system should adhere to relevant data protection regulations and legal requirements for financial transactions.

8. Accessibility:

The user interfaces should be accessible to individuals with disabilities, meeting accessibility standards.

9.Documentation:

Comprehensive documentation for users, administrators, and developers to understand and maintain the system.

10.Support and Maintenance:

A plan for ongoing system maintenance, updates, and support to address any issues or changes.

11. Mobile Application:

Develop a mobile app for iOS and Android to provide members with on-the-go access to class schedules, booking, and personal profiles.

12. Member Notifications:

Implement email and SMS notifications to remind members of upcoming classes, renewals, or important updates.

13. Waitlist Management:

Include a feature that manages waitlists for fully booked classes, allowing members to join if a spot becomes available.

14. Member Progress Tracking:

Provide tools for members to track their fitness progress, such as weight, body measurements, and performance data.

15. Biometric Scanning:

Optionally, integrate biometric scanning for secure and convenient member check-ins.

16. POS (Point of Sale) Integration:

If applicable, integrate a POS system for selling gym merchandise or additional services.

17. Member Feedback and Ratings:

Allow members to provide feedback on classes and trainers and rate their experiences.

These requirements lay the foundation for developing a Gym Management System that is efficient, secure, and user-friendly, meeting the needs of both gym owners and their members.

USE CASE

Use cases for a Gym Management System help illustrate how the system will be used by different actors, such as members, gym staff, and administrators. Here are some key use cases for a Gym Management System:

1. Member Registration:

Actor: New Member

Description: A new member creates a gym account by providing personal information, contact details, and fitness goals. The system generates a unique member ID and assigns a membership plan.

2. Member Login:

Actor: Member

Description: Registered members log in to the system using their credentials to access their profiles, book classes, and view their payment history.

3. Class Booking:

Actor: Member

Description: Members browse the class schedule, select a class, and book a slot. The system checks availability and updates the member's schedule.

4. Membership Renewal:

Actor: Member

Description: Members renew their memberships, select new membership plans, and make payments online. The system updates their membership status.

5. Attendance Tracking:

Actor: Gym Staff

Description: Staff record member check-ins for classes and open gym sessions, maintaining attendance records.

6. Employee Management:

Actor: Gym Administrator

Description: Administrators add, update, or remove gym staff, assign roles and permissions, and manage work schedules.

7. Class Schedule Management:

Actor: Gym Administrator

Description: Administrators create, update, and manage class schedules, specifying class types, instructors, and times.

8. Billing and Invoicing:

Actor: Gym Administrator

Description: Administrators track member fees, generate invoices, and process payments. The system sends payment confirmations and reminders.

9. Equipment Maintenance:

Actor: Gym Administrator

Description: Administrators manage gym equipment, schedule maintenance, and receive automated alerts for maintenance and inventory replenishment.

10. Reporting and Analytics:

- Actor: Gym Administrator

- Description: Administrators access various reports and analytics to evaluate membership statistics, revenue, and class attendance.

11. Member Feedback:

- Actor: Member

- Description: Members provide feedback and ratings on classes and trainers, contributing to continuous improvement.

12. Mobile App Usage:

- Actor: Member

- Description: Members use the mobile app to book classes, access their profiles, and receive notifications and reminders.

13. Waitlist Management:

- Actor: Member

- Description: Members can join waitlists for fully booked classes, and if a spot becomes available, the system automatically registers them.

14. Marketing Campaigns:

- Actor: Gym Administrator

- Description: Administrators create and launch marketing campaigns and promotions to attract new members and retain existing ones.

15. Biometric Check-Ins:

- Actor: Member

- Description: Members use biometric scanning to check in for classes and gym access, ensuring security and convenience.

These use cases demonstrate how the Gym Management System serves the needs of members, staff, and administrators while efficiently managing the daily operations of a fitness center.

