

Visvesvaraya Technological University

Belagavi Karnataka-590 018



**A
PROJECT REPORT
ON
“GYM MANAGEMENT SYSTEM”**

Submitted in partial fulfilment of the requirements for the WEB TECHNOLOGY Project(18CS63) course of the 6th semester.

**BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING**

Submitted by,

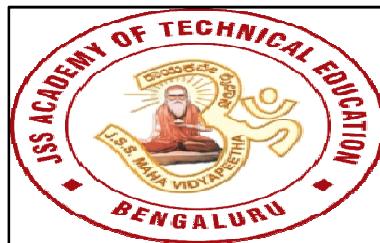
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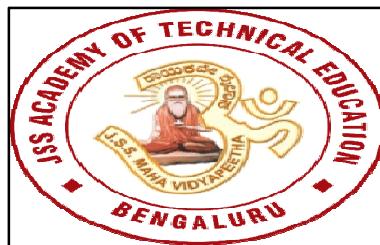
**JSS ACADEMY OF TECHNICAL EDUCATION,
Department of Computer Science and Engineering
2020-2021**

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CERTIFICATE

This is to certify that the project work entitled "**Gym management system**" is a Bonafide work carried out by **Leelananda Naik (1JS18CS071)** and **Niranjana K (1JS18CS096)** in partial fulfilment for the WEB TECHNOLOGY Mini Project (18CS63) of 6th Semester **Bachelor of Engineering in Computer Science and Engineering** in Visvesvaraya Technological University Belagavi during the year 2020 -2021 . It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library . The project report has been approved as it satisfies the academic requirement in respect of the project work prescribed for the said degree.

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We express my humble pranamas to His Holiness **Jagadguru Sri Sri Shivarathri Deshikendra Mahaswamiji** who has showered their blessings on us for framing our career successfully.

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ABSTRACT

The Gym Management System is one of the systems which helps the administration in speeding up the tasks at the same time reducing the complexity. Here we are implementing , Online registration of the member , Issuing the timetable of batch on system , Increase transparency between users , Easy payment options , Standardization of the system . In gym management system , if we take the current system and compare with the proposed it is far behind . Every work in the existing is manual and done on the paper .There might be a computer used somewhere for the work but it's is not doing exactly it's is supposed which is reducing the manual work. Entering everything manual to the computer by creating a file is not exactly we are talking in computerization.

The existing system requires a lot of manual work which results in taking more time than it should. The operations like updating and synchronizing data are also done manually in the existing system that is not automated and again time - consuming process. The purpose or objective of this system is to digitalize and create an automated system. The system will perform the task like adding the new member to the gym, removing the member or keeping the payments records and other stuff required in managing the gym properly. It made easy to generate the reports of various operations performed in the gym. The members can have options like fee payment etc. It will also give the layer of security to the administration and the users that only authorized users can access by their credentials.

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1.1 INTRODUCTION:

The objective of the Gym Management System is to provide a system which handles the information of the people coming into the gym and maintaining their health care. Data will be stored in the database. It also maintains the gym records.

The main purpose of this project is to automate a gym or a fitness center and therefore facilitating its operations. It makes the clients and staff data and schedule easily accessible and also making it easy to keep records in a secure database.

Objectives

Automating the existing system.Reducing time taken to enter client and staff data.Making the client data easily accessible.Speeding up operations.To centralize the management of the gym and fitness center.Reduce data loss in the manual system already in place.Reduce the cost of maintenance of the gym and data storage and reducing the space occupied the files being used.Make data retrieval easy and reduce time wasted when manually searching for data.

Reduce data redundancy. Redundancy is the repetition of similar data in the system. Redundancy occurs when data is updated so there occurs more than one copy of data I which consumes a lot of space.

Database Management System (DBMS)

Following the technology progress in the areas of processors, computer memory, computer storage, and computer networks, the sizes, capabilities, and performance of databases and their respective DBMSs have grown in orders of magnitude. The development of database technology can be divided into three eras based on data model or structure: navigational, SQL/relational, and post-relational. The two main early navigational data models were the hierarchical model, epitomized by IBM's IMS system, and the CODASYL model (network model), implemented in a number of products such as IDMS [2].

The relational model employs sets of ledger-style tables, each used for a different type of entity. Only in the mid-1980s did computing hardware become powerful enough to allow the wide deployment of relational systems (DBMSs plus applications). By the early 1990s, however, relational systems dominated in all large-scale data processing applications, and as of 2015 they remain dominant: IBM DB2, Oracle, MySQL, and Microsoft SQL Server are the top DBMS. The dominant database language, standardized SQL for the relational model, has influenced database languages for other data models [3].

1.2 Hyper Text Markup Language (HTML)

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

1.3 Cascading Style Sheet CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content. Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.[4] The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable. The CSS specifications are maintained by the World Wide Web Consortium (W3C). Internet media type (MIME type) text/css is registered for use with CSS by RFC 2318 (March 1998). The W3C operates a free CSS validation service for CSS documents.

In addition to HTML, other markup languages support the use of CSS including XHTML, plain XML, SVG, and XUL.

1.4 JAVASCRIPT

JavaScript, often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it for client-side page behaviour, and all major web browsers have a dedicated JavaScript engine to execute it.

As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM). However, ECMAScript itself does not include any input/output (I/O), such as networking, storage, or graphics facilities, as the host environment (usually a web browser) provides those APIs. JavaScript engines were originally used only in web browsers, but they are now embedded in some servers, usually via Node.js. They are also embedded in a variety of applications created with frameworks such as Electron and Cordova.

Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design.

JavaScript.com is a resource built by the Pluralsight team for the JavaScript community. Because JavaScript is a great language for coding beginners, we've gathered some of the best learning resources around and built a JavaScript course to help new developers get up and running. With the help of community members contributing content to the site, JavaScript.com aims to also keep more advanced developers up to date on news, frameworks ,and libraries.

1.5 PHP

PHP is a server side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages. PHP scripts can only be interpreted on a server that has PHP installed. The client computers accessing the PHP scripts require a web browser only. A PHP file contains PHP tags and ends with the extension ".php".

PHP means - Personal Home Page, but it now stands for the recursive backronym PHP: Hypertext Pre-processor. PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks.

You have obviously heard of a number of programming languages out there; you may be wondering why we would want to use PHP as our poison for the web programming. Below are some of the compelling reasons.

some of the compelling reasons.

1. PHP is open source and free.

2. Short learning curve compared to other languages such as JSP, ASP etc.

3. Large community document

4. Most web hosting servers support PHP by default unlike other languages such as ASP that need IIS. This makes PHP a cost effective choice.

5. PHP is regularly updated to keep abreast with the latest technology trends.

6. Other benefit that you get with PHP is that it's a server side scripting language; this means you only need to install it on the server and client computers requesting for resources from the server do not need to have PHP installed; only a web browser would be enough.

1.6 Xampp server

XAMPP is a free and open source cross platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, Maria DB database, and interpreters for scripts written in the PHP and Perl programming languages. XAMPP stands for Cross-Platform, Apache, Maria DB, PHP and Perl. It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server extremely easy as well.

Chapter 2

REQUIREMENTS SPECIFICATION

2.1 Specific Requirements

The specific requirements of the GYM MANAGEMENT SYSTEM are stated as follows:

2.1.1 Hardware Requirement

The section of hardware configuration is an important task related to the software development insufficient random-access memory may affect adversely on the speed and efficiency of the entire system. The process should be powerful to handle the entire operations. The hard disk should have sufficient capacity to store the file and application

Processor	:	Intel PentiumT4200/ Intel Core Duo 2.0 GHz / more
RAM	:	Minimum 1 GB RAM capacity
Hard disk	:	Minimum 40 GB ROM capacity
Cache Memory	:	L2-1 MB
GPU	:	Intel HD Graphics

2.1.2 Software Requirement

A major element in building a system is the section of compatible software since the software in the market is experiencing in geometric progression. Selected software should be acceptable by the firm and one user as well as it should be feasible for the system.

This document gives a detailed description of the software requirement specification. The study of requirement specification is focused specially on the functioning of the system. It allows the developer or analyst to understand the system, function to be carried out the performance level to be obtained and corresponding interfaces to be established.

Front End	:	PHP (Hypertext preprocessor)
Back End	:	XAMPP server, My SQL
Operation System	:	Windows 7 Or Windows 8.1 Or Windows 10
Client side	:	CSS (cascading Style sheet)

2.2 About Technologies used

- **HTML** is integrated in **PHP**. It provides a means to structure text-based information in a document. It allows users to produce web pages that include text, graphics and hyperlinks.
- **CSS** (Cascading Style Sheets) is a style sheet language used for describing the presentation of a document written in a mark-up language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document.

