A Project Report On

GYM MANAGEMENT SYSTEM AND E-COMMERCE

Submitted in partial fulfillment of the requirement for the award of the degree

MASTER OF COMPUTER APPLICATIONS
from
Gujarat Technological University

Academic Year 2020 – 21

AKSHAY D. SONEJEE (195223693003)

Internal Guide
(Prof. Nootan Padia)

Marwadi Education Foundation's Group of Institutions (MEFGI)

Rajkot-Morbi Road, At & PO : Gauridad, Rajkot 360 003. Gujarat. India.

Faculty of Computer Applications (FCA)

Certificate

This is to certify that the project work entitled

GYM MANAGEMENT SYSTEM AND

E-COMMERCE

submitted in partial fulfillment of the requirement for

the award of the degree of

Master of Computer Applications

of the

Gujarat Technological University

is a result of the bonafide work carried out by

AKSHAY D. SONEJEE(195223693003)

during the academic year 2020-2021

_____   _____   _____
Faculty Guide   **H.O.D**   **Dean**

External Viva

_____   _____
Name of the Examiners   **Signature with Date**

CERTIFICATE

Way To Web®
Pvt Ltd.
ISO 9001:2008 Certified Company

P : 079 - 4004 1819
E : info@waytowebgroup.com
W : www.waytowebgroup.com

Date: 9th April 2021

PROJECT COMPLETION CERTIFICATE

- To Whom it may concern.

This letter is to certify that **Mr. Akshay D. Soneje** has Successfully completed his project program of **4th Months** with Way To Web Pvt Ltd. Project tenure was from **January -2021 to April-2021.**

He diligently involved in the projects and tasks assigned to him. The fact and figures presented by you in the completion of this **Python+Django** is truly commendable.

During the span, we found his punctual and hardworking person. His learning powers are good and he picks up swiftly. His feedback and evaluation proved that he learned keenly. Moreover, his interpersonal and communication skills are brilliant.

We wish him a bright future.

Yours sincerely,

Mr. Smit Bhavsar

HR,WayToWeb Pvt Ltd.

405, 3rd EYE Building-2, Near Joyalukkas, Opp: Parimal Garden, Panchavati Cross Road, Ambawadi, Ahmedabad 380006.

DECLARATION

I hereby declare that this project work entitled **GYM MANAGEMENT SYSTEM AND E-COMMERCE** is a record done by me.

I also declare that the matter embodied in this project is genuine work done by me and has not been submitted whether to this University or to any other University / Institute for the fulfillment of any course of study.

Place:

Date:

AKSHAY D. SONEJEE (195223693003)   **Signature:** _____

ACKNOWLEDGEMENT

It is indeed a great pleasure to express my thanks and gratitude to all those who helped me. No serious and lasting achievement one can ever achieve without the help of friendly guidance and co-operation of so many people involved in the work.

I am very thankful to my faculty guide **Prof. Nootan Padia,** the person who makes me follow the right steps during project work. I express my deep sense of gratitude to her guidance, suggestions and expertise at every stage. Apart from that her valuable and expertise suggestion during documentation of my report indeed helped me a lot.

Thanks to my friends who have been a source of inspiration and motivation that helped me during my project work. I am heartily thankful to our external guide **Mr. Rahul Panchal** for providing me an opportunity to work over this report and for their endless and great support. I am also thankful to my Head **Dr. Sunil Bajeja** and Dean **Dr. R. Sridaran** for their support as and when required. I would like to extend my gratitude towards all who directly or indirectly supported and helped me to accomplish my project work.

AKSHAY D. SONEJEE (195223693003)   **Signature :** _____

COMPANY PROFILE

- WayToWeb Pvt Ltd (an ISO 9001 citified company) is a professionally managed team of developers and designers who love to take your business sky-high with the most innovative approach and ideas

- WayToWeb Pvt Ltd manage to bring Quality Education in the field of IT Education. It has played a significant role in promoting computer training in Ahmedabad, Gujarat, India. Here developer provides the training to the student and providing relevant computer knowledge according the student project. WayToWeb Pvt Ltd provides the Best Computer Education in Ahmedabad, Gujarat, India.

- We offer a full range of IT services encompassing web hosting, website development, mobile app development, MLM software consulting and development, e-commerce, as well logo and brochure designing.

- WayToWeb is a brain child of Mr Mahipatsinh Rajput and Mr. Naresh Kakkad who partnered to initiate the ambitious venture. Started as a small partnership firm way back in 2012, it grew exponentially within a decade.

- The glorious journey that started with web development, MLM, and digital marketing services, moved on with new additions every year. The firm got its new structure as a company named Way to Web and now has grown into a full-fledged IT team of more than 30.

- With its expansion, the company is all set to provide a comprehensive range of services to the global market. Having already worked on more than 200 projects and served top-notch clients from countries like Australia, Singapore, and Canada, we are expanding our horizons to the other untraded markets as well.

CONTENTS

FIGURE INDEX

TABLE INDEX

1. <u>SYNOPSIS</u>

The project is about the gym management system and also the e-commerce website. In this project the user can take admission in the gym and also if they want they can buy the gym equipments or protein powder. In this if the user is interested in taking the admission in the gym they can register for it and also the login is there for them which could be used for both the gym and buying the products. If the user is buying the product they can see their cart and can do payment through the Paytm and the bill would be sent through their mail. Also if the user forgets the password they can enter their new password and the otp would be sent to their mail and after entering the otp they can change their password or can say enter their new password.

For the gym the various gym exercises are there by which they can choose that what they actually want to take the admission for. The admin can sign in, manage the products, manage the cart etc. can be handled by the admin.

2. __PREAMBLE__

2.1 __General Introduction:__

The project is about the gym management system and also the e-commerce website. In this project the user can take admission in the gym and also if they want they can buy the gym equipments or protein powder. In this if the user is interested in taking the admission in the gym they can register for it and also the login is there for them which could be used for both the gym and buying the products. If the user is buying the product they can see their cart and can do payment through the Paytm and the bill would be sent through their mail. Also if the user forgets the password they can enter their new password and the otp would be sent to their mail and after entering the otp they can change their password or can say enter their new password.

For the gym the various gym exercises are there by which they can choose that what they actually want to take the admission for. The admin can sign in, manage the products, manage the cart etc. can be handled by the admin.

2.2 __Statement of Problem:__

- In this website the user would come to about the gym and can buy the things from it.
- So the user can online register and no need to go there and physically fill up the form for taking the admission in the gym. With this if the user want to buy the products they can buy online.
- Many a times it might happen that the user might not know that what type of protein powder would be essential to use, so they can check the description of the powder and would come to know which is best one and can buy it.
- This would make easy for the users to purchase and register to take the admission in the gym.

2.3 <u>Objective of the Study:</u>

The objective for the GYM MANAGEMENT SYSTEM AND THE E-COMMERCE is that a person wants to join the gym so by direct registering a particular person can join the gym as per selected exercises for the fitness.

Then further if any of them wants to buy the gym products then they can buy from the site. Also would know details of the particular product. So the only objective is that the person should be satisfied by the actual information that is provided by us.