DATA FLOW STEP BY STEPS

Data Flow Diagram (DFD) is a graphical representation of the flow of data within a system. For a Gym Management System, you can create a high-level DFD to illustrate how data flows among different components and actors. Here's a simple DFD for a Gym Management System:

Level 0 DFD (Context Diagram):

Process: Gym Management System

Actors:

Gvm Members

Gym Staff (Trainers, Receptionists)

Gym Administrators

Data Stores:

Member Database

Employee Database

Class Schedule

Payment Records

Equipment Inventory

External Entities:

Membership Website (for online registrations and payments)

Mobile App (for member access)

Data Flows:

Member Registration and Profile Data (From Members to the System)

Booking and Attendance Data (Between Members and the System)

Employee Information (From Gym Staff to the System)

Class Scheduling Data (Between Administrators and the System)

Billing and Payment Data (Between the System and External Entities)

Equipment Maintenance Data (Between Administrators and the System)

Reporting and Analytics Data (Between Administrators and the System)

Equipment and Inventory Data (Between the System and External Entities)

Level 1 DFD (Detailed Subsystems):

You can create Level 1 DFDs to provide more detailed information about each major process in the system:

Member Management Subsystem:

This subsystem manages member registration, profiles, and bookings.

Data Flows: Member Registration Data, Member Profile Updates, Booking Data, Attendance Data.

Employee Management Subsystem:

This subsystem handles employee information, including roles and schedules.

Data Flows: Employee Data, Role Assignment, Work Schedules.

Class Scheduling Subsystem:

Manages the class schedule and updates.

Data Flows: Class Scheduling Data, Updates.

Billing and Payments Subsystem:

Manages billing, invoicing, and payment processing.

Data Flows: Billing Information, Payment Data, Payment Confirmation.

Equipment and Inventory Subsystem:

Manages gym equipment and inventory.

Data Flows: Equipment Maintenance Data, Inventory Updates.

Reporting and Analytics Subsystem:

Generates reports and analytics.

Data Flows:

Data for Reports and Analytics.

Mobile App and Membership Website:

Interfaces for members to access the system, book classes, and make payments.

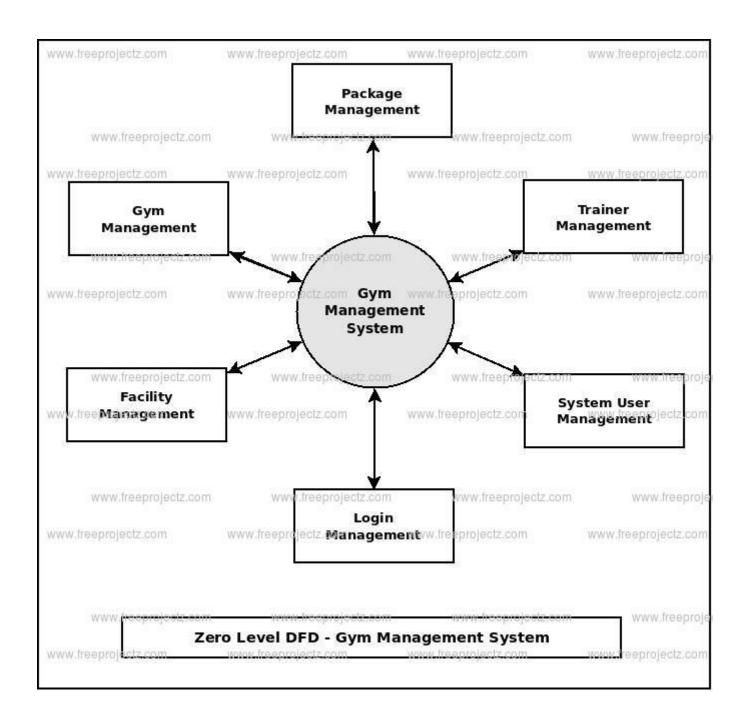
Data Flows:

Member Data Access, Online Payments.

These Level 1 DFDs provide a more detailed view of how data flows within each subsystem and between external entities and the system.

Remember that DFDs can be further detailed with additional levels to provide a comprehensive understanding of data flow and interactions within the Gym Management System.