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- **MYSQL** is the language used to manipulate relational databases. It is tied closely with the relational model. It is issued for the purpose of data definition and data manipulation. Program runs as a server providing multi-user access to a number of databases. MySQL is a multithreaded, multi-user SQL database management system (DBMS). It includes facilities to add, modify or delete data from the database, ask questions (or queries) about the data stored in the database and produce reports summarizing selected contents.
- **PHP** is a scripting language originally designed for producing dynamic web pages. It has evolved to include a command line interface capability and can be used in standalone graphical applications. PHP is a general-purpose scripting language that is especially suited for web development. PHP generally runs on a web server, taking PHP code as its input and creating web pages as output.

Chapter 3

SYSTEM DESIGN

3.1 Input Design

The Home page contains three buttons Admin, login and submit section.

3.1.1 Admin

The Admin can do different functions with help of navigation bars on top

- can view all the trainees.
 - can Add , Delete and update trainee .
 - can view package details
 - can assign packages to trainees.
 - can make payments and view payment details.
 - can view all the trainers.
 - can Add , Delete and update trainer.
 - can assign trainers to trainees.
 - can view admin details
- .

3.1.2 Trainee Information

After Trainee logins into the database and three tables of information occurs.

- can view his own details
- can view his trainer details
- can view his payment details

3.1.3 Trainer Information

After Trainee logins into the database and two tables of information occurs.

- can view his own details
- can view his trainee details

3.2 Database design

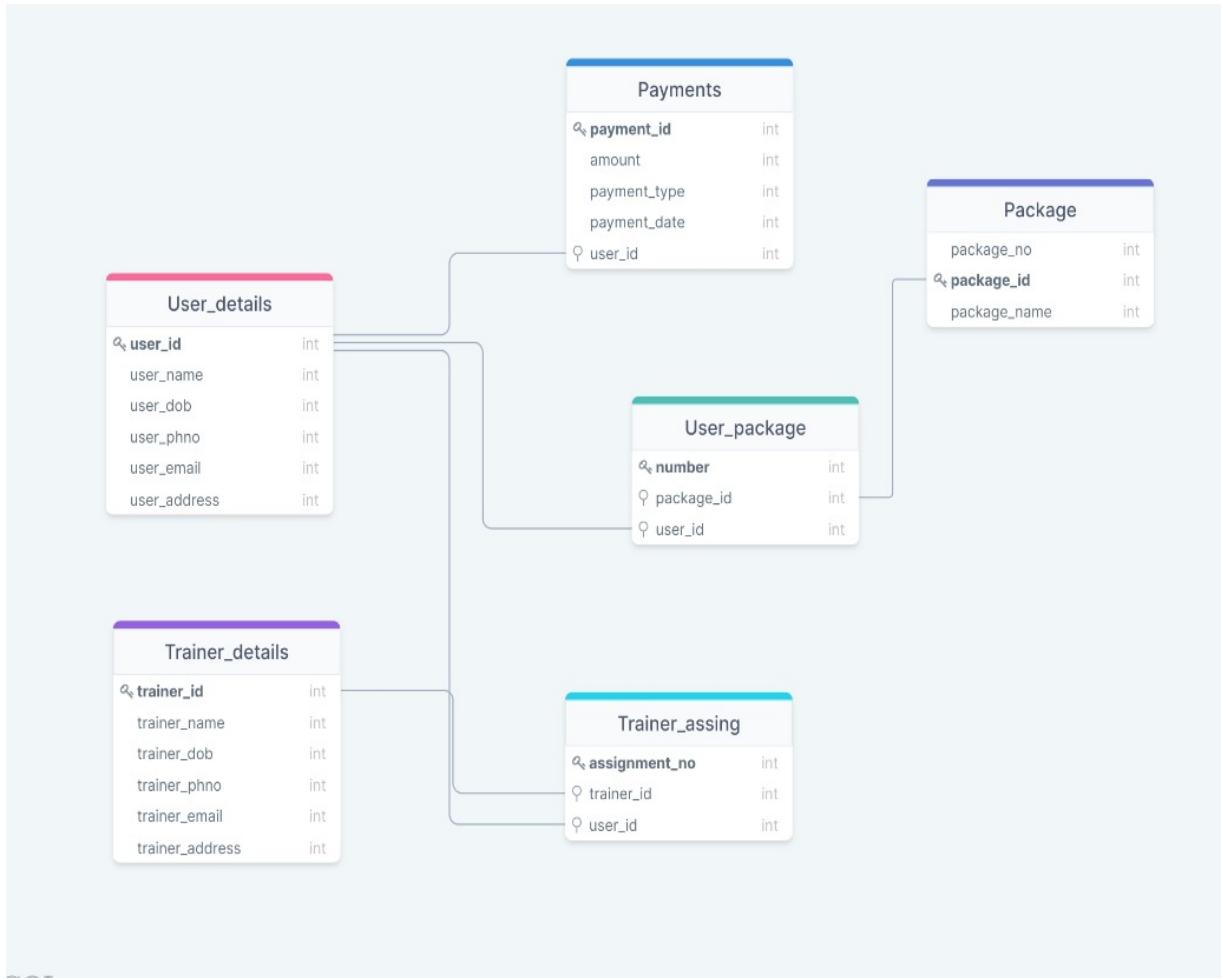
The data in the system has to be stored and retrieved from database. Designing the database is part of system design.

Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system. A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make database access easy, quick, inexpensive and flexible for the user. Relationships are established between the data items and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates. The MS Access database has been chosen for developing the relevant databases.

3.3 Relational Schema

The term "schema" refers to the organization of data as a blueprint of how the database is constructed (divided into database tables in the case of relational databases). The formal definition of a database schema is a set of formulas (sentences) called integrity constraints imposed on a database. A relational schema shows references among fields in the database. When a primary key is referenced in another table in the database, it is called a foreign key. This is denoted by an arrow with the head pointing at the referenced key attribute. A schema diagram helps organize values in the database. It also gives an idea of what order the tables should be created in. The following diagram shows the schema diagram for the database.

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3.4 ER Diagram

An entity–relationship model is usually the result of systematic analysis to define and describe what is important to processes in an area of a business. An E-R model does not define the business processes; it only presents a business data schema in graphical form. It is usually drawn in a graphical form as boxes (entities) that are connected by lines (relationships) which express the associations and dependencies between entities. An ER model can also be expressed in a verbal form, for example: one building may be divided into zero or more apartments, but one apartment can only be located in one building. Entities may be characterized not only by relationships, but also by additional properties (attributes), which include identifiers called "primary keys". Diagrams created to represent attributes as well as entities and relationships may be called entity-attribute-relationship diagrams, rather than entity-relationship models.

An ER model is typically implemented as a database. In a simple relational database implementation, each row of a table represents one instance of an entity type, and each field in a table represents an attribute type. In a relational database a relationship between entities is implemented by storing the primary key of one entity as a pointer or "foreign key" in the table of another entity. There is a tradition for ER/data models to be built at two or three levels of abstraction. Note that the conceptual-logical-physical hierarchy below is used in other kinds of specification, and is different from the three-schema approach to software engineering.

While useful for organizing data that can be represented by a relational structure, an entity-relationship diagram can't sufficiently represent semi-structured or unstructured data, and an ER Diagram is unlikely to be helpful on its own in integrating data into a pre-existing information system. Three main components of an ERD are the entities the relationship between those entities, and the cardinality, which defines that relationship in terms of numbers. Cardinality notations define the attributes of the relationship between the entities. Cardinalities can denote that an entity is optional (for example, an employee rep could have no customers or could have many) or mandatory (for example, there must be at least one product listed in an order).

The four main cardinal relationships are :

- One-to-one (1:1) - For example, each customer in a database is associated with one mailing address.
- One-to-many (1: N) - For example, a single customer might place an order for multiple products. The customer is associated with multiple entities, but all those entities have a single connection back to the same customer.
- Many-to-one (N: 1) – For example, many employees will have only one manager above them but one manager can have many employees below him.
- Many-to-many (M: N)- For example, at a company where all call center agents work with multiple customers, each agent is associated with multiple customers, and multiple customers might also be associated with multiple agents.