2.4 <u>Scope of the Study:</u>

The scope of the project is that how the person should actually take optimum help of the website and buy the products and register for the admission in the gym. So that they would not go particularly and visit the gym. By sitting at home people would get the information and for the future scope would improve with new facilities.

2.5 <u>Methodology:</u>

Design methodology refers to the development of a system or method for a unique situation. Today, the term is most often applied to technological fields in reference to web design, software or information systems design.

Design Methodology in Technology:

While design methodology is employed in many industries, it is commonly applied in technology fields, including those using the internet, software and information systems development. Several design methodology approaches have developed in the technology industry. Each was a reaction to a different type of problem. Some common technology design methodologies include:

Top Down Design or Stepwise Refinement: This starts from the end solution and works backwards, refining each step along the way.

Bottom Up Design: This methodology starts with a foundation and works up towards a solution.

Structured Design: This is an industry standard. The technique starts by identifying inputs and desired outputs to create a graphical representation.

Structured Analysis and Design Technique: This approach utilizes a diagram to describe the hierarchy of a system's functions. Data Structured Systems Development: Data structure determines the system structure in this methodology.

Object Oriented Design: This methodology is based on a system of interacting objects. To continue researching, browse degree options below for course curriculum, prerequisites and financial aid information.

Components of Design Methodology: The key to design methodology is finding the best solution for each design situation, whether it be in industrial design, architecture or technology. Design methodology stresses the use of brainstorming to encourage innovative ideas and collaborative thinking to work through each proposed idea and arrive at the best solution. Meeting the needs and wants of the end user is the most critical concern. Design methodology also employs basic research methods, such as analysis and testing.

2.6 <u>Feasibility Study:</u>

Feasibility study of the system is a very important stage during the cycle of the system design and developed. It is feasibility study that decides whether the system is to be developed or not. A feasibility study is a short, focused study, which aims to answer a number of questions.

3. Review of Literature

3.1 Front-End:

- **HTML 5** : HTML5 is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and last major HTML version that is a World Wide Web Consortium (W3C) recommendation. The current specification is known as the HTML Living Standard. It is maintained by a consortium of the major browser vendors (Apple, Google, Mozilla, and Microsoft). HTML5 includes detailed processing models to encourage more interoperable implementations; it extends, improves, and rationalizes the markup available for documents and introduces markup and application programming interfaces (APIs) for complex web applications.

- **CSS** : Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as 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, colors, 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 which reduces complexity and repetition in the structural content as well as enabling the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

- **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 behavior, and all major web browsers have a dedicated JavaScript engine to execute it.

- **BOOTSTRAP** : Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

3.2 Back-End:

- **Python** : Python is an interpreted, high-level and general-purpose programming language. Python's design philosophy emphasizes code readability with its notable use of significant indentation. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects. Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly, procedural), object-oriented and functional programming. Also the python versio used in this project is version 3.9.1.

- **Django 3.1.6** : Django (sometimes stylized as django) is a Python-based free and open-source web framework that follows the model-template-views (MTV) architectural pattern. Django's primary goal is to ease the creation of complex, database-driven websites. The framework emphasizes reusability and "pluggability" of components, less code, low coupling, rapid development, and the principle of don't repeat yourself. Python is used throughout, even for settings, files, and data models. Django also provides an optional administrative create, read, update and delete interface that is generated dynamically through introspection and configured via admin models. Also the django used for this project is version 3.1.6.

- **DBSQL Lite3** : SQLite is an in-process library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine. It is a database, which is zero-configured, which means like other databases you do not need to configure it in your system. SQLite engine is not a standalone process like other databases, you can link it statically or dynamically as per your requirement with your application. SQLite accesses its storage files directly.

4. <u>TECHNICAL DESCRIPTION</u>

4.1 <u>Hardware Requirements:</u>

- 512MB RAM
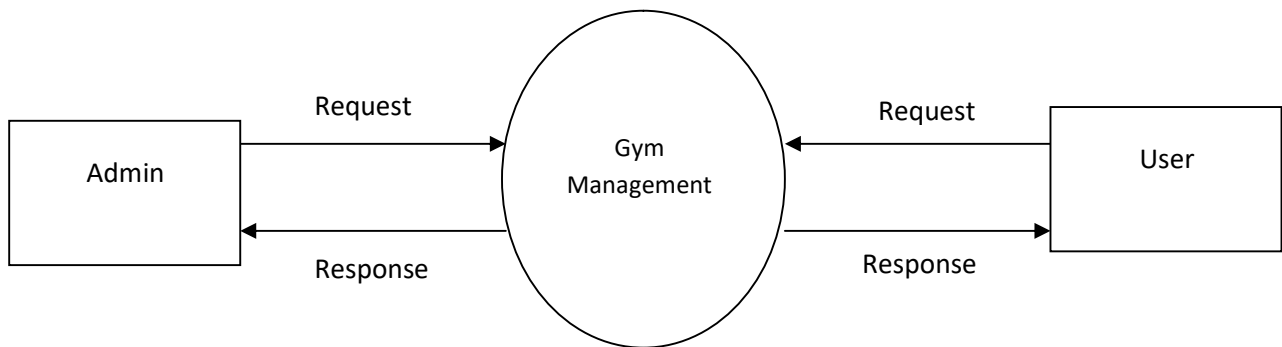- Intel i3 or Higher Processor
- HDD 90GB or Higher

