A

PROJECT REPORT ON

“GYM MANAGEMENT SYSTEM”

SUBMITTED BY

Miss. Sakshi Jagdish Dave

SUBMITTED TO

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

IN PARTIAL FULFILLMENT OF DEGREE

MASTER OF COMPUTER APPLICATION[SEM-1]

UNDER THE GUIDANCE OF

Dr. Shveti Chandan Mam

Through,

Sadhu Vaswani Institute OF Management Studies For Girls

Koregaon Park,Pune-411001

2024-2025

CERTIFICATE

This is to certified that the mini project report entitled, **"Gym management system"** being submitted here with in partial fulfilment of the requirement of the award of the degree of **MASTER OF COMPUTER APPLICATION[SEM-I]** to Savitribai Phule Pune University, Pune is the result of the original project work completed by **Sakshi Jagdish Dave.** under my supervision and guidance and to the best of my knowledge and belief, the work embodied in this project has not formed earlier the basis for the award of any degree of similar title or any other University or examining body.

Date:

Place: Pune

Dr. Shveti Chandan	**Neeta Rasker**	**Dr. B.H. Nanwani**
(Project Guide)	(HOD)	(Director)

DECLARATION BY STUDENT

To,

The Director,

SVIMS, Koregaon Park, Pune

I, undersigned hereby declare that this project titled, **"Gym Management System**" written and submitted by me to SPPU, Pune, in partial fulfilment of the requirement of the award of the degree of **MASTER OF COMPUTER APPLICATION (MCA-I)** under the guidance of **Dr. Shveti Chandan,** is my original work.

I further declare that to the best of my knowledge and belief, this project has not been submitted to this or any other University or Institution for the award of my Degree.

Place: Pune

Date: **(Sakshi Jagdish Dave)**

ACKNOWLEDGEMENT

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Place: Pune

Date: (Sakshi Jagdish Dave)

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CHAPTER 1 : INTRODUCTION

1.1 Client/Organization Profile :

Name: GM Gym

Location: Pune

About

Organization:

Gym Management System (GMS) provides a comprehensive overview of the gym or fitness centre using the system. It includes essential details such as the gym's name, location, contact information, and operating hours, allowing for easy communication with clients and staff. The profile also offers the ability to personalize the system, including branding elements like logos, colours, and taglines, which ensures that the gym’s identity is reflected throughout the system. Membership information, including the types of memberships offered, pricing, and payment methods, is included to help manage client subscriptions and renewals.

1.2 Need For System :

A Gym Management System (GMS) is crucial for the smooth operation of a fitness centre, providing a range of benefits for both gym owners and members. Here are the main reasons why such a system is needed

1. Streamlined Member Management

- Track Member Information: A GMS helps keep track of members' personal details, membership types, expiry dates, and payment records.
- Customized Membership Plans: It allows gyms to create customized membership plans (e.g., monthly, yearly, or package-based) and manage renewals and cancellations efficiently.

2. Inventory Management

- Equipment Tracking: A GMS can help monitor gym equipment usage, ensuring maintenance schedules are followed.
- Retail Management: If the gym sells fitness products, a management system can keep track of stock levels and sales.

3. Employee Management

- Employee Scheduling: Helps manage employee schedules, track work hours, and generate payroll reports.
- Staff Performance: Tracks employee performance, allowing for easier evaluation and recognition of top performers.

4. Data Security and Access Control

- Member Privacy: Ensures that personal data of members is stored securely and complies with privacy regulations.
- Access Control: Allows gym staff to have different access levels depending on their roles (e.g., receptionist, trainer, manager), ensuring the right people can access the right information.

5. Enhanced Member Experience

- Online Booking: Members can book classes, renew memberships.

6. Marketing and Customer Retention

- Promotions & Discounts: The system allows for creating promotions and discount codes to attract new members or reward loyal ones.
- Email Campaigns: Send targeted emails for reminders, offers, and announcements, helping to keep members engaged.

7. Reporting and Analytics

- Member Insights: The system can provide data on member demographics, preferences, attendance patterns, etc., helping gyms offer tailored services.
- Performance Metrics: Gym owners can track key performance indicators (KPIs) like membership retention rates, revenue growth, and utilization rates.

8. Scalability

- Growth Management: A GMS can easily scale to accommodate more members, new locations, and expanded offerings as the gym grows.

1.3 Feasibility of work :

- **Technical Feasibility**

  Definition: This assesses whether the proposed project can be developed with the current technology, expertise, and resources available. It evaluates whether the technical aspects of the project are achievable.

  Focus:

  - Availability and maturity of technology
  - Technical skills and expertise of the team
  - Hardware, software, and infrastructure requirements
  - Potential technical risks and challenges

- ## Economic Feasibility

  Definition: Economic feasibility evaluates the financial aspects of a project. It assesses whether the benefits of the project outweigh the costs involved and if the project is financially viable.

  Focus:

  - Total project cost (initial and ongoing)
  - Return on investment (ROI)
  - Financial risks
  - Revenue projections, savings, or benefits

- ## Operational Feasibility

  Definition: Operational feasibility assesses whether the organization has the resources, processes, and operational capabilities to implement and sustain the project. It focuses on how well the project will fit into the existing organizational structure and daily operations.

  Focus:

  - Alignment with organizational goals and processes
  - Availability of human resources and skills
  - Impact on daily operations and workflow
  - Training, support, and maintenance requirements

1.4 Operating Environment :

Client-Side System Specification

Hardware:

Item name	Specification
Laptop/Desktop	Minimum Intel CORE i3 or above Minimum RAM:8192 MB or more Minimum Hard disk:1GB free space

Software:

Particular	Specification
Operating system	Minimum windows 11 or above.
Browser(s)	Google Chrome or Higher Internet Explorer 9 or Higher

Server-Side System Specification

Server	Xampp 8.2.12
Database	MySQL 8.0.x
Browser(s)	Google Chrome

Developer-Side System Specification

Hardware:

Item name	Specification
Laptop/Desktop	Intel CORE i3 12^{th} Gen RAM 8 GM Hard Disk: 512 GB

Software:

Particular	Specification
Operating System	Windows 11, Intel CORE i3
Documentation	Microsoft office 2010 or higher
Browser(s)	Google Chrome
Text Editor(s)	Visual Studio Code
Server	Xampp 8.2.12
Database	MySQL 8.0.x

1.5 Architecture Of System :

High-Level Design:

The system follows a client-server architecture:

- **Frontend:** A web application or mobile app used by members, trainers, and administrators.
- **Backend:** A server-side application that processes requests and connects to the database.
- **Database:** Stores user and session data, payment records, trainer information, etc.

Database Design:

The database will consist of several tables, including:

- **Users (members, trainers, admins)**
- **Memberships**
- **Payments**
- **Package**

Each table will be linked with relevant foreign keys to maintain relational integrity.

System Flow:

- **Registration:** Members and trainers can register via the web interface. Admin verifies and approves the registration.
- **Login:** Users (members, trainers, admins) log in to the system via a secure authentication mechanism.
- **Dashboard:** Upon login, users are directed to their respective dashboards (admin, trainer, member).
- **Payment System:** Payment handling can be integrated with third-party APIs for processing payments (Stripe, PayPal).

1.6 Detail Of Technology Used :

- ### Introduction to HTML :

HTML (Hyper Text Markup Language) is the standard markup language used for creating and structuring content on the web. It is the foundational building block for web development, providing structure and meaning to the content displayed on webpages. HTML uses a system of elements and tags to organize and define content such as text, images, links, forms, and multimedia.

For the Gym Management System, HTML is used to structure the content of the website, including the member and trainer dashboards, gym schedules, forms for membership registration, class bookings, payments, and more.

- ### Role of HTML :

HTML serves as the backbone of the user interface. It organizes content on webpages, allowing users (members, trainers, and administrators) to interact with the system through a web browser. HTML tags help in presenting the necessary information in a readable and accessible manner.

- **User Registration Forms:** HTML forms allow users to sign up for memberships or register as trainers, filling in details such as name, email, phone number, and preferred membership plan.

- **Login Pages:** HTML structures the login page, where members, trainers, and admins can input their credentials (username and password) to access their respective dashboards.
- **Navigation Menus:** HTML creates the navigation system for the site, including menus for accessing the member area, payment options, schedules, and contact information.
- **Dynamic Content Display:** HTML tags are used to display the gym's daily schedules, upcoming classes, and available trainers.
- **Reports and Dashboards:** HTML elements are used to display charts, tables, and reports, showing member attendance, payments, or gym revenue.

