A

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"SMARTGYM"

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Project (VI Semester)

Submitted by

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CERTIFICATE

This is to certify that **Divya Puthran**(Exam Seat No: 3037923)**,** a final year student of **Bachelor of Information Technology** (B.Sc.IT) from University of Mumbai has successfully completed the project entitled **"SMARTGYM"** as a part of academic in the subject head Project (VI Semester) which is approved for degree of Bachelor of Information Technology (B.Sc.IT) a under-graduate course of **Mumbai University** during academic year **2018-19.**

Project Guide **Examiner**

Coordinator

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S. M. Shetty College of Science, Commerce and Management Studies, Powai

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PREFACE

It gives me enormous pleasure to present this report of project documentation / black book and the application I developed as a project of my last year. The idea came to me when I realized that call log data was saved only for three to four day.

Then, I started looking for ideas and after having skipped several ideas during the Semester 5 and finished partially or almost on other topics, I thought to continue with this. And after much research, once we got the basic configuration, we discovered other utilities essentially needed to implement my application.

Once, I completed the processing of my modules, I started the research and added additional structures and functionality to make this application healthy and harmonious.

So, in conclusion, I tried to form a dedicated application and this black book is maintained for the same purpose.

Therefore, I hope you adore analysis the book and that user appreciate the use of this website and appreciate it because it will be satisfactory for our efforts.

ACKNOWLEDGEMENT

It gives me great pleasure to submit the project report on SmartGym. The report won't be probable deprived of the guidance of our teachers.

I would like to use this chance to convey my Gratitude to Management of S.M. SHETTY College for generous me this chance to accomplish this project.

I am very thankful to Dr. Sridhara Shetty, The Principal of S. M. Shetty College for his co-operation in the successful accomplishment of our project.

A special thanks to our project guide and also our Co-ordinator Dr. Tushar Sambare for his most sincere efforts, support and encouraging contribution throughout the project.

I would like to express thanks all our teachers, friends & our family for their support, motivation and encouragement.

Thanking you

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Roll no:42

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CHAPTER 1: INTRODUCTION

1.1 Background:

In this world as we completely see that people are more concern about their well-being and fitness, so this is obvious they might take some measures and enrol themselves in the fitness activity or the gym. As this project is based upon the gym, health club and fitness membership management system.

SmartGym is feature packed and helping the management to maintain the gym and their members. SmartGym has to maintain details with the record of the member, their membership plan, gym type such as gym+cardio, only gym, only cardio or personal trainer. It as well contains the personal detail of the member such as height, weight, other measurements and their health issues if any.

SmartGym also keeps the record of all the things about the customer’s fees, plans, offers and other services to customer from the admin or manager. SmartGym views the list of users and the employee in the gym.

SmartGym also permits the members to see their details and personal information just by entering their name and their registration number. Only the admin has the authority to add, update, delete the member and their details

1.2 Objectives:

- The key objective of this project stands on the way to create a software that gives the facility to secure data of the member
- Easy access the record of the customer by the admin employee
- Only the employee or the admin have the authority to make change in the system
- It takes care of the member's health information.
- Computerization the system is helpful as it means to save money and time.
- This system will provide a well graphical user interface.
- Less chance of customer's information leakage
- To rise the productivity of the system with the reduced cost
- To decrease the problem of paperwork
- The software is user friendly as it is easy to custom.

1.3 Purpose, Scope and Applicability:

1.3.1 Purpose:

- As we entirely know it takes alot of human work and resources to manually saving the data in excel so, the main purpose of the project is to make the software for the gym that is going paperless.
- Manually keeping the records are not safe as anyone can alter the details or get any information of the customer, due to this the system needs to be reliable.
- To avoid human redundancy.

1.3.2 Scope:

- Below is the scope of SmartGym system for the admin and users.
- Admin login: The admin can get the information or add the data about the customer
- User login: The user can get their detail and other information just by entering their name and their unique registration number
- Admin can get the measure from the customer's information such as
  - BMI (Body Mass Index)
  - Fat Percentage
- The user will get notification of the diet acknowledged as the" diet alert" so they remember to take their diet meal on time
- And many more notifications such as birthday greetings, offers etc.

1.3.3 Applicability:

This SmartGym is used in several areas such as business area and physical fitness area.

In business area: as we all know that gym is the growing business today and people tend to take gym membership. Going online or going digital might acquire a lot of people attentions.

Physical fitness area: many of today generation is more towards physical fitness world and in short makes the Smartgym application advance. About this project it remains actual straight forward to achieve the gym management. This project is online application project so it works as a website on the internet which can access by any user. So, this project is a user welcoming at that time any user can use or access the site easily.

Some of the main reasons SmartGym more applicable to people:

- Business alignment: it is known as the furthermost vital factor
- Simplicity: simplicity is the essential in the software as it must make your execution easier.
- Customer support: customer support is must needed so that the member feels it like a user-friendly system.
- SmartGym software makes the more of drive lead generation as it attracts more of the visitor in the software which
- As this system will be accessed by anyone.

CHAPTER 2: SURVEY OF TECHNOLOGIES

1. WAMP Server as the frontend:

- The word WAMP abbreviated as Windows, Apache, MySQL and PHP.
- WAMP server comprises MySQL and php that are both known as the most shared technologies designed for generating websites.
- By connecting these double components close by in the WAMP server, then it is easily figure and examine the dynamic website.

Language: PHP

- PHP is one of the furthermost widely used open source general purpose scripting language that remains particularly suitable meant for web development besides can be embedded into HTML
- The recursive abbreviation used for PHP is Hypertext Pre-processor

2. MySQL Server as a backend:

- MySQL server is known as relational database management system that is owned by Oracle. Its main role/ function is to store, retrieve and delete the information as demanded by the other software which may run either on the similar computer otherwise on another computer across a network (including the internet). MySQL is identified as an open source system that gives many proposals to users to access to a number of databases. The SQL is in long term is abbreviated as Structured Query Language.

Reason to choose these technologies:

- WAMP server: As it includes both the language and the database installed in one package, which makes it one of the main reasons to choose this application.
- PHP: As the PHP language is one of the best and easy scripting languages. It also provides generalised features added on to it.
- MySQL: as it has the capability to accumulate a large number of data having different datatypes.

SYSTEM STUDY

As we completely distinguish the significant to learn and identify the difficulties of current system, which in future will help to discover the necessities for the proposed system. For the better solution in the forthcoming or in the software. This benefits in finding various alternatives. The plan essentially deals with various processes:

- Information/ Facts Gathering
- Learning of Current System
- Analysing Problem
- Reviewing numerous papers
- Possibility study for additional developments

Given are the stages taken while studying the initial system:

Initially, together complete the material, which they required to accumulate then deliberate the working of the existing system which is done manually. As we deliberate the system limitations, the need for having the proposed system arises. With the benefit of system study, we got straightforward designs about the system needs as well as result of the developed system.

The most significant entity in the growth of website is to learn the system thoroughly. We are studying both existing and proposed system so the rewards and difficulties of both the systems can be easily understood. The initial mission in the system study was recognizing by what method the system can be high-tech. Some examination and plans were completed so variations to be complete to the existing system. The innovative advanced system for the gym is modest deprived of difficulties.

Existing system:

An existing system normally mentions the previous used structure that is existence trailed till today. The existing system of the gym is mostly done manually. Working manually on the paper and cards was time intense and similarly it is very expensive, since it includes alot of paperwork. As we completely know that manually handling the organization is a very problematic job. Nonetheless currently computerization has made easy to work on the job.

Below are the explanations why the existing system must be computerized

- To increase productivity with the condensed cost
- To decrease the problem of paper work
- To save time, as copying info of individual every member and employee is time consuming
- To produce mandatory reports effortlessly

Proposed system:

- The SmartGym is easily accessible application.
- This SmartGym computerized system makes all functionality of the software informal for both the owner and the customers.
- It is actual modest in design and to implement it in real life. The system necessities are very short.
- System resources will work in nearly all arrangement.
- Being a manageable system, it does not require much instruction or guide to handle the system.

Feasibility study:

The system purpose outlined through the feasibility study help as the basic procedure which the struggle of system design is started. Maximum of the actions elaborate at this point is of practical nature needful a certain degree of knowledge in designing systems, complete information of computer associated technology and the thoughtful of computers and the several services provided by the sellers. A system cannot be designed without the active involvement of the user. The user has to performance a important part in this stage. Th data collected from the probability study will be applied thoroughly throughout the system design. However, it should be kept in attention that the detail study of the current system is not necessary with the end of the feasibility study. Depending on the feasibility study, the level of comprehensive study will differ besides the system plan stage will also differ in the amount of examination that still desires to be done

The examination of the system is generally an urgent activity. Sometimes, this investigation may form a separate stage between feasibility study and the system design. Designing a proposed system is an imaginative process, which calls for rational as well as adjacent thinking. The logical tactic in feasibility study involves orderly moves towards the finish product keeping in attention the abilities of the system at each decision-making step. This is to make certain that no efforts are being made to fit obvious solutions into new situation. The key objective of feasibility study is to determine whether a progress project has a realistic chance of achievement. The feasibility study supports us to control the effort & productivity of the system.

Below are the criteria that are considered to confirm the project feasibility

- **Technical feasibility:** as we entirely know it is essential to check that the future system is theoretically practicable or not and to determine that technology and skill is essential to transfer the project. If technology and the required skill are not available then find out the solution to obtain them. hardware is already accessible to them
- **Economic feasibility:** points like performance, information and outputs after the system is considered while the economic feasibility. MySQL is available in one package of the Windows OS and WAMP server and it does not require additional software cost for the client tools. The cost incurred to develop the structure is freeware & does not incur the cost to the project.
- **Operational feasibility:** the operational feasibility is achieved by referring the SmartGym system with the users. Check the planned explanation satisfies the user needs or not. Here is no struggle for employee/admin/ users since new SmartGym system is supportive. The current system is done manually, while the proposed system is hi-tech and extremely accessible

Chapter 3: REQUIREMENTS AND ANALYSIS

3.1 Problem Definition:

- The only limitation of the previous system in the gym was manually storing the record of the customer. Records such as name, contact number, email, address, instructor name, membership period, fitness info and their measurements.

- It used to be problematic to find name of the customer in the bundle of cards

- Time consuming

- It includes a lot of administration to keep the records (paperwork).

- It is less reliable as manually keeping the records are not safe as anyone can make changes in the details or get any information of the customer

- Lack of accuracy as the current system is in manual hence, there are lot many chances of human errors.

3.2 Requirements Specification:

- The requirement of this customer is to get a software that gives the facilities of data storage for easy use.
- Easy to access the record of the customer by the admin/employee.
- It takes care of the member's health information
- Mechanization can be supportive as resources of saving time and money
- To deliver an improved GUI.
- To determine the requirements, we need to collect the system new entry
- The system wants to help the internal staff to keep the record of customer personal information and details and various measurements.
- A system that needs to keep the record of Gym shift
- A system that is essential to keep the quantity records
- A system that will require to keep posted and remove the records
- A system that also need a search area to find information of the customer

3.3 Software Requirements:

- Language: PHP
- Database: MySQL
- Windows 7 and above
- WampServer

3.4 Hardware Requirements:

- Processor- Intel i3 and above
- Hard Disk- 1 GB (minimum)
- RAM- 2 GB RAM

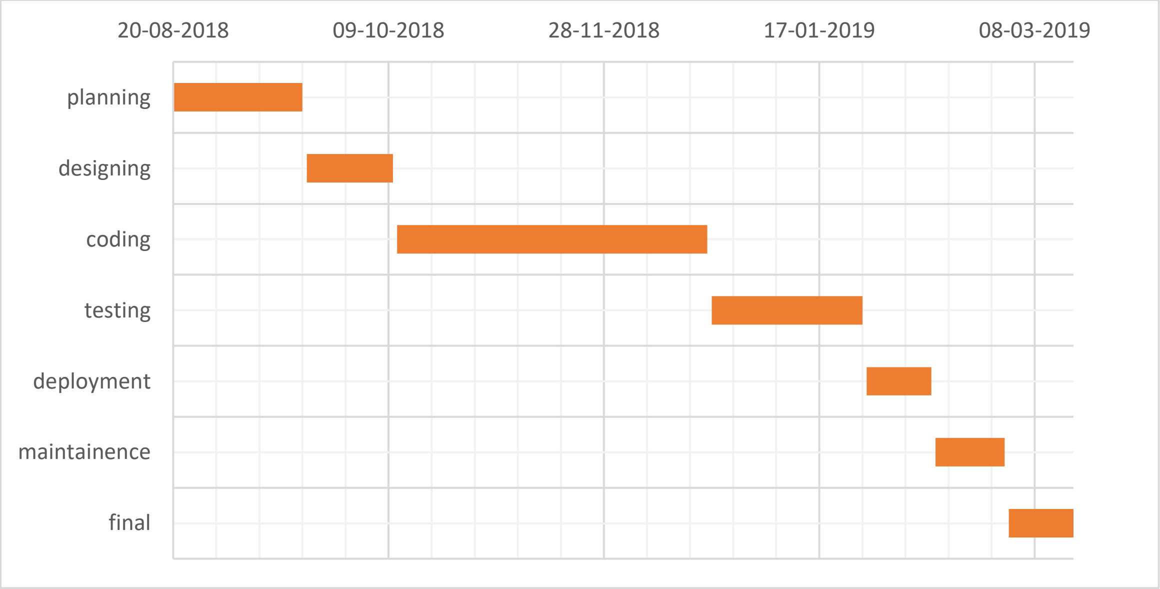
3.5 Planning and Scheduling:

- Planning and Scheduling is the most significant work whether it is computerized or not.
- While planning the project, Scheduling is important because period of the project completion is significant.

A Gantt chart which is frequently used in project management, is now one of the most widespread and convenient ways in presenting the activities (responsibilities or process) showed in contrast to time. On the left of the Gantt chart is a list of the actions and along the top is an appropriate time measure to indicate the time taken for each action. Each action in the Gantt chart is signified by a bar, the location and distance of the bar replicates the initial date, period and final date of the action.

This allows to see the proper glance.

1. What are the major phases and activities
2. How much time each action is to be engaged.
3. When each action commences and ends.
4. When the project starts and ends.



MODULES & FEATURES:

Modules:

There are two basic modules in the SmartGym system which are listed below.

- Administrative module: This user is the admin / owner who has full rights on the system.
- User module: This is a normal level of user who will be very few numbers of functionality of website

.

Administrative Module:

This administrative module includes storage and recovering the details of the data.

- Create, Update, Manage, Delete User
- Creating Offer Plan
- Manage User Enquiry through Email
- Manage Owner Info
- Manage member details
- Manage to send alerts

User Module:

This user module includes viewing the data.

- Viewing the details of the membership
- Viewing the personal details information
- Seeing the date of joining and the end of their membership
- Diet chart alerts
- Viewing the offers

Advantages:

- The system contains entire info of the customer
- The information is safe and secured due to this around is no loss of data
- Easy searching
- The user can also view their information, plans and personal details.
- The SmartGym system is convenient and easy to practice.
- It saves time, money and other resources.
- Reduces manual work in keeping and maintaining those cards.

Disadvantages:

- The admin has to keep updating the information of the customer in the system (monthly records)
- Admin has to enter from time to time of the members personal details
- Multiprocessing would not be possible
- Extensive help would not be possible

CHAPTER 4: SYSTEM DESIGN

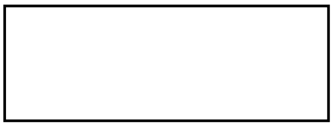
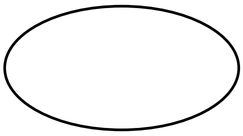
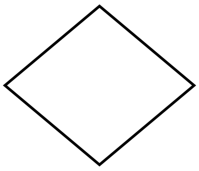
4.1 Data schema

- ### Entity—Relationship Diagram:

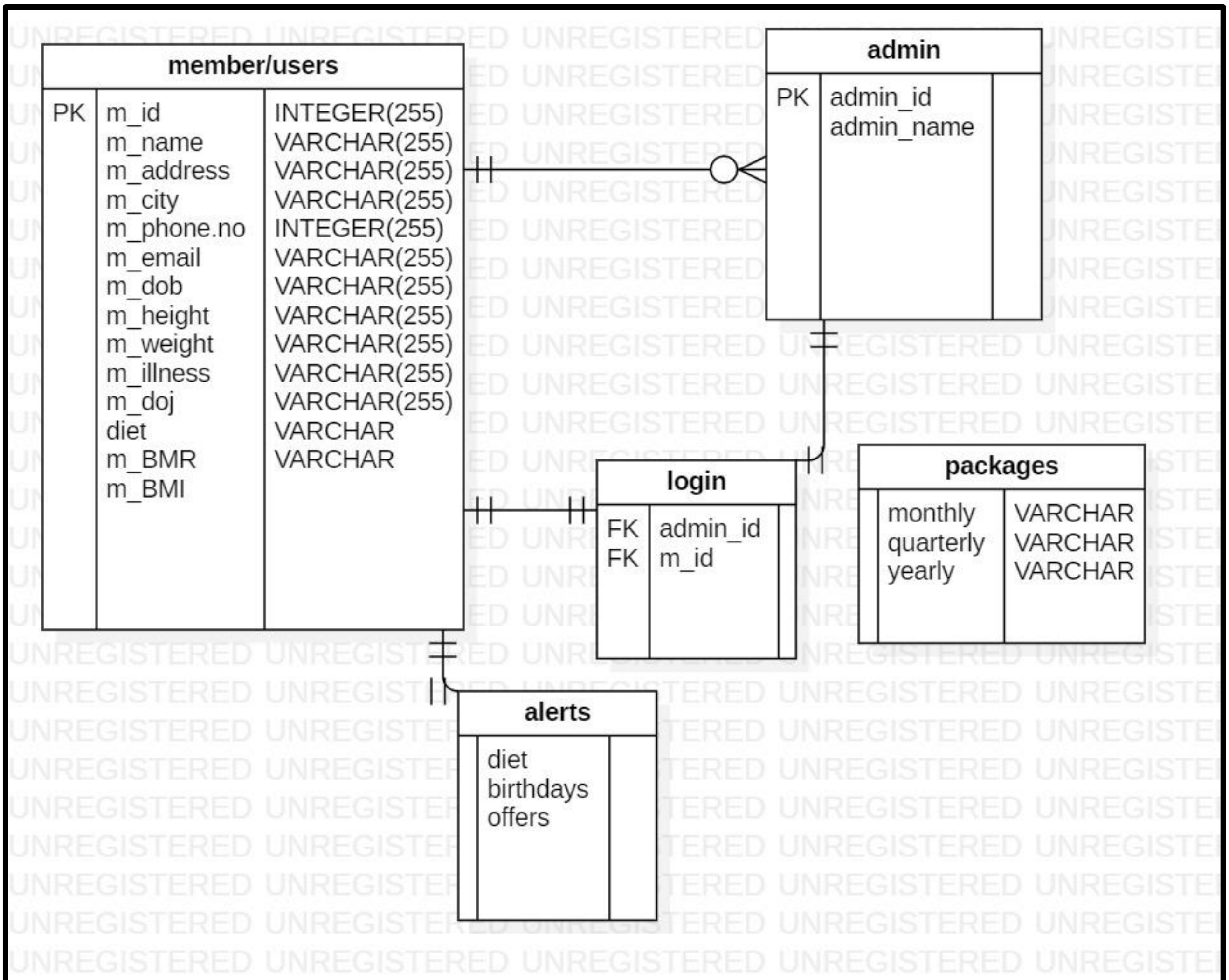
An Entity Relationship (ER) Diagram is specialized graphics that demonstrates the connection among entities in a database. In Entity Relationship diagrams symbols are generally used to signify three various types of info. Boxes are usually used to signify entities. Diamond are usually used to signify relationship and ovals are to signify attributes.