4.2 <u>Software Requirements:</u>

- Microsoft Windows 7,8,10, Linux, Mac, etc.
- Internet Explorer, Firefox, Google Chrome
- Python 3.9.1
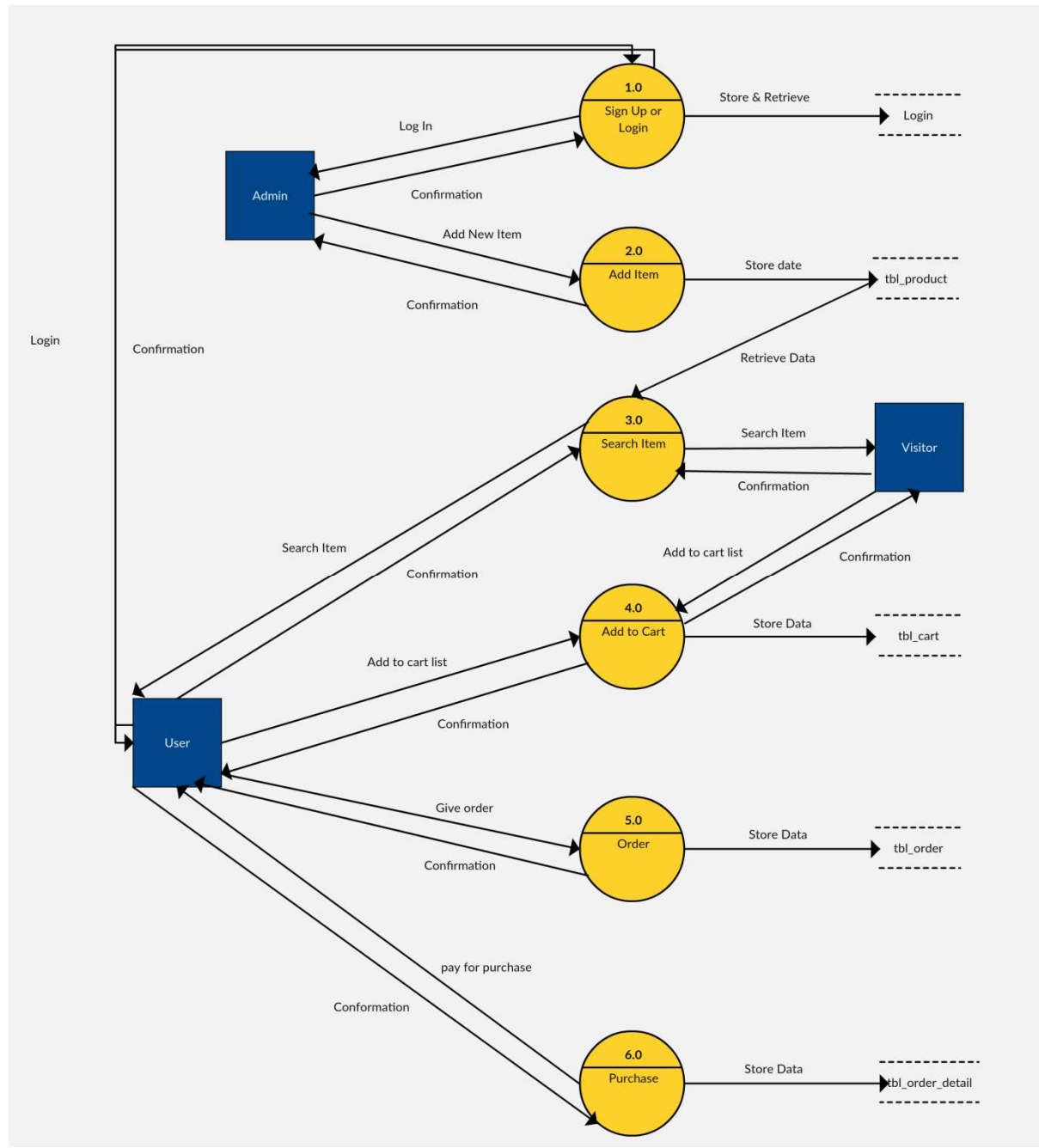- Django Framework