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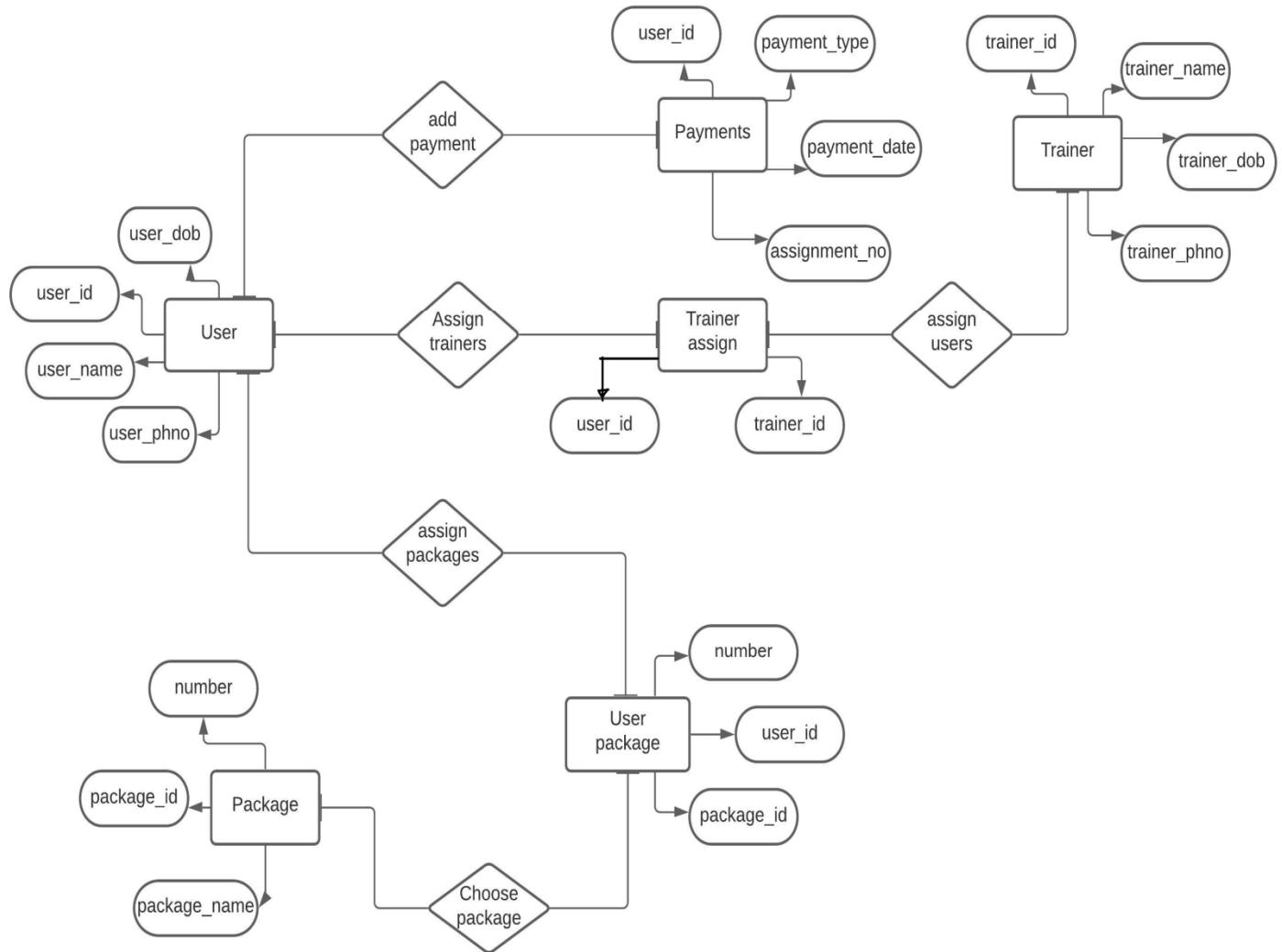


Figure:- Entity Relationship diagram

3.5 Output Design

Designing computer output should proceed in an organized, well throughout manner; the right output element is designed so that people will find the system whether or executed. When we design an output, we must identify the specific output that is needed to meet the system. The usefulness of the new system is evaluated on the basis of their output. Once the output requirements are determined, the system designer can decide what to include in the system and how to structure it so that require output can be produced. For the proposed software, it is necessary that the output reports be compatible in format with the existing reports. The output must be concerned to the overall performance and the system's working, as it should. It consists of developing specifications and procedures for data preparation, those steps necessary to put the inputs and the desired output, i.e. maximum user friendly. Proper messages and appropriate directions can control errors committed by users. The output design is the key to the success of any system. Output is the key between the user and the sensor. The output must be concerned to the system's working, as it should. Output design consists of displaying specifications and procedures as data presentation. User never left with the confusion as to what is happening without appropriate error and acknowledges message being received. Even an unknown person can operate the system without knowing anything about the system

Chapter 4

SYSTEM IMPLEMENTATION

4.1 Implementation

Implementation is the stage in the project where the theoretical design is turned into a working system and is giving confidence on the new system for the users that it will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover, an evaluation of change over methods. Implementation is the most important phase. The most critical stage in achieving a successful new system is giving the users confidence that the new system will work and be effective. Any system developed should be secured and protected against possible hazards. Security measures are provided to prevent unauthorized access of the database at various levels. Password protection and simple procedures to prevent the unauthorized access are provided to the users. The system allows the user to enter the system only through proper user name and password.

4.2 Create a connection to a database

Before you can access data in a database, you must create a connection to the database. In PHP, this is done with the `getConnection()` function.

```
<?php
    $con=mysqli_connect("localhost","root","","gdb");
?>
```

4.3 Closing a Connection

The connection will be closed automatically when the script ends. To close the connection before, use the `close()` function:

```
<?php
    mysqli_close($con);
?>
```

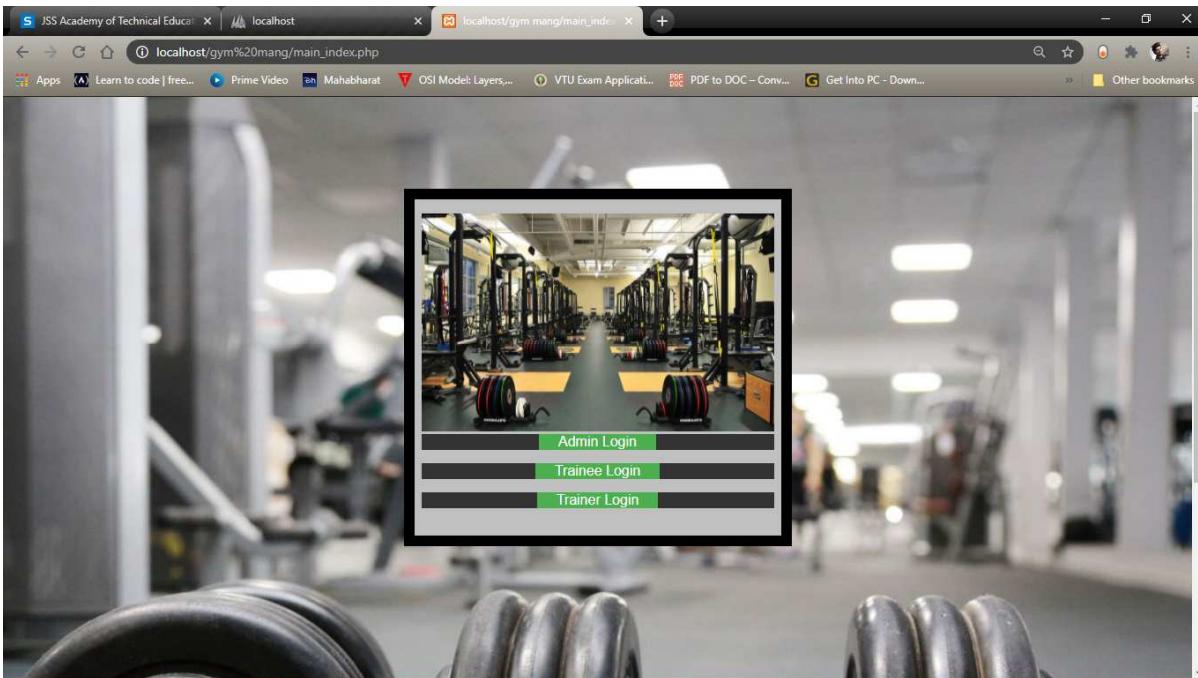
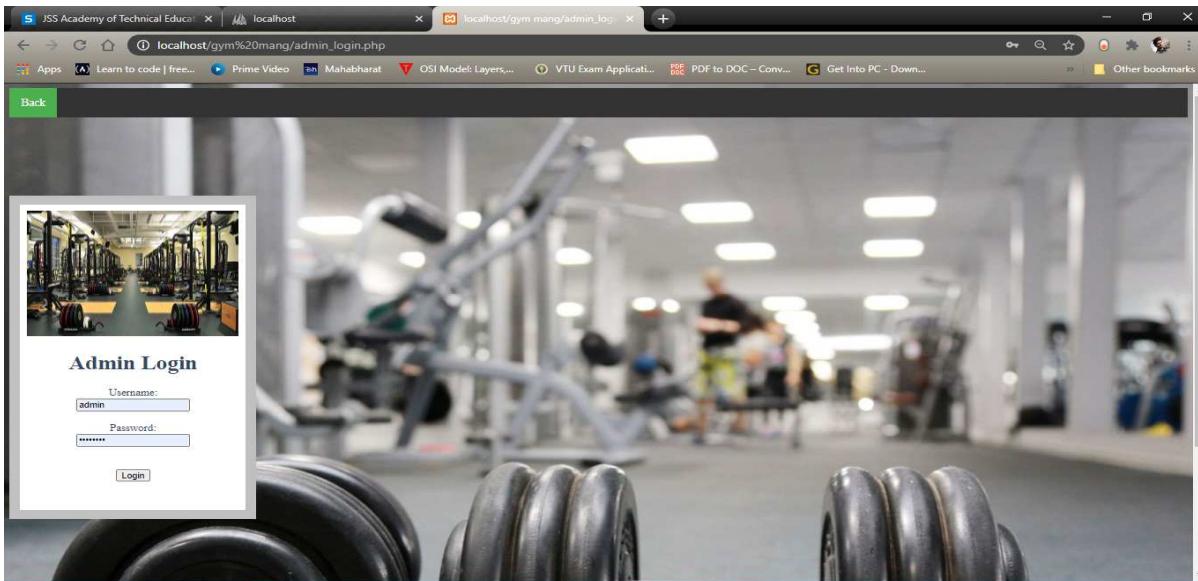
4.4RESULT

