GYM Management System

A Project Submitted in Partial Fulfillment of the Requirements for the

Degree of

Bachelor of Science in Computer Science and Engineering

by

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Abstract

Our website is a gym and health club membership management system. GYM Management System is an online service that can be setup for your gym to help manage classes, memberships. Administrator members can keep membership records and communicate quickly and easily.

First a user buys a package and selects the trainer. A user can see the trainer and hate them. A user must sign up for the portal. The user can confirm the admin package after purchasing a package. Members can cancel the package before confirming the admin. The member also sees his purchase order.

In this website admin can control the full system, admin can create package, food menu, add employee (instructor), see orders and confirm, salary maintain.

The project for the storage of the data has been planned using MySQL server and all the user interfaces have been designed using HTML, CSS, jQuery, and Bootstrap and for the backend using PHP.

Approval

The project report “GYM Management System” submitted by Md. Shakil Ahmed ID: CSE 063 07499 & Md. Rabbi Mia Robin ID: CSE 063 07504 to the Department of Computer Science & Engineering, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science (B.Sc.) in Computer Science & Engineering and as to its style and contents.

Board of Examiner's Name, Signature, and Date:

……..	……..	…….
(Board Member 1)	**(Board Member 2)**	**(Board Member 3)**
Date:	Date:	Date:

Supervisor’s Signature and Date:

……..

Tanvir Rahman

Date:

Declaration

I, hereby, declare that the work presented in this project is the outcome of the investigation performed by me under the supervision of **Tanvir Rahman**, Lecturer, Department of Computer Science & Engineering, Stamford University Bangladesh. We also declare that no part of this Project and thereof has been or is being submitted elsewhere for the award of any degree or Diploma.

Signature and Date:

……...

Md. Shakil Ahmed

Date: 23.12.2021

……...

Md. Rabbi Mia Robin

Date: 23.12.2021

Dedicated to…

This project report is dedicated to my mother and father and all my friends for being with me and supporting me in capture and each issue I confronted in project report completions and to my instructors and all individuals who trained me.

Acknowledgments

We would like to thank the following people for their support and encouragement. It is amongst the greatest clichés when writing a supervised report to say a big thanks to our honorable teacher Supervisor **Tanvir Rahman**. We say a big thanks not only for his guidance and patience during this project but also for his mentoring throughout all our brief encounters with the project world in past.

We cannot ignore the important role played by faculty in the Faculty of Computer Science and Engineering, Stamford University of Bangladesh which provided us all the knowledge necessary in the fourth year to complete the project, to them all our thanks and gratitude. We offer our thanks to all employees in the Faculty of Computer Science and Engineering.

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1 Introduction

"GYM" is a website that provides health tips and club memberships. Here admin can control the full system, the admin can create package, edit, sell and delete, create food menu edit and delete, create employee, edit and delete, paid employees salary and confirm the orders. First a member will sign up on our portal then buy the package. After confirming the admin order, members can start training. When a member buys a package they can choose a trainer of their choice. Members can view trainer profiles and rate them. The admin provide ID cart for joining.

1.1 Objective

- To design and develop a user friendly system.
- Easy to use and efficient computerized system.
- To store the record of the members, the staff that has the privileges to access, modify and delete any record and finally the service, gym provides to its customers.
- To provide better graphical user interface.
- Less chances of information leakage.
- Provide security to data by using login and password.

1.2 Scope

- Storing information of members and employees.
- Check validity of information provided by users.
- Storing information of members according to their ID card.

1.3 Modules Overview

1.3.1 Signup

In this system, members must fill up the registration form for their next steps. After successful registration, they can go for the next steps.

1.3.2 Login

In this login system, members put email and password for login then they can buy the package.

1.3.3 Member

- Choose a package & buy
- Choose instructor
- See food menu

1.3.4 Super Admin

- Confirm orders
- Provide ID card
- Add, edit, delete and sell packages
- Add, edit and delete foods
- Add, edit and delete employees
- Pay salary for the employees and view salary list
- Manage trainers and class schedules
- View contact

1.3.5 Admin

- Sell packages
- Confirm orders
- Add, edit and delete foods
- Pay salary for the employees and view salary list
- View contact

1.4 Technology

During the development of this application, several techniques had been applied to get as much information as a guide in developing this system, Sources are collected from journals, books, electronic resources, and observation. Besides most observation is done through the internet.

The database will be created by using MySQL (Xampp) while the programing language PHP and using front-end HTML, CSS, and jQuery.