An Entity Relationship Diagram (ERM), in software engineering is an intellectual and theoretical symbol of data. Entity Relationship modelling is a relational schema database modelling way, used to produce a type of hypothetical plan or semantic figures model of a system and its necessities in a top-down way

ERD Notations:

Notation	Description
RECTANGLE: 	Represents Data Entity
CIRCLE: 	Represents connection
DIAMOND: 	Represents the process or relation between two entities
LINE: ————————	Attaches two entities. Also helps in showing

Entity Relation Diagram of SmartGym:



ER diagram of SmartGym

▪ Data Dictionary

Data dictionary is the known as the assortment of information of data objects and items in the data model for the benefits of the web developer. Analysing a structure of objects with which its manipulators interrelate is to recognize each entity and its connection with further objects. This is called as data modelling. This can have any kind of data such as text, image or binary value. For reference, this group can be prearranged into a book called as the data dictionary.

With data model, one can use data dictionary to find out where a data entry fits in the structure, what worth it may comprise and what does the data mean in real world.

❖ Username table:

Table info: It stores data of username and password

Field Name	Datatype	Field Size	Validation
Username	Varchar	100	NotNull
Password	Varchar	100	NotNull

❖ Admin info table:

Table info: it stores info of all the employee/ admin’s personal details

Field Name	Datatype	Field Size	Validation
Admin_id	Varchar	100	NotNull
Admin_name	Varchar	100	NotNull
Admin_contactno	Varchar	100	NotNull
Admin_emailid	Varchar	100	NotNull
Admin_address	Varchar	100	NotNull

- **Member info table:**

Table info: stores all the information of the member

Field Name	Datatype	Field Size	Validation
m_id	Varchar	100	NotNull
m_name	Varchar	100	NotNull
m_contactno	Varchar	100	NotNull
m_emailid	Varchar	100	NotNull
m_address	Varchar	100	NotNull
m_gender	Varchar	100	NotNull
m_dob	Varchar	100	NotNull
m_doj	Date/time	100	NotNull
m_membershiptype	Varchar	100	NotNull
m_membershipperiod	Varchar	100	NotNull
m_illnessifany	Varchar	100	NotNull
m_diet	Varchar	100	NotNull
m_height	Varchar	100	NotNull
m_weight	Varchar	100	NotNull
m_BMR	Varchar	100	NotNull
m_BMI	Varchar	100	NotNull
m_measurements	Varchar	100	NotNull
m_payment	Varchar	100	NotNull
m_balance	Varchar	100	NotNull
m_alerts	Varchar	100	NotNull

- **Package info table:**

Table info: stores all the information of the packages

Field Name	Datatype	Field Size	Validation
Monthly	Varchar	100	NotNull
Quarterly	Varchar	100	NotNull
Yearly	Varchar	100	NotNull

❖ Calculate BMI table:

Table info: stores all the information of the member's BMI

Field Name	Datatype	Field Size	Validation
m_id	Varchar	100	NotNull
m_name	Varchar	100	NotNull
m_height	Varchar	100	NotNull
m_ weight	Varchar	100	NotNull
m_bmi	Varchar	100	NotNull

❖ Calculate BMR table:

Table info: stores all the information of the member's BMI

Field Name	Datatype	Field Size	Validation
m_id	Varchar	100	NotNull
m_name	Varchar	100	NotNull
m_height	Varchar	100	NotNull
m_weight	Varchar	100	NotNull
m_gender	Varchar	100	NotNull
m_bmr	Varchar	100	NotNull

❖ Alerts table:

Table info: stores all the information about offers and alerts

Field Name	Datatype	Field Size	Validation
daily_offers	Varchar	100	NotNull
Festive_offers	Varchar	100	NotNull
Yearly_offers	Varchar	100	NotNull
alerts	Varchar	100	NotNull

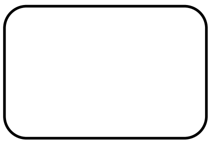
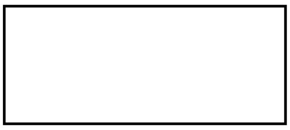
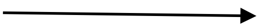
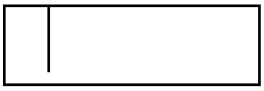
Data design:

- ## Data-Flow Diagram:

One of the furthermost vital modelling tools is the system design is the Data Flow Diagram. It is used to model the system components that interacts with the system, uses the data and information flows of the system. Data-flow diagram shows the information moves through the and how it is modified by a series of transformation. Data-flow diagram is a graphical procedure that depicts the information moves from input or output

DFD is also identified as the Bubble chart or Data Flow Graphs. To understand the system, Data-Flow Diagram is used to characterize the system at any level of abstraction so it is easy for the viewer. DFD's may partition into a level that signifies growing information flows and functional details.

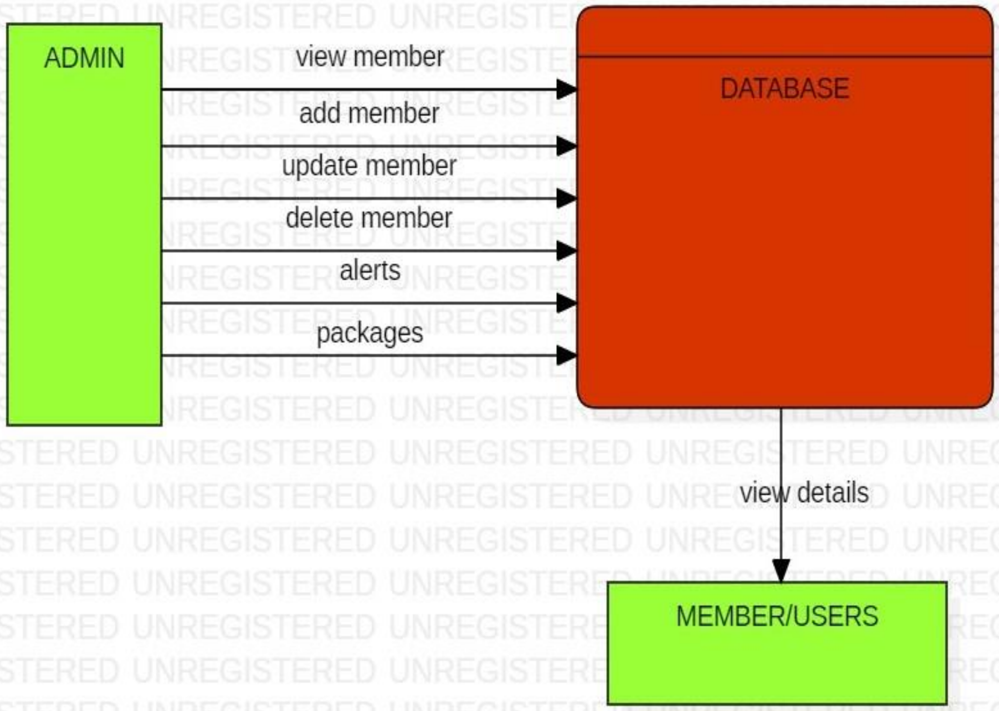
DFD Notations:

Notation	Description
	Processes or transform are signified by square in a DFD. This shows what the system does
	The rectangle is used to signify an external entity
	An arrow it shows the flow of information from its source to its destination in the system.
	A database is holding a place for information within the system. It is represented as shown beneath. Database stores long-term file or a short term file.

Context Flow Diagram:

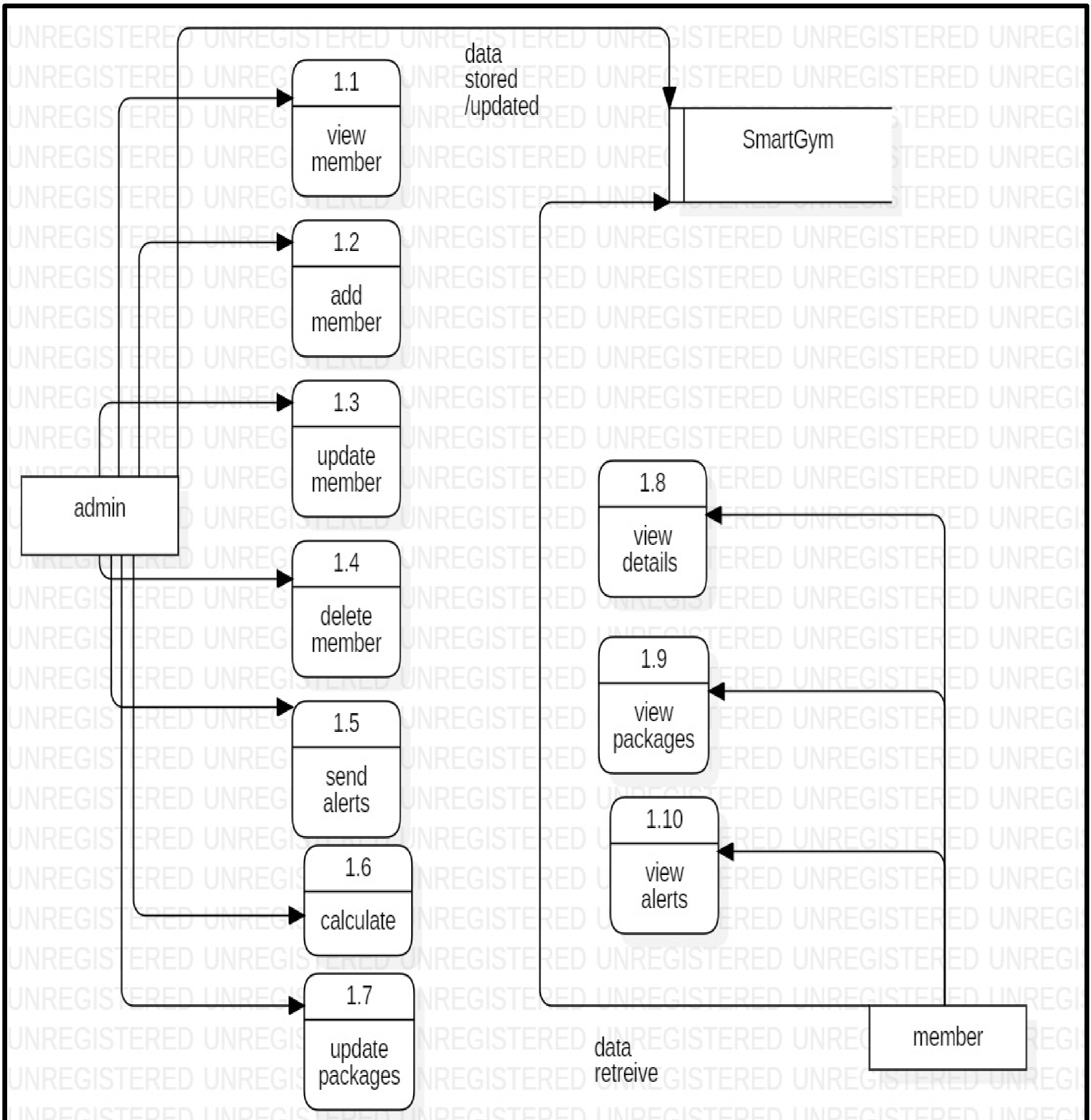
As we completely know, Context Flow Diagram is known as the top level / level 0 data-flow diagram. It contains individual one process node, that generalize the purpose of the whole system in connection to exterior entities. In Context Flow Diagram the complete system is behaved as single process and all its inputs, outputs, sinks and basis are identified.

Context Flow Diagram of Smartgym



Data flow diagram of SmartGym

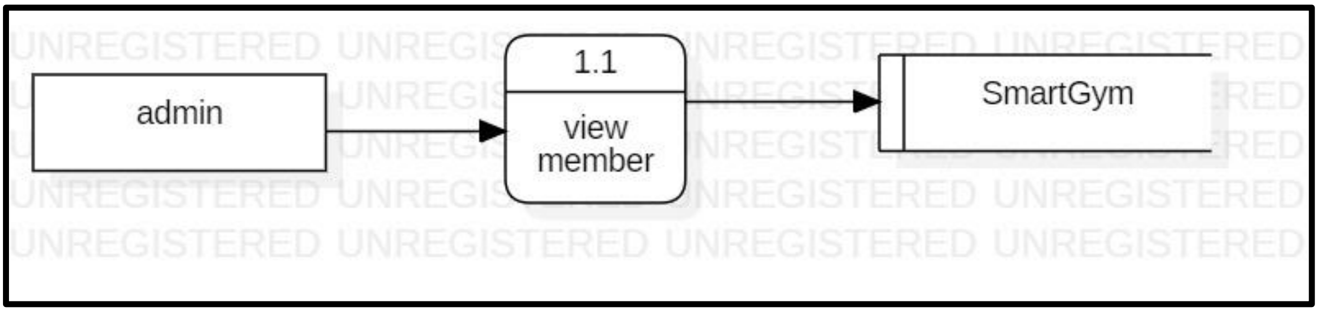
Dataflow Diagram of Smartgym:



Level 1 data flow diagram of Smartgym

Each Process Explained Below:

❖ View Member



Process no: 1.1

Process name: view member

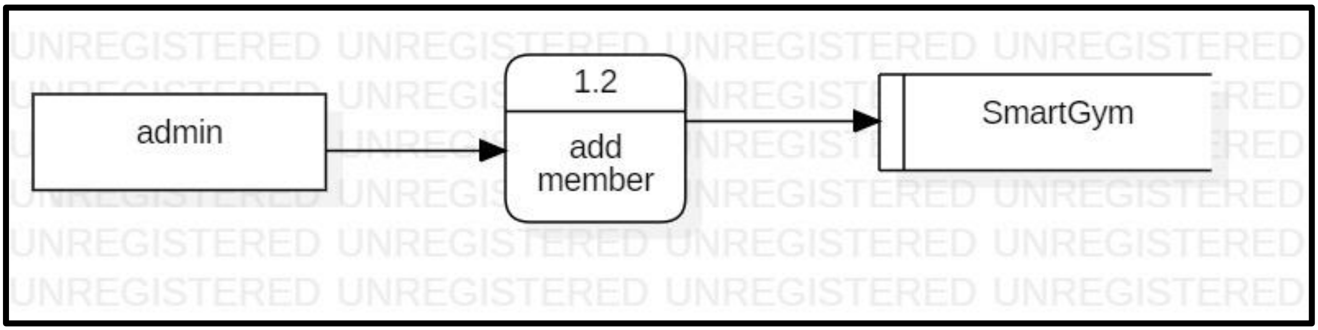
Inputs: admin has to give in the member_ id & member_ name

Outputs: the database will give the member details

Process description:

If the admin needs the information of the member then this process can easily find the member in his/her gym. It is the process that easily gives info about the member of the gym just by giving the id and name of the member.

- **Add member:**



Process no: 1.2

Process name: add member

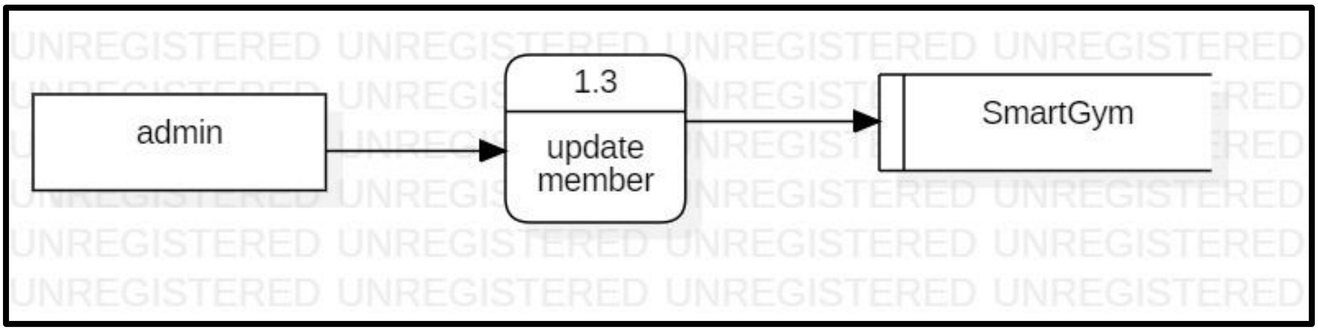
Inputs: admin has to submit particular details of member

Outputs: the database will save the member details given by the admin

Process description:

If the admin needs to add a new member that recently wants a new membership in the gym. So, the admin has to enter the particular details of the member in order to add the member in the database of SmartGym

- **Update member:**



Process no: 1.3

Process name: update member

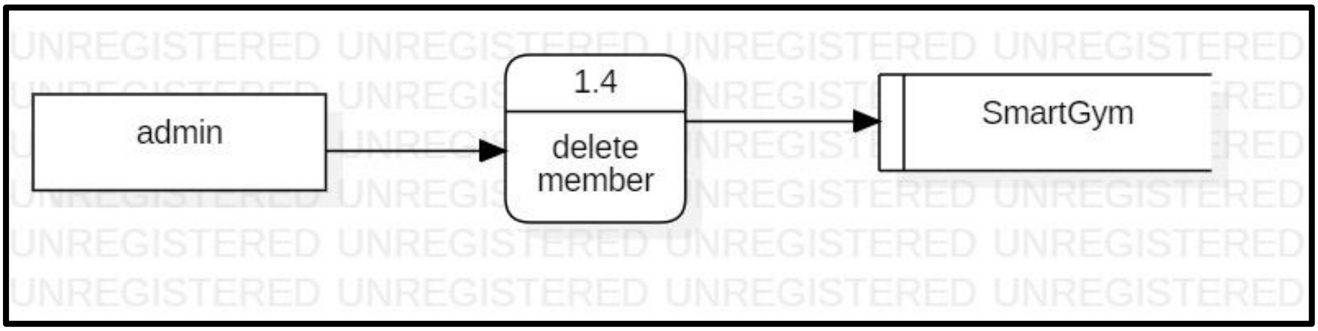
Inputs: admin has to give in the member_ id & member_ name which they need to update

Outputs: the database will give the member details that the admin can edit or update

Process description:

if the admin desires to edit or update the accounts of the member which they normally do in gym for their monthly measurements of the member. So, this process helps in editing the details of the member.