The resulting system is able to:

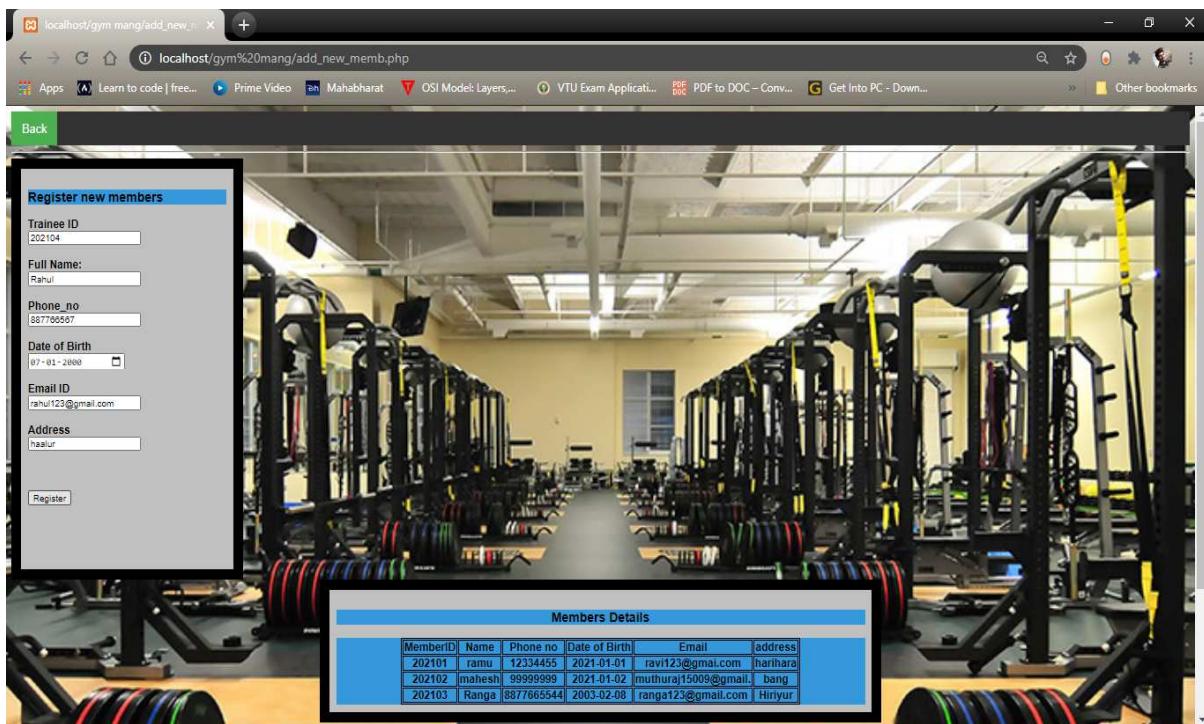
- Authenticate user credentials during login.
- Allows trainee to quickly and easily look for details of particular .
- The user can see the details payment and assignments of trainers.
- Gives accurate information of assignment of trainers and choosing user package.

Chapter 5

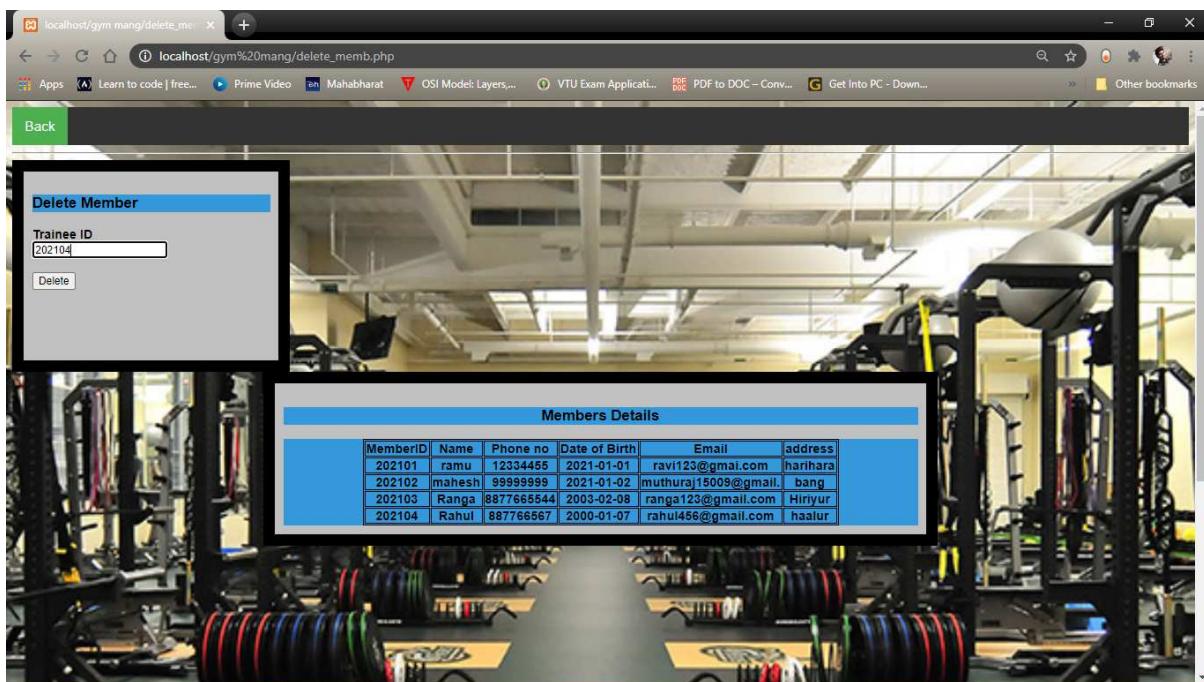
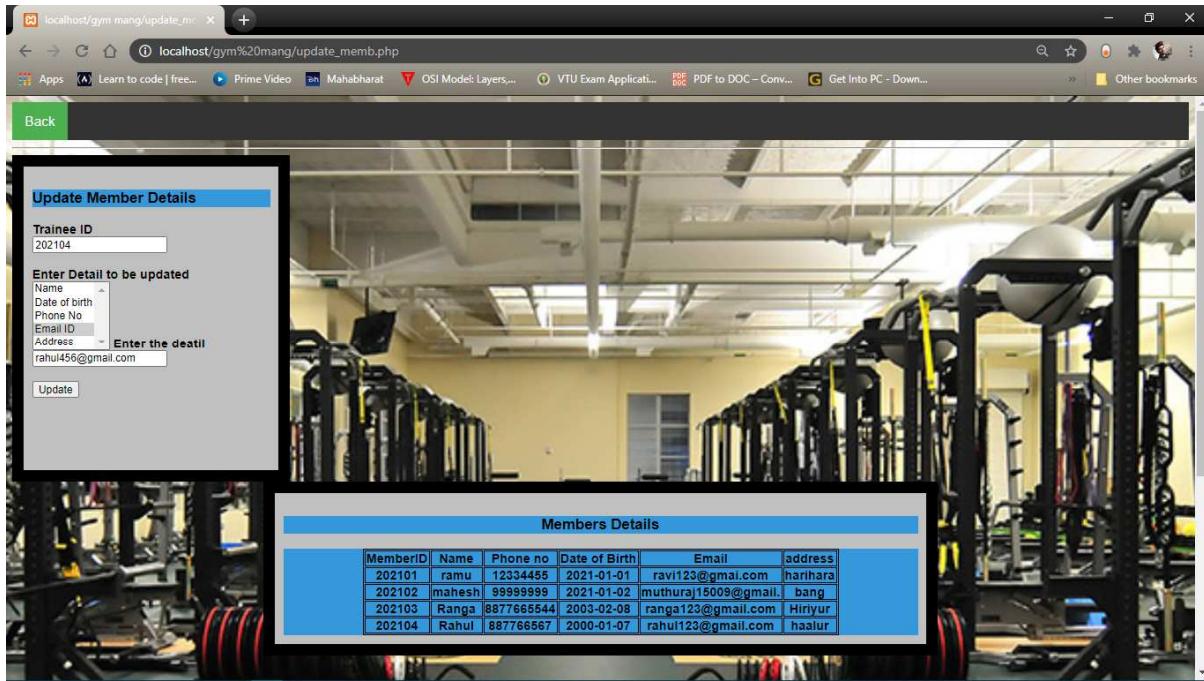
Snapshots [ADMIN SIDE]