Software Requirements:

Operating System: Windows 7/8/10
Front-end: HTML, CSS, Bootstrap and jQuery
Back-end: PHP
Platform: Visual Studio Code, Sublime Text
Database: Xampp (MySQL)

Hardware Requirements:

Processor: Intel core 2 duo or Updated
Hard Disk: 40GB

RAM: 2GB or More

2 Development Tools

In this chapter, we describe our tools that have has been built into the project. In this project, we used HTML, CSS, jQuery, and Bootstrap as frontend and used backend PHP. Used database MySQL.

2.1 Web Browsers

A computer program (such as Internet Explorer, Google Chrome, or Mozilla Firefox) that permits internet users to access, navigate, and search World Wide internet sites. Browsers interpret hypertext links and allow documents formatted in a hypertext markup language (HTML) to be viewed on the computer screen, and provide many other services including email and downloading and uploading of data, audio, and video files. Also called a web browser. The purpose of a web browser such as Google Chrome, Internet Explorer, Firefox, Safari, etc. to read HTML documents and display them as sites. The browser doesn't display the HTML tags but uses the tags to work out how the content of the HTML page is to be presented/displayed to the user [1].

2.2 Web Page

Electronic (digital) document created with HTML and, therefore, accessible with a browser. In addition to text and graphics, sites can also contain downloadable data files, audio and video files, and hyperlinks to other pages or sites. A website is usually a collection of web pages. Typical web pages provide hypertext that includes a navigation bar or a sidebar menu to other web pages via hyperlinks, often referred to as links. On a network, an internet browser can retrieve an internet page from a foreign web server. On a higher level, the web server may restrict access to only a private network such as a corporate internet or it provides access to the World Wide Web. On a lower level, the online browser uses the Hypertext Transfer Protocol (HTTP) to form such requests. A static web page is delivered exactly as stored, as web content in the web server's file system, while a dynamic web page is generated by a web application that is driven by server-side software or client-side scripting. Dynamic website pages help the browser (the client) to reinforce the online page through user input to the server [1].

2.3 How does the web page work

When you enter something like Google.com the request goes to at least one of the many special computers on the web referred to as name Servers (DNS). All these requests are routed through various routers and switches. The name servers keep tables of machine names and their IP addresses, so once you type in Google.com it gets translated into variety, which identifies the computers that serve the Google Website to you. When you want to look at any page online, you want to initiate the activity by requesting a page using your browser. The browser asks a website name server to translate the name you requested into an IP address. The browser then sends an

Invitation thereto server for the page you would like, employing a standard called Hypertext Transfer Protocol or HTTP. The server should constantly be connected to the web, able to serve pages to visitors. When it receives an invitation, it's for the requested document and returns it to the online browser. When an invitation is formed, the server usually logs the client's IP address, the document requested, and therefore the date and time it had been requested. This information varies from server to server. An average Web page requires the Web browser to request more than one file from the Web server and not just the HTML / XHTML page, but also any images, style sheets, and other resources utilized in the online page. Each of these files including the main page needs a URL to identify each item. Then each item is shipped by the online server to the online browser and the browser collects all this information and displays them within the sort of website.

2.4 HTML

HTML stands for Hypertext Markup Language. It is a basic structure of web design. It is used to create and structure sections, paragraphs, headings, links, and block quotes for web pages and applications. HTML is used to create dynamic functionality. HTML makes it possible to organize and format documents, similarly to Microsoft Word.

When working with HTML, we use simple code structures (tags and attributes) to mark up a website page design. For example, if we can create a paragraph by placing the enclosed text within a starting <*p*> and closing <*/p*> tag.

A physicist Tim Berners-Lee published the first version of HTML in 1991, consisting of 18 HTML tags. He was a physicist at the CERN research institute in Switzerland. He found an idea of an Internet-based hypertext system. That means a text that contains references to other texts that viewers can access immediately. Now current version HTML is 5 [3].

HTML structure is:

```
<html>
    <head>
        <title></title>
    </head>
    <body>
    </body>
</html>
```

2.5 CSS

CSS stands for Cascading Style Sheets. A web page gives a website its look and layout. HTML, CSS is fundamental to every web design. Without HTML and CSS, websites would still be plain text on white backgrounds. Before the development of CSS in 1996 Web pages were extremely limited in both form and function. Early browsers presented a page as plain text, images, and links to other hypertext pages.