- **Delete member:**



Process no: 1.4

Process name: delete member

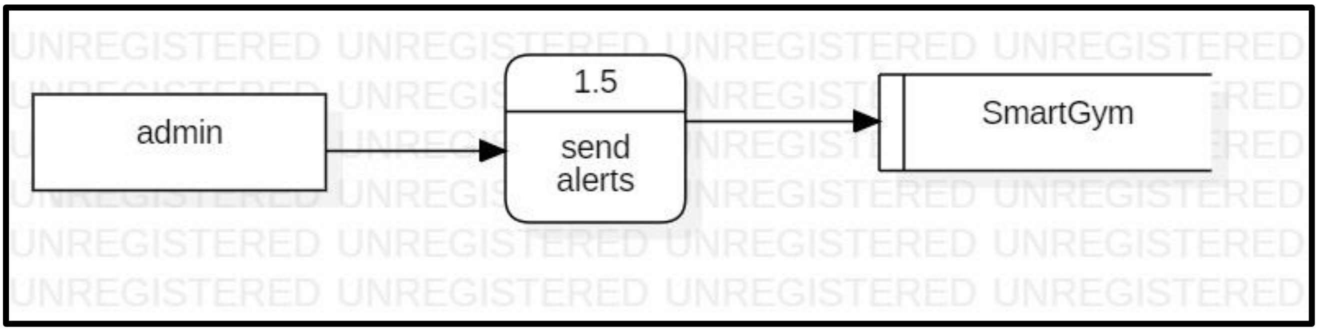
Inputs: admin has to give in the member_ id & member_ name

Outputs: the database will delete member which the admin wants to delete

Process description:

If the admin desires to delete the specifics of the member then this process is used. The admin can delete the member which no longer is a member of the gym.

- **Send alerts:**



Process no: 1.5

Process name: send alerts

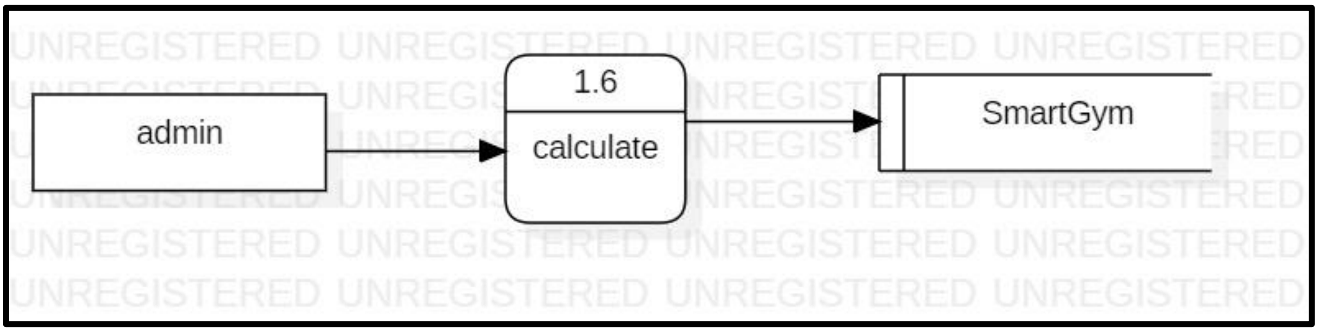
Inputs: admin has to send the alerts /offers to the member

Outputs: the database will send alerts/offers to the member

Process description:

if the admin desires to send the alerts / offers to the member such as birthday alerts, offers, festive discounts offer, new session openings, diet alerts and many more than this method is used.

- **Calculate**



Process no: 1.6

Process name: calculate

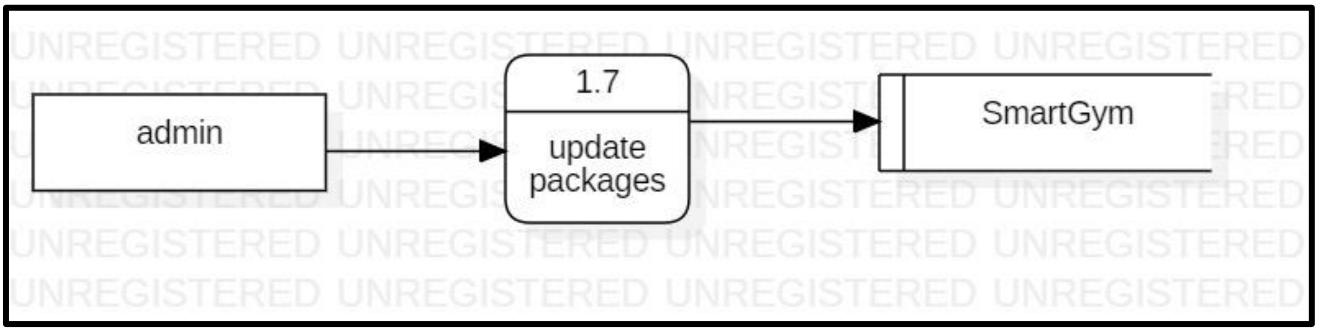
Inputs: admin has to give in the member id, name etc

Outputs: the database will give the calculation of BMI & BMR of the member

Process description:

If the admin desires to get the calculation of the member's BMI & BMR then this process can be used. In this process the member can get their measurements of their body.

- **<u>Update packages:</u>**



Process no: 1.7

Process name: update packages

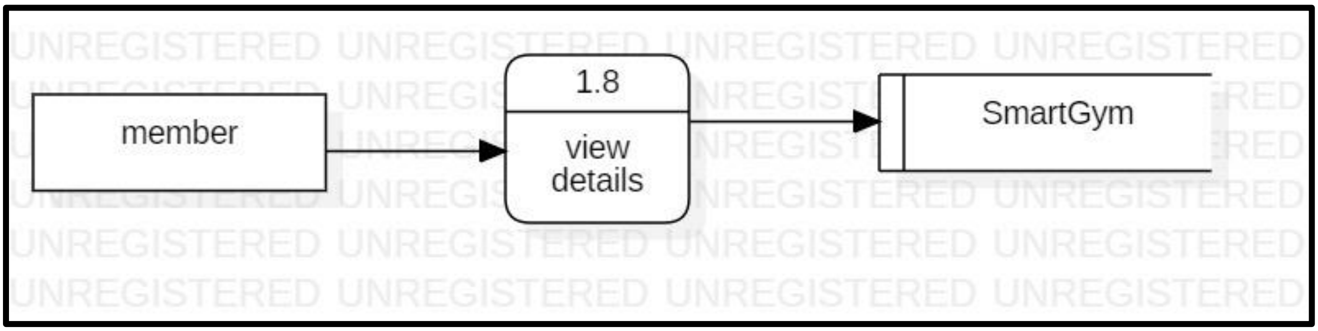
Inputs: admin has to give in the new packages for membership

Outputs: the database will give the update the packages in the system

Process description:

If the admin desires to update the packages according to the season that can be done here and as per the member can see the facts of the packages which they can choose accordingly.

- **View details:**



Process no: 1.8

Process name: view details

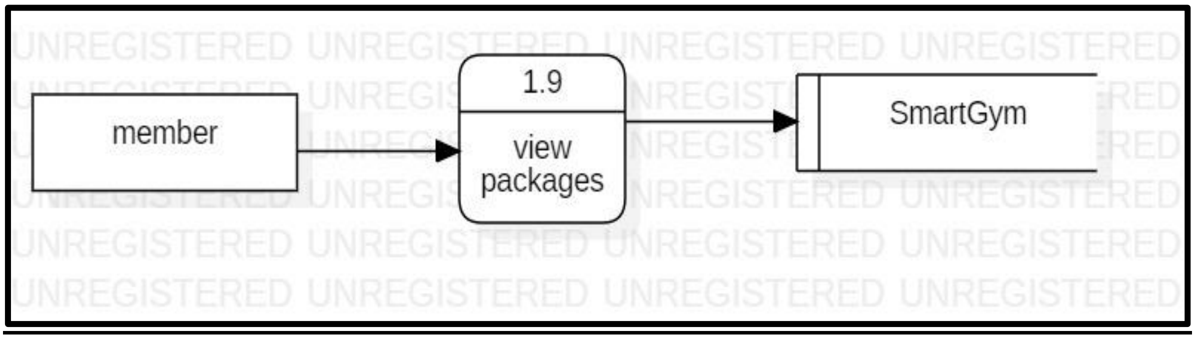
Inputs: member has to give in the member_ id & member_ name

Outputs: the database will give the member details

Process description

If the member desires to see his/her details then this process can be used. In this process, the database gives all the personal detail info about the member such as contact no, email, membership type, membership, diet, measurements that is eventually taken monthly, etc.

❖ View packages:



Process no: 1.9

Process name: view packages

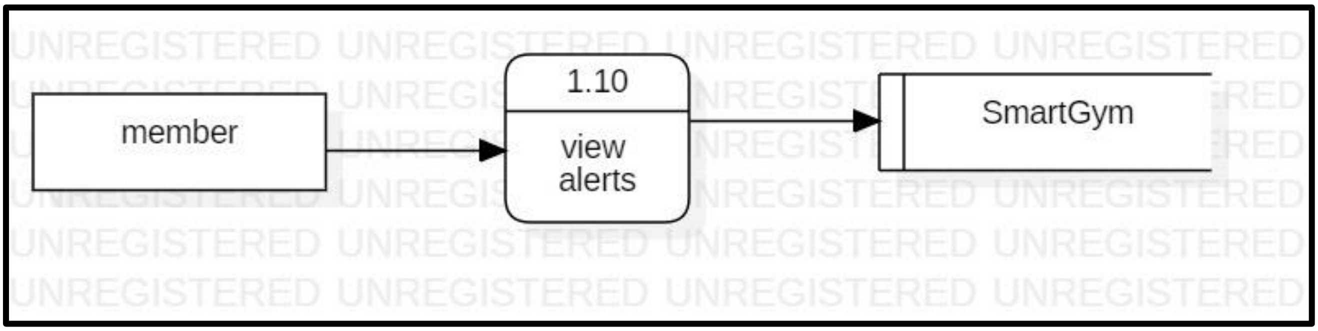
Inputs: member needs to just click on the package’s module

Outputs: the database will give the package details

Process description:

If the member wants to see the new packages of the gym then this package model is used. It displays all the packages of the gym such as monthly charges, quarterly charges, yearly charges etc.

- **View alerts:**



Process no: 1.10

Process name: view alerts

Inputs: member has to give in the member_ id & member_ name

Outputs: the database will give the alert details

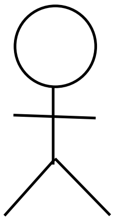
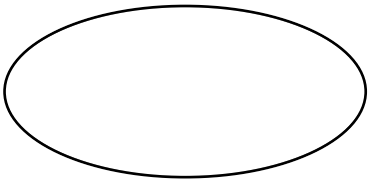
Process description:

If the member wants to see around of their offers and alerts for themselves then this module is used. It displays all the offers and alerts that the gym provides to the member.

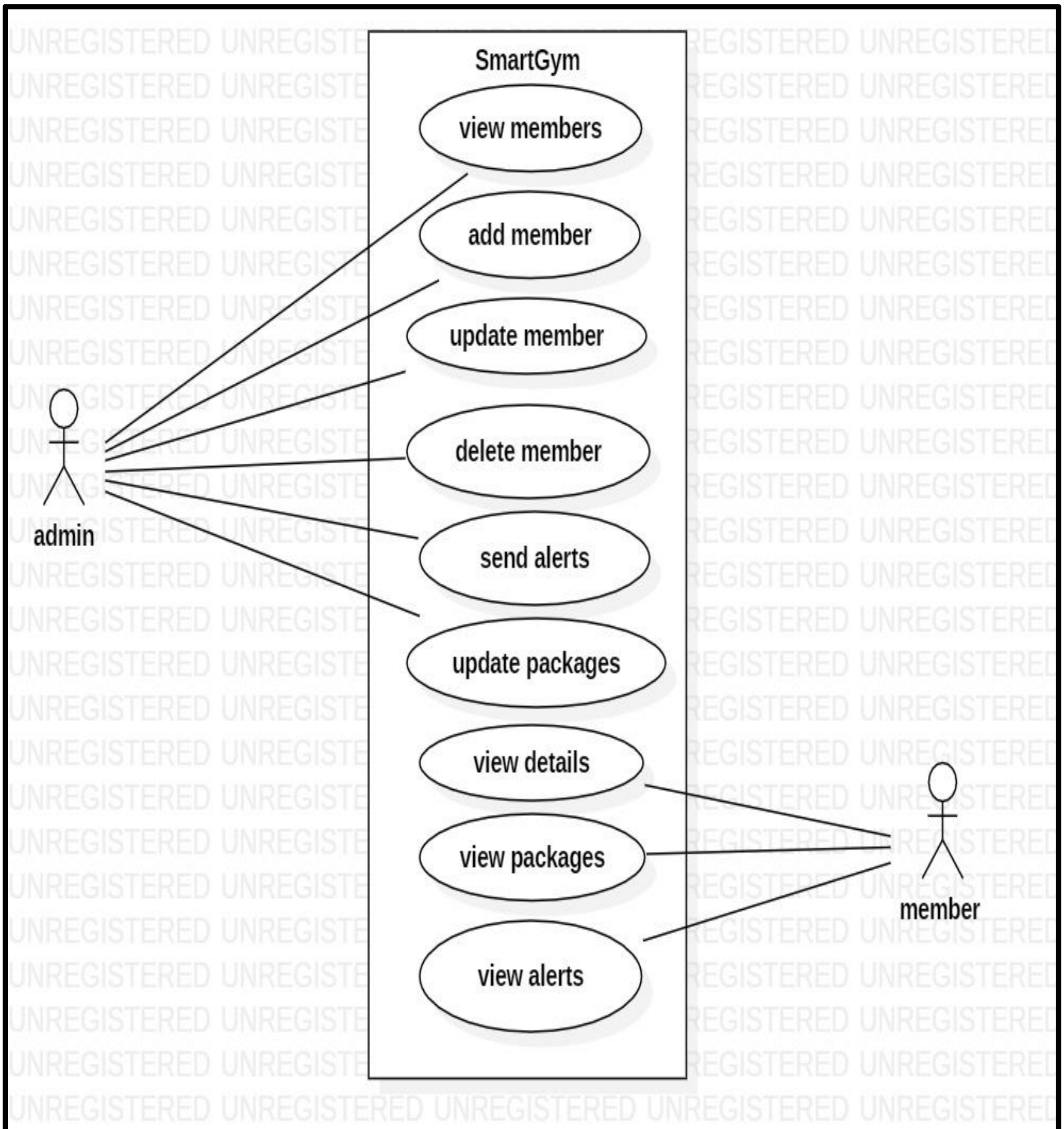
Use Case Diagram:

Use case diagram is the diagram which show the interaction of the user with different cases by showing the connection between them. In the use case diagram, first it shows the application or the system, then the people or the organization working on the classification and essentially what all the procedure and work that the system do by showing the relation between them.

Use case notations:

Notations	**Descriptions**
	this rectangle represents the system in which the users are being working on it
	this diagram represents the person which has been working in the system
	This circle represents the process in the application or system
	This line represents the association between the users and the process

Use Case Diagram of Smartgym:



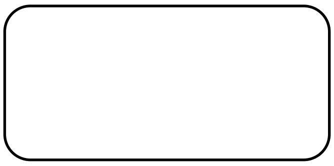
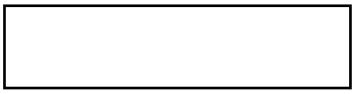
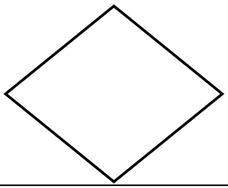
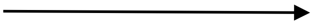
UseCase Diagram of SmartGym

Logic Diagram:

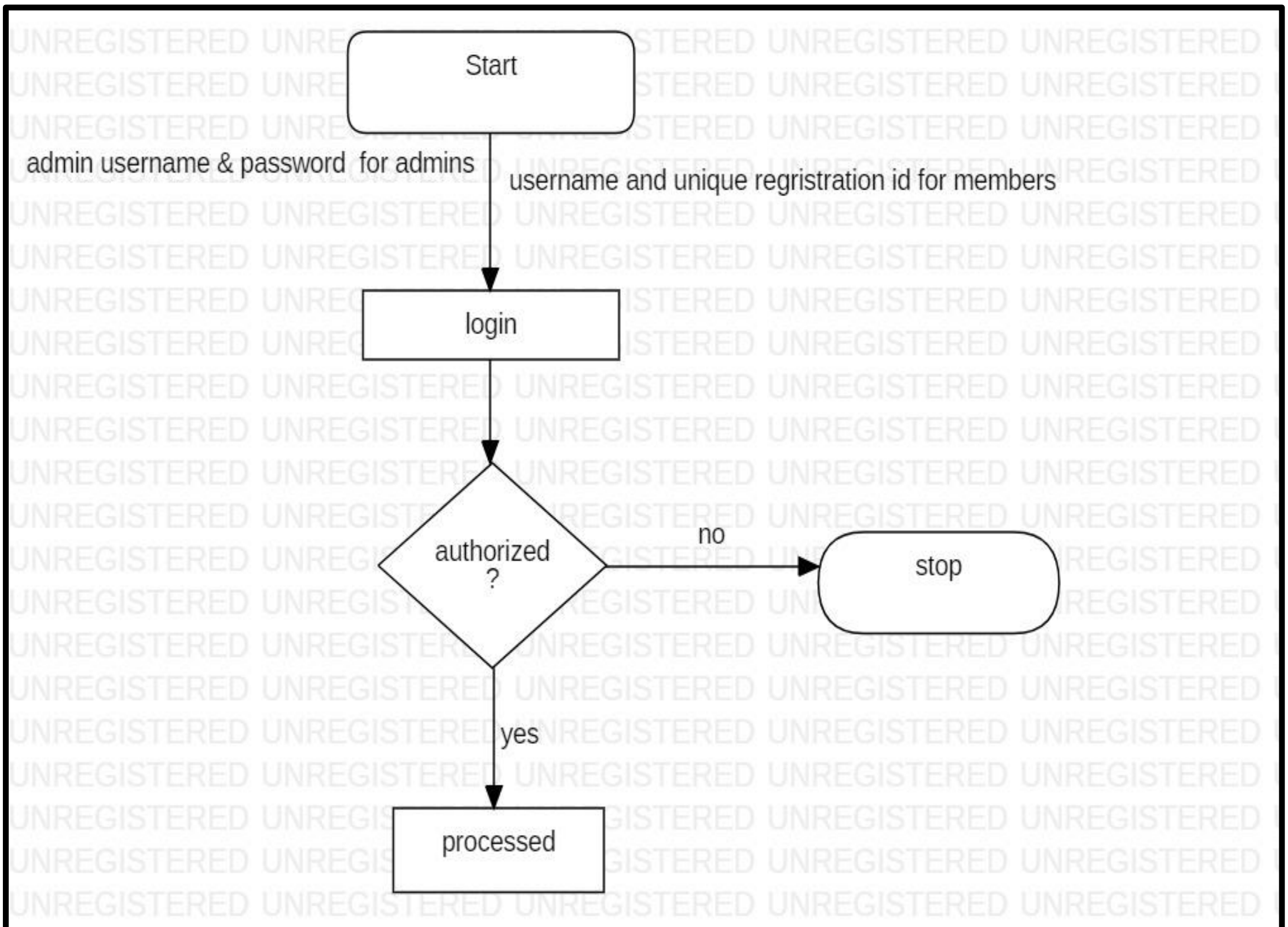
❖ Flow chart:

With the support of Flow Chart Diagram, it is required to recognize the system well. Participations and productions of the system becomes understandable with the assistance of flow chart diagram. These Flow Chart Diagrams are helpful in later expansion of the software. With Flow Chart Diagram as we can see in the name it decides the movement of the system.