- SQLite

5. System Design &Development
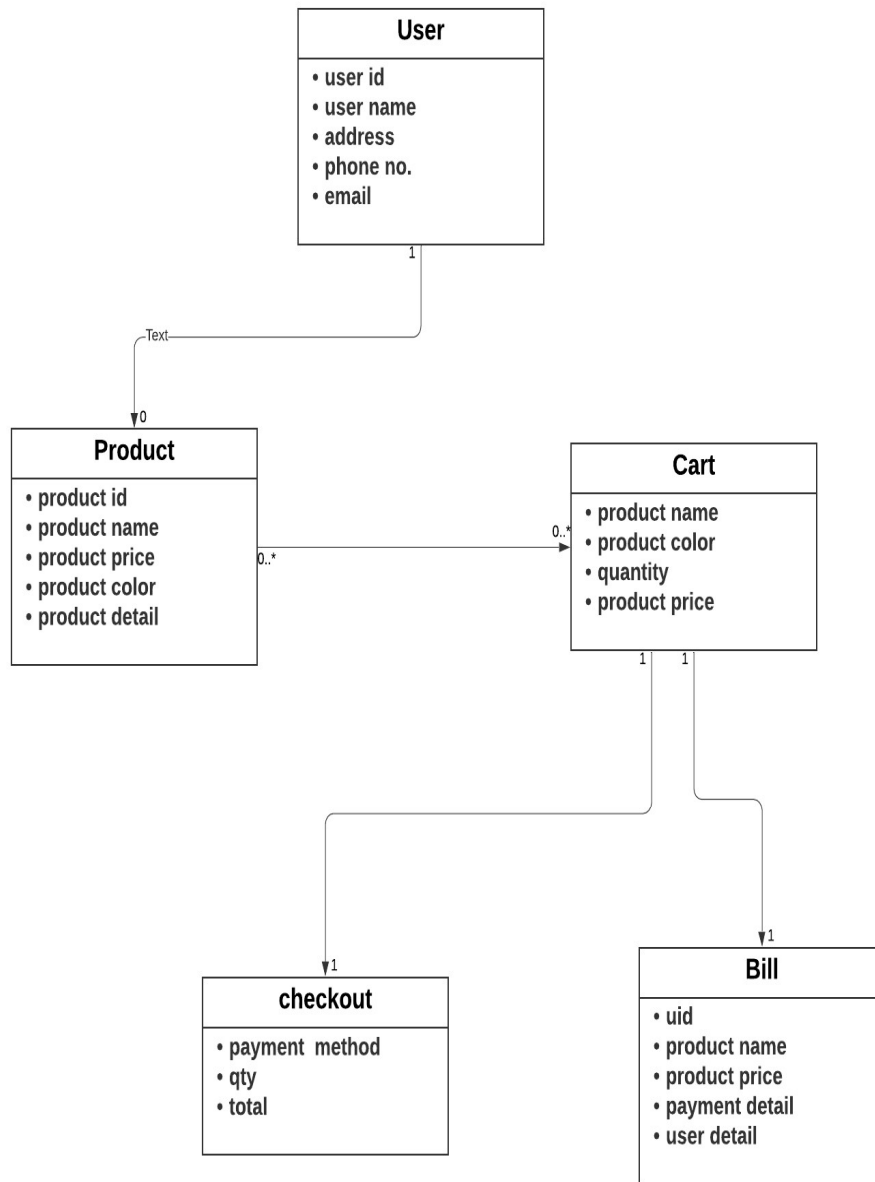
5.1 Data Flow Diagram:
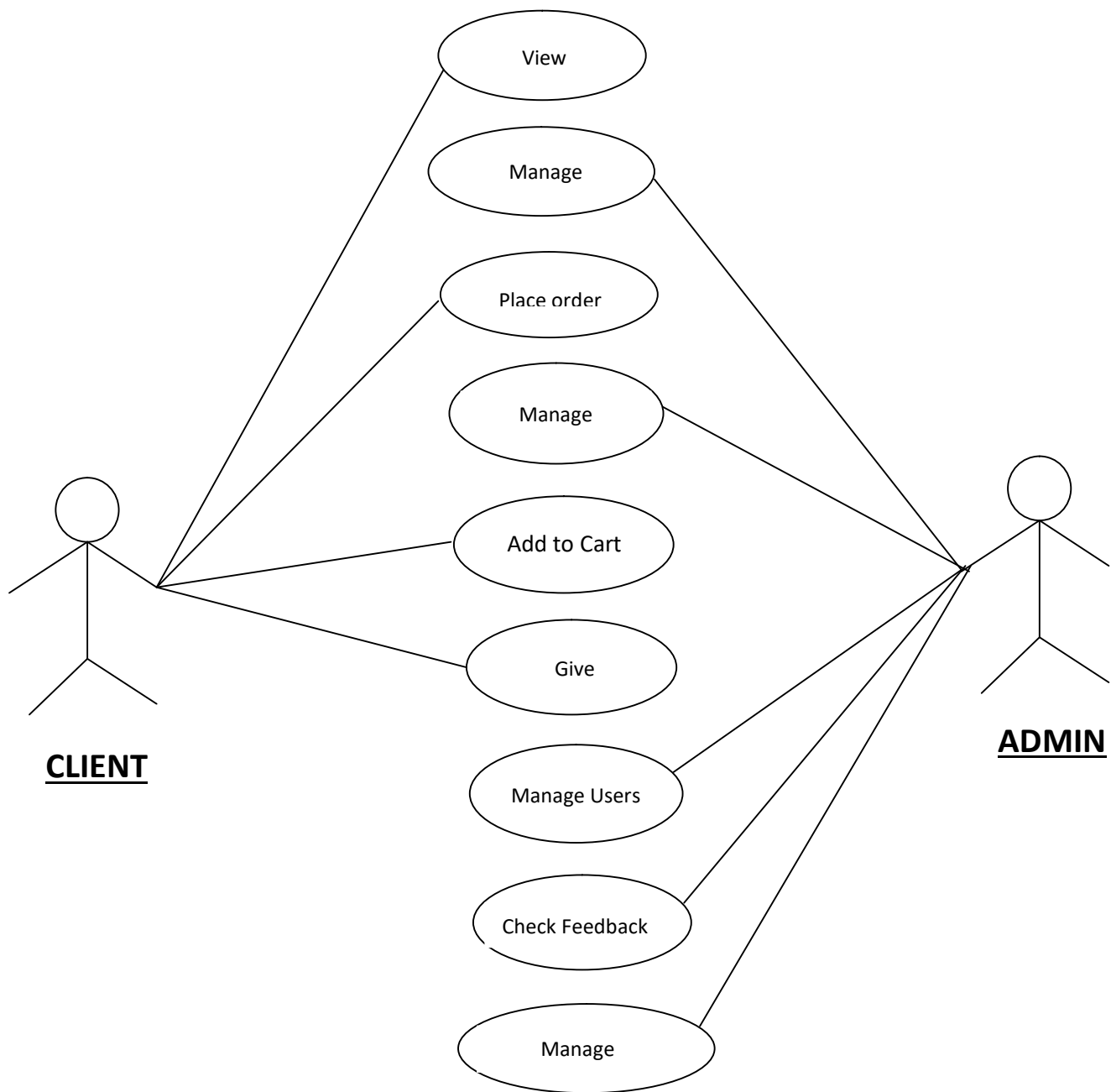
5.1.1 Context Level DFD:

5.1.2 First Level DFD:
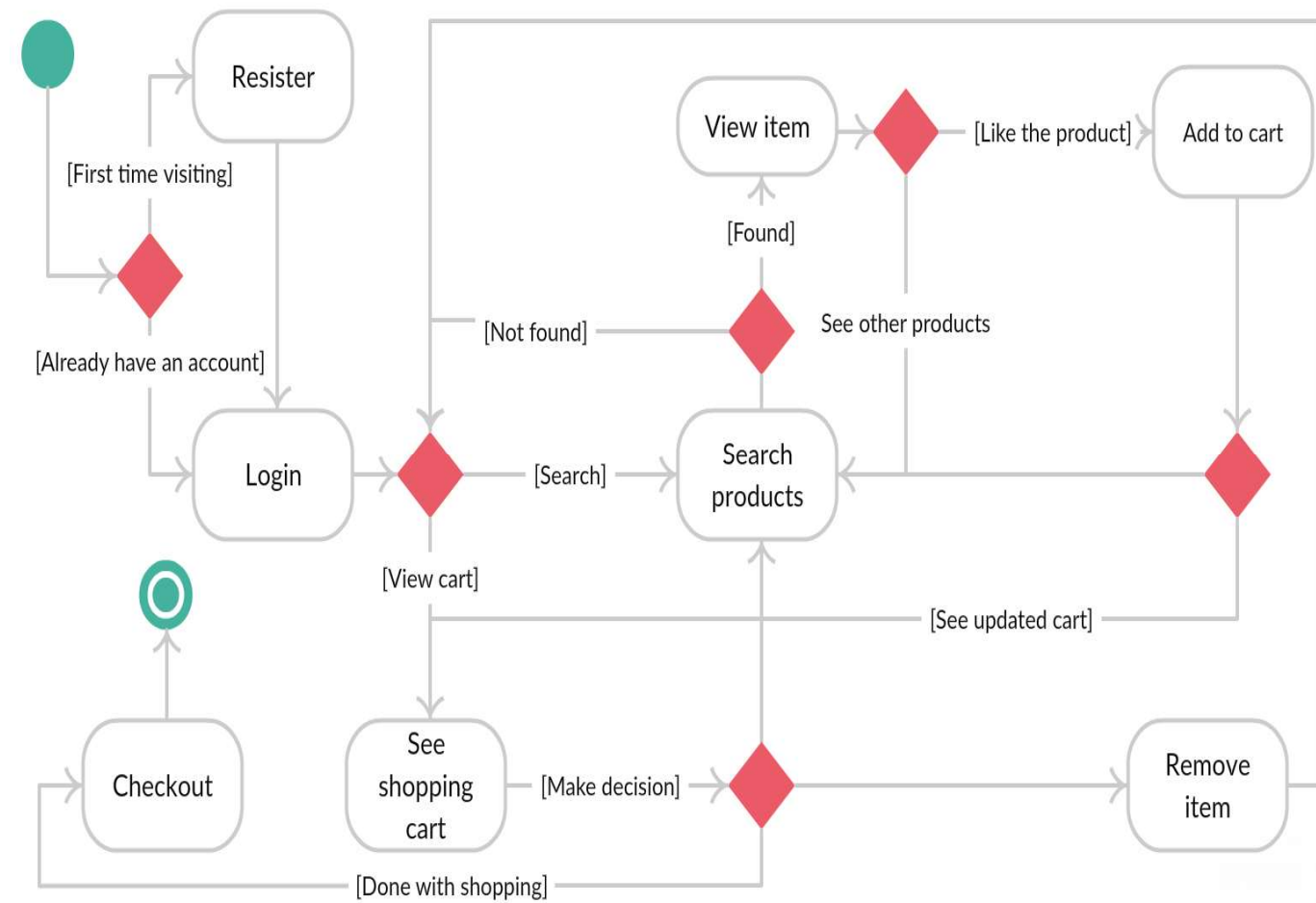
5.2 <u>Structural Modeling:</u>

5.2.1 <u>Class Diagram:</u>

User

- user id
- user name
- address
- phone no.
- email

1

Text

0

Product

- product id
- product name
- product price
- product color
- product detail

0..*

0..*

Cart

- product name
- product color
- quantity
- product price

1   1

1

checkout

- payment method
- qty
- total

1

Bill

- uid
- product name
- product price
- payment detail
- user detail

5.3 Behavioral Modeling:

5.3.1 USECASE DIAGRAM :

View

Manage

Place order

Manage

Add to Cart

Give

Manage Users

Check Feedback

Manage

CLIENT

ADMIN

5.3.2 Activity Diagram :

5.3.3 Sequence Diagram:
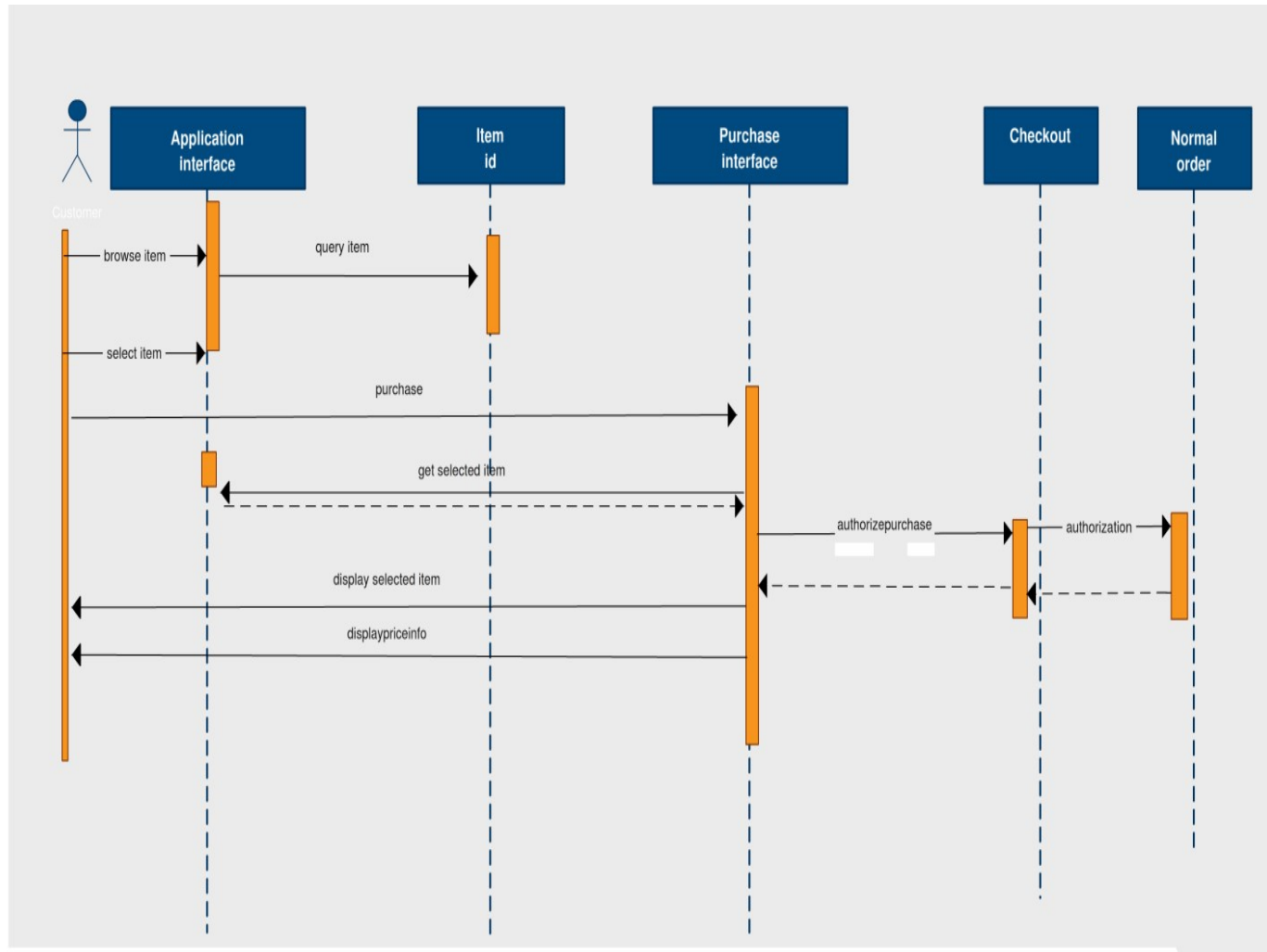
5.4 DATABASE DESIGN

5.4.1 Table Structure:

5.4.1.1 Register:

REGISTER TABLE				
In this table the user can register the information as per asked. Also for taking the admission in the gym the information is necessary.				
Field Name	Data Type	Size	Constraint	Description
ID	Int	10	PRIMARY KEY	The id for every registered user
First Name	Varchar	30	NOT NULL	The first name of the user
Last Name	Varchar	30	NOT NULL	The last name of the user
Mobile	Int	15	NOT NULL	The mobile number of the user
Age	Int	10	NOT NULL	Age of the user
Email	Varchar	30	NOT NULL	The email id of the user
Password	Varchar	30	NOT NULL	The password of the user

5.4.1.2   Product:

PRODUCT TABLE				
In this table the product details are there in which there are the categories and what type of products are to be bought.				
Field Name	Data Type	Size	Constraint	Description
Id	Int	10	PRIMARY KEY	The id of every product
Title	Varchar	50	NOT NULL	Title of the product
Category	Varchar	30	Foreign Key	Category of the product
Image	Varchar	30	NOT NULL	Image of the product
Price	Int	10	NOT NULL	Price of the product
Description	Varchar	100	NOT NULL	Description of the product

5.4.1.3   Category :

CATEGORY TABLE				
In this table the categories of the products are to be seen. As there are two types of the products equipments for the gym and protein powder.				
Field Name	Type	Size	Constraint	Description
ID	Int	10	PRIMARY KEY	The id of every product
Title	Varchar	50	NOT NULL	Title of the product

5.4.1.4   Contact Us :

CONTACT US				
In this contact table contact details of the reviewer is to be taken and also can take the review related to the gym.				
Field Name	Data Type	Size	Constraint	Description
Id	Int	10	PRIMARY KEY	The id of the reviewer's contact
Name	Varchar	50	Not null	Name of the reviewer
Email	Varchar	30	NOT NULL	Email of the reviewer
Mobile	Int	15	NOT NULL	Mobile number of the reviewer
Message	Varchar	100	NOT NULL	Message by the Reviewer

5.4.1.5 Order:

ORDER TABLE				
In this database table the ordered product details can be stored.				
Field Name	Type	Size	Constraint	Description
Id	Int	10	PRIMARY KEY	Id of every order
Quantity	Int	10	Not null	Quantity of the order
Price	Int	10	Not null	Price of the order
Address	Varchar	100	Not null	Address of the user
Phone	Int	15	Not null	Contact number of the user
Date	Date	-	Not null	Date on which order was placed
Status	Int	2	Not null	Status of the order
Customer id	Int	10	Not null	Unique customer id of the user
Product id	Int	10	Not null	Id of the ordered product