- **Introduction to CSS :**

CSS (Cascading Style Sheets) is a stylesheet language used to describe the presentation of a document written in HTML or XML. It defines how HTML elements should be displayed on screen, paper, or in other media. CSS allows developers to separate content from design, making it easier to maintain and manage the look and feel of a website.

CSS plays a critical role in ensuring that the user interface is visually appealing, responsive, and accessible across various devices. It helps in styling the content structured by HTML, such as forms, buttons, tables, and navigation menus, to provide a seamless and attractive user experience.

- **Role of CSS :**

CSS is used to define the visual aesthetics and layout of the Gym Management System. It is responsible for making the system's user interface intuitive and user-friendly. The primary role of CSS includes:

- **Styling User Interfaces**: CSS ensures that forms (e.g., registration, login) and various sections (e.g., gym schedule, payment options) are visually appealing and easy to navigate.

- **Responsive Design**: CSS is used to make the Gym Management System mobile-friendly by adjusting layouts and styles based on screen size. This allows the system to work seamlessly on both desktops and mobile devices.
- **Branding and Customization**: CSS is used to define colours, fonts, and logos, ensuring that the Gym Management System aligns with the gym's branding.
- **User Experience (UX) Design**: CSS is responsible for styling interactive elements like buttons, hover effects, and transitions, which improve the overall user experience.

- **Introduction to PHP :**

PHP (Hypertext Preprocessor) is a popular, open-source, server-side scripting language primarily used for web development. It is designed to produce dynamic web pages, allowing for interaction with databases and enabling the creation of interactive websites. PHP code can be embedded within HTML, which makes it an ideal choice for developing web applications.

PHP serves as the backend technology responsible for processing user requests, interacting with databases, managing data, and generating dynamic content. It allows the system to handle tasks such as user registration, login authentication, membership management, payments, and class scheduling in an efficient and scalable manner.

- **Role of PHP :**

PHP plays a central role in the Gym Management System by handling the server-side logic and data processing. Key functionalities facilitated by PHP include:

- **User Authentication:** PHP is used to authenticate members, trainers, and administrators through login and registration processes. This involves checking user credentials against a database and managing session.
- **Database Interaction:** PHP communicates with the database to fetch, store, and update data. This includes operations such as adding new members, updating membership plans, scheduling gym classes, and tracking payments.

- **Dynamic Content Generation:** PHP generates dynamic content based on user actions. For example, after a member logs in, PHP will retrieve the member's profile and display it on the dashboard.
- **Form Handling:** PHP processes data submitted through forms, such as membership registration, class booking, and payment details. It validates the data and ensures that it is correctly stored in the database.
- **Session Management:** PHP manages user sessions to maintain state across multiple pages. This allows users to stay logged in as they navigate different areas of the Gym Management System (e.g., member dashboards or trainer profiles).
- **Security:** PHP handles security features such as input validation, password hashing, and secure session management to ensure the Gym Management System is protected against common threats like SQL injection and cross-site scripting (XSS).

- **Introduction to MySQL :**

MySQL is an open-source relational database management system (RDBMS) that uses Structured Query Language (SQL) to manage and manipulate data. It is one of the most widely used database systems, known for its speed, reliability, and flexibility. MySQL supports data integrity, transactional processing, and complex queries, making it suitable for a wide range of applications.

MySQL serves as the database engine responsible for storing and retrieving all critical data, including member details, trainer information, class schedules, payments, and gym inventory. The system uses MySQL's relational structure to organize data into tables and ensure efficient access and manipulation.

- **Role of MySQL :**

MySQL plays a crucial role in the Gym Management System by handling the storage and management of all data required for the system to function. Key functionalities provided by MySQL include:

- **Data Storage:** MySQL stores all data related to gym members, trainers, classes, and payments. This ensures that information is readily available when needed.
- **Data Retrieval:** MySQL enables efficient querying of data, allowing the system to display member profiles, class schedules, payment history, and other dynamic content.
- **Data Integrity:** MySQL ensures that the data is accurate and consistent. Constraints like primary keys, foreign keys, and unique indexes maintain the relationships between different tables (e.g., member data and payment records).
- **Data Management**: MySQL allows for the manipulation of data through SQL queries, enabling operations like adding new members, updating trainer details, scheduling classes, and processing payments.
- **Security:** MySQL offers robust security features to protect sensitive data, such as encrypted connections and user authentication mechanisms.

- **Introduction to XAMPP :**

XAMPP is a free and open-source cross-platform web server solution stack that enables developers to set up a local server environment for testing and development purposes. It includes the essential components needed to run dynamic websites or web applications on your computer without the need for an internet connection or live server.

- **Key Features of XAMPP:**

  Apache HTTP Server: The core web server that serves web pages.

  MySQL/MariaDB: Database management system to store and retrieve data for dynamic websites.

  PHP: A popular server-side scripting language used for web development.

  Perl: Another programming language included in the stack for certain server-side applications.

  phpMyAdmin: A web-based tool for managing MySQL databases, making it easier to handle databases directly from your browser

CHAPTER 2: PROPOSED SYSTEM

2.1 Proposed System :

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces the manual work.

- Security of data.
- Ensure data accuracy's.
- Proper control of the higher officials.
- Minimize manual data entry.
- Greater efficiency.
- Better service.
- User friendliness and interactive.
- Minimum time required.

2.2 Objective of System :

The objectives of this study are summarized below:

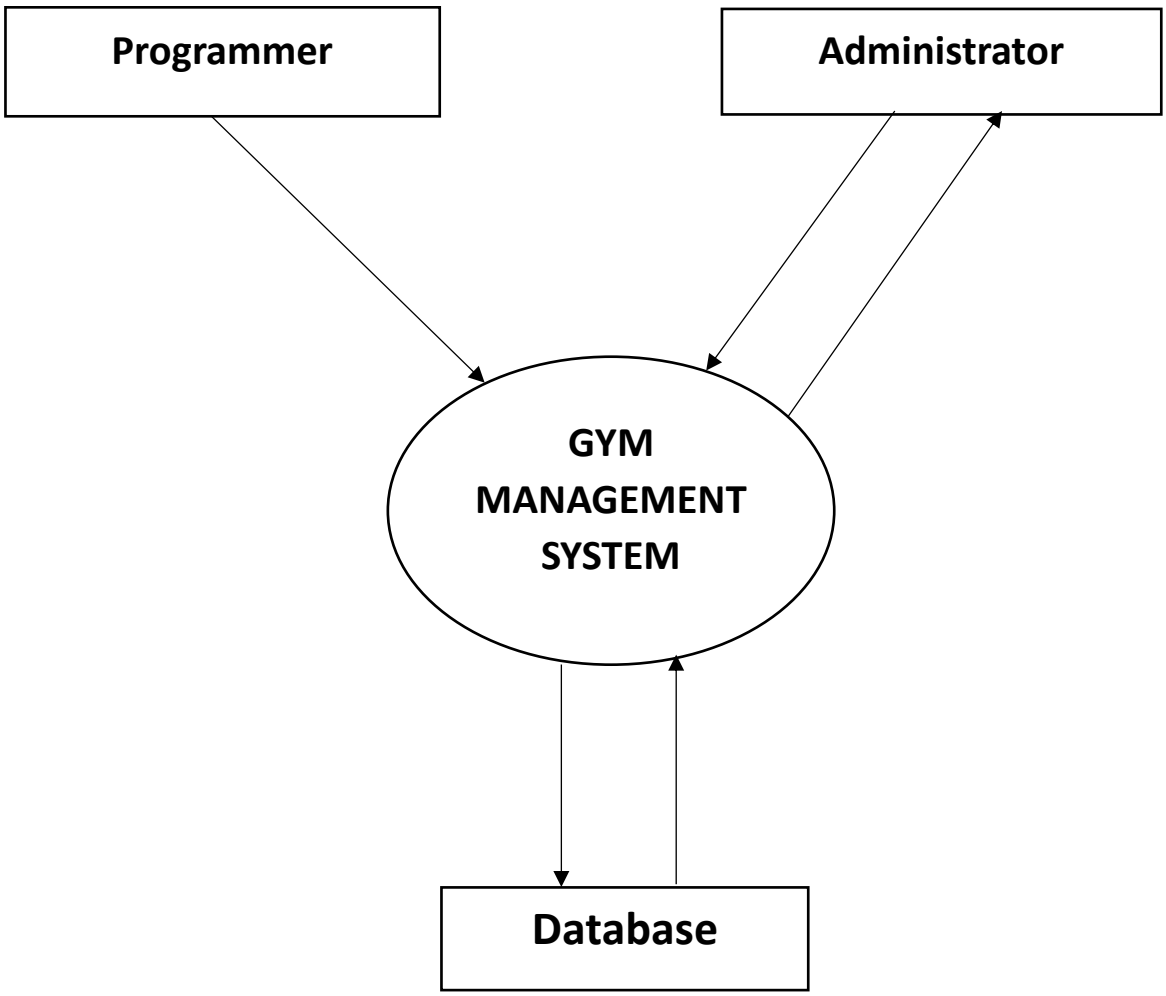
- The main objective of the project is to design and develop a user friendly efficient computerized Gym Management System.
- An accurate system without any data redundancy.
- Secured data storage for Authority end.
- Secure the user ends data by providing each user's own personal credentials.
- To provide better graphical user interface.
- Computerization can be helpful as means of saving time & money.