Flow Chart Notations:

Notations	Descriptions
	**Terminals:** They are really the terminal of the diagram which means the two start or the end
	**Inputs/ outputs:** They are the inputs / outputs of the system
	**Decisions:** It decides which condition is true & executes it.
	**Flow:** It shows the movement of the system

Flow Chart Diagram of SmartGym:


Start
admin username & password for admins
username and unique regristration id for members
login
authorized ?
no
stop
yes
processed

Flowchart for login in SmartGym

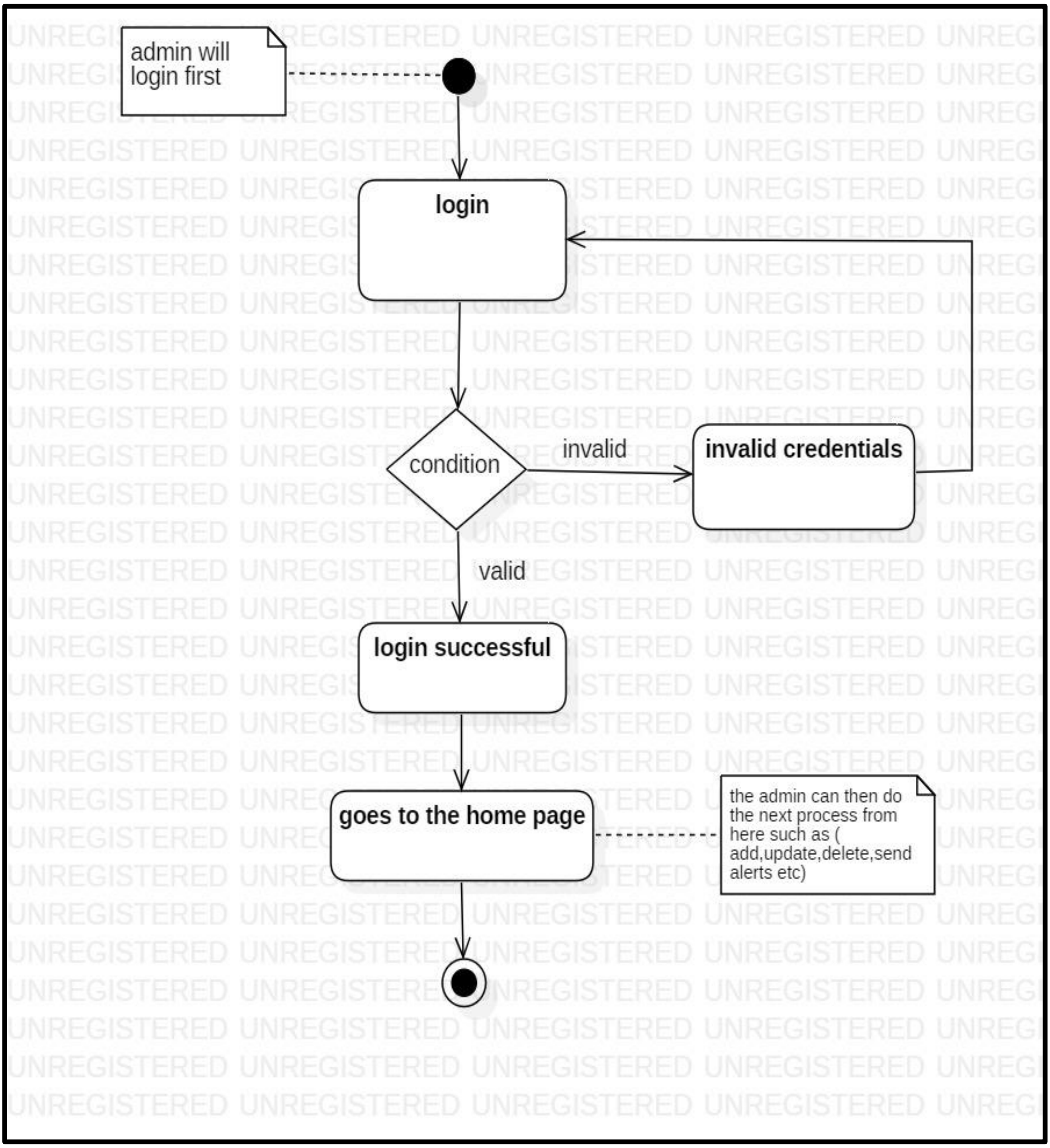
Activity Diagram:

In UML, activity diagram is one of the important diagrams as it shows the movement/ flow of single activity to another. It typically starts with the initial stage and then ends in the terminal stage which means the finish of the activity. Activity diagram are acknowledged as the operation of the system. The flow of the system is done from one activity to another. As it focuses on the condition of flows and the sequence of the system

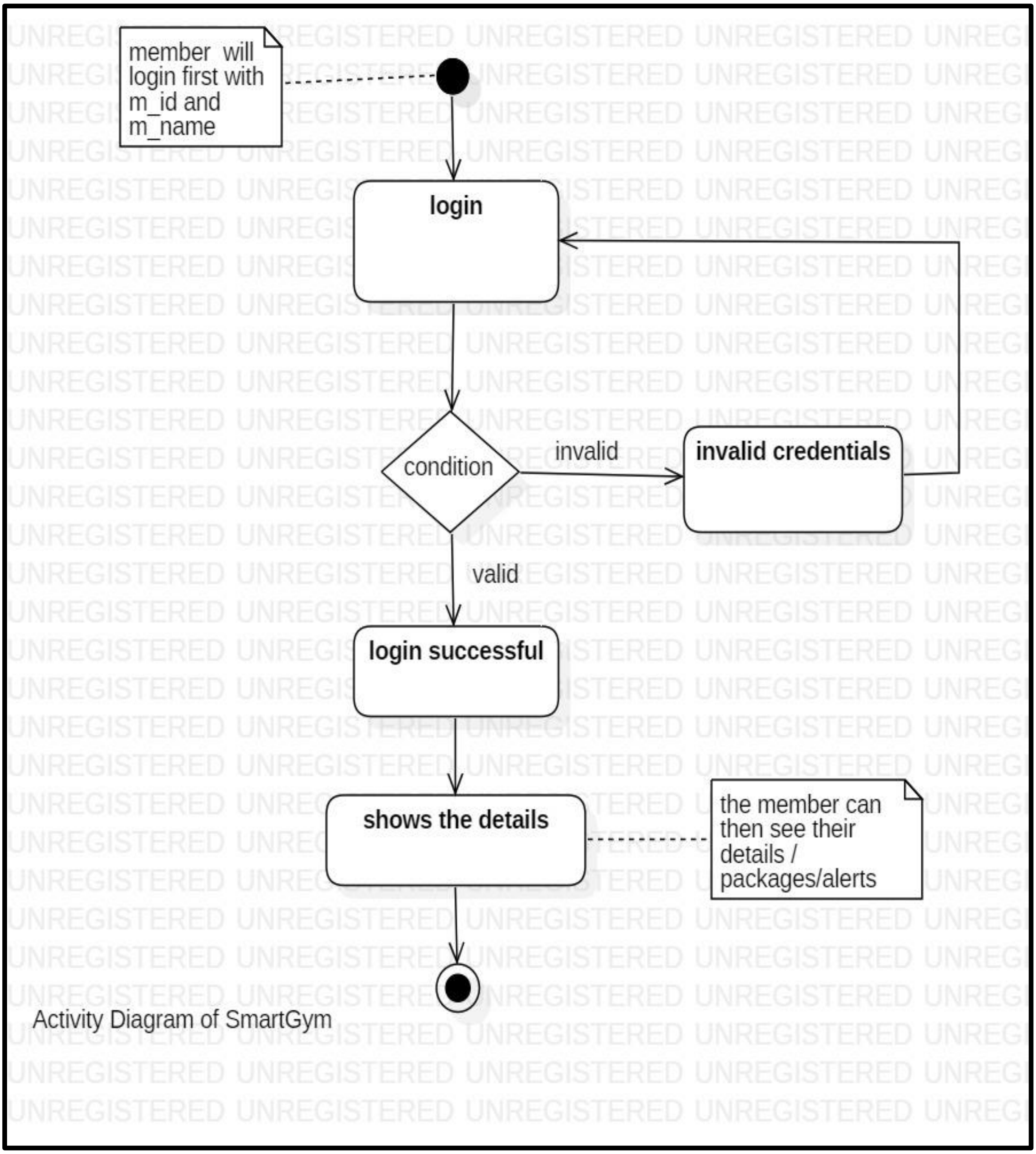
Activity diagram notations:

Notations	Descriptions
●	**Initial:** This describes shows the start of the activity
▢	**Action:** This shows the action to be taken in the activity
◇	**Decision:** This decides which action to be taken
→	**Flow:** This shows the movement of the system
◉	**Terminal:** This is called the last step of the activity

Activity Diagram of SmartGym:



Activity Diagram of SmartGym:


member will login first with m_id and m_name
login
condition
invalid
invalid credentials
valid
login successful
shows the details
the member can then see their details / packages/alerts

Activity Diagram of SmartGym

CHAPTER 5: IMPLEMENTATION AND TESTING

5.1 Source Code:

5.1.1 Code Details:

- Index: This segment includes the user module and the admin login
- User module: In this module the user/member gets their details by giving the unique registration no and the name
- Admin Login: In this module it directs to the admin login page where the admin has to login in with their username and password, if the admin credentials matches the credentials saved in the database then the admin is given the authority to access the further page
- Admin Dashboard: Once the admin is given the permission, he gets access to the admin dashboard page. In this page, the admin can do the following things such as add the member details, update the member details, delete the member details, change password, calculate BMI, send alerts etc.
- Add member details: In this module the admin adds the details about the member such as unique registration no, name, address, contact no, email etc. The data is then inserted in the database.
- Update member details: In this module the admin update the details of the member. This module contains two more module such as update form module and the update data module
- Update form module: In this module it contains the form that contain the old/recent info of the member that can be updated by making changes in the different input field and by submitting the form
- Update data module: In this module the data to be updated in the update form module is done by adding the query and the data is then updated in the database
- Delete member details: In this module, the admin can delete the member details by just giving the member unique registration no and the name and by clicking the delete button the info of the member is deleted from the database. This module includes the delete form module
- Delete form module: In this module the query is generated to delete the member from the database and once the query is executed the member details is deleted from the database
- Calculate BMI: In this module the admin can calculate the BMI of the member by just adding the height, weight of the member and the admin gets the BMI of the member. The height should be in meters and the weight should be in kilograms always to get the calculation of a person's body mass index

- Send Alerts: In this module the admin sends the alerts to the member about the different offers in the user module
- Change Password: In this module the admin can change the old password with the new password. This module checks the session of the admin and provides a unique id and with the help of that the admin can change the password. the module simply checks the old password is similar with the password saved in the database. If it meets the credentials then the admin is allowed to change the old password with the new password and the password is then updated in the database as the new updated password.
- Header: This module contains the basic header of the entire website so that it can be easily included in different modules
- Title head: This module contains the basic title head of the entire website so that it can be easily included in different modules
- Database Connection: This module includes the connectivity of the different tables and columns in the database which can be further included in different module
- Logout: This module allows the admin to logout of the website and the session is then destroyed and once the session is destroyed, the admin is then re-directed to the log-in page to enter the credentials to continue further
- Contact us: This module allows the new member to contact with the admin. As the admin gets the email id of the new member. They can email them regarding the further details about the gym.
- Calculate Fat %: In this module the admin can calculate the Fat %of the member by just adding the height, weight of the member and other measurements and then the admin gets the Fat % of the member
- Add member measurement details: In this module the admin adds the details about the member measurements such as height, weight etc. The data is then inserted in the database.
- Update member measurement details: In this module the admin update the details of the member measurements. This module contains two more module such as update measurement form module and the update measurement data module
- Update measurement form module: In this module it contains the form that contain the old/recent info of the member measurement that can be updated by making changes in the different input field and by submitting the form
- Update measurement data module: In this module the data to be updated in the update form module is done by adding the query and the data is then updated in the database
- New member module: in this module the admin gets the details of the new member email address so that the admin can email them the further details of the gym.

5.1.2 Core segment code:

- “Database connectivity code”:

```
<?php
$con =mysqli_connect ('localhost','root','','smartgym'); // connecting to the
                                                              database with the variable
if ($con == false) // if the condition is not satisfied then the error will arise as
                              connection not done.
{
echo "connection not done";
}
?>
```

- “Admin login code”:

```
<?php
   session_start(); // session is started for the admin/user
   if (isset($_SESSION ['uid'])) // if the credentials matches with the database the
                                          id is created  for the admin



   {
      header('location:admin/admindash.php');
   }
?>

<!DOCTYPE HTML>
<html lang="en_US">
<head>
<meta charset="UTF-8">
<title align="center"> ADMIN LOGIN </title>
<script>
   function getfocustxt() // focuses on the first input field
```

```
 {
    document.getElementById("t1").focus();
    }
</script>
</head>
<body onload="getfocustxt();">
    <h1 align="center"> ADMIN LOGIN </h1>

 <form action="login.php" method="post"> //form is created

    <table style ="width:20%;"align="center" border="2">

        <tr>
            <td colspan="2" align="left"> Username </td>
            <td> <input type="text" id="t1" name="uname" required> </td>
        </tr>

        <tr>
            <td colspan="2" align="left"> Password </td>
            <td> <input type="password" name="pass" required> </td>
        </tr>

        <tr>
            <td colspan="3" align ="center"> <input type="submit" name="login" value="Login"
></td>
        </tr>
    </table>
  </form>
  </html>

  <?php

    include('dbcon.php'); // database connectivity included

    if (isset ($_POST['login'])) // if the post method is called it will check the
                                        password and username from the database
                            credentials are correct

    {

        $username = $_POST['uname'];
        $password = $_POST['pass'];
```

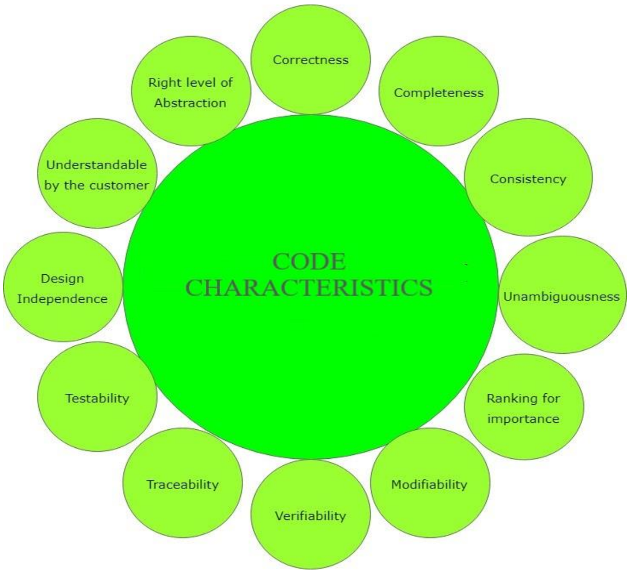
```
      $qry="SELECT * FROM `username` WHERE `username`='$username' AND
            `password`='$password'"; // query to check the username and password
                                                          from the database exists


      $run= mysqli_query($con, $qry);
      $row= mysqli_num_rows($run);
      if ($row < 1) // if the condition is not true then the user is given the below
                            message and fetch it back to the login page again

      {
      ?>
          <script>
              alert ('Username and Password does not match');
              window.open('login.php','_self');
          </script>
          <?php
       }
       Else // if the condition is satisfied then the admin is given a session id
       {
          $data= mysqli_fetch_assoc($run);
          $id= $data['id'];

          $_SESSION['uid'] = $id;
          header ('location:admin/admindash.php'); // The admin is then forwarded
                                                                        to the new page called as the
                                                                        admin dashboard

       }
   }

?>
```

5.1.3 Code Efficiency:

Code Efficiency is a wide-ranging term used to describe the reliability, speed and programming methodology used in developing code for an application / website. Code Efficiency is directly associated with the algorithmic efficiency and speed of runtime execution for software. It is the dynamic element ensuring high performance. The goal of code efficiency is to decrease resource consumption and completion time as much as possible with slightest risk to the business or operating environment. The software product quality can be accessed and predictable with the help of the efficiency of code used. Code Efficiency plays a important role in applications in a high-execution-speed environment wherever performance and scalability are supreme. Well-developed programming codes would be able to handle complex actions

Some of the measures used in the SmartGym for code efficiency include are as follows:

- Removal of the unnecessary code or code that goes to redundant processing
- Be able to make use of the optimal memory and non-volatile storage
- Have to ensure the best speed or run time for completing the algorithm
- Have to make use of the reusable components wherever possible
- Have to make use of the error and exceptional handling at all layers of software, such as the user interface, logic and data flow
- Have created programming code that ensures data integrity and even ensures code consistency
- It has developed a programming code that’s compliant with the design logic and flow
- Smartgym has used the best keywords, datatypes and variables, and other programming concept to implement the related algorithm
- It has optimized the use of data access and data management practices



5.2 Testing Approach:

Software testing is the process of assessment a software item to detect alterations between specified input and expected output. Also, to access the feature of a software item. Testing assesses the quality of the product. Software testing is a process that must be done through the development process. In other words, software testing is a verification and validation approach

Verification

Verification is the procedure to make sure the product satisfies the condition executed at the start of the development phase. In other words, to make sure the product performs the way we want it to

Validation

Validation is the procedure to make sure the product satisfies the stated requirements at the end of the development phase. In other words, to make sure the product is assembled as per customer requirements.

Testing goes side by side with the execution that is aimed at guaranteeing that the system works accurately and efficiently formerly the live operation is completed. The common opinion of testing held by the user is process of executing a program with clear intention of handling errors. The application which has been established has to be tested to demonstrate its validity. Testing is considered to be least creative phase of the whole cycle of system design. In the real sense it is the phase, which helps to bring out the creativity of the other phases, and make it shine

System testing is designed to uncover the weaknesses that were not found in earlier test. In the testing phase, the program is executed with the explicit intention of finding errors. This comprises forced system disappointments and validation of the system, as its user in the operational situation will implement it. For this purpose, the test cases are developed.

When the new system replaces the old one, such as in the present case, the organization can extract data from the old system to test them on the new. Such data usually exist in adequate volume to provide sample listings and they can create a accurate environment that guarantees eventual system success.