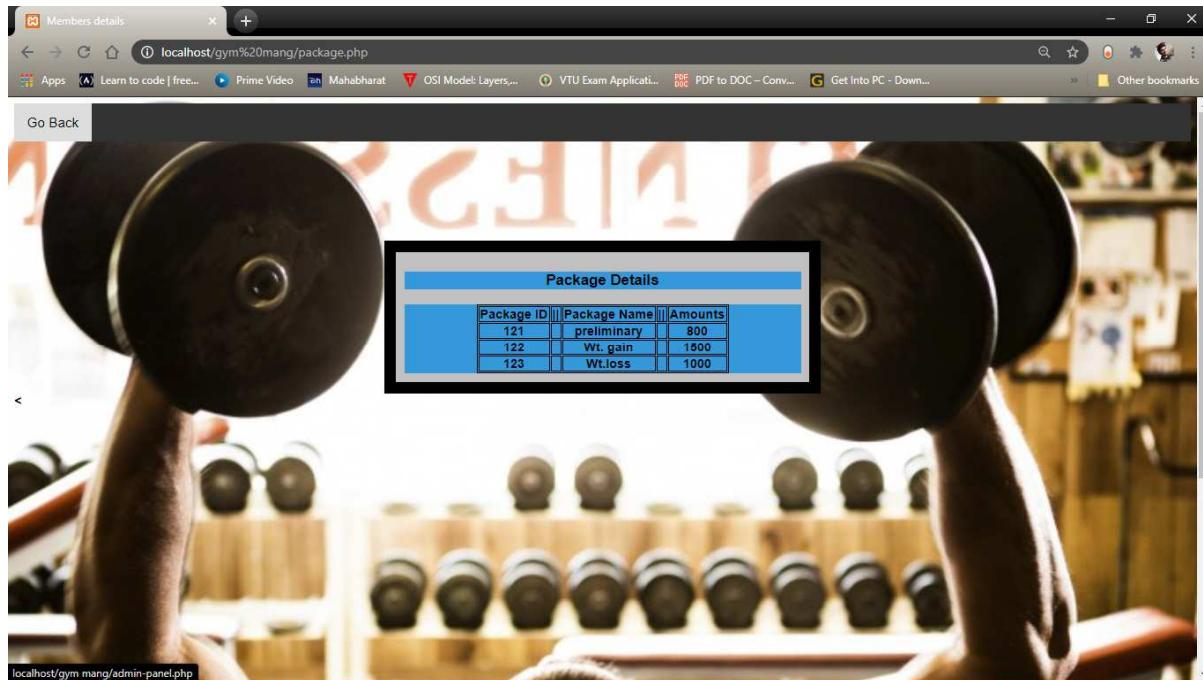
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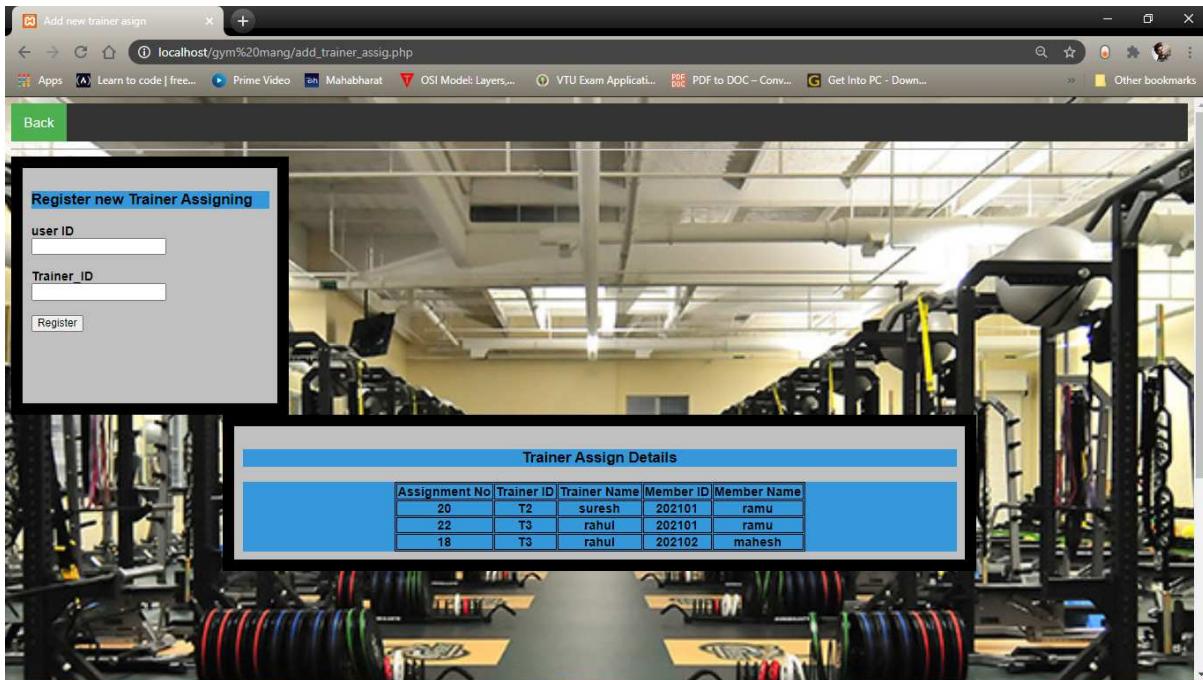
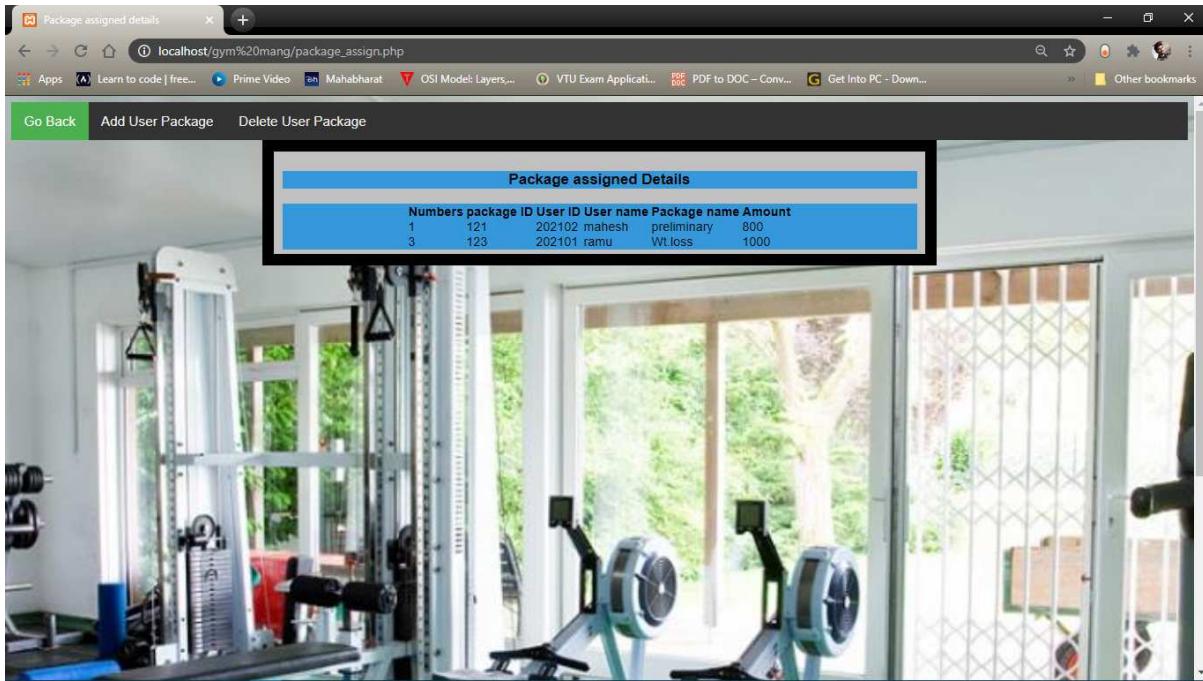
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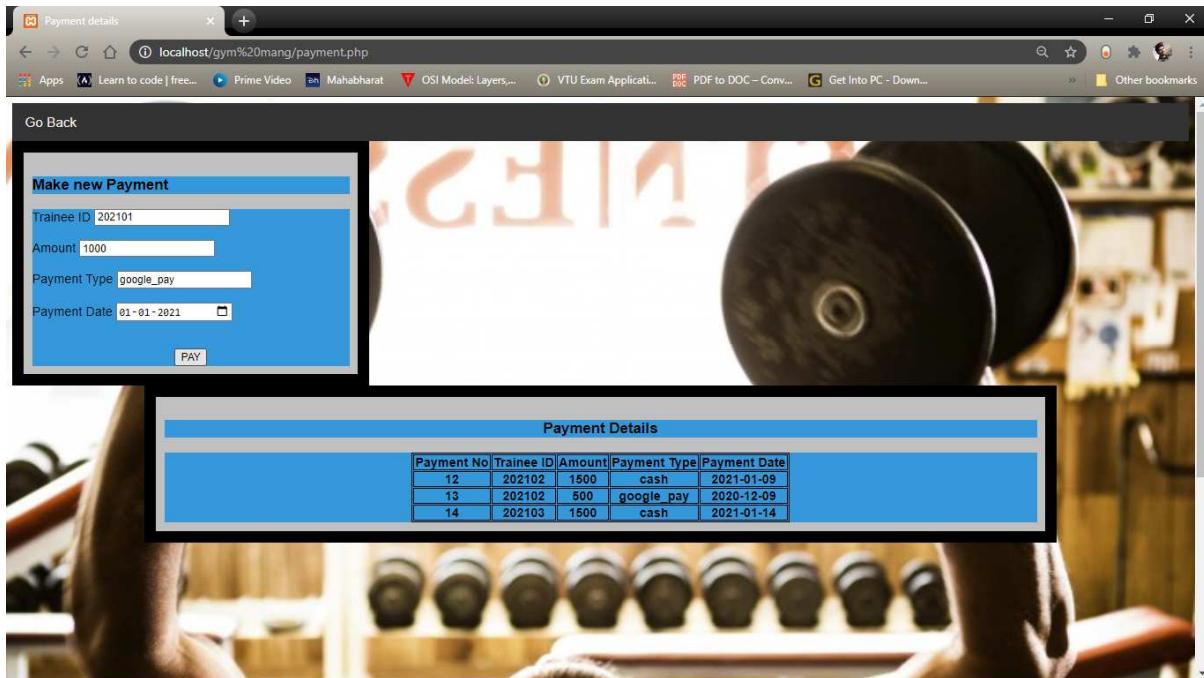