2.3 User Requirement :

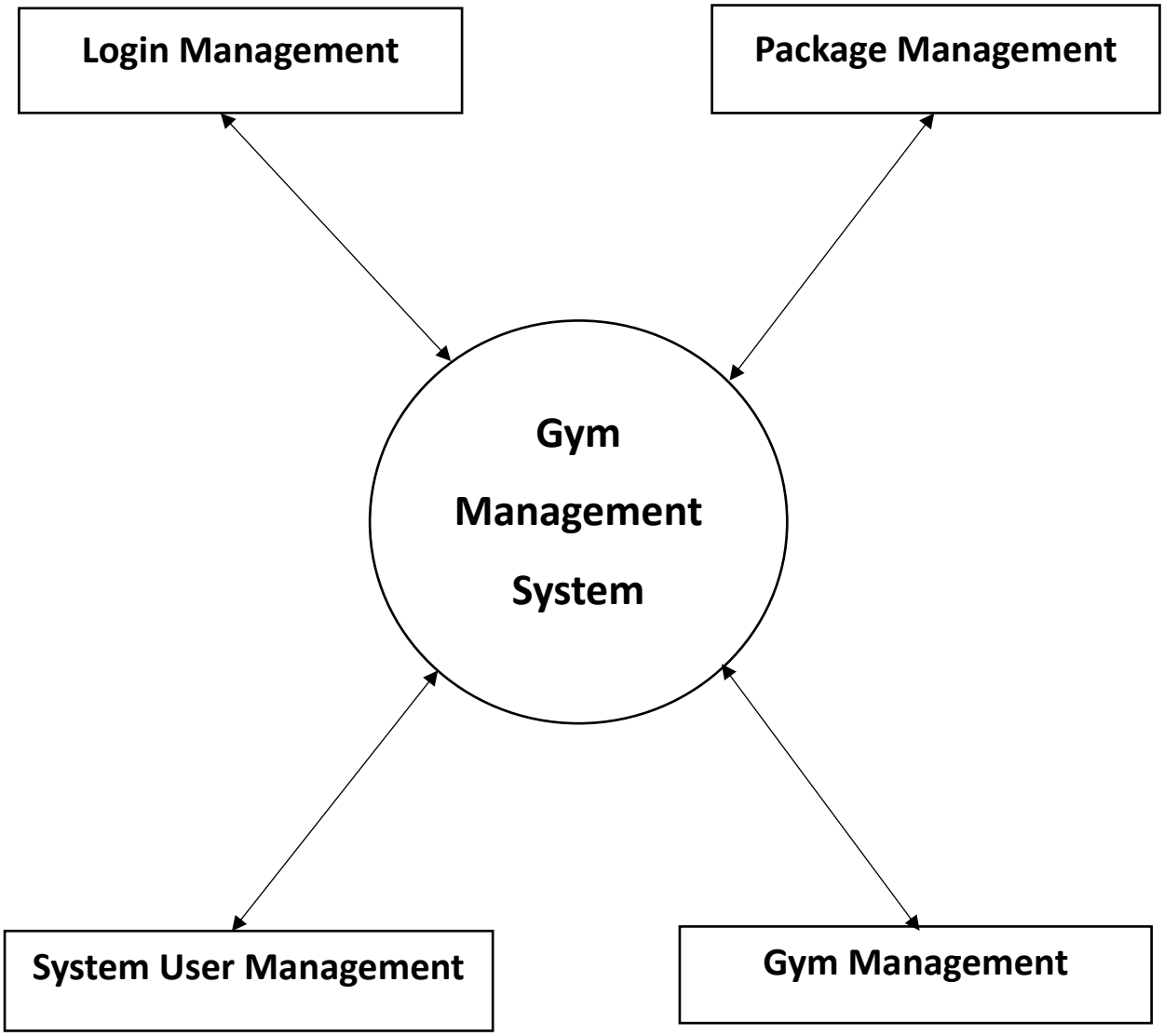
- Ability for members to register and log in using email, phone numbers.
- Role-based authentication (e.g., Member, Admin).
- Two-factor authentication (for security purposes).
- Members can view upcoming bookings.
- Different types of memberships (e.g., monthly, yearly)
- Membership renewal notifications (via email).

CHAPTER 3 : ANALYSIS & DESIGN

3.1 DFD :


Programmer
Administrator
GYM
MANAGEMENT
SYSTEM
Database

- **Zero Level DFD :**



3.2 Table Specifications :

Table Admin:

Column Name	Data Type	Description
admin_id	INT (PK)	Unique ID for each admin
user_id	INT (FK)	Foreign key to users table
role	VARCHAR(50)	Role of the admin (e.g., Super Admin, Staff)

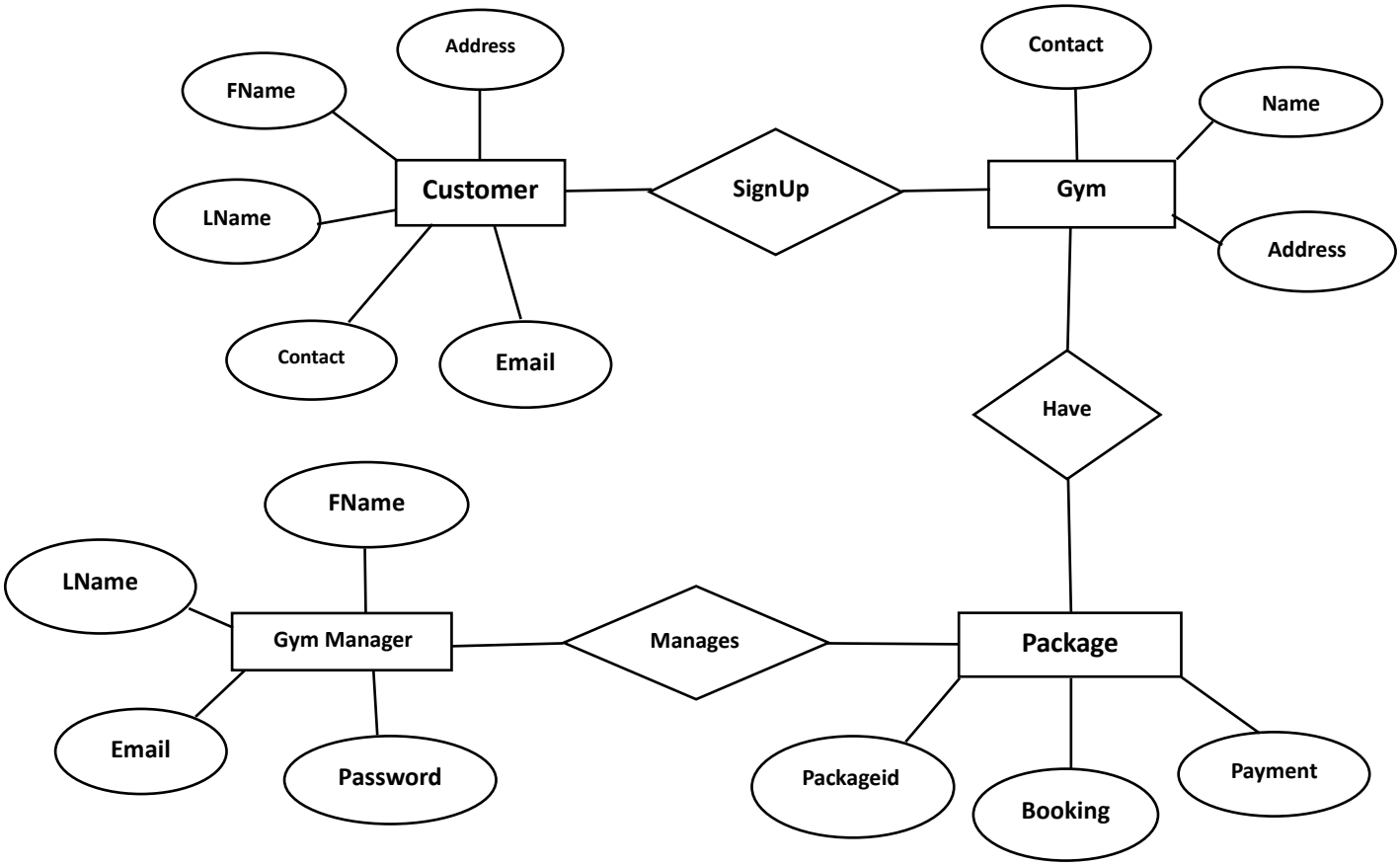
Table User:

Column Name	Data Type	Description
user_id	INT (PK)	Unique ID for each user
first_name	VARCHAR(100)	First name of the user
last_name	VARCHAR(100)	Last name of the user
email	VARCHAR(100)	User's email address
phone_number	VARCHAR(100)	User's phone number
user_type	VARCHAR(100)	Type of user (Member)
created_at	TIMESTAMP	Account creation date
status	VARCHAR(20)	Active or inactive status of user

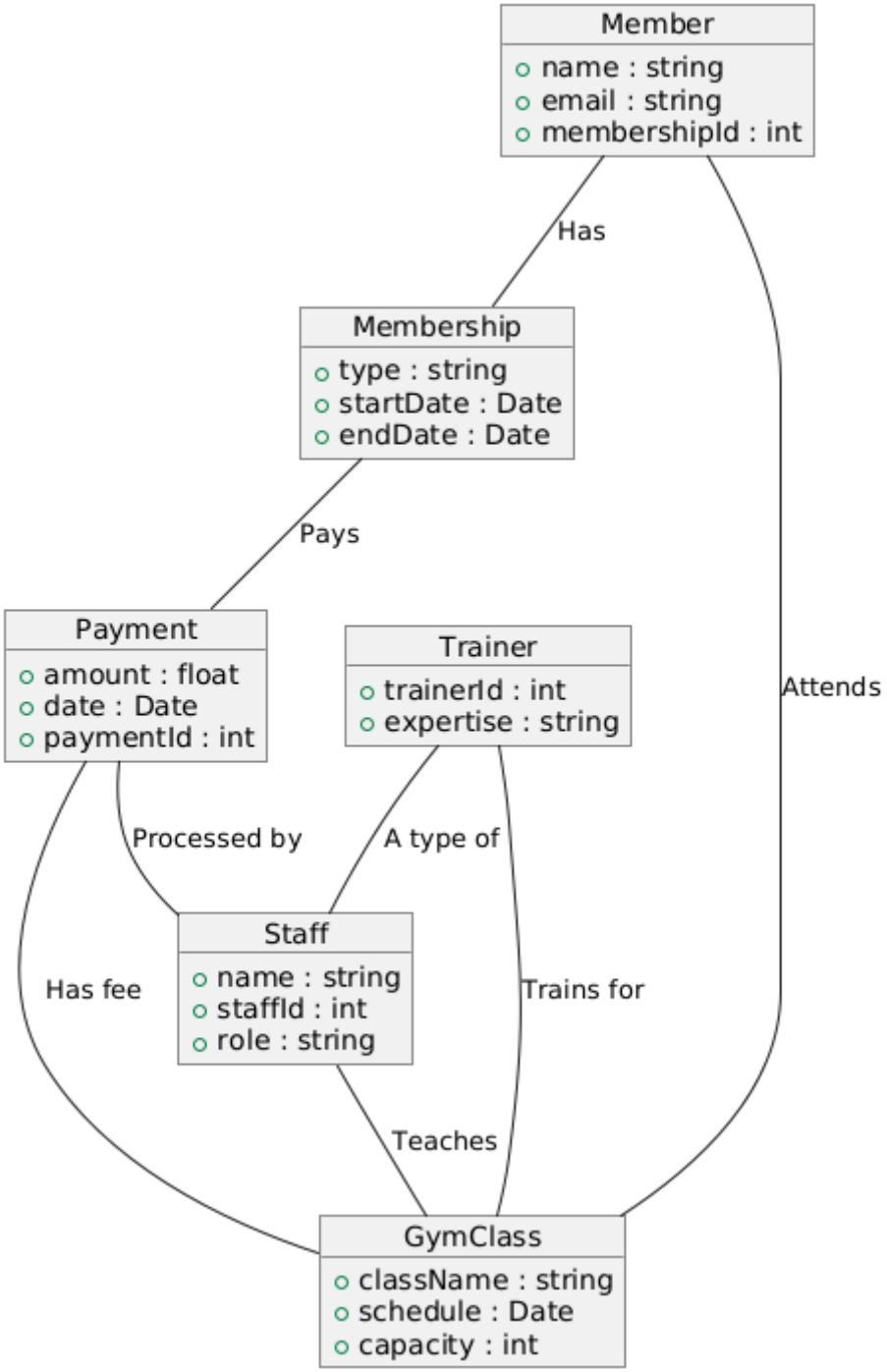
Memberships Table:

Column Name	Data Type	Description
membership_id	INT (PK)	Unique ID for each membership
user_id	INT (FK)	Foreign key to users table
membership_type	VARCHAR(50)	Type of membership (e.g., Basic, Premium)
start_date	DATE	Membership start date
end_date	DATE	Membership end date
price	DECIMAL(10, 2)	Membership price
status	VARCHAR(50)	Active, Expired, Cancelled, etc.

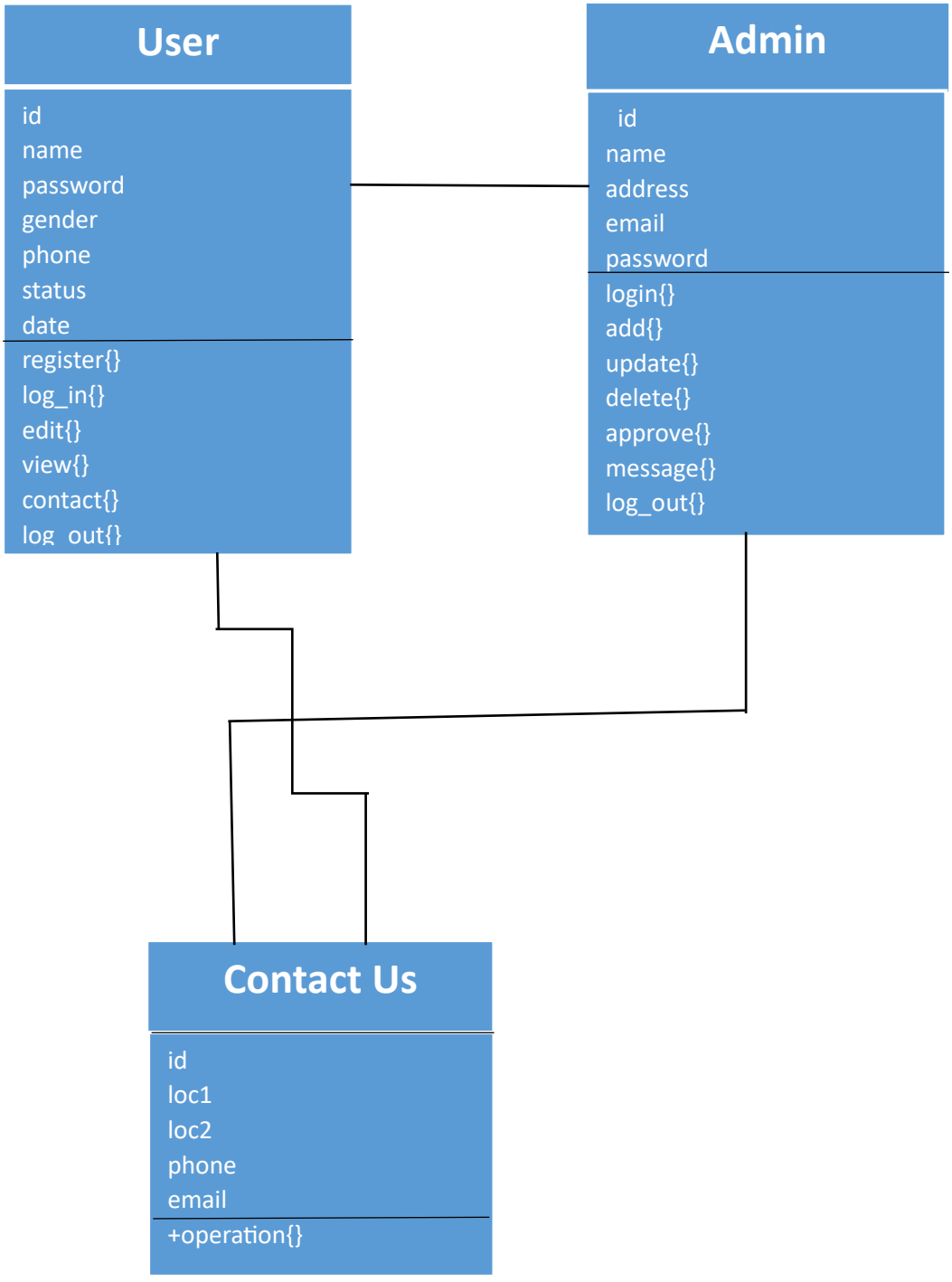
3.3 ERD :