DATAFLOW DIAGRAM



SOURSE CODE

ADMIN_PANEL

```
<!DOCTYPE html>
<?php
// php select option value from database
$hostname = "localhost";
$username = "root";
$password = "";
$databaseName = "loginsystem";
// connect to mysql database
$connect = mysqli_connect($hostname, $username, $password, $databaseName);
// mysql select query
$query = "SELECT * FROM `Trainer`";
// for method 1
$result1 = mysqli_query($connect, $query);
<html>
  <head>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-</pre>
beta/css/bootstrap.min.css" integrity="sha384-
/Y6pD6FV/Vv2HJnA6t+vslU6fwYXjCFtcEpHbNJ0lyAFsXTsjBbfaDjzALeQsN6M" crossorigin="anonymous">
  </head>
  <body>
 <div class="jumbotron" style="border-radius:0;background:url('images/3.jpg');background-</pre>
size:cover;height:400px;"></div>
   <div class="container-fluid">
    <div class="row">
        <div class="col-md-3">
            <div class="list-group">
                <a href="" class="list-group-item active"</pre>
                   >Members</a>
                <a href="trainer_details.php" class="list-group-item">Member details</a>
                <a href="package.php" class="list-group-item">Package details</a>
                <a href="payment.php" class="list-group-item">Payments</a>
            </div>
            <hr>>
            <div class="list-group">
```

```
<a href="trainer.php" class="list-group-item active">Trainer</a>
              <a href="trainer.php" class="list-group-item active">Trainer
details</a>
              <a href="trainer.php" class="list-group-item active">Add new Trainer</a>
            </div>
        </div>
            <div class="col-md-8">
            <div class="card">
     <div class="card-body" style="background-color:#3498DB;color:FFFFFF;">
                <h3>Register new members</h3>
                </div>
                <div class="card-body"></div>
                <form class="form-group" action="func.php" method="post">
                <label>first name:</label>
<input type="text" name="fname" class="form-control"><br>
                    <label>last name:</label>
<input type="text" name="lname" class="form-control"><br>
 <label>email</label>
                    <input type="text" name="email" class="form-control"><br>
                    <label>Member ID</label>
<input type="text" name="contact" class="form-control"><br>
 <label>Trainer </label>
 <select class="form-control" name="docapp">
            <?php while($row1 = mysqli_fetch_array($result1)):;?>
            <option value="<?php echo $row1[0];?>"><?php echo $row1[1];?></option>
            <?php endwhile;?>
        </select>
        <br>
  <input type="submit" class="btn btn-primary" name="pat_submit"</pre>
value="Register">
                                   <a href="func.php" class="btn btn-light"></a>
                </form>
                </div>
     </div>
       </div>
      <div class="col-md-1"></div>
      </div>
    <header>
 <nav>
     <div class="main-wrapper">
           <div class="nav-login">
             <?php
                if (isset($ SESSION['u id'])) {
              echo '<form action="includes/index.php" method="POST">
```

```
<button type="submit" name="submit">logout</button>
                         </form>';
                                  } else{
              echo '<form action="includes/index.php" method="POST">
                         </form>
                       <a href="index.php" class="btn btn-light" style="background-</pre>
color:#3498DB;color:FFFFFF">Logout</a>';
           </div>
   </div>
 </nav>
</header>
src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-beta/js/bootstrap.min.js"</pre>
integrity="sha384-h0AbiXch4ZDo7tp9hKZ4TsHbi047NrKGLO3SEJAg45jXxnGIfYzk4Si90RDIqNm1"
crossorigin="anonymous"></script>
     </body>
</html>
```

