FITNESS CLUB HANDLING SYSTEM

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A DISSERTATION SUBMITTED AS A PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR'S IN COMPUTER SCIENCE / SOFTWARE ENGINEERING

DEPARTMENT OF COMPUTER SCIENCES COMSATS UNIVERSITY ISLAMABAD, VEHARI CAMPUS VEHARI-PAKISTAN

SESSION 2019-2023

CERTIFICATE OF APPROVAL

It is to certify that the final year project of BS (CS) "FITNESS CLUB HANDLING SYSTEM" was developed by ALI HAIDER (CIIT/SP19-BCS/005) and MUHAMMAD NOUMAN AKRAM (CIIT/SP19-BCS/-037) under the supervision of "UMAR RASHID" and that in (their/his/her) opinion; it is fully adequate, in scope and quality for the degree of Bachelor of Science in Computer Sciences.

Supervisor

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(Department of Computer Science)

DEDICATION

I dedicate this project to my Loving Parents, Respected Teachers and particularly our Honorable supervisor Sir Umar Rashid for their love and support.

ACKNOWLEDGEMENT

I bear witness that none is worthy of worship but ALLAH Almighty, Allah is the alone, without partner, and I bear witness that Muhammad is His servant and Messenger. I am much thankful to ALLAH (SWT) who helped me in this project. All respect to my family and friends who encouraged me to do well in every aspect of life. I would like to sincerely thank my project supervisor Sir Umar Rashid for his guidance and interest which enabled me to complete my project.

PROJECT BRIEF

PROJECT NAME FITNESS CLUB HANDLING SYSTEM

ORGANIZATION NAME COMSATS UNIVERSITY ISLAMABAD (VHR)

OBJECTIVE Facilitate user for an easy admission process in

Fitness club

UNDERTAKEN BY ALI HAIDER & M NOUMAN AKRAM

SUPERVISED BY SIR. UMAR RASHID

COMPUTER SCIENCE

COMSATS UNIVERSITY ISLAMABAD (VHR)

STARTED ON 14-4-2022

COMPLETED ON Continue...

COMPUTER USED DELL ULTRABOOK E7240

SOURCE LANGUAGE CSS, HTML, PHP

OPERATING SYSTEM Windows, Androids

TOOLS USED VS CODE

Abstract

Being healthy is the first thing to be kept in mind because most of the time our attitude depends on how we feel. It is hard to get admission in health club when slots are full. This project aims to automate gym and fitness admission process as the admission process in gyms and selecting a trainer is difficult. Sometimes it is difficult to get a desired slot timing. This health club management system will help to overcome such problems by booking the desired slot online and pay fees by electronic money transfer.

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Detailed SRS for <fitness club="" handling="" system=""></fitness>
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1 Introduction

1.1 System Introduction

This project aims to automate gym and fitness admission process as the admission process in gym and selecting a trainer is difficult. Sometimes it is difficult to get a desired slot timing. This health club management system will help to overcome such problems by looking the desired slot online and pay fee by electronic money transfer. Our Gym Management Software provides lots of functions such data entry of customer, keeping records of all the things about customer's fees, plan, and physical fitness which help to provide good quality of services to customer from Gym managers. In this proposed system also provide the total information about machinery and data of coaches is also stored in it. Services provided by Gym are also handled by this system.

1.2 Background of the System

Currently, there are plenty of apps that can track your workout and show the current process however, very few apps demonstrate how the exercises are done and devise a plan. Fitness Club can help individual to achieve their fitness goals easily. Indeed, there is remarkable expansion in the number of fitness applications accessible on the web and apps, but they focus on single objectives. The main objective of our project is to create a website which enables the user to effectively lose weight, maintain weight and gain Muscle in a sustainable manner with clear and concise plans. Our project allow user to enter his training record on daily basis, so he can watch out his progress. Thus, our project is multi-objective compared to others. Following systems are discussed to understand the existing apps and differentiate with this website.

1.2.1 Adidas My-Coach

It is a more robust and a well-designed system, but doesn't have features of conveying related videos of exercises and the diet plan. It also gives a score for individual's daily performance. In contrast, our proposed website provides features like diet plan, packages and trainers which help individual to achieve his fitness goals. Moreover, member can select the appropriate schedule out of his busy day.

1.3 Objectives of the System

- To develop software that facilitates the data storage, data maintenance and its retrieval for the gym in an igneous way.
- To develop easy-to-use software which handles the customer-staff relationship in an effective manner.
- To provide platform where user can select trainer and manage his information easily.

- To provide physical activity that will enable each person to monitor desired goals.
- To provide payment method, Payment History & generate report.
- To allow user to Keep Track of his physical statics.

1.4 Significance of the System

In This Project, we don't need to go to Gym House to Admit Manually. This project can help to reduce Time and record complete details of Gym subscriber. This is a whole process that will be started for member's physical statistics. This Project Requires, which will store data about members, trainer, and equipment's, payrolls information and modify any record. Gym management software is designed to simplify the running of a fitness club. From online gym scheduling and automated billing to administrative tasks, the software pulls all data into one place so that you can run your business more efficiently.

2 Overall Description

2.1 **Product Perspective**

This product is a stand-alone project. It will incorporate some of the existing functionality of other similar products and make them better and more user friendly. As an external view on the product, the product perspective defines how the product contributes to fulfilling stakeholder needs and adjacent systems assumptions. They define the product's functional behavior, qualities, and constraints in response to the assumptions of stakeholder needs or adjacent systems.

2.2 Product Scope

Gym management software is one of the most effective ways for modern gyms to achieve success and optimize their business potential and it has great future scope as well. This technology has progressed well beyond checking members into the gym and processing dues. As smartphones are used almost by everyone, so the scope of this website is very vast. This application is cheap as no extra hardware and sensors are needed. It will benefit all the peoples of the fitness industry.