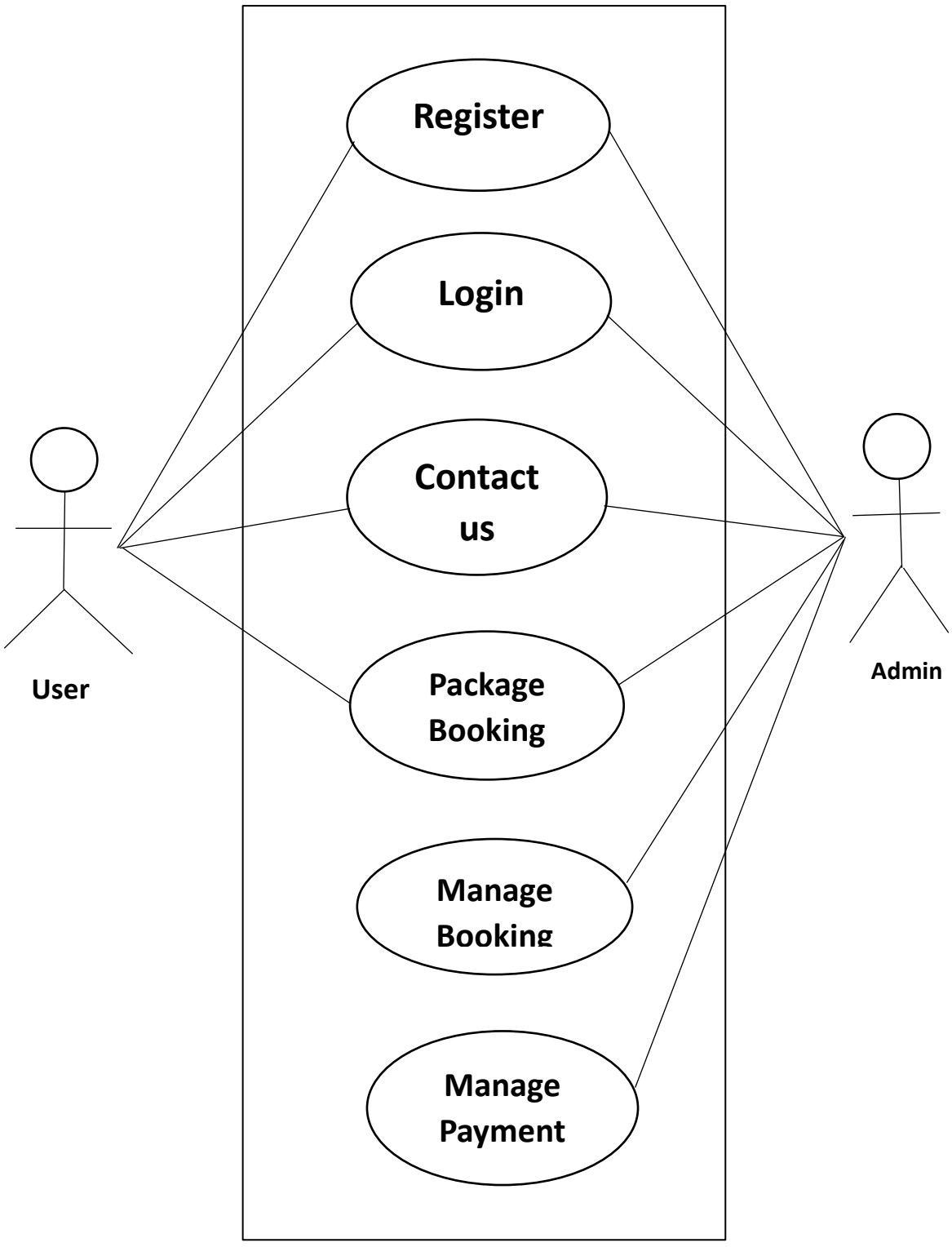
3.4 Object Diagram :



3.5 Class Diagram :



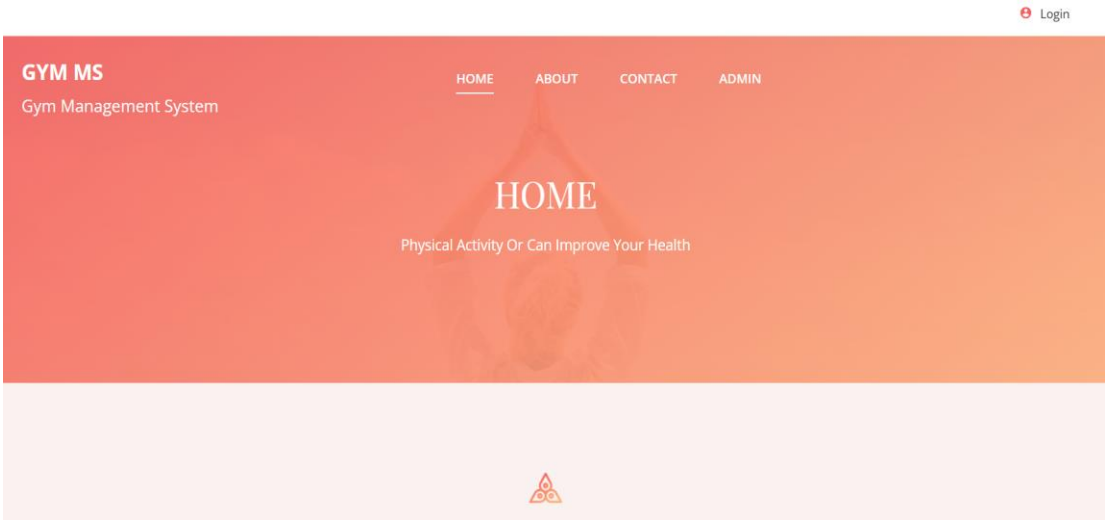
3.6 Use Case Diagram :



CHAPTER 4 : USER MANUAL

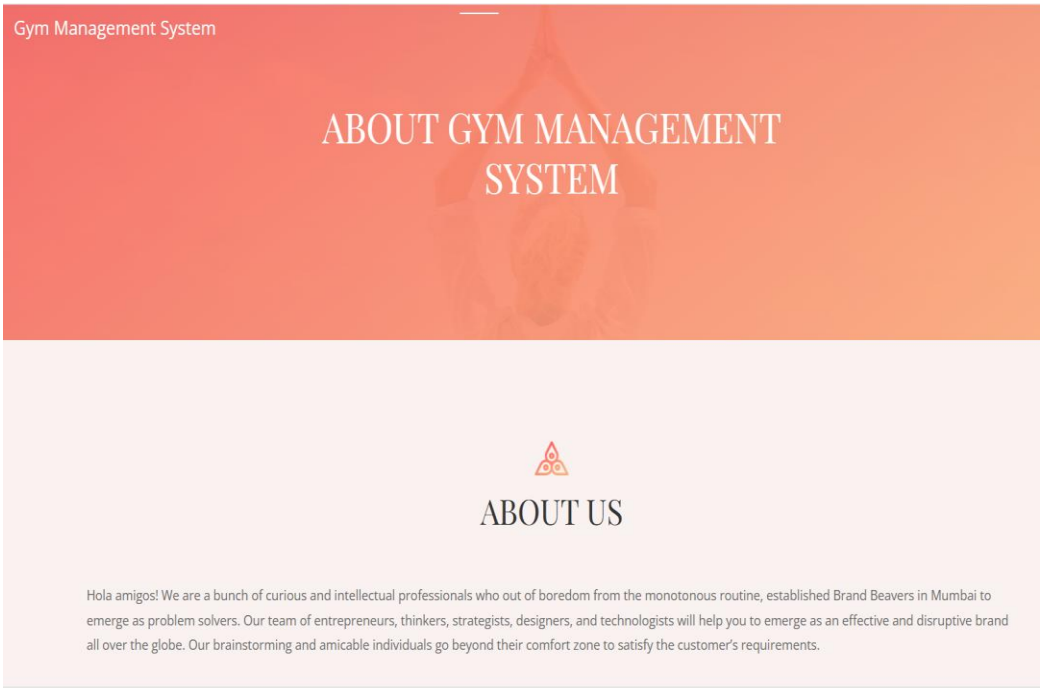
4.1 User Interface Design :