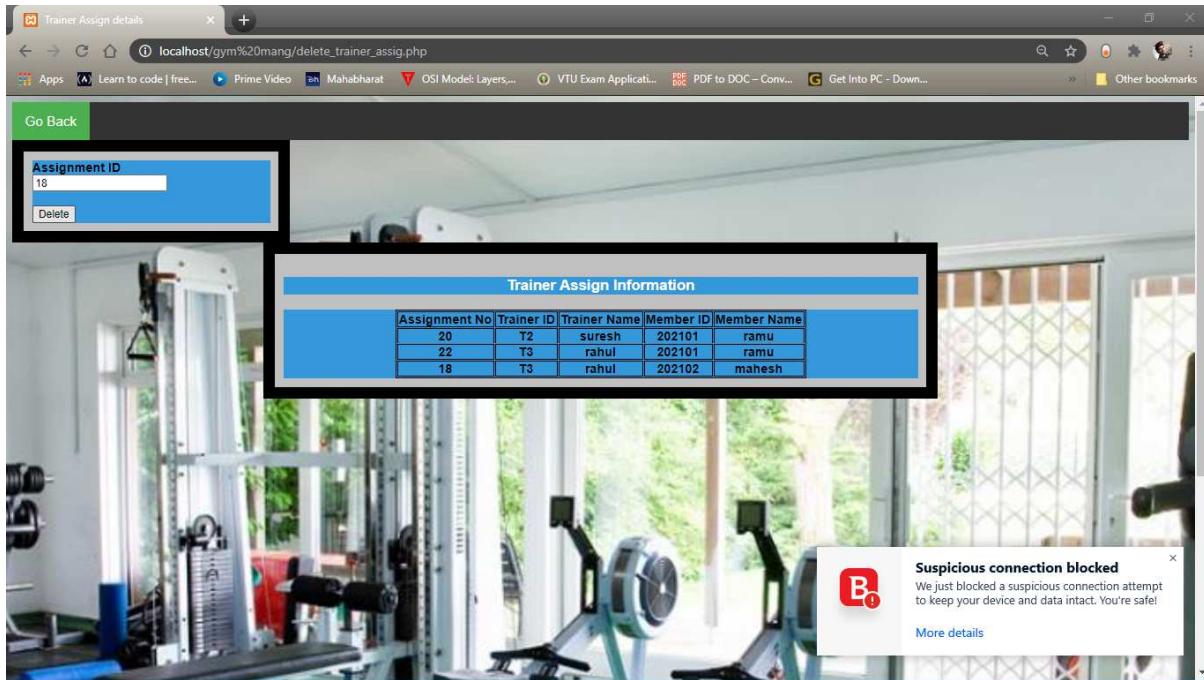
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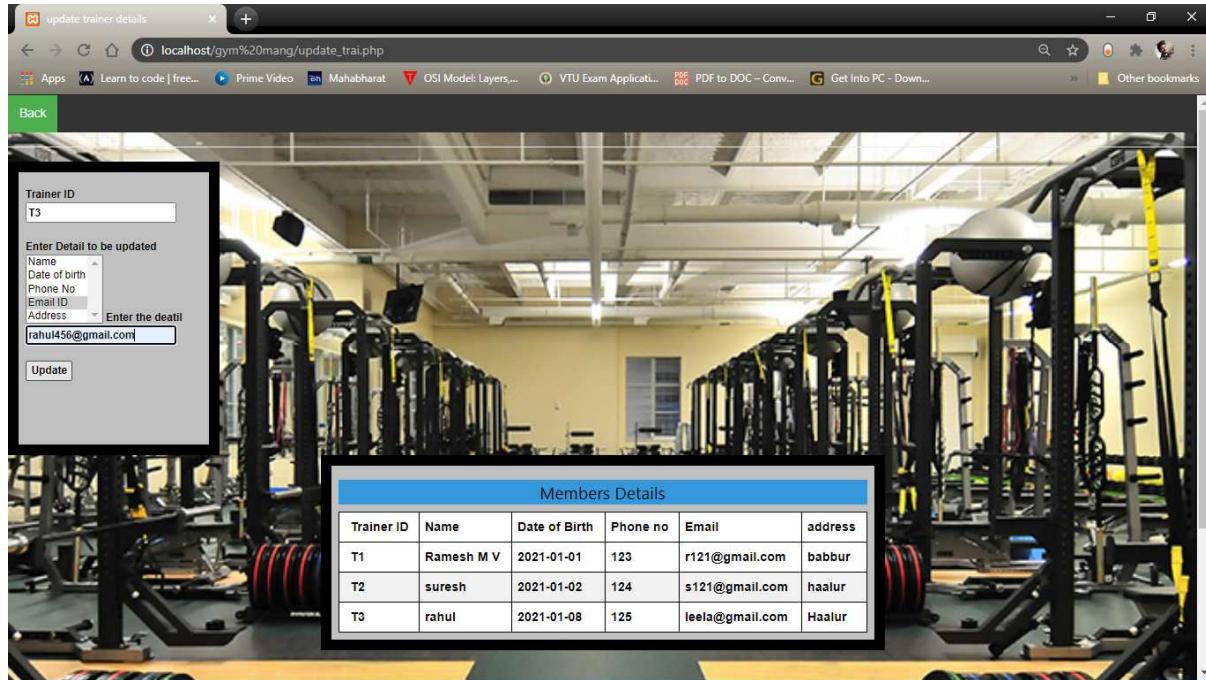
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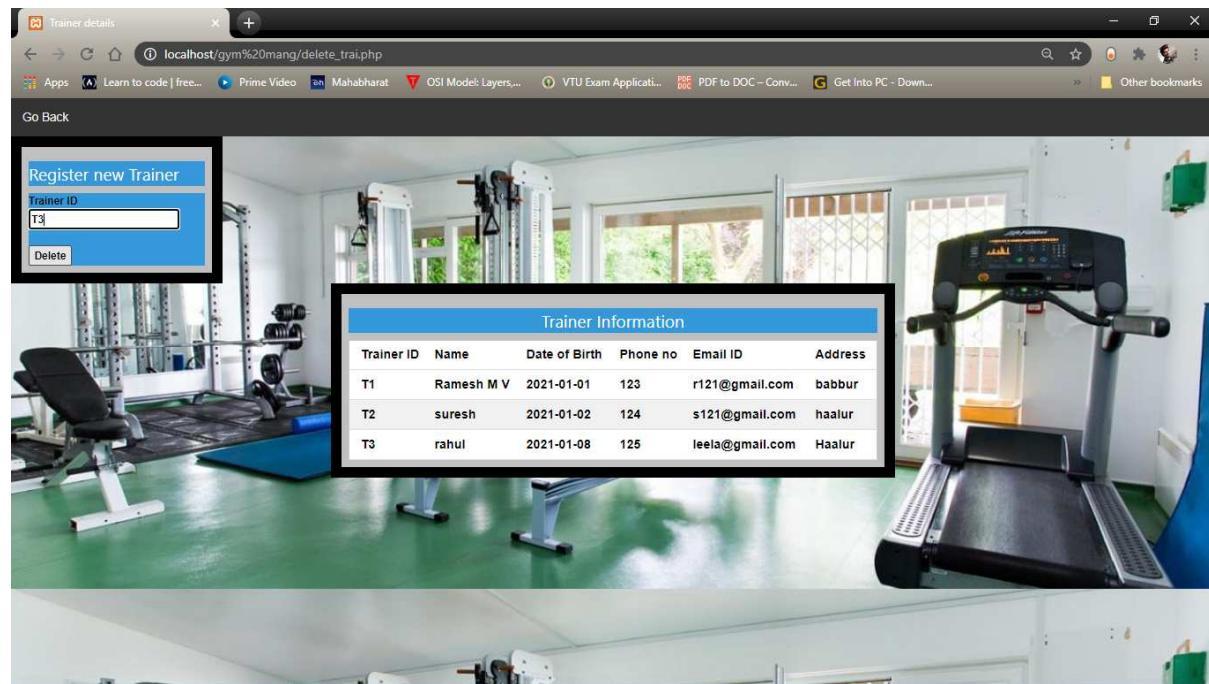
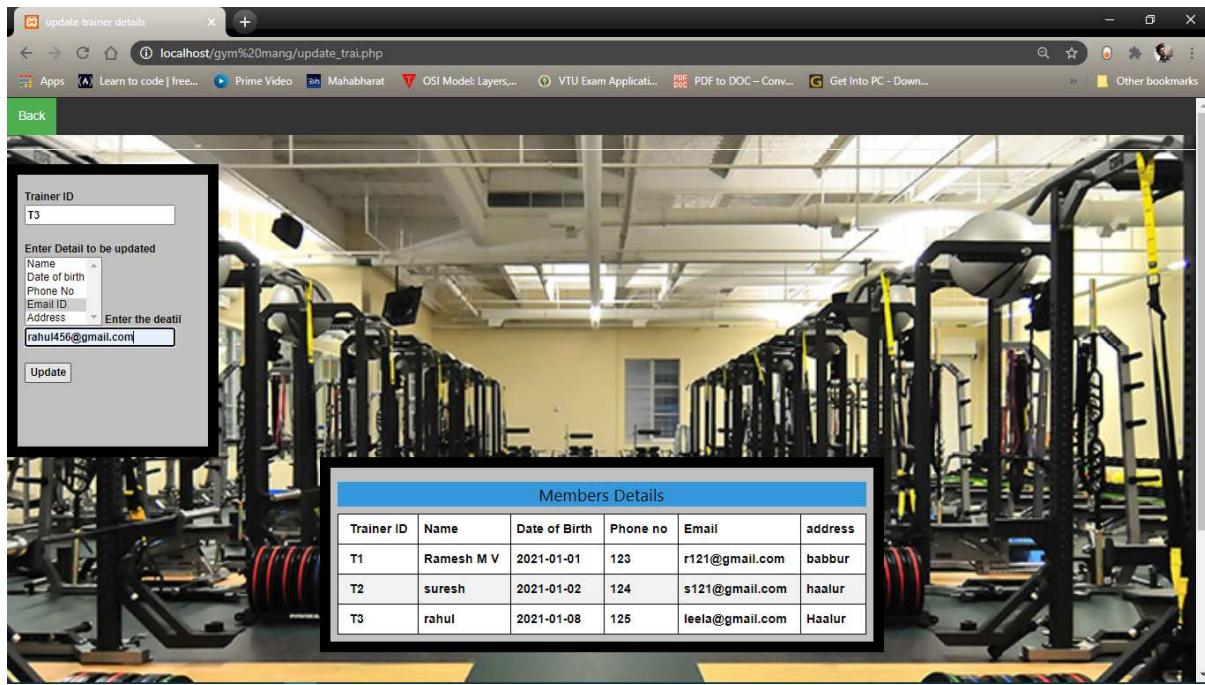