2.3 **Product Functionality**

The product functions can be described as follows:

- The product will allow admin to manage (add, edit, delete) information.
- The product will let user to view and select the suitable trainer.
- The product will allow user to select the appropriate package.
- The product will allow user to view and reserve the available equipment's.
- The product will allow user to track his daily progress record.
- The product will provide the payment method to member.
- The product will provide feedback option to user.
- The product will allow trainer to mark the member attendance.
- Trainer will share the schedule with member by this product.

2.4 Users and Characteristics

The system has three users. One is member, the second is trainer and the third is admin. Member will sign up and use this website to select trainer, package and reserve equipment's. Member will buy subscription and pay by this website. Trainer will sign up and provide his training specialties to this website. Trainer will share schedule and mark the member attendance using this website. Admin will manage both member and trainer info by this website.

2.5 Operating Environment

This proposed software will be used in windows platform in the version of Windows 7 or above. MYSQL will be used for the database to hold the members, Trainer, admin and other details.

• Operating system: Windows platform (NT).

Processer: Pentium 4Processer: 2.5 GHz

RAM: 512 MBHard disk: 40GB

3 Specific Requirements

3.1 Functional Requirements

Three types of users will be using this website which are Admin, Trainer and member. Each user has its own functional requirements.

Admin Module:

- Admin Can login into the system
- Admin can delete/edit information of member and trainer
- Admin can keep the track of members and trainer's attendance
- Admin can make and update packages

Member Module:

- Member can create account
- Member can login into the system
- View and edit Account information
- Can View package and payment
- Search for trainers by name
- Can view and reserve equipment's
- Member can keep track of his daily progress
- Can select trainer
- View schedule
- Rate trainers
- View members ratings
- Can make payment online

Trainer Module:

- Create an account
- Log in into the system
- View and edit Account information
- Select or reject user member
- Can share schedule
- Can take members attendance
- Edit the services
- Can share diet charts for each user

3.1.1 Use Case Diagram

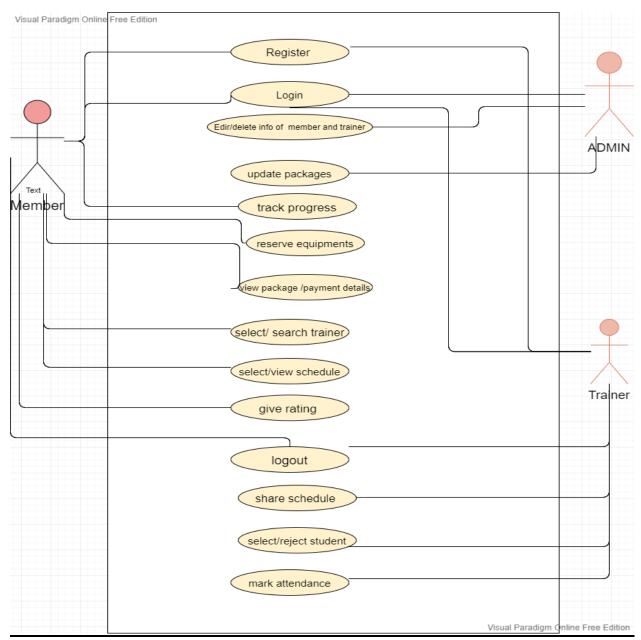


Figure 1. Use Case Diagram

Use case diagram showed the three main actors are Member, Trainer and Admin. Admin can directly login and update the packages. Member can view package/payment details, select and search trainer, view and select schedule, reserve equipment's and record his daily progress respectively. Trainer can mark attendance, share schedule with member, and select/reject students.

3.1.2 Use Case Description

• Registration



Use Case Title	Registration
Use Case Id	01
Description	The use case begins when the actor indicates the intent to register to the system. It ends when the actor is successfully registered or cancel registration.
Primary actor	Customer
Secondary actor	Trainer
Pre-Condition	Actor must have an internet connection. Actor must have necessary details required for registration.
Post-Condition	The actor registered successfully.
Exception	Exception will occur when actor provide invalid details or do not have active internet.

Table 1. Registration

• Login



Use Case Title	Login
Use Case Id	02
Description	The use case begins when the actor indicates the intent to login to the system. It ends when the actor is login or cancel login.
Primary actor	Customer
Secondary actor	Trainer
Pre-Condition	Actor must have an internet connection. Actor must register first. Actor must provide valid details (email, password) for login.
Post-Condition	The actor login successfully.
Exception	The actor tries to login without being registered.
	The actor provides invalid email or password.
	Do not have internet connection.

Table 2. Login

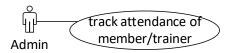
• Edit/Delete Info



Use Case Title	Edit/Delete information of members and trainers
Use Case Id	03
Description	The use case begins when actor wants to edit or delete the information of member and trainer.
Primary actor	Admin
Secondary actor	None
Pre-Condition	Particular information of member/trainer must exist whom actor wants to delete.
Post-Condition	Actors edit/delete the information successfully.
Exception	None

Table 3. Edit/Delete Info

• Track member/trainer Attendance



Use Case Title	Track attendance of members and trainers
Use Case Id	04
Description	The use case begins when actor wants to track the attendance of member and trainer.
Primary actor	Admin
Secondary actor	None
Pre-Condition	Particular member/trainer must exist whose attendance actor wants to track.
Post-Condition	Actor track attendance successfully.
Exception	None

Table 4. Track attendance

• Update Packages



Use Case Title	Update Packages
Use Case Id	05
Description	Admin wants to update the package of member.
Primary actor	Admin
Secondary actor	None
Pre-Condition	Member must buy the package.
	Admin check the package id/name and member id to update the package of
	that member.
Post-Condition	Actor update the package successfully.
Exception	None

Table 5. Update Packages

• Track Progress



Use Case Title	Track Daily Progress
Use Case Id	06
Description	Actor can track his daily progress.
Primary actor	Member
Secondary actor	None
Pre-Condition	Member must be login. Member must exercise to record the daily progress. Members count the no. of repetition and total sets of particular exercise. Member put all the information in tracker page.
Post-Condition	Members track his progress successfully
Exception	Member misses the exercise and do not be able to record the progress on appropriate day.