LOGINSYSTEM

```
-- phpMyAdmin SQL Dump
-- version 4.7.4
-- https://www.phpmyadmin.net/
--
-- Host: localhost
-- Generation Time: Nov 23, 2017 at 08:01 AM
-- Server version: 10.1.28-MariaDB
-- PHP Version: 7.1.11

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
```

```
-- Database: `loginsystem`
 - Table structure for table `doctorapp`
CREATE TABLE `doctorapp` (
  `fname` varchar(40) NOT NULL,
 `lname` varchar(40) NOT NULL,
 `email` varchar(40) NOT NULL,
 `contact` varchar(40) NOT NULL,
 `docapp` varchar(60) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
Dumping data for table `doctorapp`
INSERT INTO `doctorapp` (`fname`, `lname`, `email`, `contact`, `docapp`) VALUES
('Raj', 'kumar', 'kumar@gmail.com', '201', '101'),
('saurabh', 'kumar', 'kumar121@gmail.com', '202', '102'),
('surya', 'raj', 'raj1242gmail.com', '203', '101'),
('Raman', 'kumar', 'raman@gmail.com', '204', '103'),
('Aadarsh', 'thakur', 'thakur@gmail.com', '205', '103'),
('Rahul', 'kumar', 'rahul@gmail.com', '206', '102'),
('Sanjeev', 'Verma', 'verma12@gmail.com', '207', '103');
 - Table structure for table `logintb`
CREATE TABLE `logintb` (
  `username` varchar(40) NOT NULL,
 `password` varchar(40) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
Dumping data for table `logintb`
INSERT INTO `logintb` (`username`, `password`) VALUES
('admin', 'pass');
```

```
CREATE TABLE `Package` (
  `Package_id` varchar(40) NOT NULL,
  `Package_name` varchar(40) NOT NULL,
 `Amount` int(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Dumping data for table `Package`
INSERT INTO `Package` (`Package_id`, `Package_name`, `Amount`) VALUES
('121', 'preliminary', 800),
('122', 'Wt. gain', 1500),
('123', 'Wt.loss', 1000);
 Table structure for table `Payment`
CREATE TABLE `Payment` (
  `Payment_id` int(10) NOT NULL,
  `Amount` int(20) NOT NULL,
 `customer_id` varchar(20) NOT NULL,
 `payment_type` varchar(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
 -- Dumping data for table `Payment`
INSERT INTO `Payment` (`Payment_id`, `Amount`, `customer_id`, `payment_type`) VALUES
(301, 1500, '201', 'cash'),
(302, 800, '202', 'card'),
(303, 1000, '203', 'cheque'),
(304, 1500, '204', 'cash');
 - Table structure for table `Trainer`
CREATE TABLE `Trainer` (
  `Trainer_id` int(20) NOT NULL,
  `Name` varchar(40) NOT NULL,
  `phone` int(100) NOT NULL
 ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
-- Dumping data for table `Trainer`
INSERT INTO `Trainer` (`Trainer_id`, `Name`, `phone`) VALUES
(101, 'Rakesh', 12365489),
(102, 'Ravi', 21365789),
(103, 'wasim', 123564789),
(104, 'Sameer', 12536987);
-- Indexes for dumped tables
-- Indexes for table `doctorapp`
ALTER TABLE `doctorapp`
 ADD PRIMARY KEY (`contact`);
ALTER TABLE `Package`
 ADD PRIMARY KEY (`Package_id`);
-- Indexes for table `Payment`
ALTER TABLE `Payment`
 ADD PRIMARY KEY (`Payment_id`);
ALTER TABLE `Trainer`
 ADD PRIMARY KEY (`Trainer_id`);
COMMIT;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION CONNECTION=@OLD COLLATION CONNECTION */;
```

REGISTER

```
<?php
if (isset($_POST['submit'])) {
    include_once 'dbh.inc.php';
    $first = mysqli_real_escape_string($conn, $_POST['first']);
    $last = mysqli_real_escape_string($conn, $_POST['last']);
    $email = mysqli real escape_string($conn, $_POST['email']);
    $uid = mysqli_real_escape_string($conn, $_POST['uid']);
    $pwd = mysqli_real_escape_string($conn, $_POST['pwd']) ;
   //error handlers
    //check for empty fields
    if (empty($first) || empty($last) || empty($email)|| empty($uid)|| empty($pwd) )
        header("Location: ../signup.php?signup=empty");
       exit();
    } else {
        //check if input character are valid
        if(!preg_match("/^[a-zA-Z]*$/", $first) || !preg_match("/^[a-zA-Z]*$/", $last)){
            header("Location: ../signup.php?signup=invalid");
             exit();
           } else {
               //check if email is valid
               if(!filter var($email, FILTER VALIDATE EMAIL)){
                   header("Location: ../signup.php?signup=email");
                   exit();
               else {
                   $sql = "SELECT * FROM users WHERE user uid='$uid'";
                   $result = mysqli_query($conn, $sql);
                   $resultCheck = mysqli_num_rows($result);
                   if($resultCheck > 0) {
                     header("Location: ../signup.php?signup=usertaken");
                      exit();
                   else {
                       //hashing the password
                       $hashedPwd = password hash($pwd, PASSWORD DEFAULT);
                       //insert the user into database
                       $sql = "INSERT INTO users (user_first, user_last, user_email,
user_uid, user_pwd) VALUES ('$first', '$last', '$email', '$uid', '$hashedPwd');";
                       mysqli query($conn, $sql);
                       header("Location: ../signup.php?signup=success");
                      exit();
```

```
}

}

} else {
  header("Location: ../signup.php");
  exit();
}
```