In a website design, CSS helps Web developers to design a page that is built with HTML. Defining the design of every table and every block of text within a page's HTML, commonly used styles got to be defined on just one occasion during a CSS document. CSS makes it easy to vary styles across several pages directly. For example, an internet developer might want to extend the default text size from 10pt to 12pt for 50 pages of an internet site. If the pages all reference an equivalent sheet, the text size only must be changed on the design sheet and every one of the pages will show the larger text.

While CSS is great for creating text styles, it's helpful for formatting other aspects of website layout also. For example, CSS is often wont to define the cell padding of table cells, the style, thickness, and color of a table's border, and therefore the padding around images or other objects. This is why most sites today incorporate cascading style sheets [4].

2.6 JavaScript

JavaScript is a programming language. It is used in the web development backend. It was originally developed by Netscape as a means to add dynamic and interactive elements to websites. While JavaScript is influenced by Java, the syntax is more almost like C and is predicated on ECMAScript, a scripting language developed by Sun Microsystems.

JavaScript is a client-side scripting language, which means the source code is processed by the client's web browser rather than on the webserver. This means JavaScript functions can run after a webpage has loaded without communicating with the server. For example, a JavaScript function may check an internet form before it's submitted to form sure all the specified fields are filled out. The JavaScript code can produce a mistake message before any information is transmitted to the server.

Like server-side scripting languages, like PHP and ASP, JavaScript code is often inserted anywhere within the HTML of a webpage. However, only the output of server-side code is displayed within the HTML, while JavaScript code remains fully visible within the source of the webpage. It also can be referenced during a separate. JS file, which can even be viewed during a browser [5].

2.7 jQuery

JQuery also be a JavaScript library that permits web developers to feature extra functionality to their websites. In recent years, jQuery has become the foremost popular JavaScript library utilized in web development. Common examples include modifying text, processing form data, moving elements on components, events on a page, and performing animations. JQuery also can work with

Ajax code and scripting languages, like PHP and ASP to access data from a database. Since jQuery runs on the client-side (rather than the online server), it can update information on a webpage in real-time, without reloading the page. The current version of jQuery is 3.6.0 [6].

2.8 Bootstrap

Bootstrap is used for creating and building frontend web pages and web applications. It is also a free and open-source project. Bootstrap is a collection of HTML, CSS, and JavaScript tools. It is released in 2011, Bootstrap became popular and easy for creating. Web designers and developers are like bootstrap because it is flexible and easy to work with. It is responsive by design, it is your main advantage. It is maintained wide browser compatibility, it is using re-usable components and it is very easy to use and learn to quickly. It is built with JavaScript, jQuery plugins, and JavaScript API. Bootstrap can be used with any IDE and any server-side technology from ASP.NET to PHP to Ruby on Rails [7].

2.9 PHP

PHP Stands for Hypertext Preprocessor. PHP is an HTML-embedded Web scripting language. This means PHP code is often inserted into the HTML of a Web page. When a PHP runs on the browser, the PHP code is read by the server the page resides on. The output from the PHP functions on the webpage is typically returned as HTML code. Because the PHP code is also transformed into HTML code before the page is loaded, so users cannot view the PHP code on a page. This makes PHP pages secure so a user can't access databases and other secure information for building web applications.

PHP is borrowed a lot of syntax from other languages like C, Java, and Perl. But PHP has several unique features and has a specific function. The goal of the language is to permit Web developers to write dynamically generated pages quickly and simply. PHP is also great for creating a database. The current version of PHP is 8 [8].

2.10 MySQL

MySQL is an open-source SQL relational database management system. A database is a collection of data that is organized for easy use and retrieval data. MySQL is open-source software, which means you can freely use and modify it. In MySQL My is comes from the daughter's name of the MySQL's co-founder, Monty Widenius. MySQL is the combination of My and SQL, so that is MySQL. MySQL can run on various platforms Linux, Windows, UNIX, etc. You can install it on a local machine [9].

3 Analysis & Design

3.1 Use Case Diagram

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. In this context, the term "system" refers to something being developed or operated, such as a mail-order product sales and service Website. Use case diagrams are employed in UML (Unified Modeling Language), a standard notation for the modeling of real-world objects and systems [10].