Table 6. Track Progress

• View Package/Payment Details:



Use Case Title	View Packages and payment details
Use Case Id	07
Description	Actor can view his package and payment details.
Primary actor	Member
Secondary actor	None
Pre-Condition	Member must be login. Member must have package subscription so he can view. Member use payment method of website and pay the dues. Websites generate detail report of payment which includes total payment, member id, date and method.
Post-Condition	Members view his package and payment details successfully.
Exception	Member do not have any package.

Table 7. Package/Payment Details

Select/search Trainer



Use Case Title	Select/Search Trainer by name
Use Case Id	08
Description	Firstly, Actor wants to select suitable trainer. Then actor wants to search trainer by writing trainer name.
Primary actor	Member
Secondary actor	None
Pre-Condition	Member must be login. Member will read all the trainer specialties and select specific trainer. Member wants to search the trainer by name.
Post-Condition	Member successfully selected a trainer.
Exception	Trainer rejects the member.

Table 8. Select/search trainer

• Select/View Schedule



Use Case Title	Coloret M72 arry Colored and a
Ose Case Title	Select/View Schedule
Use Case Id	09
Description	The use case begins when actor wants to select/view the schedule.
Primary actor	Member
Secondary actor	None
Pre-Condition	Member must be login.
	Member wants to select the schedule.
	Member wants to view the selected schedule.
Post-Condition	Member successfully selected/viewed the schedule.
Exception	Member do not select any schedule yet, hence no schedule to view.

Table 9. Select/view schedule

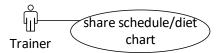
• Select/Reject Member



Use Case Title	Select/Reject Member
Use Case Id	10
Description	The use case begins when the secondary actor (member) send request to trainer for selecting him. Then trainer indicates the intent to approve or reject the member request.
Primary actor	Trainer
Secondary actor	Member
Pre-Condition	Trainer must be login. Members send request to trainer for hiring him. Trainer gets the member request and respond. If trainer had no seats left for new member, he will reject him.
Post-Condition	Trainer successfully selected/rejected the schedule.
Exception	None

Table 10. Select/reject member

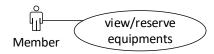
• Share Schedule/Diet chart



Use Case Title	Share Schedule /diet chart
Use Case Id	11
Description	Trainers will share schedule and diet chart with member.
Primary actor	Trainer
Secondary actor	None
Pre-Condition	Trainer must be login.
	Trainer will access the member goals.
	Trainer will make schedule and diet chart to help member achieve his
	goals.
Post-Condition	Trainer successfully shared diet chart with member.
Exception	None

Table 11. Share diet/schedule

• View Reserve Equipment's



Use Case Title	View/Reserve Equipment
Use Case Id	12
Description	Member will view/reserve the equipment's in the fitness club.
Primary actor	Member
Secondary actor	None
Pre-Condition	Member must be login. Member will view equipment's. Member will decide how many equipment's and what type of equipment he need.
Post-Condition	Member successfully reserve the equipment
Exception	None

Table 12.view/reserve equipment's

3.1.3 Data Flow Diagram

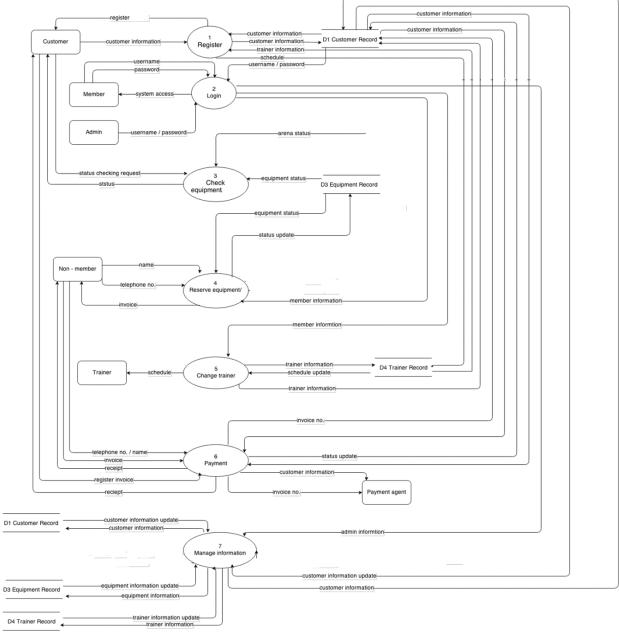


Figure 2. Data Flow Diagram

A data-flow diagram is a way of representing a flow of data through a process or a system. There are seven main processes (register, login, trainer, payment, check equipment, reserve equipment) taken for data flow. Each process has respective database to store and retrieve data from it. A data-flow diagram has no control flow. There are no decision rules and no loops.