SIGNUP

OUTPUT

Register new members	
first name:	
last name:	
email	
Member ID	
Trainer	
Rakesh	~

Back Memb	ers Details	enter contact		Search
First Name	Last Name	Email id	Member ID	Trainer ID
Shyam	Bihari	shyam@gmail.com	101	104
Shyam Bihari	Kumar	shyam@gmail.com	123	103
Raj	kumar	kumar@gmail.com	201	101
saurabh	kumar	kumar121@gmail.com	202	102
surya	raj	raj1242gmail.com	203	101
Raman	kumar	raman@gmail.com	204	103
Aadarsh	thakur	thakur@gmail.com	205	103
Dahad			300	102

FUTURE SCOPE

The future scope of a Gym Management System project is quite promising, as the fitness industry continues to evolve and adapt to changing trends and technologies. Here are some potential areas of expansion and enhancement for the project:

1. Integration with Wearable Fitness Devices:

Incorporating compatibility with popular fitness trackers and wearable devices like Fitbit, Apple Watch, or Garmin for more accurate and personalized fitness tracking.

2. Virtual Fitness Classes:

Offering virtual fitness classes or personal training sessions through the system, enabling members to participate in workouts from the comfort of their homes.

3. Biometric Authentication:

Enhancing security and convenience by implementing biometric authentication for member check-ins, ensuring accuracy and reducing the risk of unauthorized access.

4. AI and Machine Learning:

Utilizing artificial intelligence and machine learning to provide personalized fitness and nutrition recommendations based on member data and preferences.

5. Enhanced Reporting and Analytics:

Expanding reporting and analytics capabilities to provide more advanced insights into member behavior, helping gym owners make data-driven decisions.

6. IoT Integration:

Integrating the Internet of Things (IoT) to monitor equipment usage and wear-and-tear in real-time, allowing proactive maintenance.

7. Nutrition Tracking:

Adding features for members to track their daily nutrition and calorie intake, enabling a comprehensive view of their fitness journey.

8. Community and Social Integration:

Creating a community within the system where members can connect, share progress, and motivate each other, fostering a sense of belonging and accountability.

9. Multi-Language and Internationalization:

Adapting the system for use in different languages and currencies to attract a broader, international customer base.

10. Voice and Chatbot Assistants:

- Incorporating voice-activated or chatbot assistants for quick answers to member queries and assistance in using the system.

11. Marketing Automation:

- Automating marketing campaigns and member communications to target specific groups, promote new classes, and retain members.

12. Health Metrics Integration:

Integrating health metric tracking (e.g., heart rate, blood pressure, body composition) for more comprehensive member profiles and health assessments.

13. Gamification:

- Implementing gamification elements to make fitness more engaging, such as challenges, badges, and rewards for achievements.

14. Predictive Maintenance:

- Using predictive maintenance techniques to forecast equipment maintenance needs and minimize downtime.

15. Data Monetization:

- Exploring opportunities to monetize anonymized, aggregated data for research, marketing insights, or partnerships.

The future scope of a Gym Management System is closely tied to technological advancements, user preferences, and emerging trends in the fitness industry. Adapting to these changes and continuously enhancing the system can lead to improved member engagement, better business outcomes, and a competitive edge in the market.