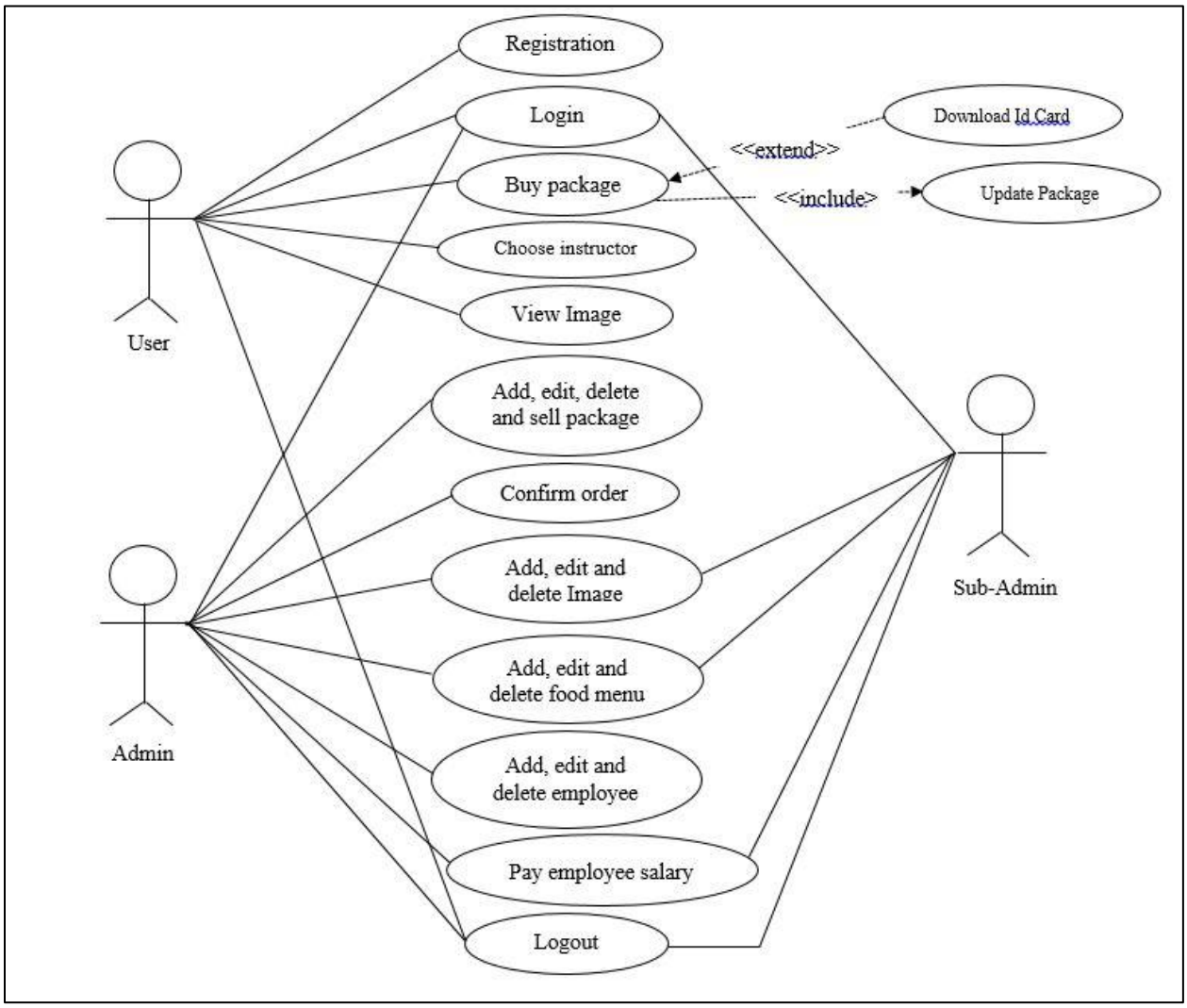

Figure 3.1: Use Case Diagram

3.2 Flow Chart

A flowchart may be a diagram that describes a process or operation. It includes multiple steps, which the method "flows" through from start to end. Common uses for flowcharts include developing business plans, defining troubleshooting steps, and designing mathematical algorithms. Some flowcharts may only include a couple of steps, while others are often highly complex, containing many possible outcomes.

Flowcharts typically use standard symbols to represent different stages or actions within the chart. For example, each step is shown within a rectangle, while each decision is displayed during a diamond. Arrows are placed between the various symbols to point out the direction the method is flowing. While flowcharts are often created with pen and paper, there are several software programs available that make designing flowcharts especially easy. Common programs which will be wont to create flowcharts include Smart Draw and Visio for Windows and OmniGraffle for Mac [11].