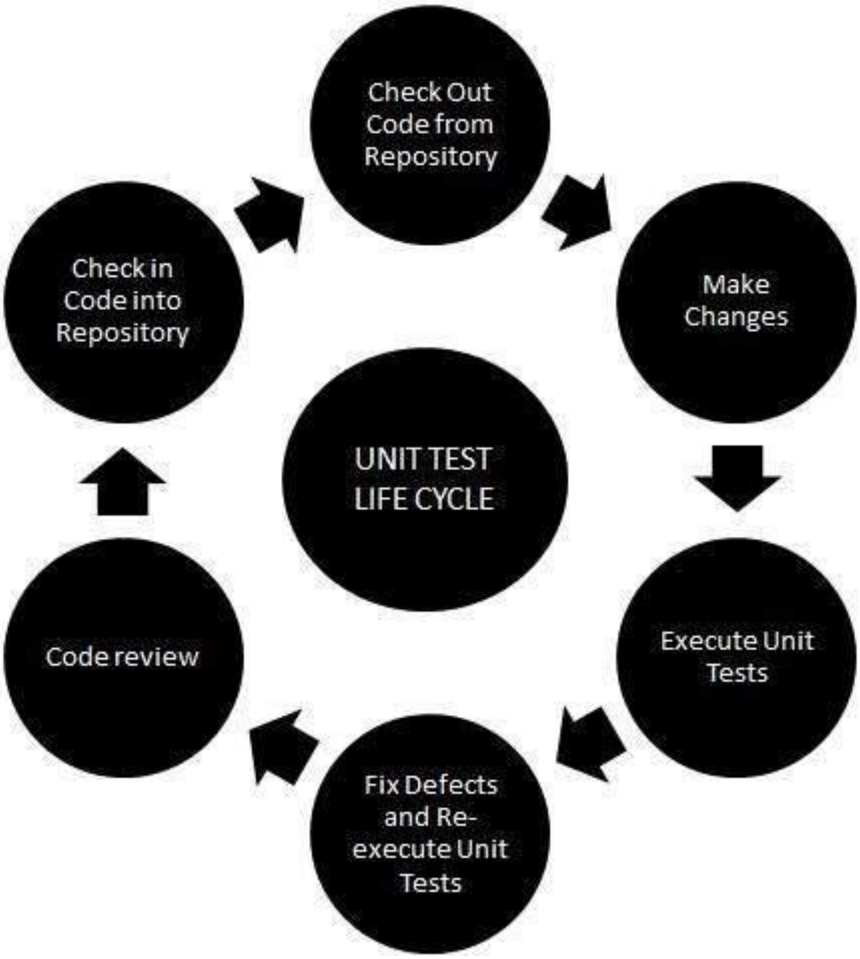
There are many approaches to test the software some of which are used to test the SmartGym software are as follows:

- Unit Testing
- Integration Testing

5.2.1 Unit Testing:

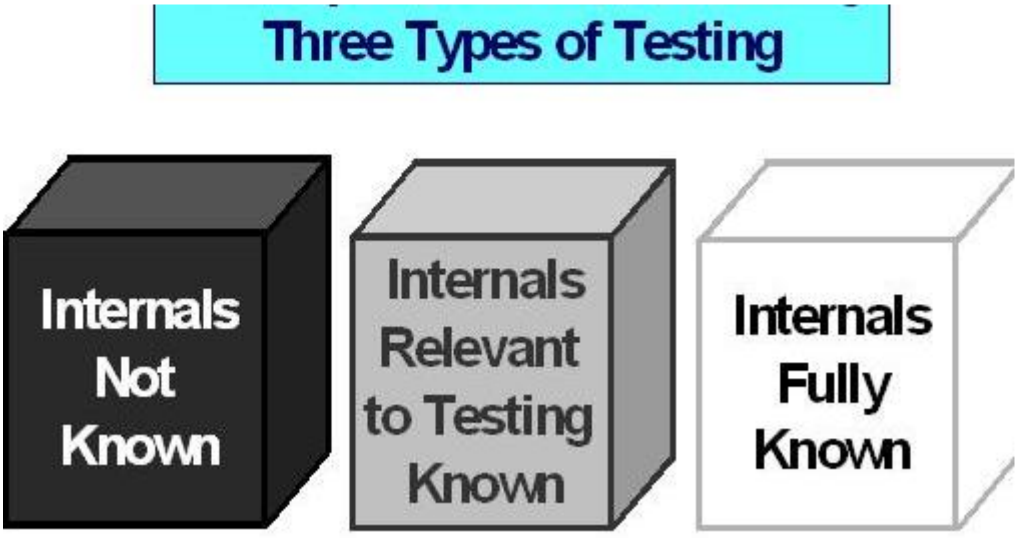
Unit is the smallest part of software which includes codes, classes, and methods and can be tested individually for correctness. Unit testing is a validation technique using black box methodology which mainly concentrates on requirements of the system. Individual components and units are tested to ensure that they work as an individual as defined in design.Unit testing requires throwaway drivers and stubs as individual files may not be testable or executable without them. Unit testing may be performed in debugger mode to find how variable values are changed during execution. Gray box testing is also considered as 'unit testing technique' sometimes as it examines the code in detail along its functioning. Unit test cases must be derived from use case/ design component used at lowest levels of design

Unit testing focuses verification efforts on the smallest unit of the software design, the module. This is also known as Module Testing. The modules are tested separately. This testing is agreed out during the programming stage itself.


Check Out Code from Repository
Make Changes
Execute Unit Tests
Fix Defects and Re-execute Unit Tests
Code review
Check in Code into Repository
UNIT TEST LIFE CYCLE

Types of unit testing:

- Black Box Testing **-** By means of which the user interface, input and output are tested.
- White Box Testing **-** used to test individually one of those functions' behaviour is tested.
- Gray Box Testing **-** Used to perform tests, risks and assessment methods.



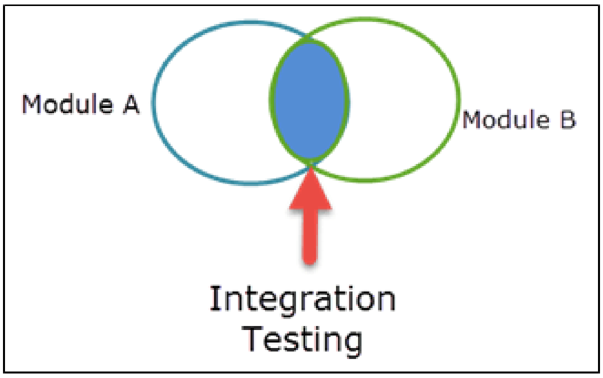
The techniques/ strategy of unit testing applied in the Smartgym are as follows:

- In the line of policy, the entire individual's function and modules were placed to test independently
- By following this approach, all the mistakes in coding were identified and corrected
- This method was applied in mixture with the white box and black box testing
- Technique to find errors in each module
- The efforts of specific combination of data on system operation was tested
- The following were the testes carried out for Graphical User Interface (GUI)
- It was seen that the pages open properly based related menu-based commands
- It was tested whether all relevant menus, buttons, icons and the other controls are available and properly displayed.

5.2.2 Integration testing:

Integration testing involves integration of units to make a module / integration of modules to make system integration. Integration testing may start at module level, where different units and components come together to form a module, and go up to system level. Integration testing also test the functionality of software under review. Integration testing mainly focuses on output protocols, and parameters passing between different units, modules and /or system.

Focus of integration is mainly on low-level design, architecture, and construction of software. Integration testing is considered as structural testing. It is the concept that highlights in the testing scenario.



There are two approaches in Integration Testing:

- Bottom up approach:

  Bottom-up testing approach focuses on testing the bottom part/ individual units and modules and then goes upward by integrating testing and working units and modules for system testing and intersystem testing

- Top-Down approach

  In top-down approach, the top level of the application is tested fist and then it goes downward until it reaches the final component of the system

The techniques/ strategy of Integration testing applied in the Smartgym are as follows:

- The technique used in this project is the top-down approach
- The top down integration strategy verifies major control and the decision points
- Using the top-down approach the feasibility of the entire program can be determined easily at the very early stage as the topmost layer
- It helps to detect the major flaws in the system designing by taking inputs from the user
- Important units are tested individually, and then combined to form a module and finally the modules are tested before the system is made

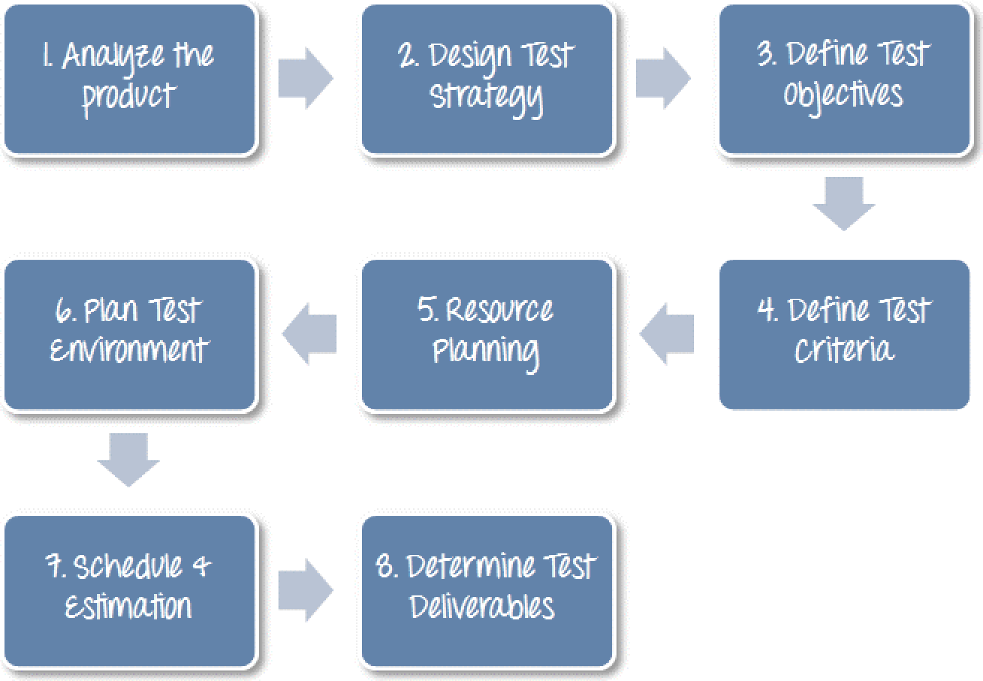
5.3 Explain how the above techniques are applied in your project:

1. Test Plan:

A Test Plan is a thorough document that summaries the test strategy, Testing objectives, resources (manpower, software, hardware) mandatory for testing, test schedule, test estimation as well as the test deliverables. The test plan assists as a plan to conduct software testing events as a defined process which is closely observed and measured by the test manager. Test Plan are known as the most vital task of Test Management Process.

Next are the seven steps below to create a test plan as per IEEE 829

1. Analyse the product
2. Design the Test Strategy
3. Define the Test Objectives
4. Define Test Criteria
5. Resource Planning
6. Plan Test Environment
7. Schedule & Estimation
8. Determine Test Deliverables



Step 1: <u>Analyse the product:</u>

How can you assess a product without any information about it? The answer is Impossible. You must learn a product systematically beforehand testing it. You must know your end users and their needs and expectation from the product/ application

<u>Following is the test of the product: SmartGym</u>

- Who will use the website?
  The end user of this website are the gym members and the owner/admin of the gym
- What is it used for?
  It is used for getting the information about the member latest measurements, packages, alerts etc and their information to the admin
- What is the software and hardware the product uses?
  Software Requirements:
  - Language: PHP
  - Database: MySQL
  - Windows 7 and above
  - WampServer

  Hardware Requirements:
  - Processor- Intel i3 and above
  - Hard Disk- 1 GB (minimum)
  - RAM- 2 GB RAM

Step 2: <u>Develop Test Strategy</u>

Test Strategy is a serious step in creation of a Test Plan. A Test Strategy document, is a high-level paper, which is usually established by Test Manager. This document defines:

- The project’s testing objectives and the means to achieve them
- Determines testing effort and costs

Step 3: Define Test Objective:

Test Objective is the complete goal and accomplishment of the test execution. The objective of the testing is finding as many software flaws as probable; ensure that the software below test is bug free beforehand it releases.

Following is the test objective of the SmartGym:

- The main objective of the software is the proper functionality of all the modules
- The end user is satisfied with the result of the software
- It ensures the end users that the system is more secure than the existing system

Step 4: Define Test Criteria:

Test Criteria is a ordinary or rule on which a test process or test judgment can be constructed. There're 2 types of test criteria as following

- Suspension Criteria

Specify the critical suspension criteria for a test. If the suspension criteria are met during testing, the active test cycle will be suspended until the criteria are resolved.

- Exit Criteria

It requires the criteria that signify a successful completion of a test phase. The exit criteria are the targeted outcomes of the test and are required previously proceeding to the next stage of development. Example: 95% of all critical test cases are essential to pass.

Step 5: Resource Planning

Resource plan is a comprehensive summary of all types of properties required to complete project task. Resource can be human, equipment and materials needed to complete a project. The resource planning is important feature of the test scheduling because it helps in defining the number of resources (employee, equipment…) to be used for the project. Therefore, the Test Manager can make the accurate schedule & approximation for the project.

Step 6: Plan Test Environment

A testing environment is an arrangement of software and hardware on which the testing crew is going to perform test cases. The test environment comprises of real business and user environment, as well as physical environments, such as server, front end running environment.

Step 8: Test Deliverables

Test Deliverables is a list of complete documents, tools and other components that has to be established and preserved in support of the testing effort.

Test deliverables are provided before testing phase.

- Test plans, Test cases and Test design document.

Test deliverables are provided during the testing

- Test Scripts, Test Data and Simulator
- Error logs and execution logs.

Test deliverables are provided subsequently afterward the testing cycles is over.

- Test Results/reports
- Defect Report

2. Test cases:

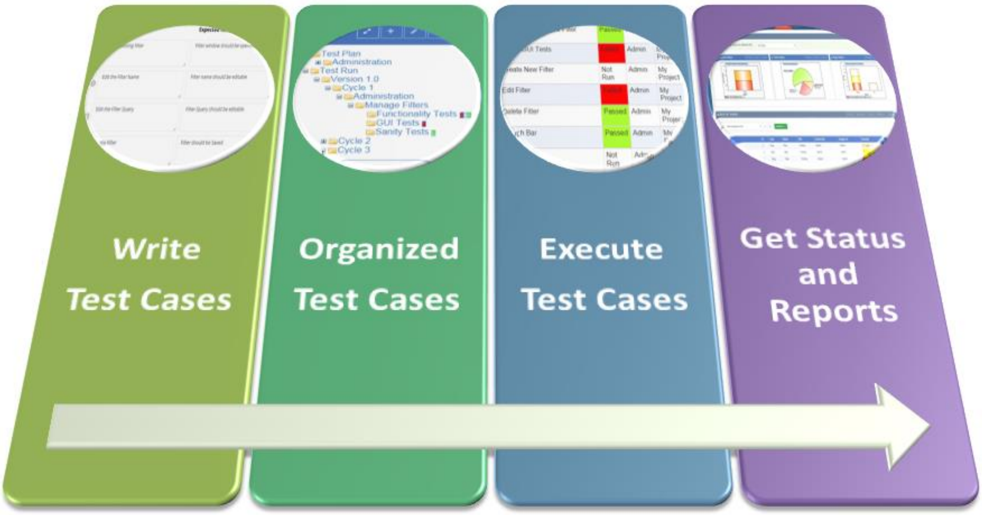
A Test Case is defined as a set of actions implemented to verify a particular feature or functionality of the software application. A test case is an essential module of the Software Testing Lifecycle that helps validate the AUT (Application Under Test).

Typical Test Case Parameters:

- Test Case ID
- Test Scenario
- Test Case Description
- Test Steps
- Prerequisite
- Test Data
- Expected Result
- Test Parameters
- Actual Result
- Environment Information
- Comments

Test Scenario Vs Test Case

Test scenarios are rather unclear and cover a wide variety of potentials. Testing is all about being very specific.



Test Cases for Unit Testing:

Project Name: SmartGym	
Test Case	
Test Case ID: 1	Test Designed by: Divya
Test Priority (Low/Medium/High): High	Test Designed date: 7/2/19
Module Name: Admin login	Test Executed by: Divya
Test Title: Admin Login	Test Execution date: 7/2/19
Description: The admin must be able to login with valid username and password	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)	Notes
1	Enter valid username	unique	The valid username must be entered	It accepted the username	Pass	
2	Enter valid password	admin123	The password must be entered	The password is entered	pass	
3	Click on login button		The admin must successfully login	The admin successfully logged in	pass	Welcomes admin and will enter to the admin-dashboard.

Project Name: SmartGym	
Test Case	
Test Case ID: 2	Test Designed by: Divya
Test Priority (Low/Medium/High): High	Test Designed date: 7/2/19
Module Name: Member login	Test Executed by: Divya
Test Title: Member Login	Test Execution date: 7/2/19
Description: The member must be able to login with valid unique registration number and member name	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)	Notes
1	Enter membership-type	Choose Only cardio	Only cardio must be selected	It selects the only cardio option	Pass	
2	Enter unique member registration number	unique	The valid reg.no must be entered	It accepts the member reg.no	pass	
3	Enter member name	unique	The valid member name must be entered	It accepted the member name	Pass	
4	Click on Show Info button		The member must successfully login	The member successfully logged in	pass	Welcomes member and will show the info of the member.

Project Name: SmartGym	
Test Case	
Test Case ID: 3	Test Designed by: Divya
Test Priority (Low/Medium/High): High	Test Designed date: 7/2/19
Module Name: Register page	Test Executed by: Divya
Test Title: Register Page	Test Execution date: 7/2/19
Description: The member must be able to create valid username and password	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)	Notes
1	Enter valid username	unique	The valid username must be entered	It accepted the username	Pass	
2	Enter valid registration number	unique	The registration number must be entered	The Registration number is entered	pass	
3	Enter new password	Mem123	The new password must be entered	It accepted the new password	pass	
3	Re Enter new password	Mem123	The new password must be re-entered and check if the new password and the re-enter new password are same	It accepted the new password	pass	
4	Click on back to login button		The member is sent back to the member login page to get logged into the system	The member is successfully transferred to the login page	pass	.