5.4.2 <u>Entity Relationship Diagram:</u>
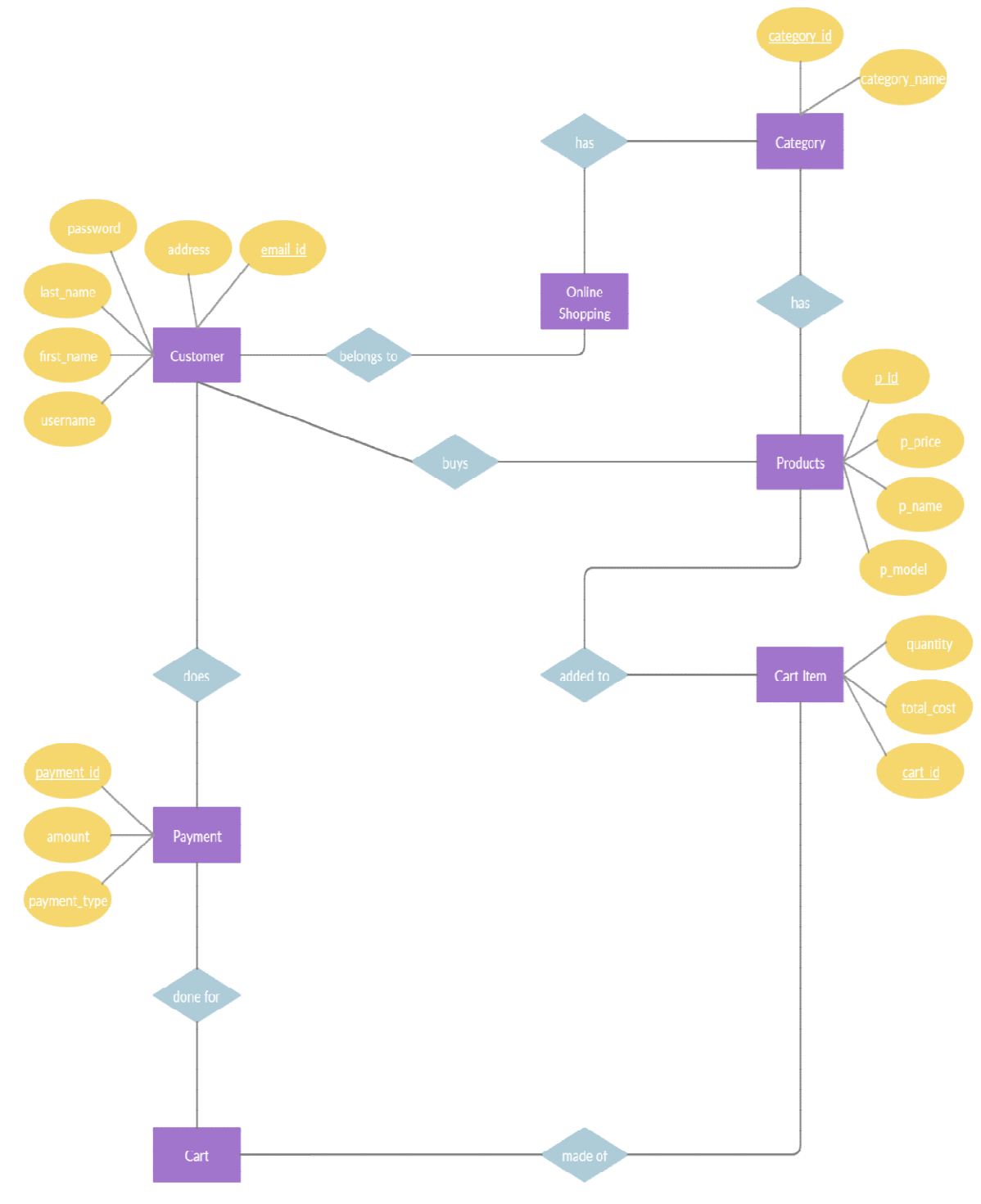
5.5 <u>Menu Design:</u>

5.5.1 <u>Admin Side:</u>

1) **<u>Login:</u>** Admin has to login to the admin side using this module in order access the backend of the project.
2) **<u>Insert Products :</u>** Admin can insert new products in the project using this module.
3) **<u>Update/ Manage products:</u>** Admin can make changes in the existing products using this module.
4) **<u>Update/ Manage Users:</u>** Admin can also manage the users can update the data of the users.

5.5.2 <u>User Side:</u>

1) **<u>Home page:</u>** Any registered/unregistered user will land on this page.
2) **<u>Register/Login page:</u>** Unregistered users can Register and registered users can login using this module.
3) **<u>Store:</u>** Users can explore all the products, place orders, browse products by their category, etc using this module
4) **<u>Cart :</u>** Here, registered users can view the products which they added to cart, and check out or remove the products from their cart using this module
5) **<u>Order:</u>** Registered users will be redirected to this page in order to complete their purchase.
6) **<u>About Us:</u>** Provides the information about the developers of the project.
7) **<u>Contact Us:</u>** Providing the information of the gym like contact number and address.
8) **<u>Payment</u>**: Users can pay for the ordered products.

5.5 Screen Design:

5.5.1 Home Page:

HOME PAGE: It is the home page of the website.

5.5.1   Pricing & Exercise Info Page:
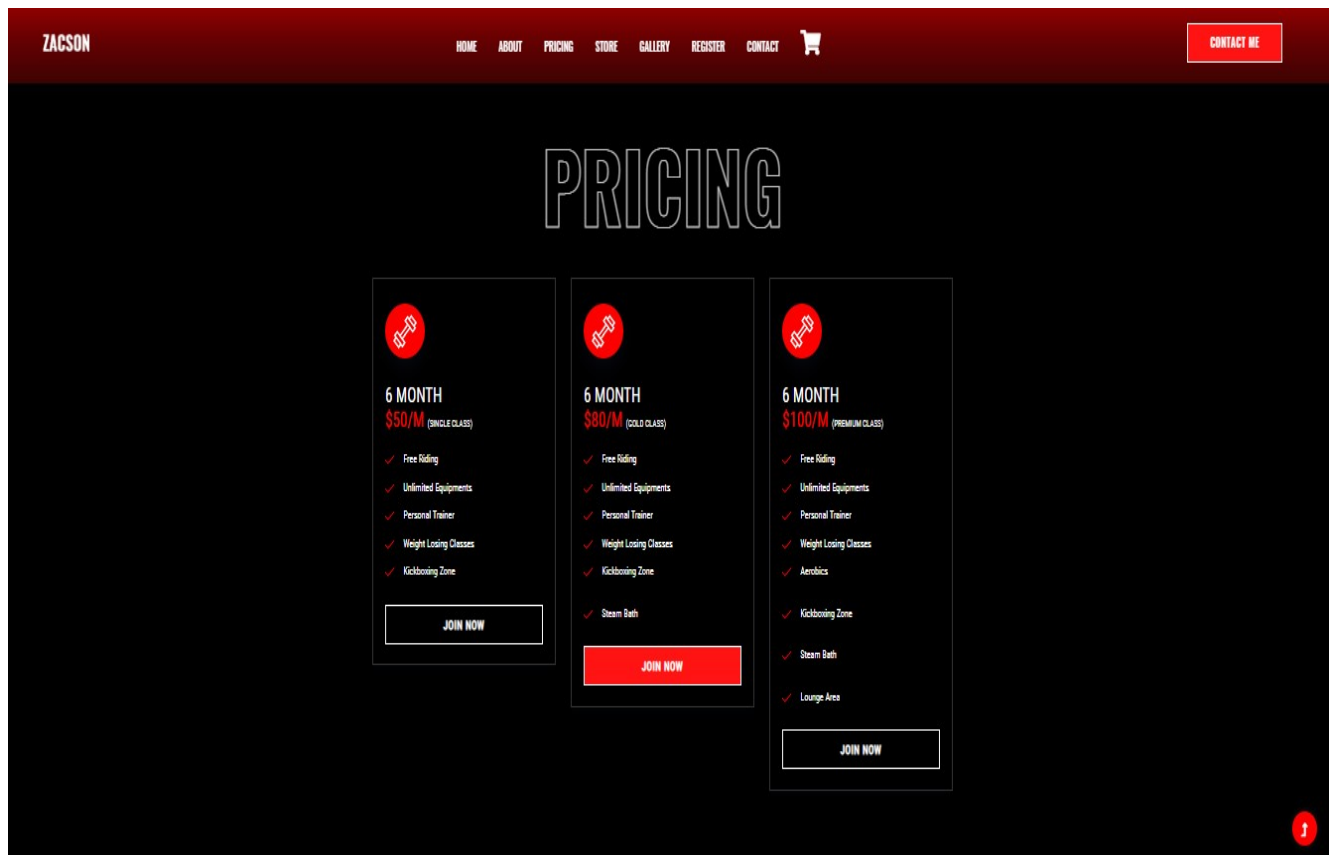
PRICING & EXERCISE INFO PAGE: In this page which exercise is to be taught in the gym and the pricing of the packages are to be shown.