- **Home Page:**



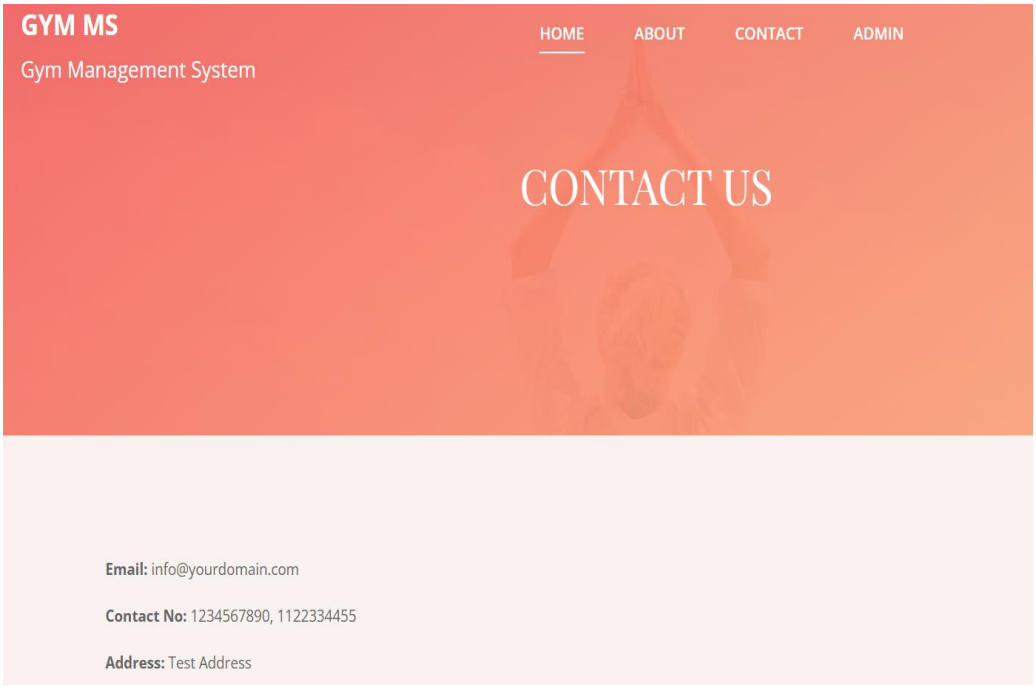
A home page is the main or introductory page of a website

- **About Us:**



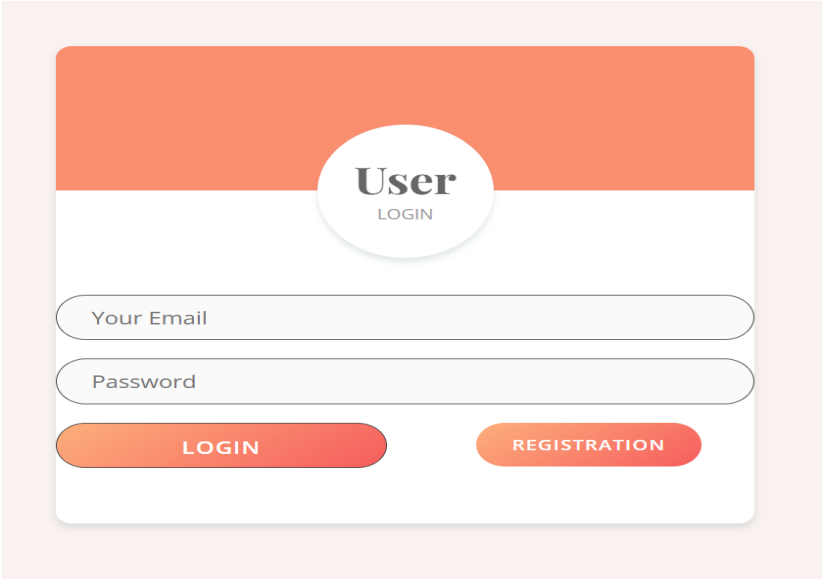
The "About Us" page on a website is a section that provides visitors with information about the company, organization, or individual behind the website.

- **Contact us:**



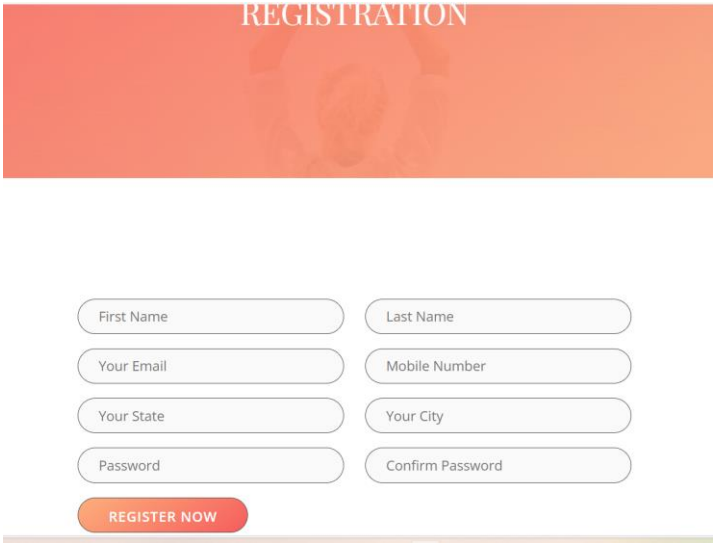
A "Contact Us" page is a section on a website where visitors can find information on how to get in touch with the website owner, business, or organization.

- **User Login:**



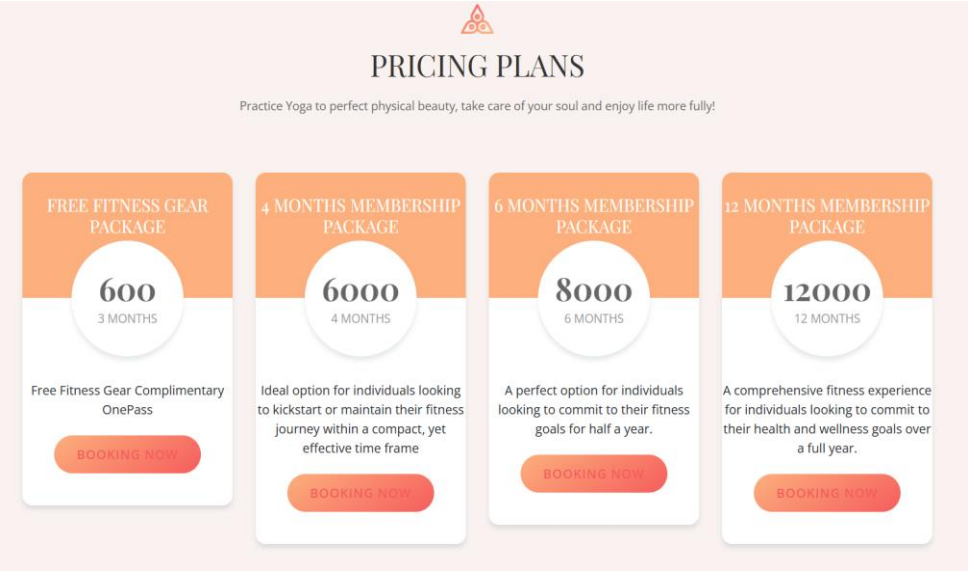
A user login page is a webpage that allows registered users to access a website.

- **User Registration:**



A user registration page is a webpage that allows new users to create an account on a website.