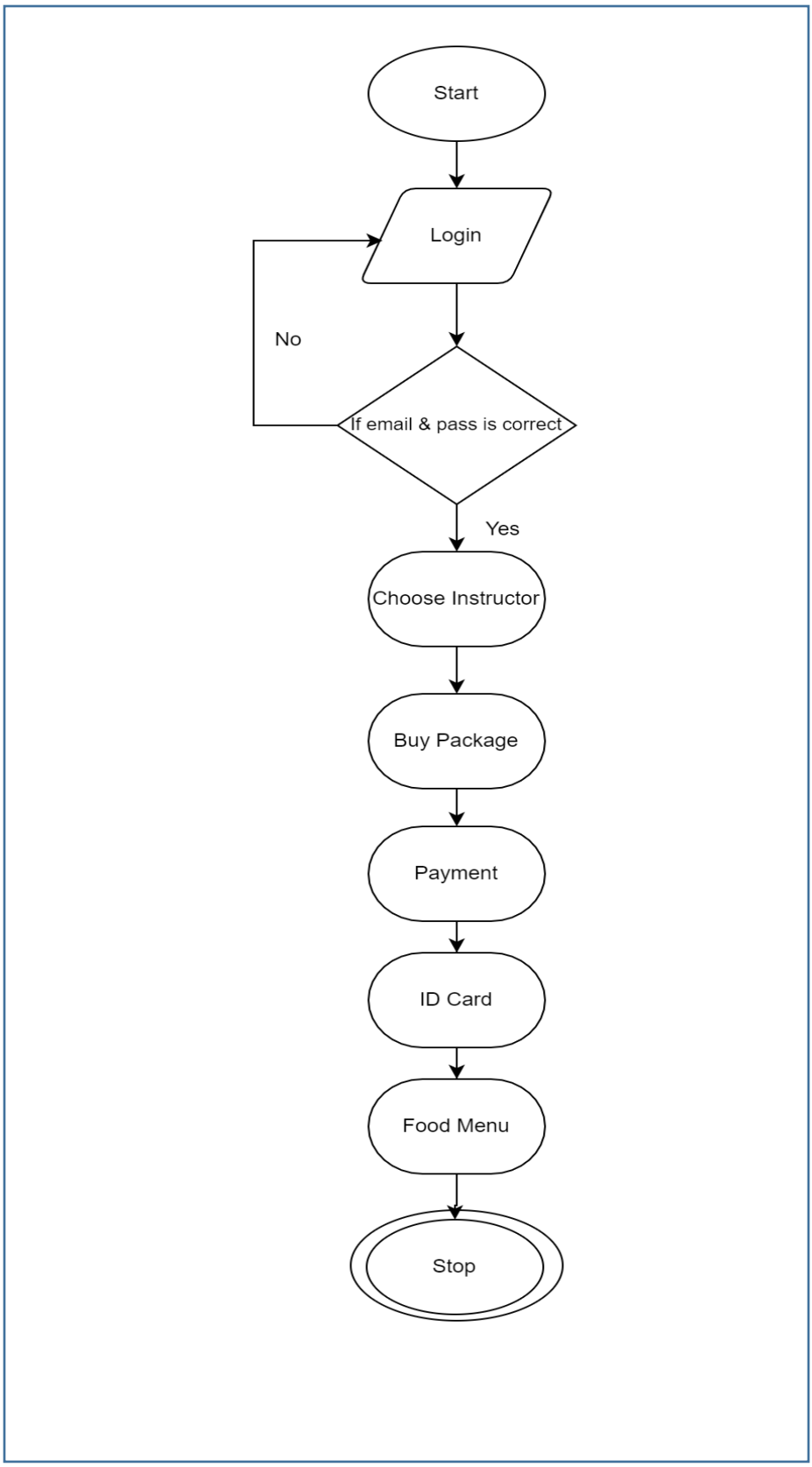

Figure 3.2: Flow Chart for Admin

3.3 Data Flow Diagram

A data flow diagram is that the start line of the planning phase that functionally decomposes the wants specification. A DFD consists of a series of bubbles joined by lines. The bubbles represent data transformation and therefore the lines represent data flows within the system. A DFD describes what data flow instead of how they're processed, so it doesn't hardware, software, and arrangement.

A data-flow diagram (DFD) is a graphical representation of the "flow" of data through a DFDs can also be used for processing (structured design). A data flow diagram (DFD) is a significant modeling technique for analyzing and construct ng information processes. DFD means an illustration that explains the course or movement of data during a process. DFD illustrates this flow of data during a process supported by the inputs and outputs. A DFD is often mentioned as a Process Model. The data flow diagram is a graphical description of a system's data and how to Process transform the data is known as Data Flow Diagram (DFD). Unlike details flow chart, DFDs don't supply detail descriptions of modules that graphically describe a system's data and the way the info interact with the system. Data flow diagram number of symbols and the following symbols are of by DeMarco [12].