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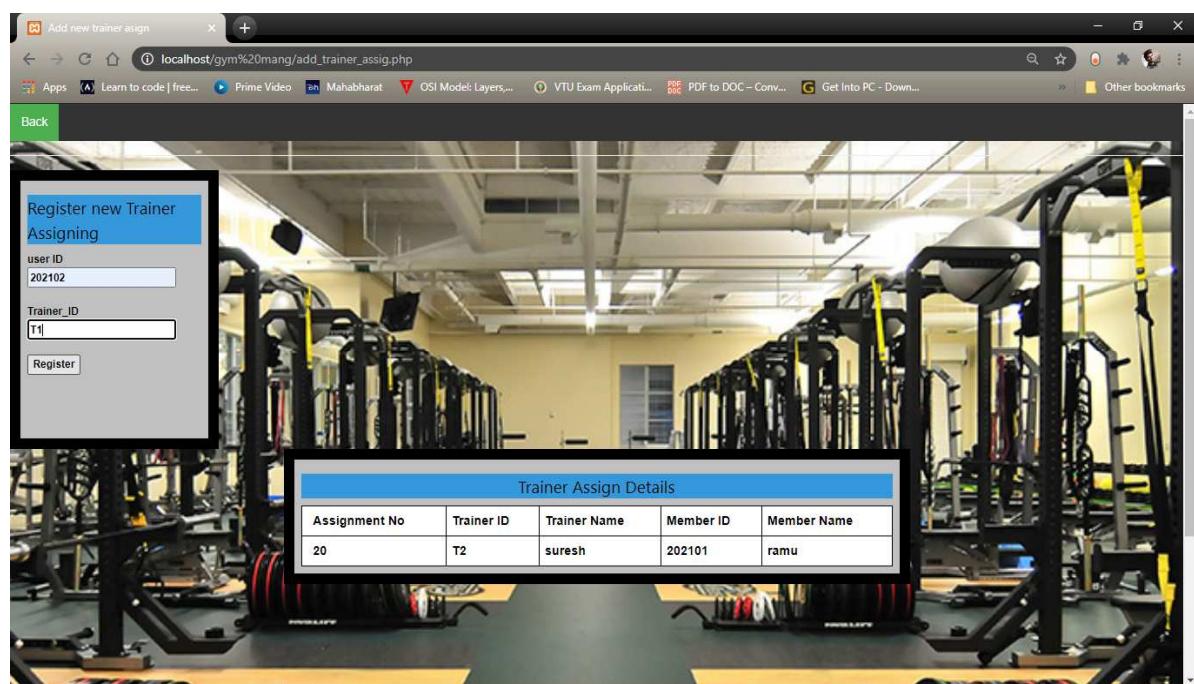
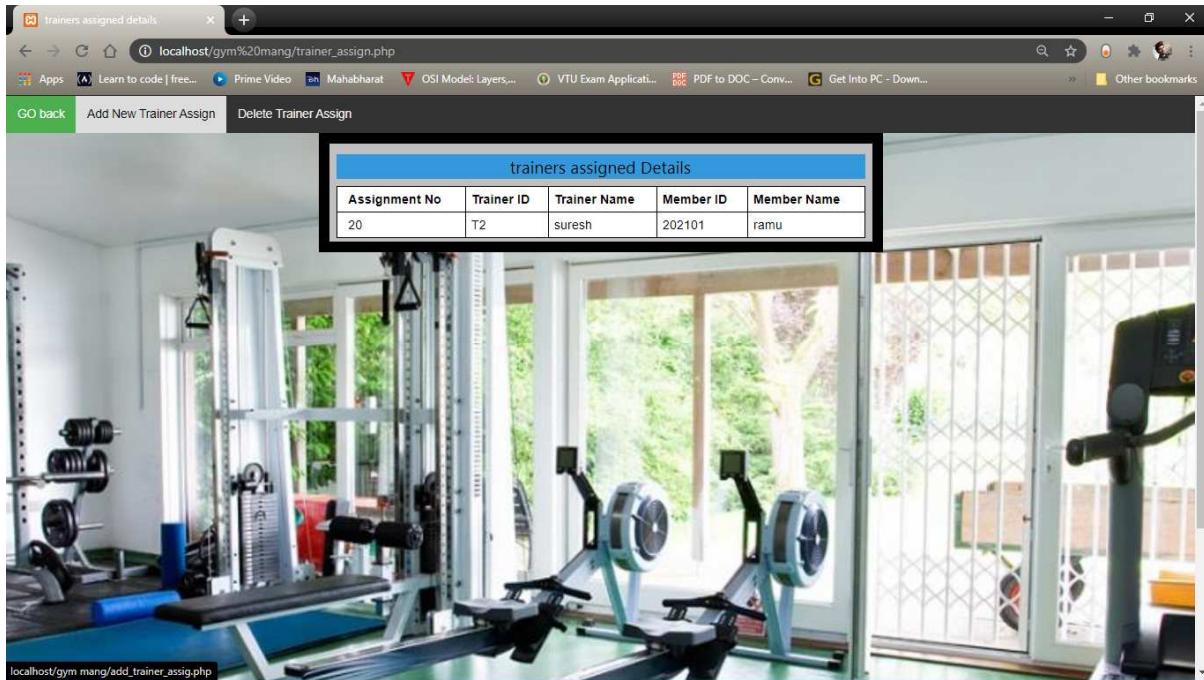
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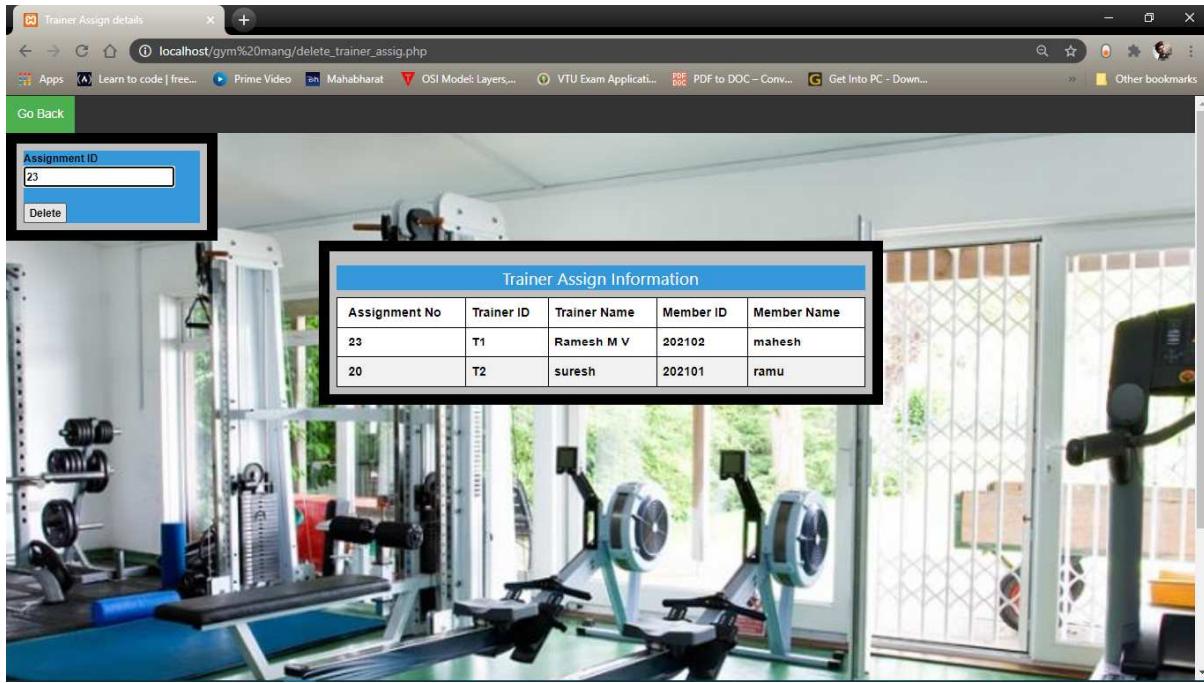
GYM MANAGEMENT SYSTEM