Project Name: SmartGym	
Test Case	
Test Case ID: 4	Test Designed by: Divya
Test Priority (Low/Medium/High): High	Test Designed date: 7/2/19
Module Name: new subscriber	Test Executed by: Divya
Test Title: New subscriber email	Test Execution date: 7/2/19
Description: the new member should be able to contact the admin	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)	Notes
1	Enter valid email	unique	The valid email must be entered	It accepted the email	Pass	The admin will contact soon message displays
2	Enter valid email	Not used @	The valid email must be entered	It accepted the email	Fail	It will display to enter proper valid email address

Project Name: SmartGym	
Test Case	
Test Case ID: 5	Test Designed by: Divya
Test Priority (Low/Medium/High): High	Test Designed date: 10/2/19
Module Name: Change Password	Test Executed by: Divya
Test Title: Change Password	Test Execution date: 10/2/19
Description: The admin must be able to change the old password with the new password	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)	Notes
1	Enter old password	admin123	The valid password must be entered	It accepted the old password	Pass	
2	Enter new password	admin789	The new password must be entered	It accepted the new password	pass	
3	Re Enter new password	admin789	The new password must be re-entered and check if the new password and the re-enter new password are same	It accepted the new password	pass	
6	Click the submit button		After clicking submit button the new password must be set successfully	The new password must be set successfully	pass	

Test Cases for Integration Testing:

Test Case	
Test Case ID: 6	Test Designed by: Divya
Test Priority (Low/Medium/High): High	Test Designed date: 10/2/19
Module Name:	Test Executed by: Divya
Test Title: Integration Testing	Test Execution date: 12/2/19
Description: Check its integration with different modules	

Test Case ID	Test Case Objective	Test-Case Description	Expected Result	Actual Result	Test Case Pass/Fail
1	Check the interface link between the Admin Login and Admin dashboard	Enter login credentials and click on the Login button	To be directed to the Admin dashboard	Directs the admin to the dashboard	Pass
2	Check the interface link between the logout tab and the login page	Click on the logout tab	the admin to be directed to the log-in page again	It logs-out the admin	pass
3	Check the interface link between the add member page and admin dashboard page	Click on the add member link on the admin dashboard	To be directed to the add member page	Directs the admin to the add member page	pass
4	Check the interface link between the update page and the admin dashboard	Enter on update member page on the dashboard	It directs to the update form page	Directs to the update form page	pass

1. Unit Testing Techniques:

- **Statement Coverage**:

  Statement coverage is a white box test design technique which includes implementation of all the executable statements in the code at slightest once. It is used to analyze and measure the number of statements in the source code which can be performed given the requirements.

  $$\text{Statement Coverage} = \frac{\text{Number of executed statements}}{\text{Total number of statements}} \text{ x } 100$$

- **Decision Coverage:**

  Decision coverage informs the true or false outcomes of each Boolean expression. In this coverage, expressions can sometimes get complicated. Therefore, it is very hard to attain 100% coverage.

  $$\text{Decision coverage} = \frac{\text{Number of Decision Outcomes Exercised}}{\text{Total Number of Decision Outcomes}}$$

- **Branch Coverage:**

  In branch coverage, every conclusion from a code module is tested. For example, if the results are binary, you want to test both True and False outcomes.
  It helps you to confirm that every possible branch from each decision condition is implemented at least a single time.

  $$\text{Branch Coverage} = \frac{\text{Number of Executed Branches}}{\text{Total Number of Branches}}$$

- **Conditional coverage:**

  Conditional coverage or expression coverage will disclose how the variables or sub expressions in the conditional statement are assessed. In this coverage expressions with logical operands are only measured.
  For example, if an expression has Boolean operations like AND, OR, XOR, which specified total potentials.

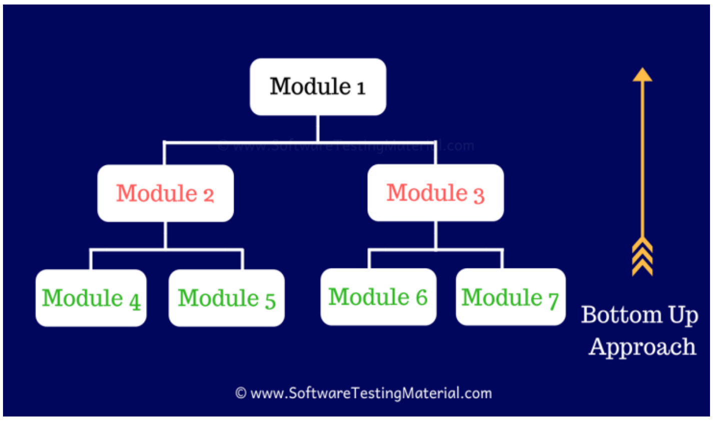
  $$\text{Conditional coverage} = \frac{\text{Number of Executed Operands}}{\text{Total Number of Operands}}$$

2. Integration testing techniques:

- **Bottom-up integration testing:**

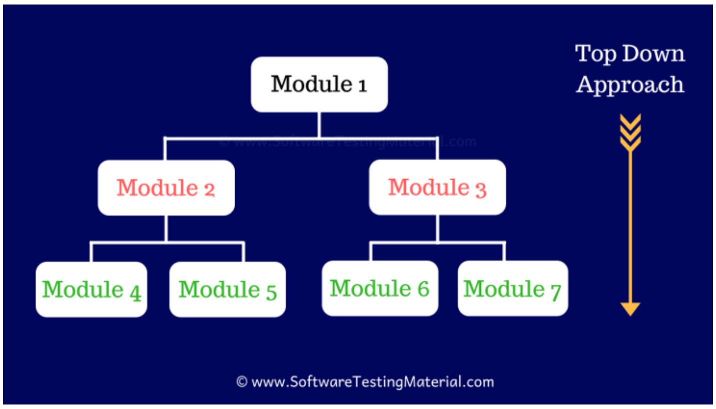
  Bottom-up testing approach focuses on testing the bottom part/ individual units and modules and then goes upward by integrating testing and working units and modules for system testing and intersystem testing. Bottom up testing is also termed as "Classical approach" as it may indicate a normal way of doing things.

  Bottom-up integration testing makes a system more robust since individual units are tested and confirmed as working. Each components and unit is tested first for its correctness.

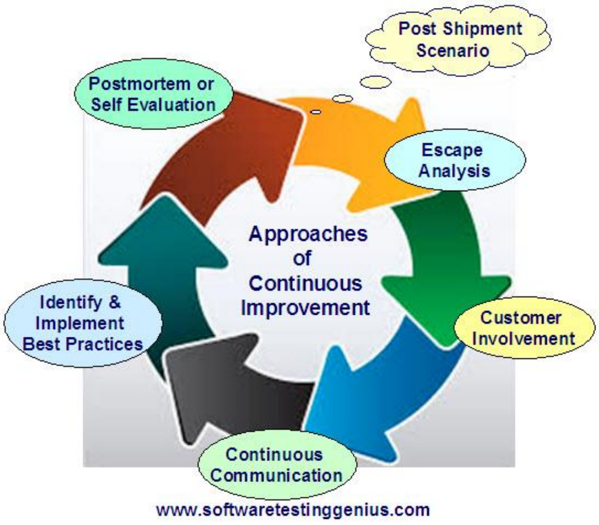


- **Top-Down integration testing:**

  In top-down approach, the top level of the application is tested fist and then it goes downward until it reaches the final component of the system. The feasibility of the entire program can be determined easily at a early stage as topmost layer. Top-down approach can detect major flaws in system designing by taking inputs from the user.



5.4 Modifications and Improvements:


Post Shipment Scenario
Postmortem or Self Evaluation
Escape Analysis
Approaches of Continuous Improvement
Customer Involvement
Identify & Implement Best Practices
Continuous Communication
www.softwaretestinggenius.com

Step 1: Doing a self-evaluation of the project test to close the project loop

Software testing teams in good administrations perform a periodic self-evaluation to close the loop on the plan. These are reviews targeted at identifying what worked well & what didn’t. The results can lead to adjustments in testing techniques & processes.

Step 2: Identification of Escape Analysis Activities

No matter how wide-ranging a test plan is, there will be difficulties, which would outflow from one test phase to the following. Unfortunately, some difficulties will slip out to customers as well. Escapes are likely in any environment, but steps can be taken to limit them. One important technique is for software testing engineers to perform an analysis of the ones that had already gone away. Post-project & in-process escape analysis actions are serious means for driving the test improvements.

Step 3: Customer Involvement

An excellent way to understand the shortcomings of your test efforts is to share them directly with actual customers. If the problems encountered by customers are significant, they will expect action by the software vendor to address the apparent lack of test coverage. But experience shows that customers also tend to be helpful in identifying specific gaps & helping to create solutions.

Step 4: Communication

Continuous improvement is a byproduct of continuous communication

Step5: Examining Best Practices

Another mechanism, which helps a software testing team to improve, is the implementation of testing best practices. These practices might be anything from tools to procedures to automation. Compile a list of possibilities, & then see how your team approaches compare.

Chapter 6: Results and Discussion

6.1 Test Reports:

Test Report is needed to imitate testing outcomes in a formal way, which gives a chance to evaluation of the test results quickly. It is a document that archives data attained from an evaluation research in an ordered manner, describes the environmental or operating situations, and shows the assessment of test results with test aims. Test report is a communication tool among the Test Manager and the stakeholder. Concluded the test report, the stakeholder can recognize the project condition, the value of product and other things.

Test Report should be:

Detail
Specific
Report
Clear
Standard

- **Detail**: It should be able to provide a detailed description of the testing activity, which shows the testing you have performed. No need to put the abstract information into the report, as the reader will be able to understand.
- **Clear:** The information in the test report must be short and visibly understandable.
- **Standard:** The Test Report must follow the standard template.
- **Specific:** Make sure to not write an essay about the project activity. Describe and summarize the test result condition and emphasis on the main point.

6.1.1 Project Information:

Following is the overview of the system:

PROJECT OVERVIEW	
Project Name	SmartGym
Name of the Product	Gym Management System
Product Description	Gym website
Project Description	To deliver a secure system to the member of the gym and to have a central database information of all the member in the system, so that it saves resources
PROJECT DURATION	
Start Date	10/1/2019
End Date	15/3/2019

6.1.2 Test Objective:

The main objective of the test case are as follows:

- Finding the defects in the system in the earlier stage of the developing process.
- To have the confidence about the system end result and its performance.
- To be ensured enough about the quality of the system.
- To prevent defects in the future.
- Being able to make the end results of the system meet the business requirement as well as the user requirements.
- To make sure it satisfies the Software Requirement Specification [SRS] as well as the Business Requirement Specification [BRS]
- To give the member of the gym the confidence regarding the quality of the system.

6.1.3 Test Summary:

Project Name: SmartGym
Following are the summaries of all the testing activity:

- **Test type: Unit Testing**

The table below summarizes the results of unit testing of the admin login page.

Test Case ID	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary of Defect	Closed prior to Production Release?	Comments
1	7/2/19	Jaitali	Pass	High	Intrusion of privacy	yes	Admin login-unit testing

The table below summarizes the results of unit testing of the member login page.

Test Case ID	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary of Defect	Closed prior to Production Release?	Comments
2	7/2/19	Sayali	Pass	High	Intrusion of privacy	yes	Member login-unit testing

The table below summarizes the results of unit testing of the register page.

Test Case ID	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary of Defect	Closed prior to Production Release?	Comments
3	7/2/19	Jaitali	Pass	High	Intrusion of privacy	yes	Register member-unit testing

The table below summarizes the results of unit testing of the new member contact page.

Test Case ID	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary of Defect	Closed prior to Production Release?	Comments
4	7/2/19	Sayali	Pass	High	-	yes	New member contact page-unit testing

The table below summarizes the results of unit testing of the admin change password page.

Test Case ID	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary of Defect	Closed prior to Production Release?	Comments
5	10/2/19	Jaitali	Pass	High	Intrusion of privacy	yes	Change password-unit testing

- **Test type: Integration Testing**

The table below summarizes the results of integration testing

Test Case ID	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary of Defect	Closed prior to Production Release?	Comments
6	10/2/19	Jaitali	Pass	High	Functionality of the system	yes	Integration between different module

TEST REPORT			
Execution			
Passed:	40	**Failed:**	0
Total Executed	40		
Pending	0		
In-Process	0		
Blocked	0		
Test Planned	40		

6.1.4 Defects:

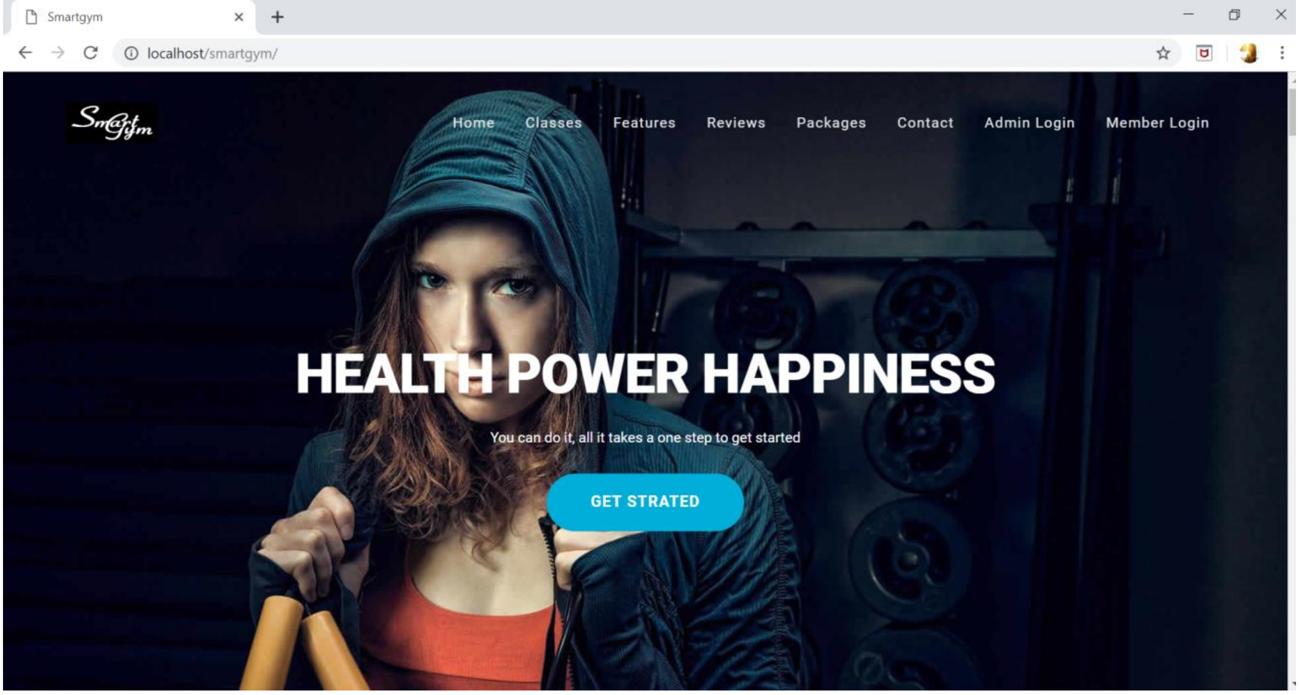
Following are the summary of all the defects in the system:

Bugs Encountered		
Total bugs encountered		**3**
Bugs in	**open state**	1
	resolved state	1
	closed state	1
Open Bugs with	**High priority**	2
	Medium Priority	1
	Low priority	0
Published Date		15/3/19

6.2 User Documentation:

Following are the different components and their working of the system.

- Index: This segment includes the user module and the admin login

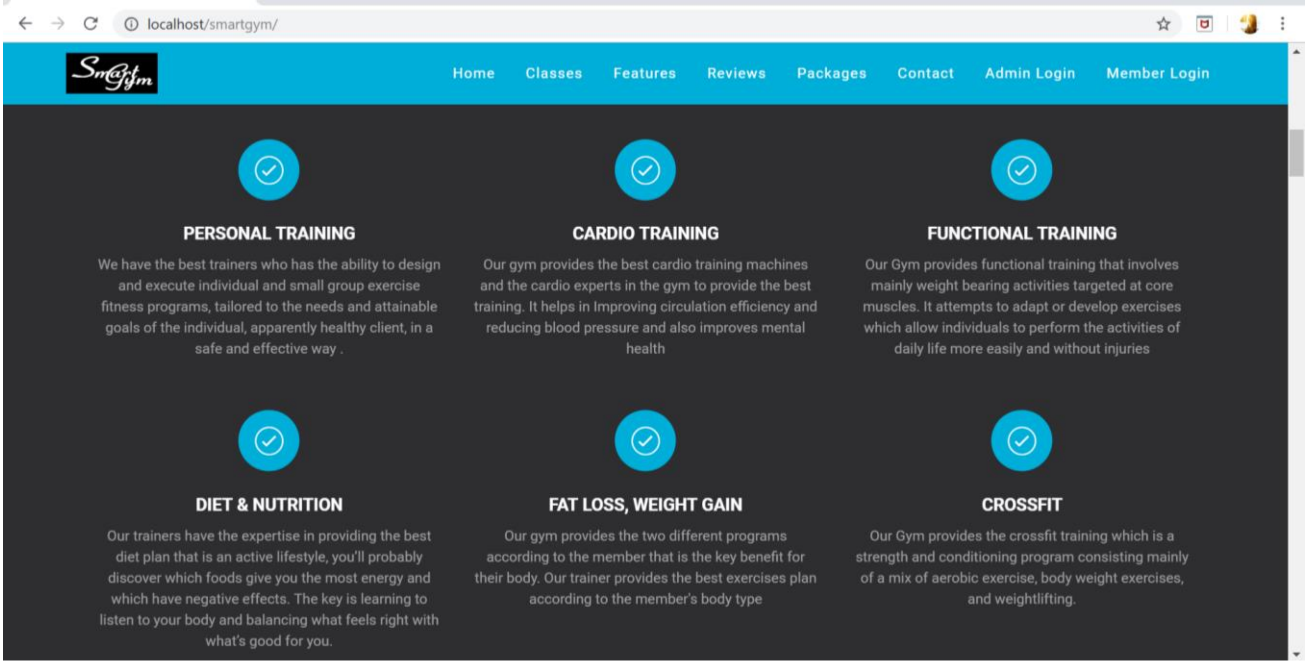


HEALTH POWER HAPPINESS

You can do it, all it takes a one step to get started

GET STRATED

- Different classes provided by the gym



PERSONAL TRAINING

We have the best trainers who has the ability to design and execute individual and small group exercise fitness programs, tailored to the needs and attainable goals of the individual, apparently healthy client, in a safe and effective way .

CARDIO TRAINING

Our gym provides the best cardio training machines and the cardio experts in the gym to provide the best training. It helps in Improving circulation efficiency and reducing blood pressure and also improves mental health

FUNCTIONAL TRAINING

Our Gym provides functional training that involves mainly weight bearing activities targeted at core muscles. It attempts to adapt or develop exercises which allow individuals to perform the activities of daily life more easily and without injuries

DIET & NUTRITION

Our trainers have the expertise in providing the best diet plan that is an active lifestyle, you'll probably discover which foods give you the most energy and which have negative effects. The key is learning to listen to your body and balancing what feels right with what's good for you.