MAINTENANCE

Maintenance and upgrades are crucial aspects of managing a Gym Management System to ensure that it continues to function effectively and can adapt to changing needs and technologies. Here are some key considerations for maintaining and upgrading your gym management system:

1.Regular Data Backups

Implement a routine data backup strategy to prevent data loss in case of system failures or data corruption.

2.Database Optimization:

Regularly optimize the database to improve performance, including cleaning up old records, reindexing, and optimizing queries.

3. Security Updates:

Stay updated with security patches and updates for the software, libraries, and frameworks used in your system.

Perform regular security audits to identify vulnerabilities and address them promptly.

4.User Support:

Provide ongoing support to system users to address their questions, issues, and requests for assistance.

5.Bug Fixing:

Address and fix any bugs or issues reported by users or identified during testing.

6.Performance Tuning:

Continuously monitor system performance and make improvements as needed to ensure efficient operation, especially as the user base grows.

7. Content Updates:

Keep the system's content up to date, including workout routines, trainer information, and other relevant data.

8. Compliance and Regulation:

Ensure that the system complies with any relevant regulations, such as data protection and privacy laws.

9.Documentation Updates:

Keep system documentation up to date to reflect any changes or new features

UPGRADES

Upgrades to a Gym Management System typically involve improving or expanding its features, technology, and user experience. Here's a brief overview of common upgrades:

- 1. Feature Enhancements: Add new features like class scheduling, online booking, virtual workouts, or member self-service portals to enhance the user experience and meet evolving needs.
- 2. Technology Updates: Stay current with programming languages, frameworks, and libraries to ensure the system's security, performance, and compatibility.
- 3. User Interface Improvements: Enhance the user interface with a modern design, better navigation, and improved usability for both staff and members.
- 4. Mobile Compatibility: Develop a mobile app or optimize the system for mobile devices to provide members with on-the-go access.
- 5. Integration with Other Systems: Integrate with payment gateways, fitness tracking devices, or other tools to provide a more comprehensive gym management solution.
- 6. Scalability: Ensure the system can handle more users, transactions, and data as the gym grows.
- 7. Performance Optimization: Continuously optimize the system to deliver a fast and responsive user experience.
- 8. Data Analytics and Reporting: Implement advanced reporting and analytics features to provide insights into gym performance, member engagement, and financial metrics.
- 9. Usability and User Feedback: Gather user feedback and make improvements based on user suggestions and pain points.
- 10. Training and Documentation: Train staff and users on new features and update user manuals and documentation to reflect changes.
- 11. Testing: Rigorously test upgrades in a staging environment to prevent the introduction of new issues.
- 12. Rollout and Communication: Plan and communicate upgrades carefully to minimize disruptions and provide support during the transition.
- 13. Post-Upgrade Monitoring: Monitor the system closely after upgrades to address any issues or performance concerns.

Upgrades should be driven by user needs, technological advancements, and the goal of enhancing the overall gym management experience for both administrators and members.

CONCLUSION

The Gym Management System project is a comprehensive software solution designed to streamline the operations of fitness centers and gyms, enhancing the experience for members, staff, and administrators. As we conclude, it's essential to highlight the project's significance and impact.

This project offers several critical benefits:

Efficiency: It simplifies and automates the administrative tasks associated with managing a gym, reducing the manual workload of staff and enabling them to focus on delivering quality service.

Member Engagement: The system provides members with the convenience of online bookings, progress tracking, and payment management, resulting in higher member satisfaction and retention.

Data-Driven Decision-Making: Gym owners and administrators benefit from data analytics and reporting tools, enabling them to make informed decisions to improve operations and grow their business.

Security: Robust security measures protect sensitive member and financial data, ensuring privacy and compliance with data protection regulations.

Scalability: The system can be adapted and expanded to accommodate the evolving needs of fitness centers and their members.

As the fitness industry continues to evolve and adapt to new technologies and trends, this project serves as a crucial tool for gym owners and staff to thrive in a competitive market. By continuously updating and expanding the system, gym management can remain at the forefront of the fitness and wellness sector, contributing to healthier communities and prosperous fitness businesses