5.5.2   Store Page:
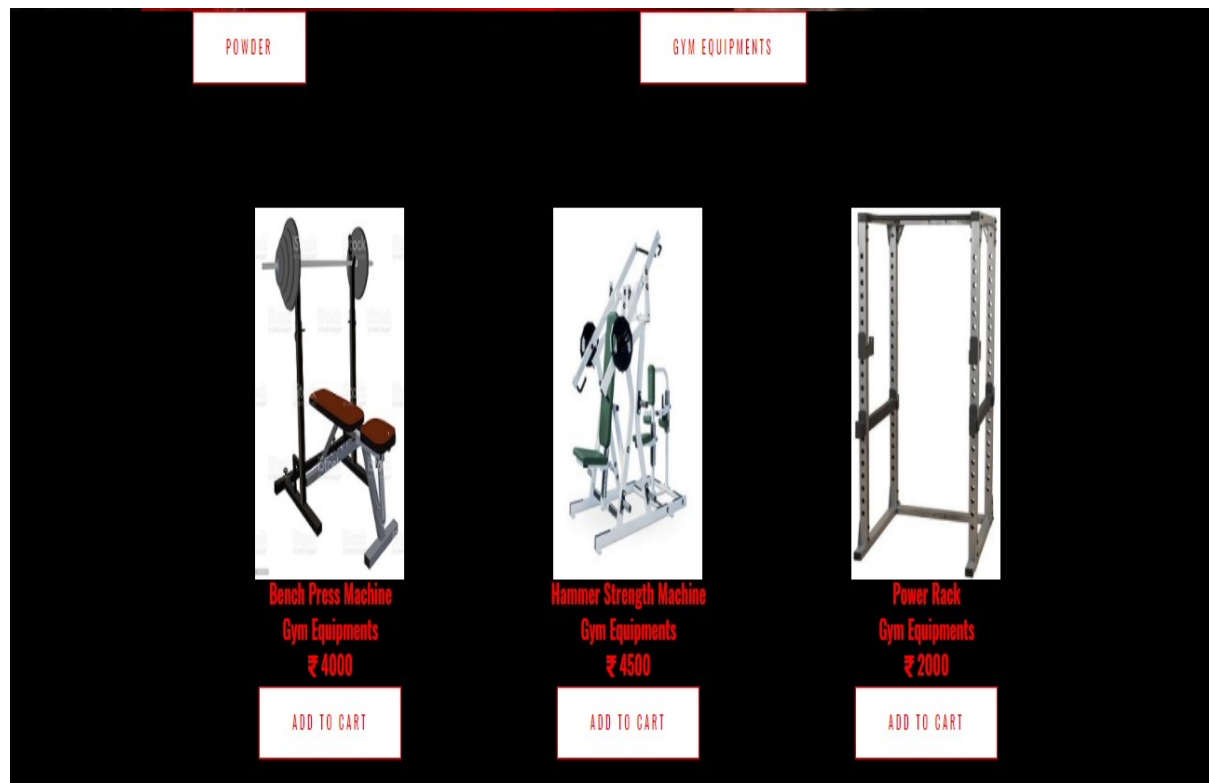
Store Page: It is a store page where the users can buy the equipments or protein powder.

5.5.3   Single Product's Description Page:

Single Product's Description Page: As seen in the store page that various products are available, so to know more about the product you need to click on the name of the product(title) and can see the description of that particular product and also from this page you can add to the cart.

5.5.4 Register Page:

Register Page: In this page the new user can register themselves and after that can take admission and also can buy products.

5.5.5   Login Page:

Login

| Email | Enter Password |

| LOGIN | FORGOT PASSWORD | REGISTER |

Login Page: In this page the registered user can login and if they forget the password they can retrieve their password by clicking on forgot password. After clicking on it the otp will be sent to their mail and after inserting the otp the new password to be entered and will be changed.

5.5.6   Contact Us Page:

Get in Touch

Enter Message

Enter your name

Email

Enter Mobile Number

SUBMIT

Contact Us Page: If any queries for anything related to products or inquiry regarding gym then user can contact us by filling this form.

5.5.7 Cart of User:

Order_By:akshay

Sr.No	Image	Product_Name	Quantity	Subtotal	Action
1		Hammer Strength Machine	1	4500	Delete
2		Health Box Chocolate Protein Powder	1	1000	Delete
3		Meijer Chocolate Whey Protein Powder	1	1500	Delete
Total				7000	

RESET CART   GO TO STORE

Pay Bill

Cart Of User: In this user's cart the products can be shown, its price can shown also the total of the products can be shown. If a user wants to remove product from the cart then user can click on the 'Delete' button and if user wishes to clear the whole cart then user can click on the "Reset Cart" button. After that if user wishes to buy a product then the user can click on the "Pay Bill" button and can pay through the paytm.