3.1.4 Database Design

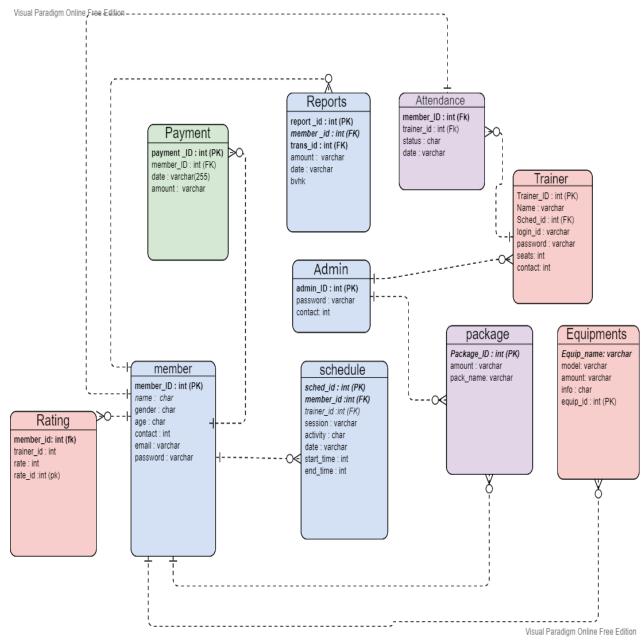


Figure 3.Database Design

Database design is the organization of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. With this information, they can begin to fit the data to the database model. Database management system manages the data accordingly.

3.2 External Interface Requirements

3.2.1 User Interfaces

The user of the product will get vey user friendly web page which will be very easy to work with.

Homepage

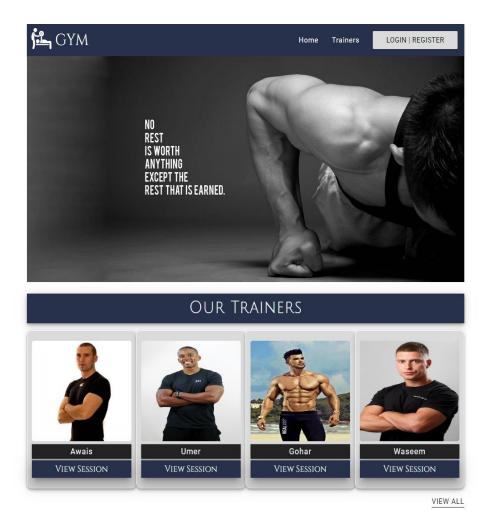


Figure 4 Homepage of website

Above interface is the homepage of Fitness Club Handling System. It has login and register options available in addition to all trainers' info. Member and trainer can sign up and login using this page. While Admin can directly login without being registered. Moreover, member can view trainer details without login. And member can also view session of trainers.

• Signup And Login Page

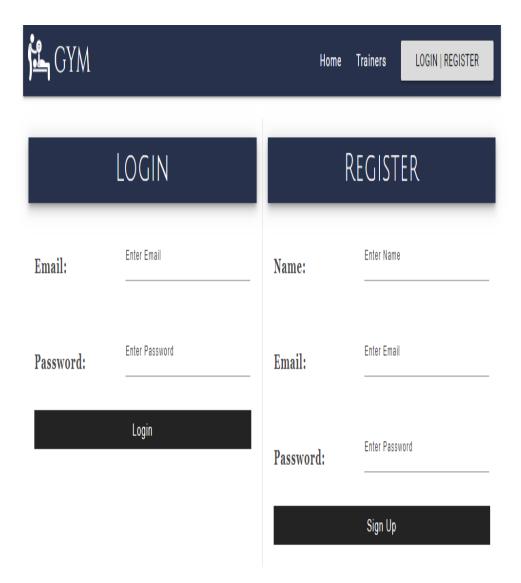


Figure 5 Signup/Login page

After clicking on login/register option on home screen, the user will be able to see this interface. Admin will directly login using email and password while member and trainer will signup first and then login to the website.

Reservation

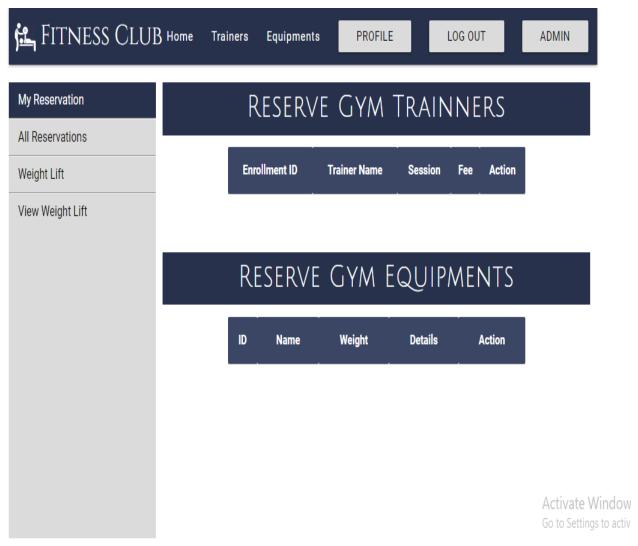


Figure 6. Member Reservation details

This is member reservation interface. All the trainers and equipment's which members is currently using will be shown here. Trainer will have information like name, session and fee. Member will perform action regarding payment. Member will also check all the equipment's he has reserved.

• Add Exercise Record

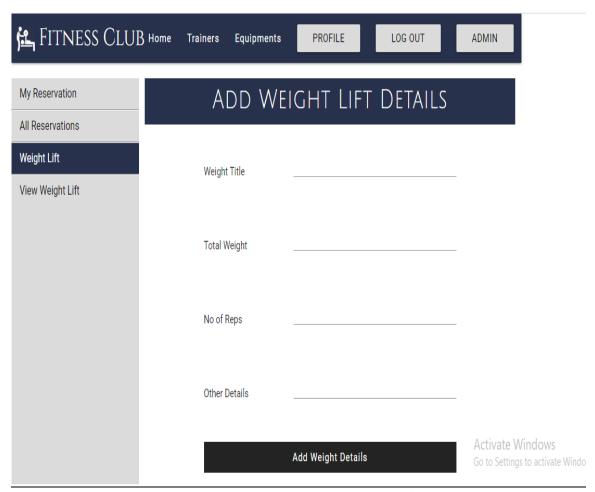


Figure 7. Add exercise record

Above is weight lifting interface of website. Member will put his exercise details, total weight he lift and no. of repetition he performs on that day. This will help member to track his progress.