- **Package:**



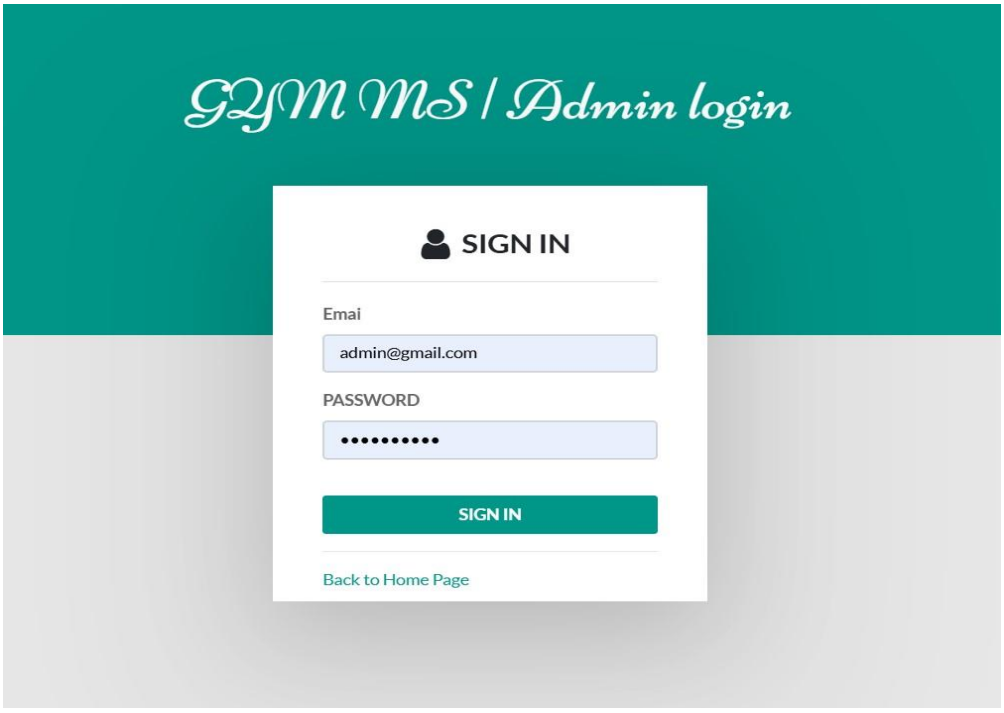
A package page is a webpage on a website that showcases different service or product packages offered by a admin.

- **Booking:**

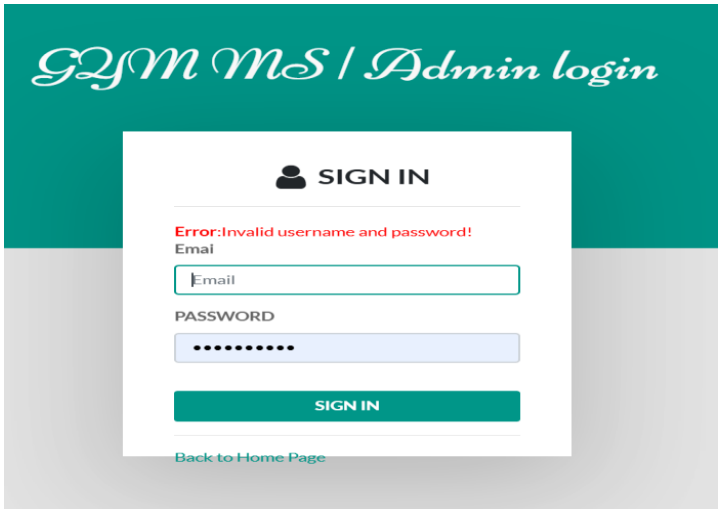
Booking Date	2024-11-24 22:56:59	**Name**	Ankit
Email	ankitpatil@gmail.com	**Category**	Category1
Package Name:	fdgdfg	**Title**	6 MONTHS MEMBERSHIP PACKAGE
Package Duratiobn	6 Months	**Price**	8000
Description	A perfect option for individuals looking to commit to their fitness goals for half a year.		
PaymentType	Payment not made yet		

A booking page is allows users to reserve or schedule a service

- **Admin Login:**

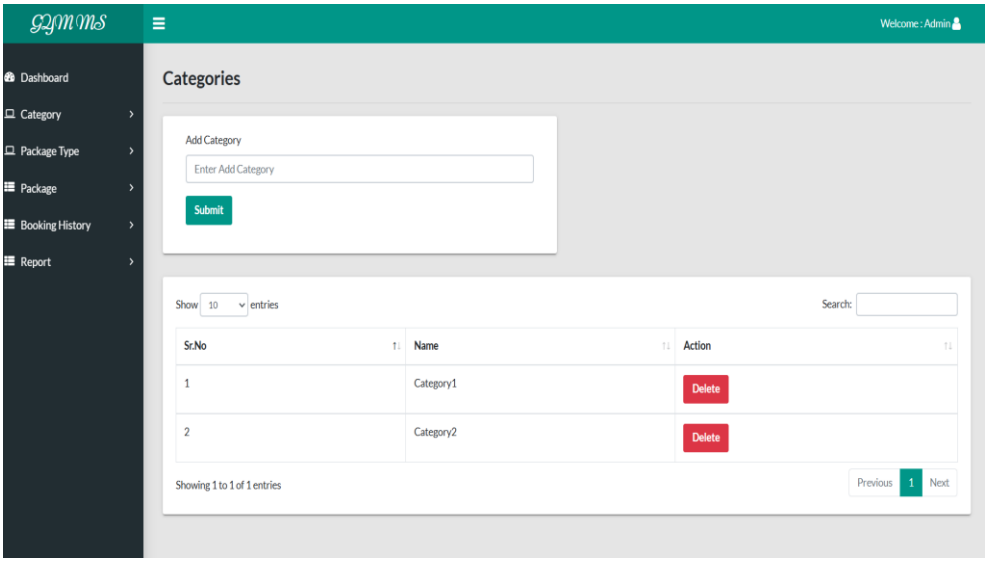


An admin login is a secure login page that allows authorized administrators



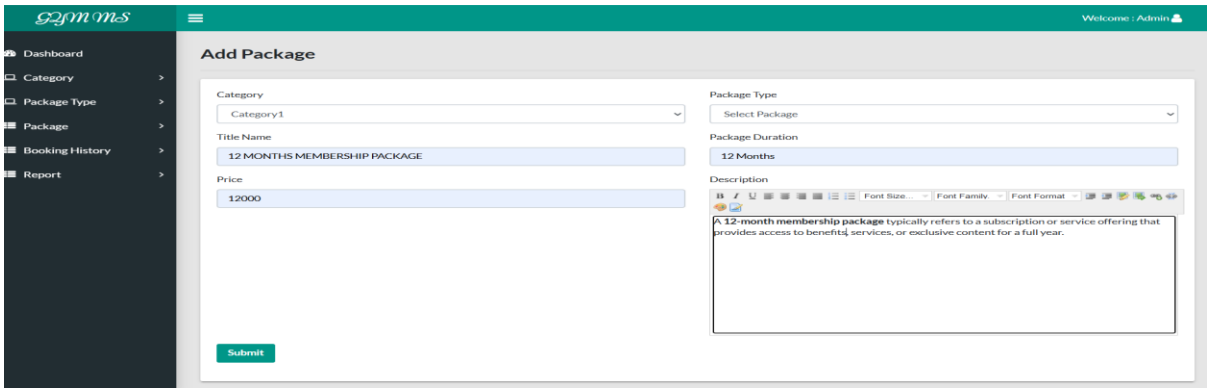
validation refers to the process of ensuring that the input data entered by users into a form or on a webpage is accurate, complete, and follows specific rules or constraints.