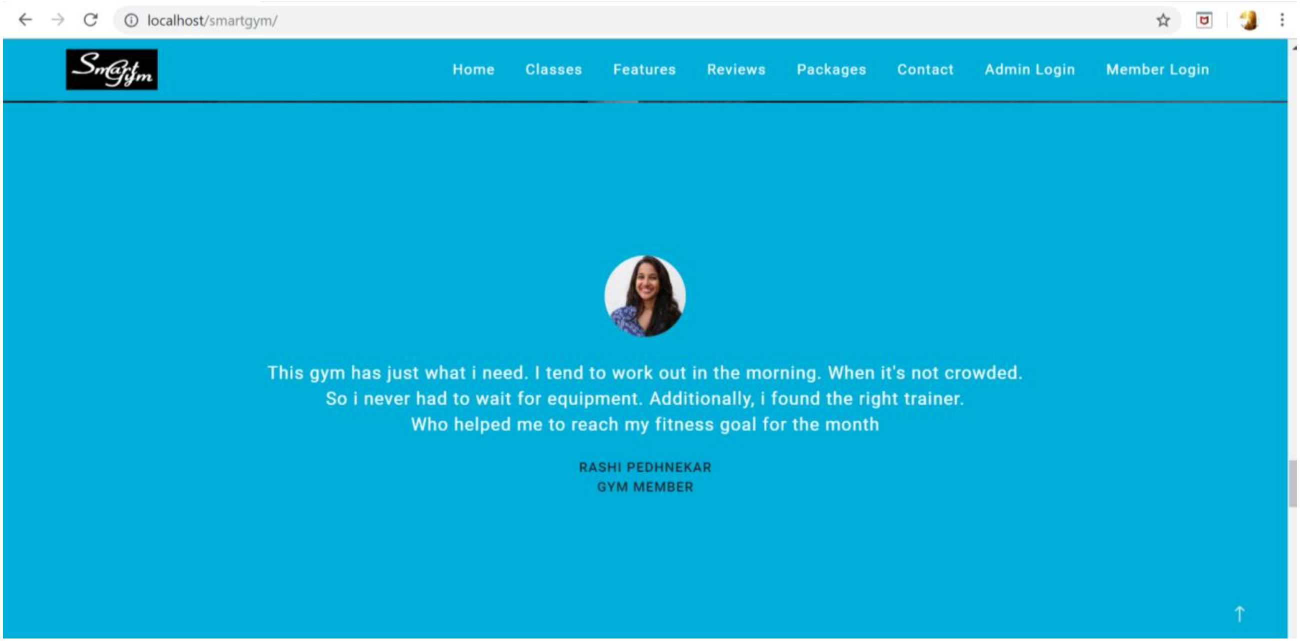
FAT LOSS, WEIGHT GAIN

Our gym provides the two different programs according to the member that is the key benefit for their body. Our trainer provides the best exercises plan according to the member's body type

CROSSFIT

Our Gym provides the crossfit training which is a strength and conditioning program consisting mainly of a mix of aerobic exercise, body weight exercises, and weightlifting.

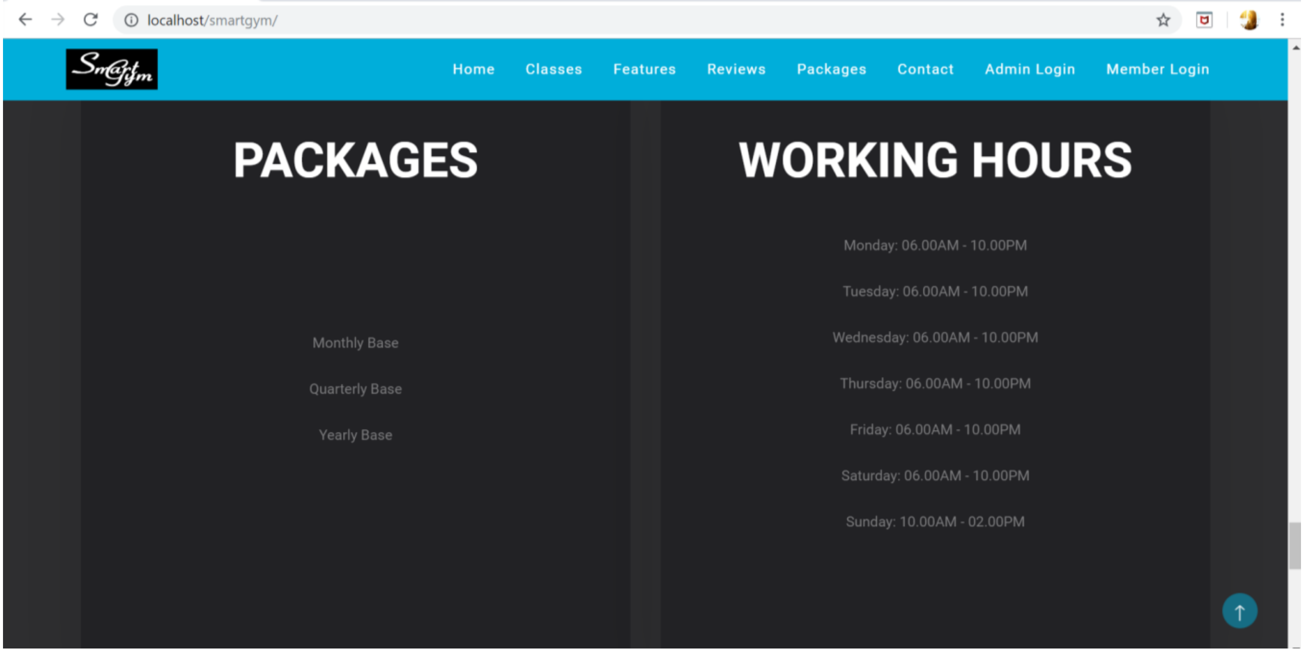
- Different Review provided by the gym member



This gym has just what i need. I tend to work out in the morning. When it's not crowded.
So i never had to wait for equipment. Additionally, i found the right trainer.
Who helped me to reach my fitness goal for the month

RASHI PEDHNEKAR
GYM MEMBER

- Information about the different packages and working hours of the gym



PACKAGES

Monthly Base

Quarterly Base

Yearly Base

WORKING HOURS

Monday: 06.00AM - 10.00PM

Tuesday: 06.00AM - 10.00PM

Wednesday: 06.00AM - 10.00PM

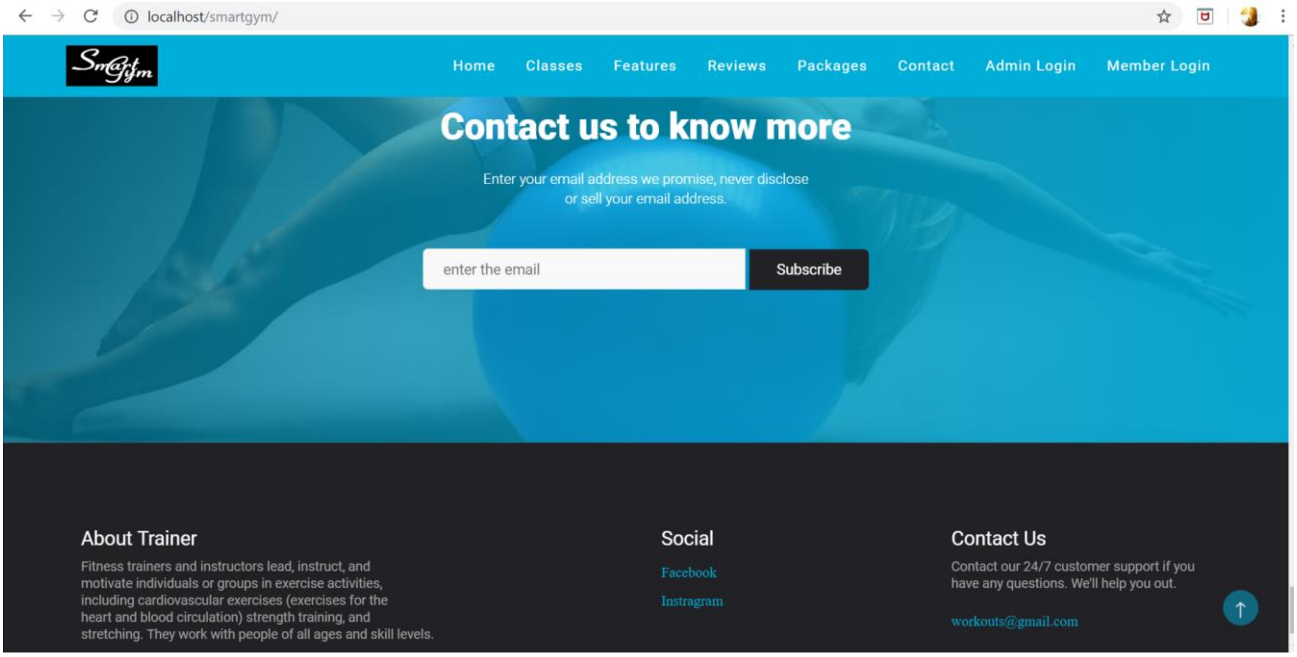
Thursday: 06.00AM - 10.00PM

Friday: 06.00AM - 10.00PM

Saturday: 06.00AM - 10.00PM

Sunday: 10.00AM - 02.00PM

- This module helps the new member to contact the gym admin.



Contact us to know more

Enter your email address we promise, never disclose or sell your email address.

About Trainer

Fitness trainers and instructors lead, instruct, and motivate individuals or groups in exercise activities, including cardiovascular exercises (exercises for the heart and blood circulation) strength training, and stretching. They work with people of all ages and skill levels.

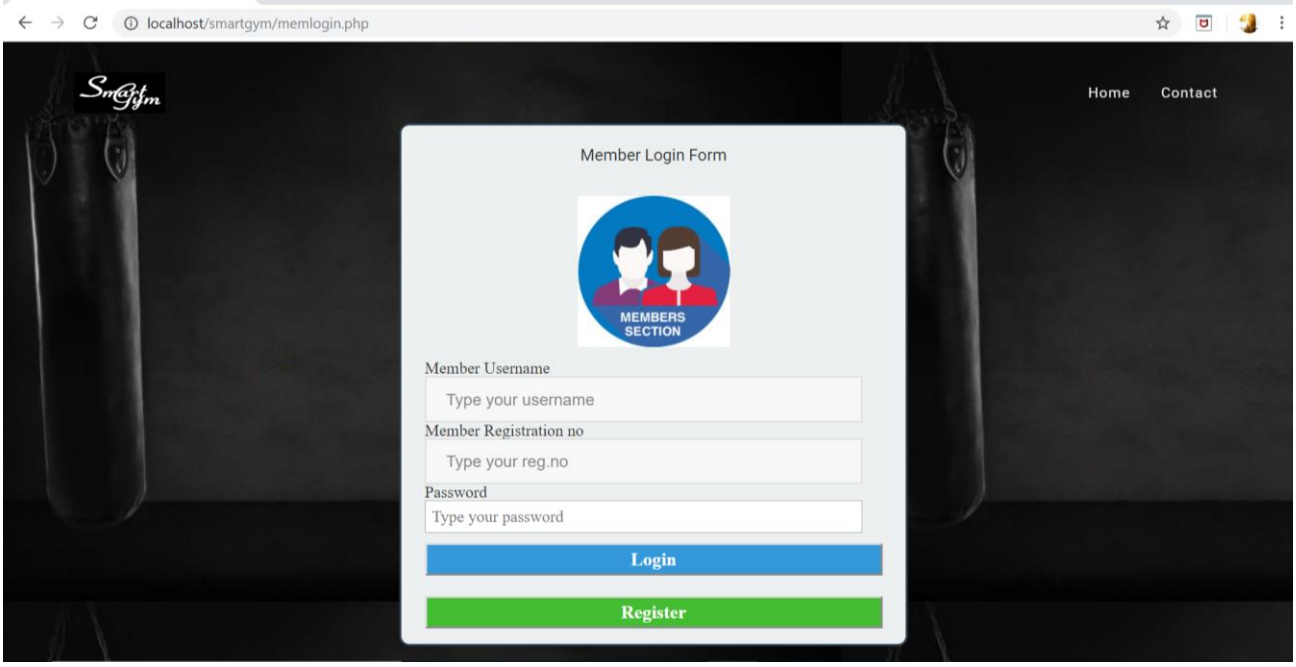
Social

Contact Us

Contact our 24/7 customer support if you have any questions. We'll help you out.

workouts@gmail.com

- <u>User module</u>: In this module the user/member gets their details by logging into the system



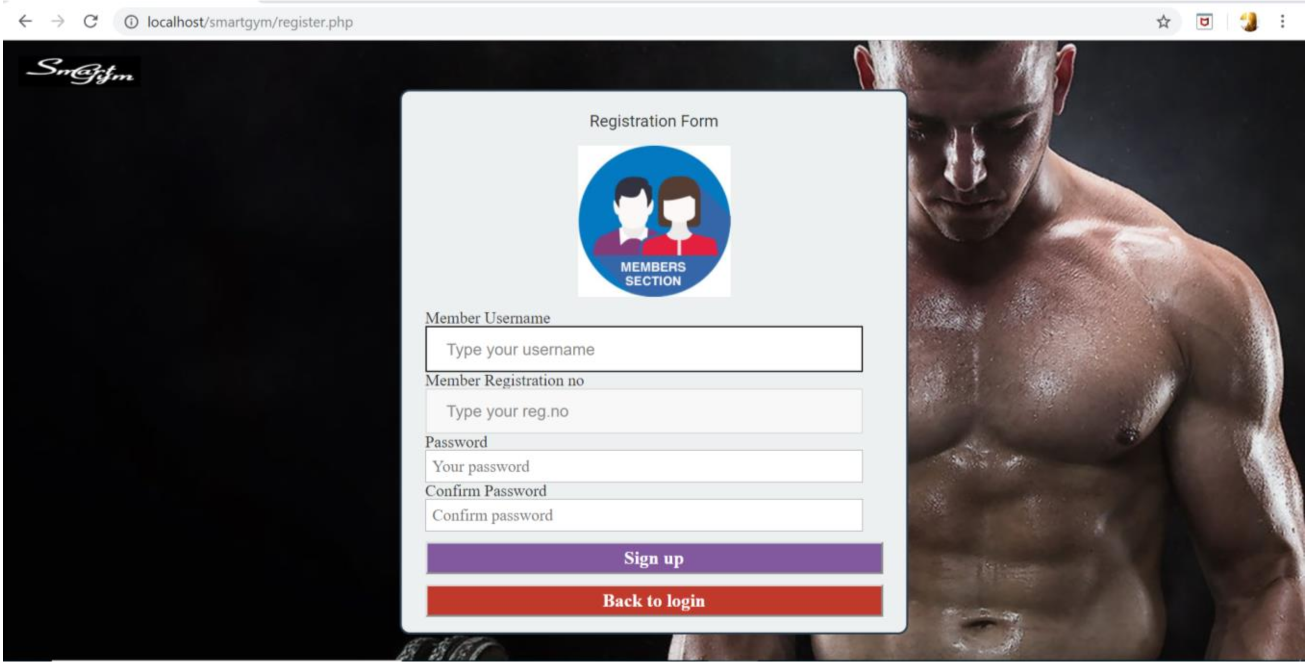
Member Login Form

Member Username: Type your username

Member Registration no: Type your reg.no

Password: Type your password

- Register module: If the member is new then he creates a new account through this module



localhost/smartgym/register.php

Registration Form

Member Username

Type your username

Member Registration no

Type your reg.no

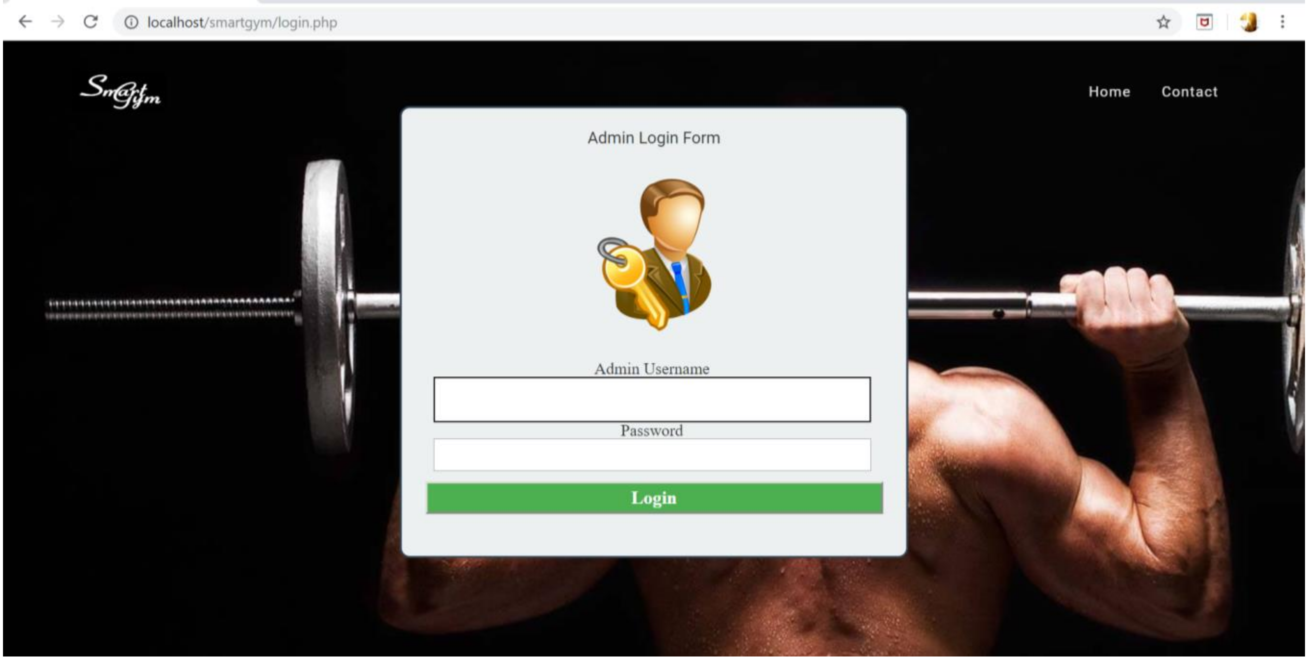
Password

Your password

Confirm Password

Confirm password

- Admin Login: In this module it directs to the admin login page where the admin has to login in with their username and password