• Track Progress

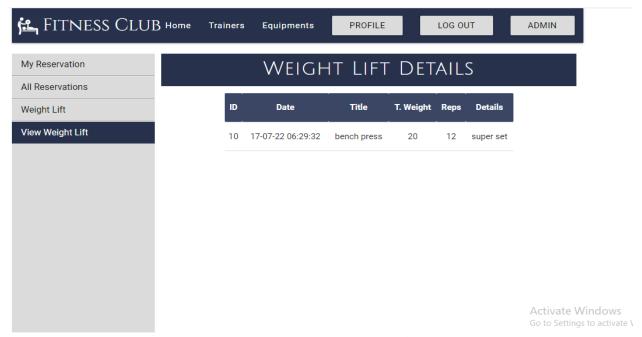


Figure 8 progress tracking

This interface shows the progress tracking of member. Member will be able view his record of exercises and weights lifting which can help member to track his progress.

• Add new Trainer

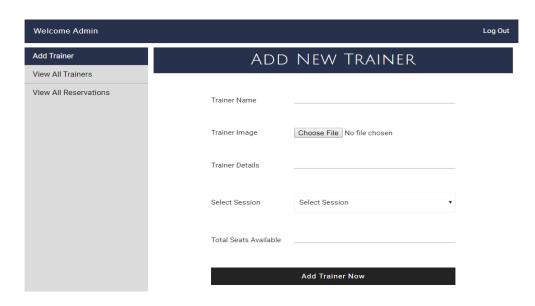


Figure 9 Add new trainer

4 Non-Functional Requirements

4.1 Performance Requirements

The app must be responsive and fast to load because the User will be disappointed if the low app load starts, and the User does not interact inefficiently.

4.2 Safety and Security Requirements

- Sensitive data isn't distributed among third party mediators.
- No sensitive data in backups.
- Memory is cleared, and sensitive data is not stored for long.
- Sensitive information is not stored outside the app's storage system.
- Passwords are not exposed through the interface.

4.3 Software Quality Attributes

4.3.1 Reliability:

It is expected that there shall not be any bug, and the system shall be tested on end cases to offer the User a quality and reliable package. The system should work consistently. If any exceptions occur during the execution of the software, it should be caught and thereby prevent the system from crashing.

4.3.2 Portability:

Portability requirements address the user concern for how easy it is to transport the system. This system can be easily viewed in any browser.

4.3.3 Flexibility:

The system keeps on updating the data according to the transactions that takes place.

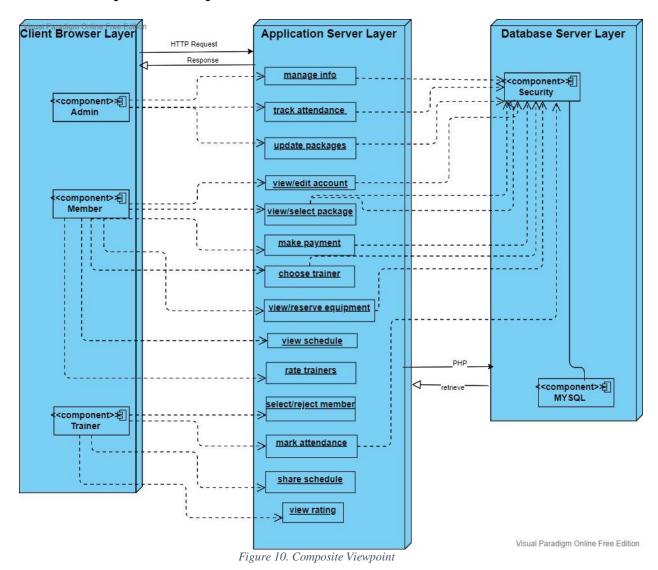
4.3.4 Security:

In this system, all the data can only be accessible to those authorized to see it. Only the authorized people have the capability to make changes on the data under controlled conditions.

The system provides username and password to prevent the system from unauthorized access. The system shall authenticate server-side users. Passwords should be stored in encrypted form.

5 Design Description

5.1 Composite Viewpoint



One of the major tasks in system design deals with hardware/software mapping which deals with which components would be part in which hardware and so on. The web-based part is run on a networked environment on different Operating System platforms. The client/server architecture of the system enables different clients to connect to the server remotely through Internet connection. Server side there is web server that is always connected with the internet for listening HTTP requests and accepts connection request and uses Apache HTTP server manipulates data from the database using PHP programs and answers user's request. There is a Database server that has MYSQL program which enable to communicate with the web server using PHP.