5.5.8   Payment Method:

SONEJEE AKSHAY DINESHBHAI

‹ GO BACK

SONEJEE AKSHAY DINESHBHAI Order

Transaction ID: Order1618145081

Amount to be paid

₹7,000

PAY INSTANTLY USING QR CODE

Scan QR code using your Paytm app
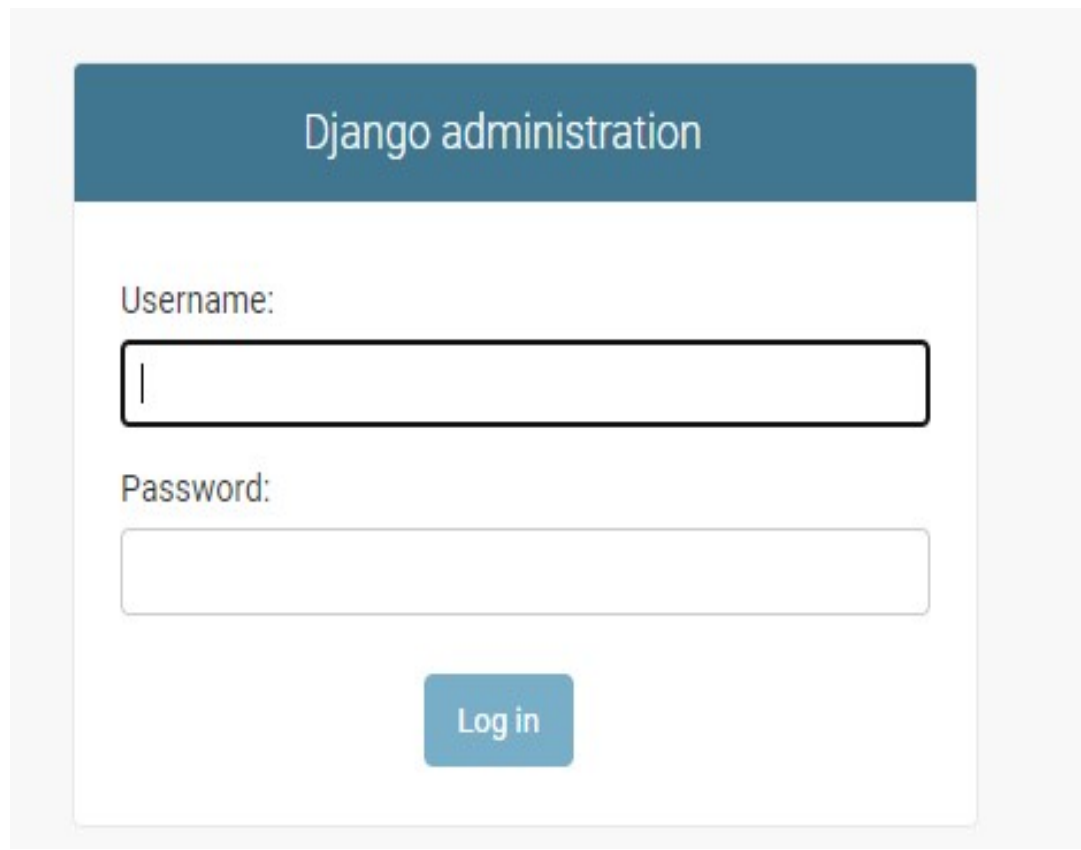
Paytm

Click to enlarge

SELECT AN OPTION TO PAY

⊙ **Paytm**

Pay easily using your saved payment methods

Mobile number registered with Paytm

+91 7777777777   Proceed

Payment Method: As discussed in the previous screenshot that a user wishes to buy product then can click on the "Pay Bill" button and can make payment using paytm and also can see that the cart's total amount was Rs. 7000 here also the same amount is there.

5.5.9   **Login Page of Admin:**

Login Page of Admin: It is the login page of the Admin.

5.5.10   Admin Home Page:

Admin Home Page: It is the home page of the admin and can see the table are been created and from here the admin can handle backend side.

6. <u>SYSTEM TESTING</u>

6.1 <u>Testing and Implementation:</u>

Test Implementation Is the process of developing and prioritizing test procedures, creating test data and, optionally, preparing test harnesses and writing automated test scripts. This is when tests are organized and prioritized and when test designs are implemented as test cases, test procedures and test data.

It is of great importance to pick the right tests and run them in the right order. The importance of this even grows exponentially in risk-based strategies when we prioritize based on the likelihood of risk and problems.

At this stage, the Test Manager should ensure:

- delivery of test environment
- delivery of test data
- constraints, risks and priorities are checked
- test team is ready for execution
- entry criteria is checked (explicit/implicit)

6.2 <u>Testing Methodology:</u>

- Software testing methodologies are the various strategies or approaches used to test an application to ensure it behaves and looks as expected. These encompass everything from front to back-end testing, including unit and system testing. This article is designed to highlight the myriad of testing techniques used by quality assurance professionals.
- The goal of utilizing numerous testing methodologies in your development process is to make sure your software can successfully operate in multiple environments and across different platforms. These can typically be broken down between functional and non-functional testing. Functional testing involves testing the application against the business requirements. It incorporates all test types designed to guarantee each part of a piece of software behaves as expected by using uses cases provided by the

design team or business analyst. These testing methods are usually conducted in order and include:

- Unit testing
- Integration testing
- System testing
- Acceptance testing

- Non-functional testing methods incorporate all test types focused on the operational aspects of a piece of software. These include:

  - Performance testing
  - Security testing
  - Usability testing
  - Compatibility testing

- The key to releasing high quality software that can be easily adopted by your end users is to build a robust testing framework that implements both functional and non-functional software testing methodologies.

6.2.1 Unit Testing:

- Unit Test is done by the developers themselves. So in this project the unit testing is been done according the design was to be done of the project. The changes were done per the requirements in the projects to be done and were tested after the code was implemented in the project. So that it would work errorless. If the error was caught so on the spot the error was handled and the project was being working normal. So in this project the unit testing a great role.

6.3 <u>Validation Checking:</u>

- Validation is the process of checking whether the software product is up to the mark or in other words product has high level requirements. It is the process of checking the validation of product i.e. it checks what we are developing is the right product. it is validation of actual and expected product. Validation is the dynamic testing.

6.4 <u>System Implementation:</u>

- Systems implementation is a set of procedures performed to complete the design (as necessary) contained in the approved systems design document and to test, install, and begin to use the new or revised Information System.
- The systems implementation goals are as follows:

  - Complete as necessary the design contained in the approved systems design document. For example, the detailed contents of new or revised documents, computer screens, and database must be laid out and created.
  - Write, test, and document the programs and procedures required by the approved systems design document.
  - Ensure, by completing the preparation of user manuals and other documentation and by training personnel, that the organization's personnel can operate the new system.
  - Determine, by thoroughly testing the system with users, that the system satisfies the users' requirements.
  - Ensure a correct conversion by planning, controlling, and conducting an orderly installation of the new system.

7. <u>CONCLUSION</u>

At last I would like to conclude that the project has been fulfilling all the requirements that were necessary for building up an unique project. As per the website is been developed for the users who are interested in the world of the GYM, so for the ease to them the website is been developed.

7.1 <u>Limitations:</u>

- ➢ A user needs the internet connection so that for doing payments and for the processes.
- ➢ A particular user panel is not there.
- ➢ A payment for the gym is not available only for the products its available.

7.2 <u>Future Enhancement:</u>

- ➢ For the future enhancement firstly I would work for the particular user panel.
- ➢ Payment availability for the gym admission.
- ➢ Creating schedule for individual person who have joined the join.

8. <u>LEARNING DURING THE PROJECT WORK</u>

- I have learned a lot during my training period. While learning I have learned much of the practical experience. I have also learned that how to interact and behave in the office with the colleagues.

- Throughout my career I would be interacting with lot many people on the professional front. These people will be having different beliefs, philosophies, principles, outlooks, visions and approaches. All along I have been well and truly supported and encouraged by our project guides and colleagues and so they surely deserve my hearty thanks.

- I learned so many real things which actually can't express by word, which I didn't get from study class. Technically I cleared many concepts which only we read from book while studying but real implementation which occurred during this training was great to learn.

9. __BIBLIOGRAPHY__

9.1 __Online References:__

- https://docs.python.org
- https://docs.djangoproject.com/en/3.2/
- https://www.youtube.com/
- https://www.w3schools.com

9.2 __Offline References:__

- Python Programming: An Introduction to Computer Science
- Django for Beginners: Build website with Python and Django