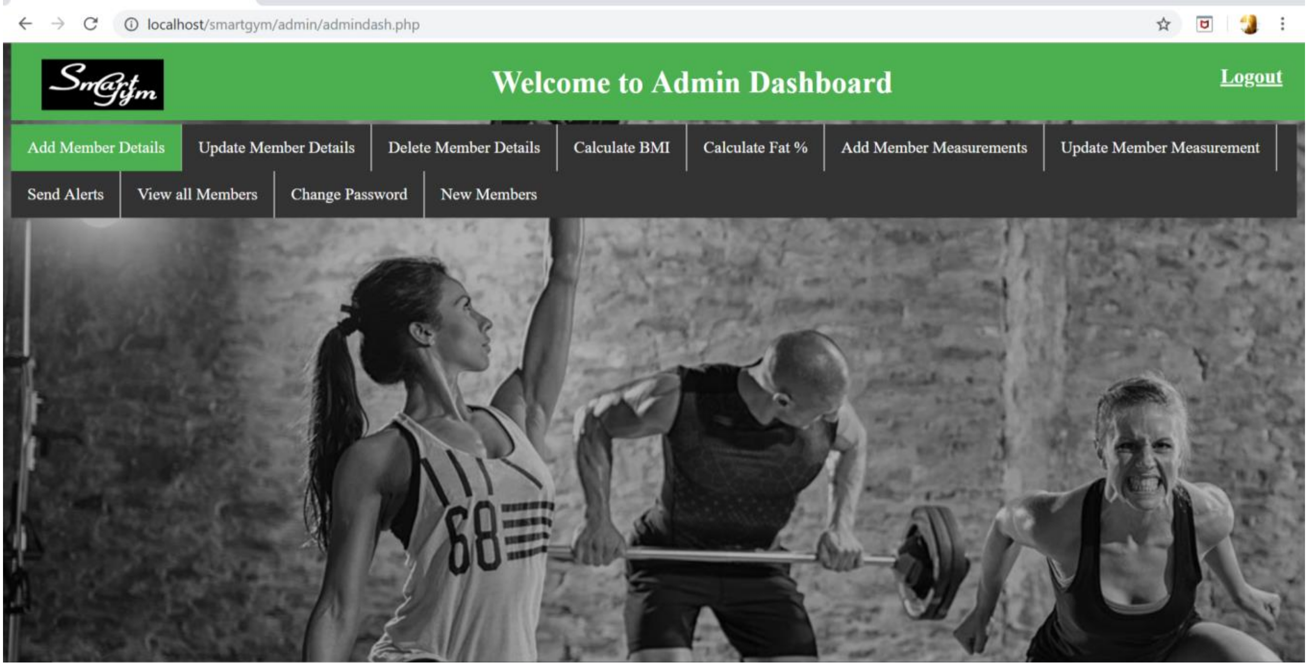
localhost/smartgym/login.php

Admin Login Form

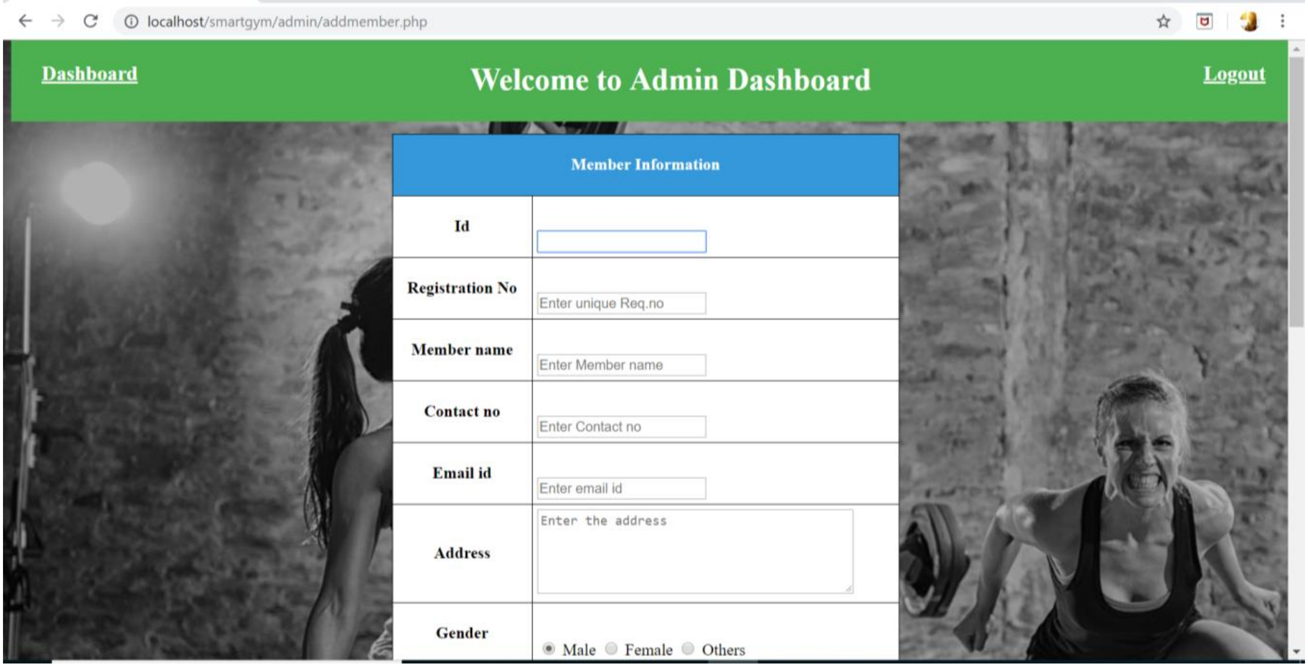
Admin Username

Password

- Admin Dashboard: Once the admin is given the permission, he gets access to the admin dashboard page.

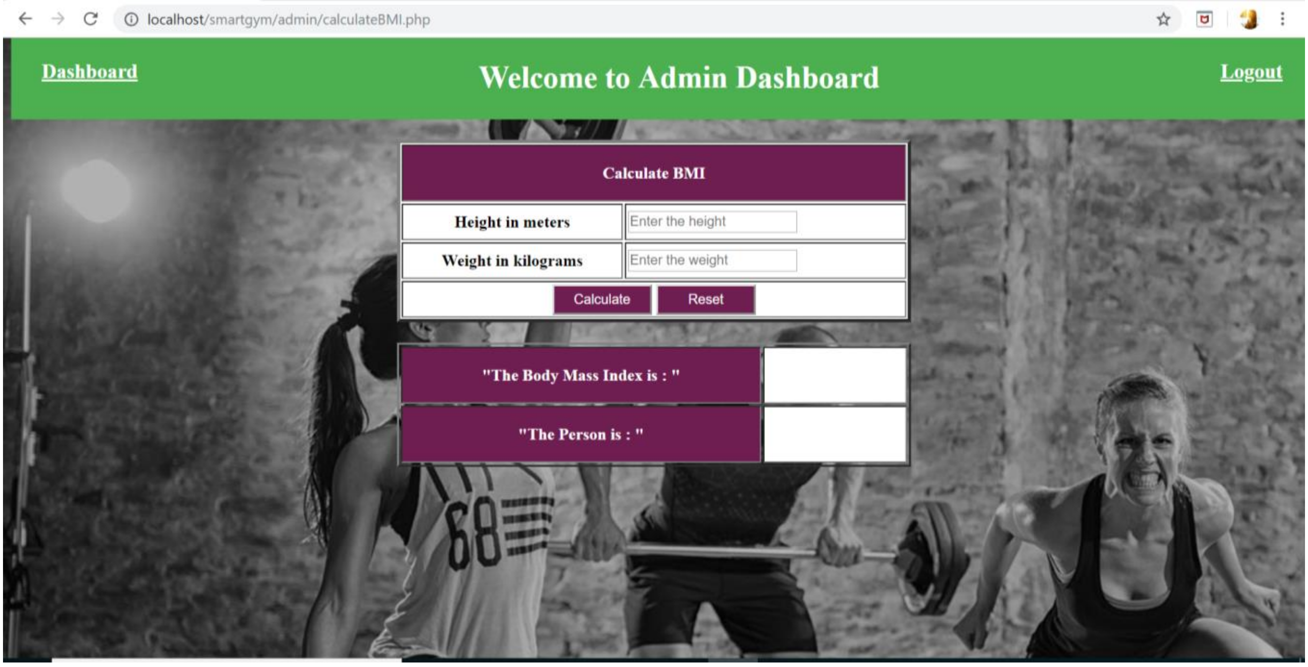


- Add member details: In this module the admin adds the details about the member


localhost/smartgym/admin/addmember.php
Dashboard
Welcome to Admin Dashboard
Logout

Member Information	
Id	
Registration No	Enter unique Req.no
Member name	Enter Member name
Contact no	Enter Contact no
Email id	Enter email id
Address	Enter the address
Gender	● Male ○ Female ○ Others

- Calculate BMI: In this module the admin can calculate the BMI of the member

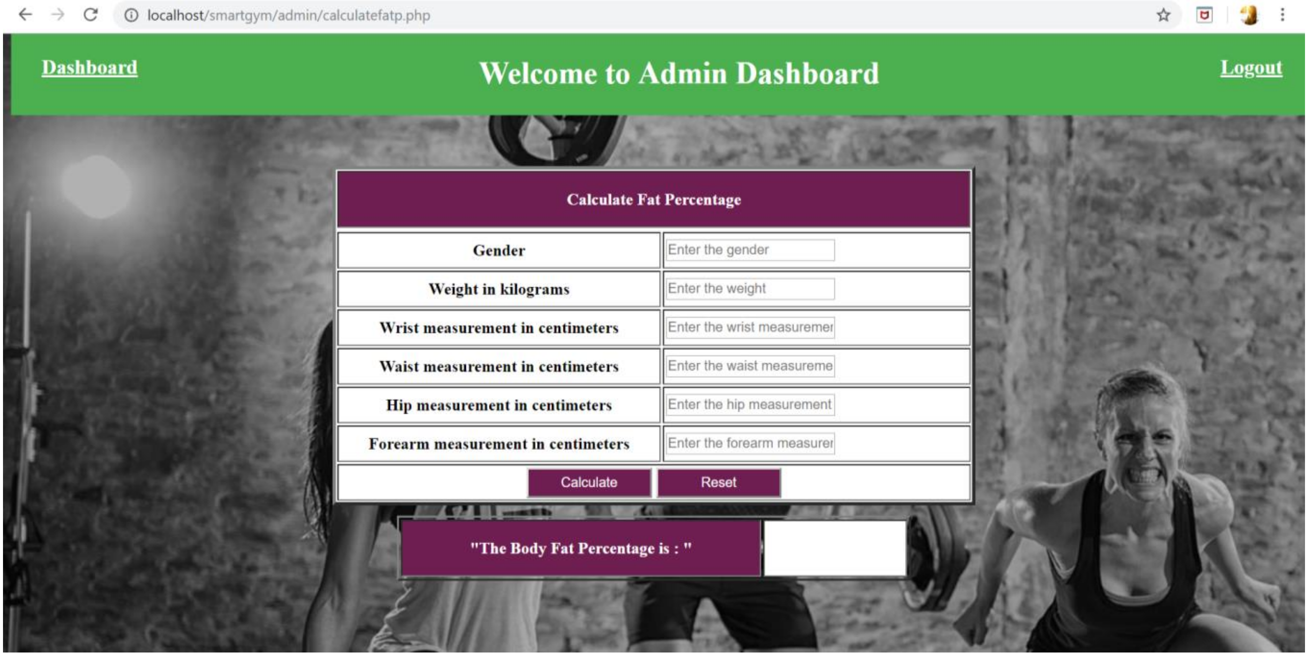


localhost/smartgym/admin/calculateBMI.php

Calculate BMI	
Height in meters	Enter the height
Weight in kilograms	Enter the weight

"The Body Mass Index is : "	
"The Person is : "	

- Calculate fat%: In this module the admin can calculate the fat% of the member

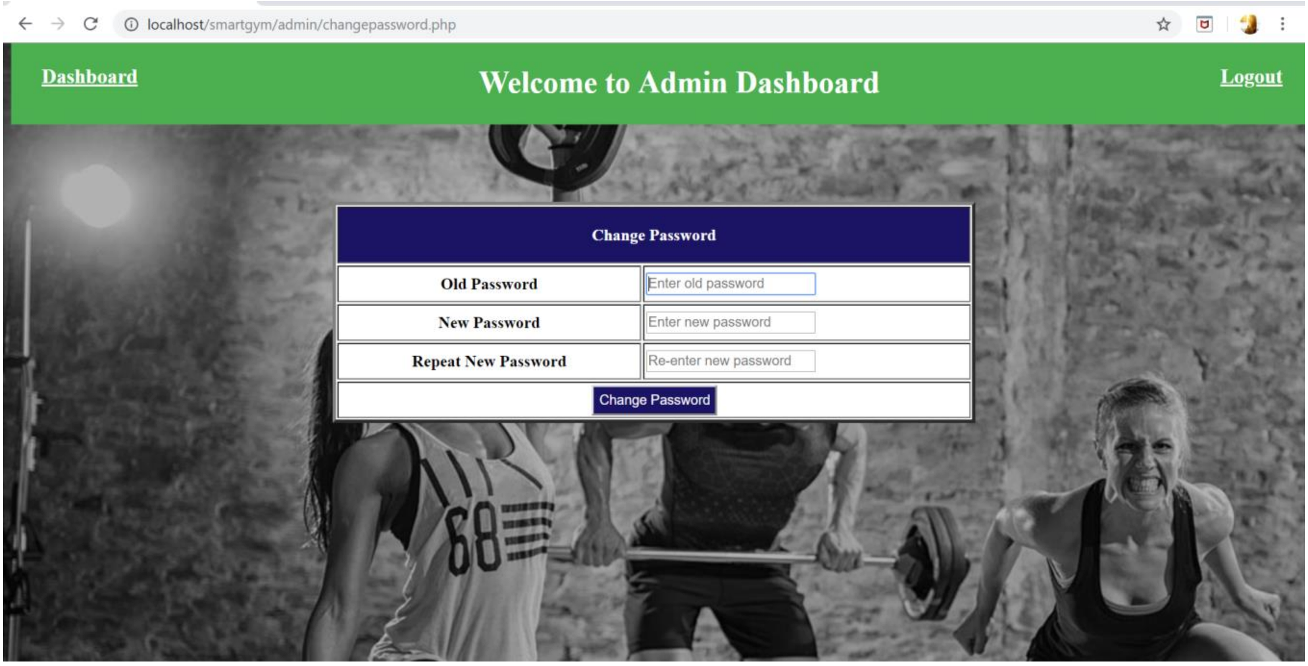


localhost/smartgym/admin/calculatefatp.php

Calculate Fat Percentage	
Gender	Enter the gender
Weight in kilograms	Enter the weight
Wrist measurement in centimeters	Enter the wrist measuremer
Waist measurement in centimeters	Enter the waist measureme
Hip measurement in centimeters	Enter the hip measurement
Forearm measurement in centimeters	Enter the forearm measurer

"The Body Fat Percentage is : "	

- <u>Change Password</u>: In this module the admin can change the old password with the new password.

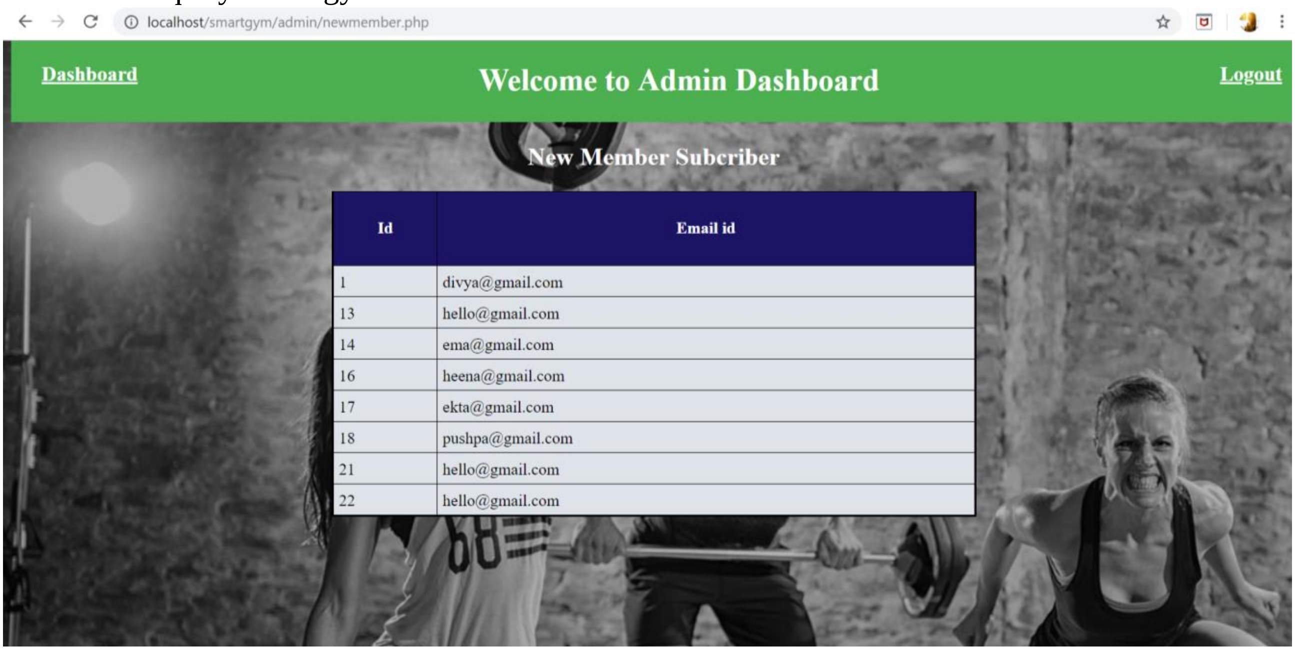


localhost/smartgym/admin/changepassword.php

Welcome to Admin Dashboard

Change Password	
Old Password	Enter old password
New Password	Enter new password
Repeat New Password	Re-enter new password

- <u>New member module</u>: In this module the admin gets the email of the new member for the inquiry of the gym



localhost/smartgym/admin/newmember.php

Welcome to Admin Dashboard

New Member Subcriber

Id	Email id
1	divya@gmail.com
13	hello@gmail.com
14	ema@gmail.com
16	heena@gmail.com
17	ekta@gmail.com
18	pushpa@gmail.com
21	hello@gmail.com
22	hello@gmail.com

Chapter 7: Conclusions

7.1 Conclusion:

This project has given me alot of practice in a very wide way. This project has given us a great opportunity to explore the skills, to think towards problem, to accept them and solve them efficiently. It made us implement everything in practice that I had learnt and also other useful part which was not covered on syllabus.

This project has given a professional touch towards our learning. It has made us implement things practically in life. It has also increased our communication skills. This project has played a key role in my academic career. In technical terms to say it has acted as an "interface" between our academics and industry. It made us more productive, respecting the need of user, understanding their problems and making them understand the project. It has acted as a "gateway" towards the corporate world. It made me understand different factors which are required to figure a fully-fledged project.

On personal level it has flourished our skills, made us more strength to tackle problems, made us give the best in us.

7.2 Limitation of the project:

- Admin has to enter from time to time of the members personal details
- Multiprocessing would not be likely
- Extensive help would not be conceivable

7.3 Future scope of project:

- This software has many future applications like it can be used in gym to record the equipment record and the employee’s record
- In future, can use cloud storage
- Can be used in any type of gym i.e small scale to large scale

7.4 References:

- www.wikipedia.com
- www.tutorialspoint.com
- https://www.apachefriends.org/download.html
- https://php.com
- http://www.slideshare.net/jagaarj/database-design-normalization
- https://www.twilio.com/docs/quickstart/php/sms
- https://youtube.com