- **Categories:**



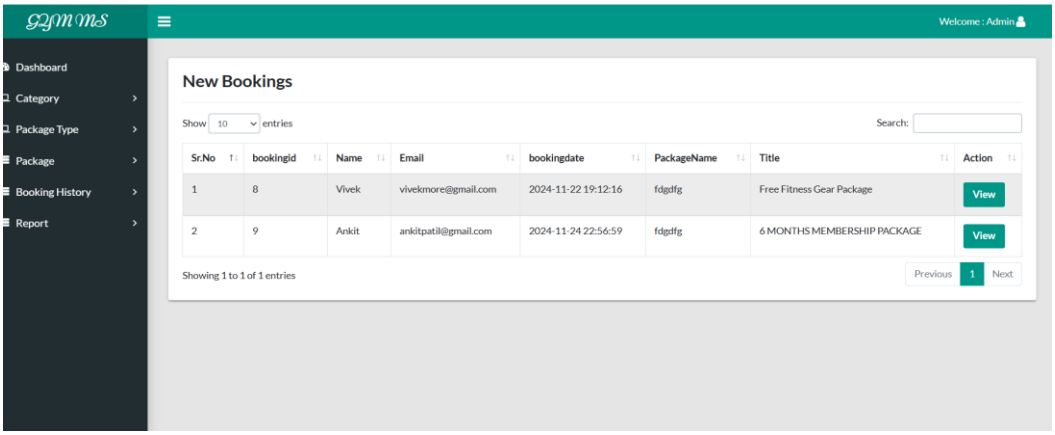
A categories page that organizes content, products, or information into different groups or categories to make it easier for users to browse and find what they're looking for.

- **Add Package:**



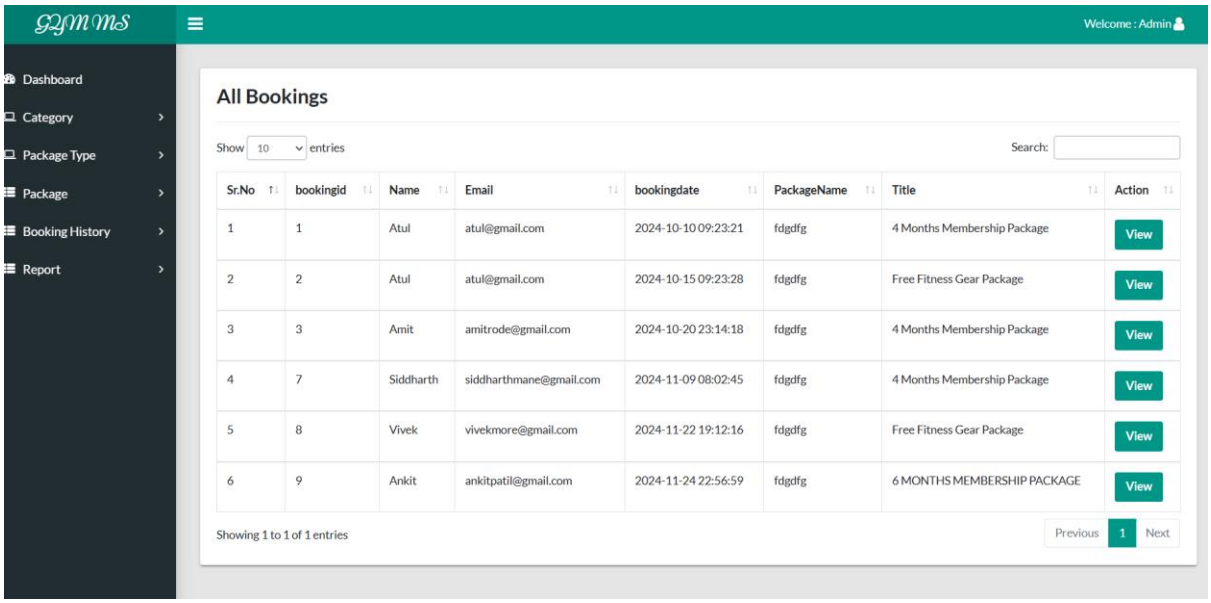
An "Add Package" page is a page on a website, typically found on platforms offering services

- **New Bookings:**



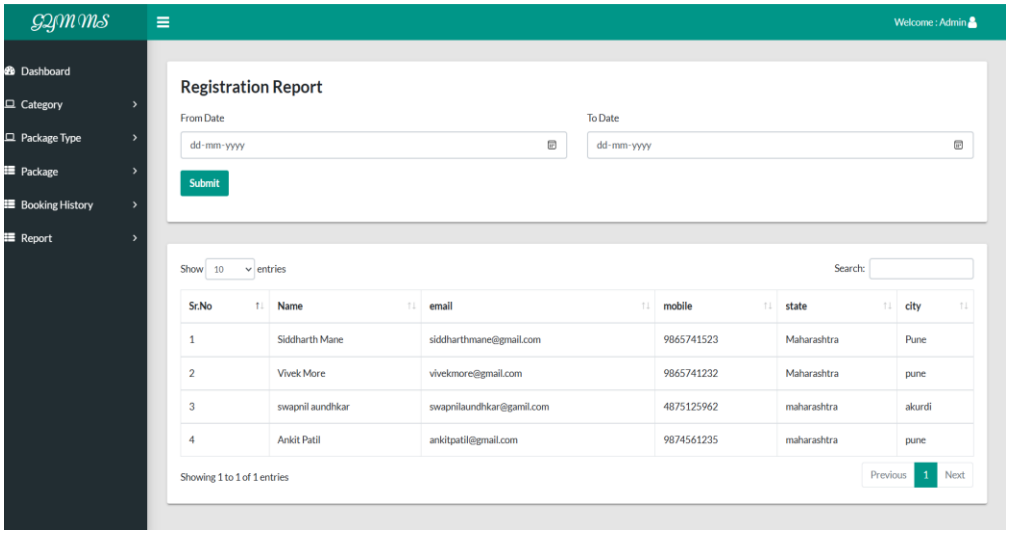
This page shows newly added members.

- **All Booking:**



All Booking page is a page where users can view and manage all of their existing bookings or reservations in one place.

- **Report:**



This page shows registered users report.

4.2 Limitations :

- User-friendliness: The system may not be easy to use.
- Communication: There may be poor communication between the gym and its members.
- Financial management: The system may not be able to efficiently manage finances and debt collection.
- Hardware specifications: The system may require high hardware specifications.
- Data security: The system may not provide adequate data security.
- Manual work: The system may require a lot of manual work.
- Time consumption: The system may be time-consuming.
- Adoption: Users may be reluctant to adopt the new system, especially if they are used to traditional methods

4.3 Future Enhancement :

The health and fitness industry has become extremely diverse in the range of services and facilities it offers varying from large scale centres and gymnasiums, to individual personal trainers who travel from one client to the next in their cars. Some services specialize in offering structured classes, others are informal; some cater for a particular demographic, and others for anyone.

BIBLIOGRAPHY

- **REFERANCE BOOK :**

1. HTML and CSS Quick Start Guide

2. A Beginner's Guide to HTML, CSS, JavaScript.

3. HTML and CSS: Design and Build Websites.

4. Software Engineering.

5. Database Management System.

- **WEBSITE :**

http://www.w3school.com

http://www.codeacademy.com

http://github.com

ANNEXTURE:

```
<?php
session_start();
error_reporting(0);
require_once('include/config.php');
$msg = "";
if(isset($_POST['submit'])) {
  $email = trim($_POST['email']);
  $password = md5(($_POST['password']));
  if($email != "" && $password != "") {
    try {
      $query = "select id, fname, lname, email, mobile, password, address, create_date
from tbluser where email=:email and password=:password";
      $stmt = $dbh->prepare($query);
      $stmt->bindParam('email', $email, PDO::PARAM_STR);
      $stmt->bindValue('password', $password, PDO::PARAM_STR);
      $stmt->execute();
      $count = $stmt->rowCount();
      $row   = $stmt->fetch(PDO::FETCH_ASSOC);
      if($count == 1 && !empty($row)) {
        /********************* Your code ***********************/
        $_SESSION['uid']   = $row['id'];
        $_SESSION['email'] = $row['email'];
        $_SESSION['name'] = $row['fname'];
       header("location: index.php");
      } else {
        $msg = "Invalid username and password!";
      }
    } catch (PDOException $e) {
      echo "Error : ".$e->getMessage();
    }
```

```
  } else {
    $msg = "Both fields are required!";
  }
}
?>
<!DOCTYPE html>
<html lang="zxx">
<head>
    <title>Gym Management System</title>
    <meta charset="UTF-8">
    <!-- Stylesheets -->
    <link rel="stylesheet" href="css/bootstrap.min.css"/>
    <link rel="stylesheet" href="css/font-awesome.min.css"/>
    <link rel="stylesheet" href="css/owl.carousel.min.css"/>
    <link rel="stylesheet" href="css/nice-select.css"/>
    <link rel="stylesheet" href="css/magnific-popup.css"/>
    <link rel="stylesheet" href="css/slicknav.min.css"/>
    <link rel="stylesheet" href="css/animate.css"/>

    <!-- Main Stylesheets -->
    <link rel="stylesheet" href="css/style.css"/>

</head>
<body>
```