GYM MANAGEMENT SYSTEM



GYM MANAGEMENT SYSTEM



GYM MANAGEMENT SYSTEM

The screenshot shows a web browser window titled "Admin details" with the URL "localhost/gym%20mang/admin_details.php". The page displays a table titled "Admin Details" with the following data:

Admin ID	Name	Phone no	Date of Birth	Email	address
1	Mruthyunjaya M R	9591776169	1999-09-04	muthuraj15009@gmail.com	hiriyur,chitrdurga
2	leelananda	123	2020-12-01	leela@gmail.com	mangalore
3	prathap	12345	2020-12-02	prathap@gmail.com	chikkamangalore

The background of the page features a photograph of a modern gym interior with various exercise equipment and large windows.

The screenshot shows a web browser window titled "Trainee Login" with the URL "localhost/gym%20mang/trainee_login.php". The page contains a login form with the following fields:

- Trainee ID:
-

The background of the page features a photograph of a gym interior with exercise equipment and people working out.

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The screenshot shows a web browser window titled "Trainee details" with the URL "localhost/gym%20mang/trainee_panel.php". The page displays three tables:

- My Details**

Memeber ID	Name	Date of Birth	Phone No	Email ID	Address
202101	ramu	12334455	2021-01-01	ravi123@gmail.com	harihara
- My package details**

Numbers	PackagID	User_ID
3	123	202101
- My Trainers**

AssignmentNo	TrainerID
20	T2

The background of the page features a photograph of a person lifting dumbbells.

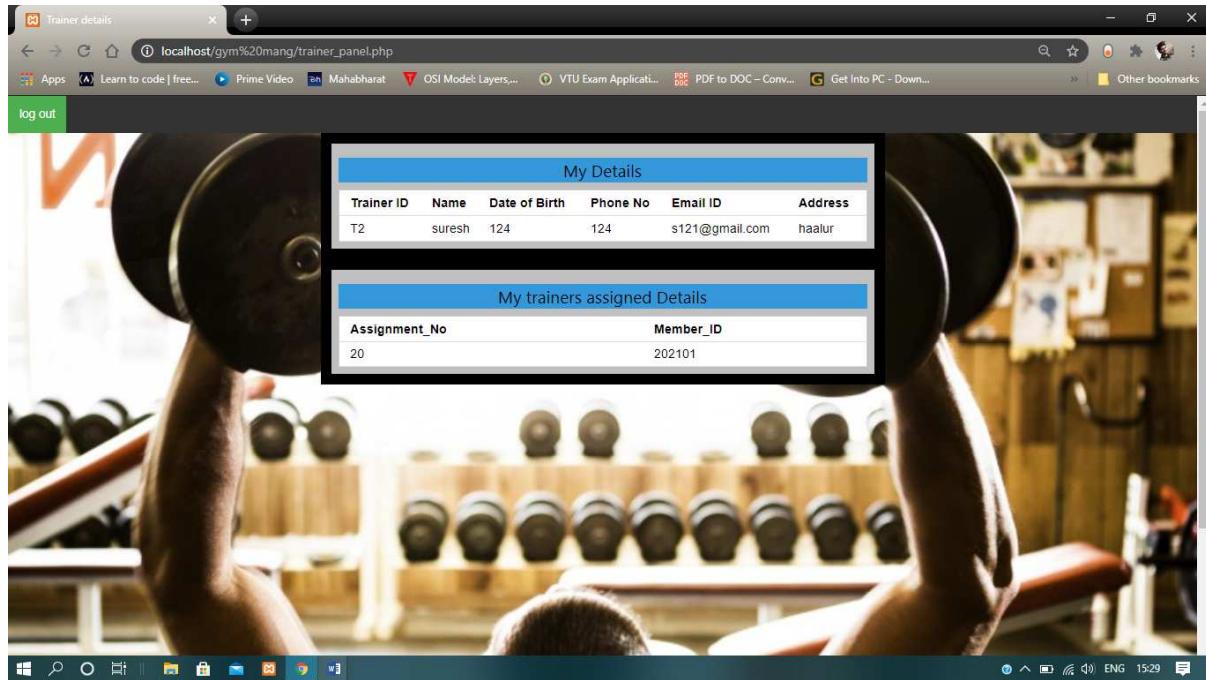
The screenshot shows a web browser window titled "localhost/gym mang/trainer_login.php" with the URL "localhost/gym%20mang/trainer_login.php". The page displays a login form:

Trainer Login

Trainer ID:

The background of the page features a photograph of a gym interior.

GYM MANAGEMENT SYSTEM



CONCLUSION

The project, developed using PHP and MySQL is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement. The expanded functionality of today's software requires an appropriate approach towards software development. Using an open source language gives us more flexibility, but at the same time it required more time to be programmed. The proposed Gym Management System can be easily adopted by various gyms and fitness centres in order to make the data management more secure and more flexible. The system is subdivided into three main subsystems (Trainee , Trainer and admin) that are designed to give the system maximum benefit by demonstrating carefully each subsystem service. The administrator's functions are clearly identified to be able to manipulate user's information such as add (register), delete users and managing the package and materials and such as add, delete Trainee, Thus the proposed system is easy and flexible because for future maintenance and development because each subsystem can be handled separately without influence on other system

FUTURE ENHANCEMENTS

The current project is just based on taking the information and storing in respective data tables and representing the information in the different required forms and has the ability to search using the attribute. There are some enhancements which can be implemented further. They are as follows:

- ❖ The data management will be done for different branches for the respective Trainees who has to move to another places
- ❖ We can generate information about Trainees and maintain records to make ease for them
- ❖ Can create module such as Trainees can attend gym wherever they can possibly reach to.

REFERENCE

- [1] <http://stackoverflow.com>
- [2] <https://www.w3schools.com>
- [3] <http://www.phptpoint.com>
- [4] <https://www.bootply.com/>
- [5] <https://www.tutorialspoint.com>
- [6] <https://erdplus.com/#/>