5.2 Logical Viewpoint

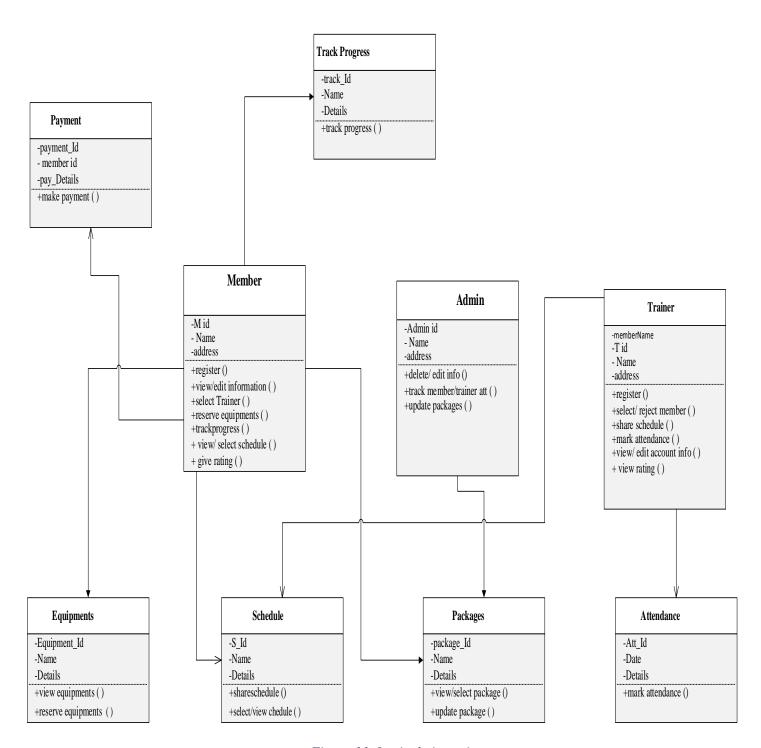


Figure 11. Logical viewpoint

5.3 Information Viewpoint

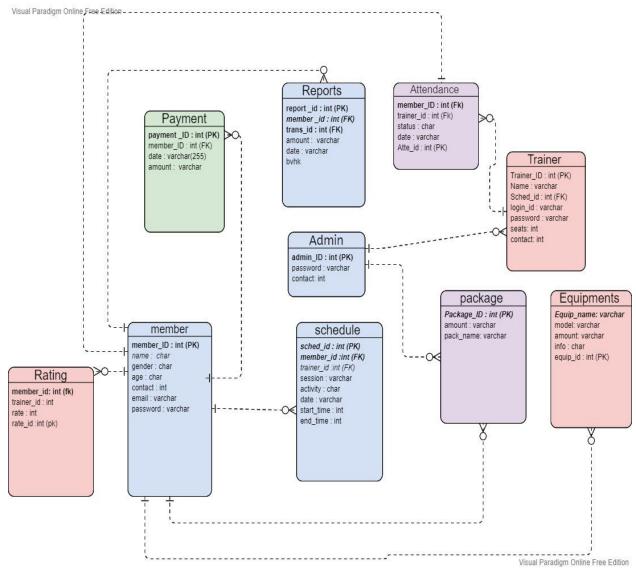


Figure 12 Information Viewpoint

5.4 Interaction Viewpoint

Register

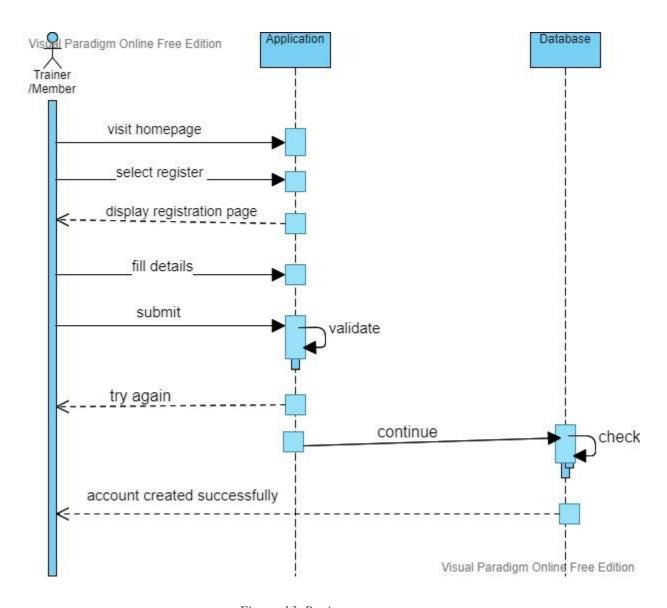


Figure 13. Register

• Login

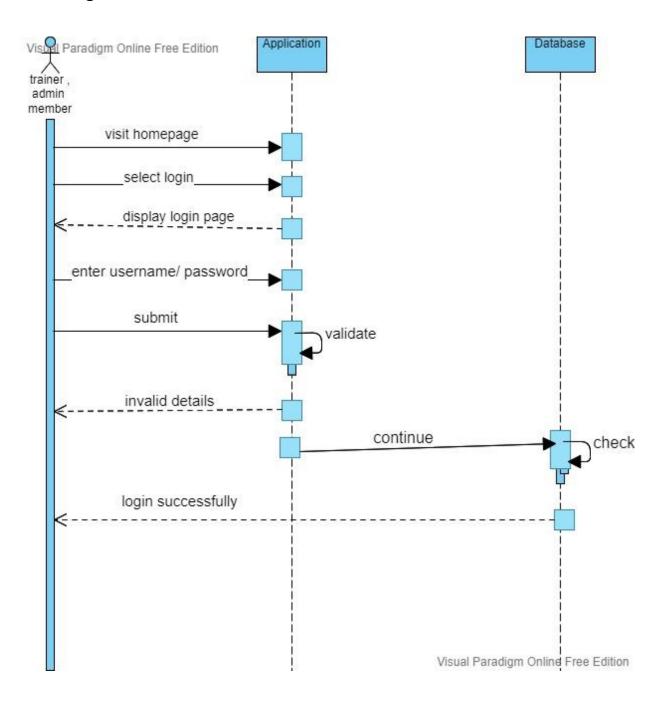


Figure 14. Login

• Edit/Delete information of Trainer and member:

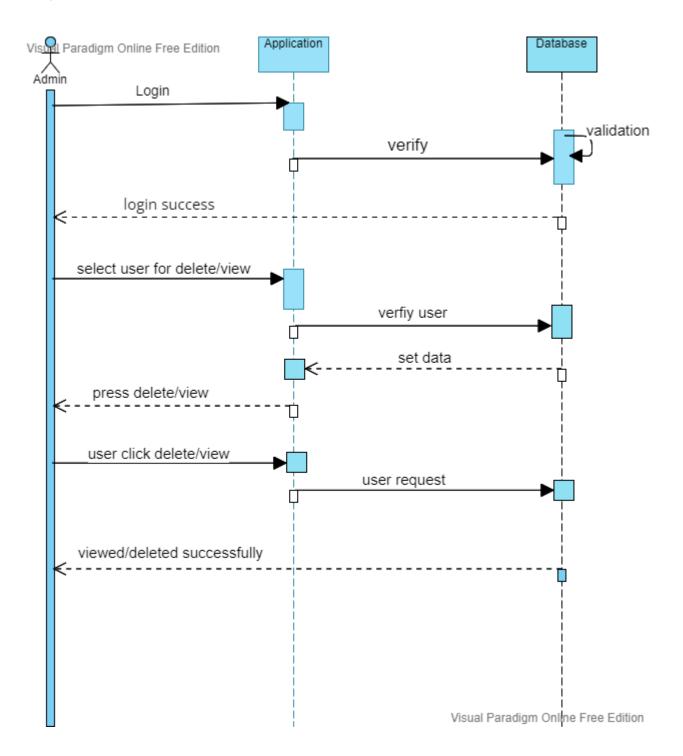


Figure 15. Edit/delete info

• Track Attendance:

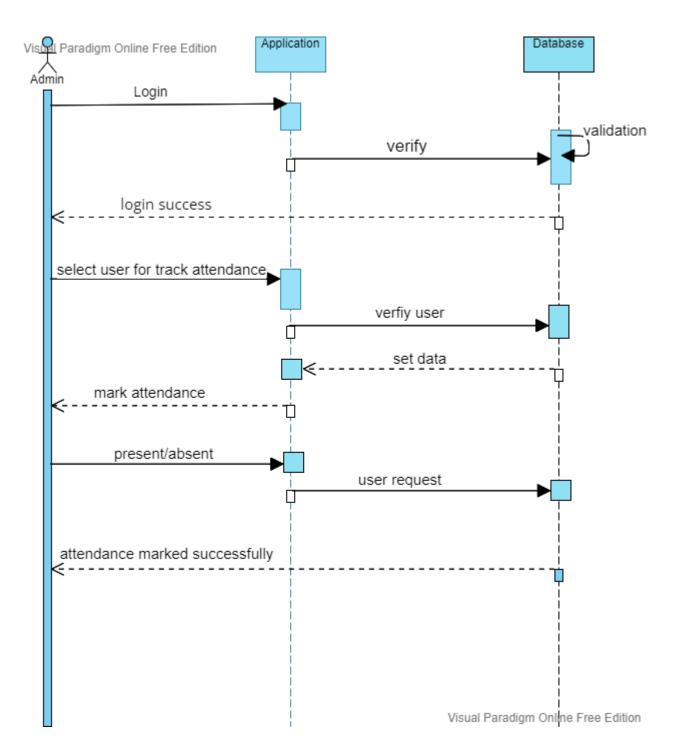


Figure 16. Track attendance

• Update Packages:

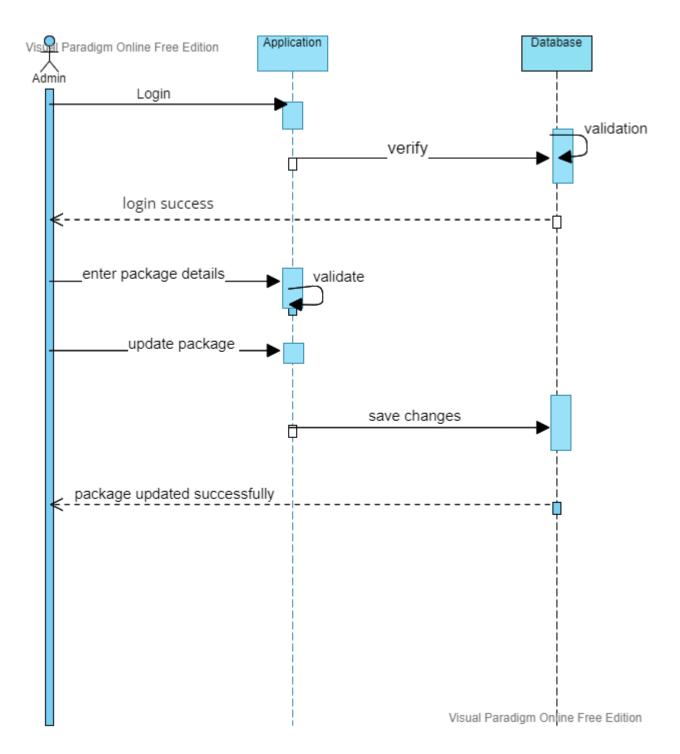


Figure 17. Update packages

Track Daily Progress

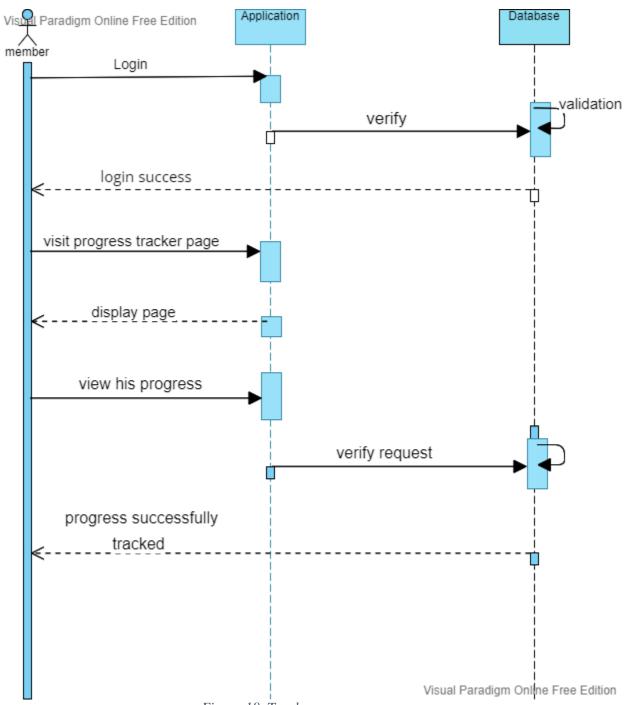


Figure 18. Track progress

• View Packages and payment details

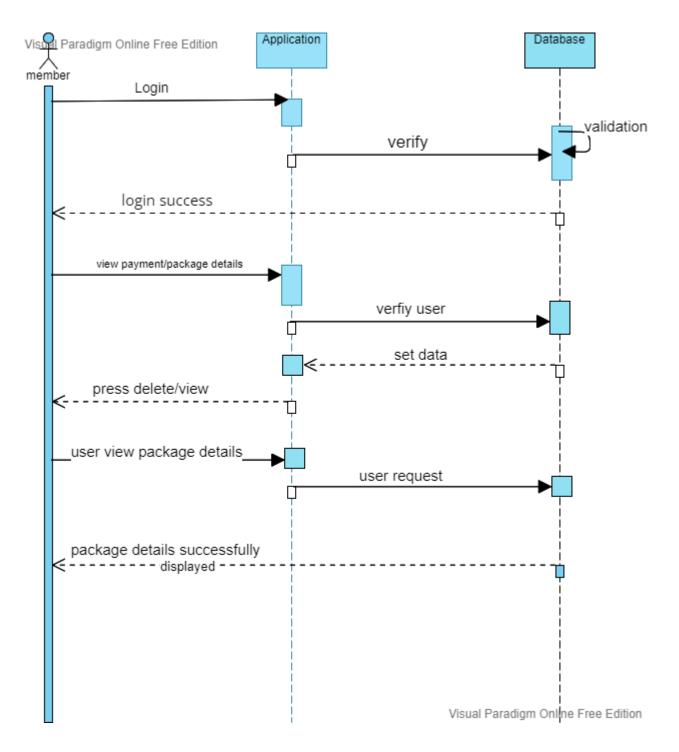


Figure 19 View package details

• Search/Select the Trainer

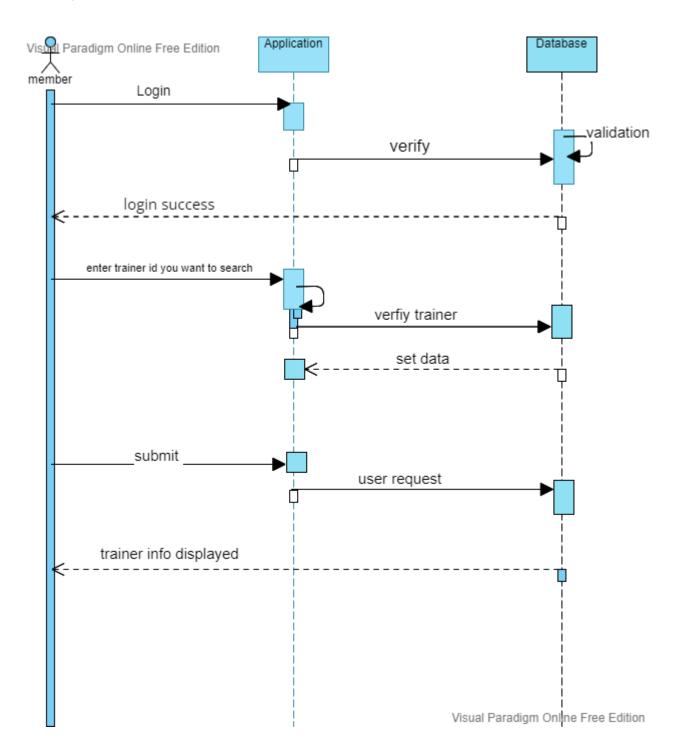


Figure 20 Search trainer

• Reserve Equipment

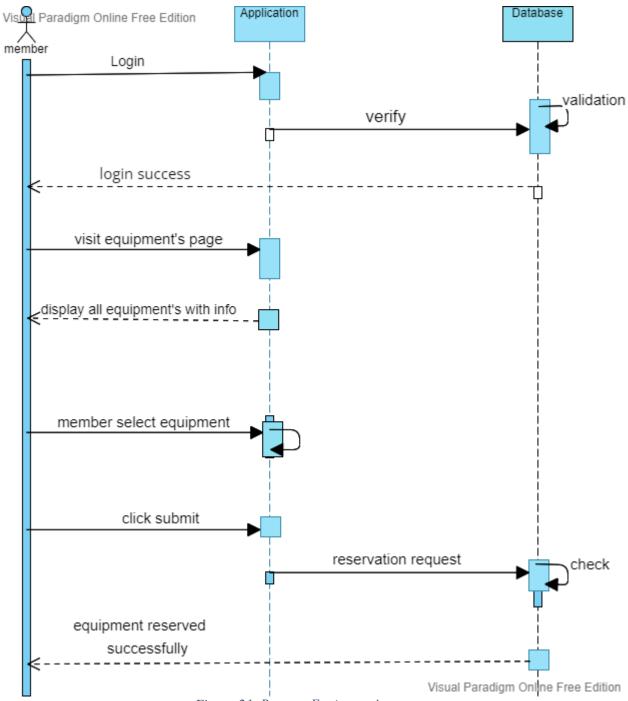


Figure 21. Reserve Equipment's