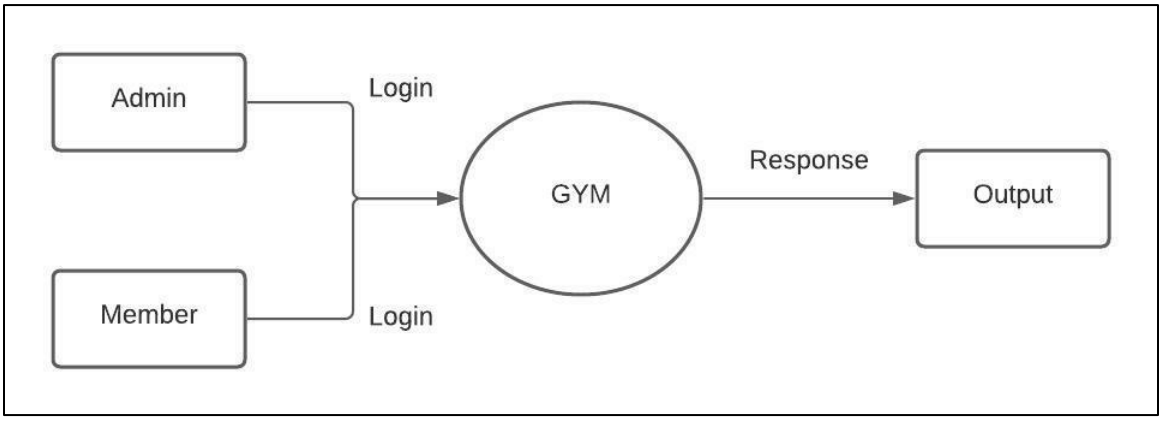

Figure 3.3: Context Level DFD

3.3.1 0-level DFD:

It is also known as a context diagram. It's designed to be an abstraction view, showing the system as a single process with its relationship to external entities. It represents the entire system as a single bubble with input and output data indicated by incoming/outgoing arrows.

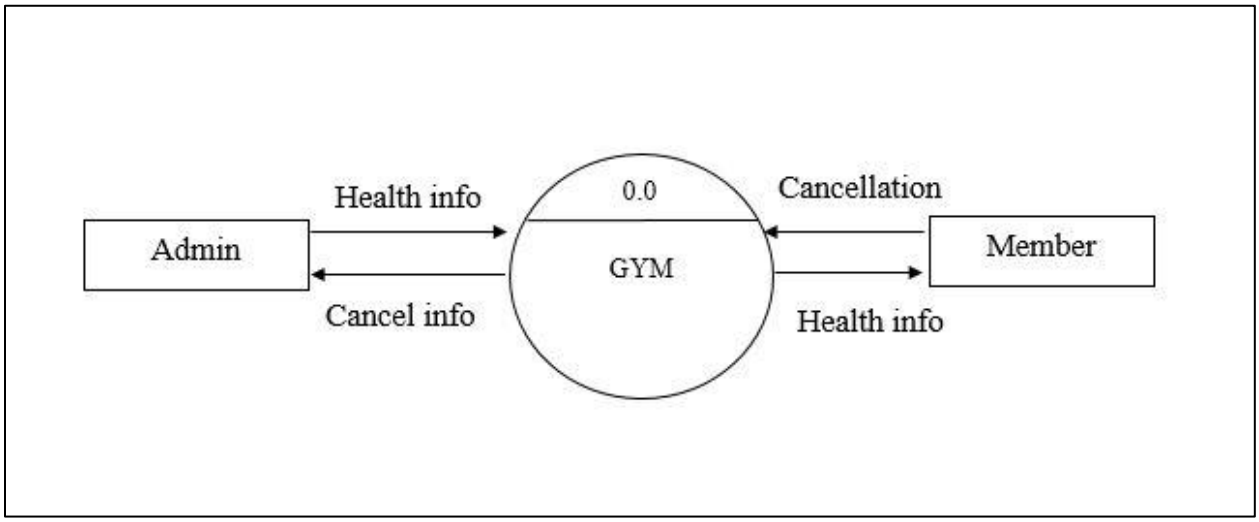

Figure 3.4: Level 0 DFD

3.3.2 1-level DFD:

In 1-level DFD, the context diagram is decomposed into multiple bubbles/processes. At this level, we highlight the main functions of the system and break down the high-level process of 0-level DFD into sub-processes.

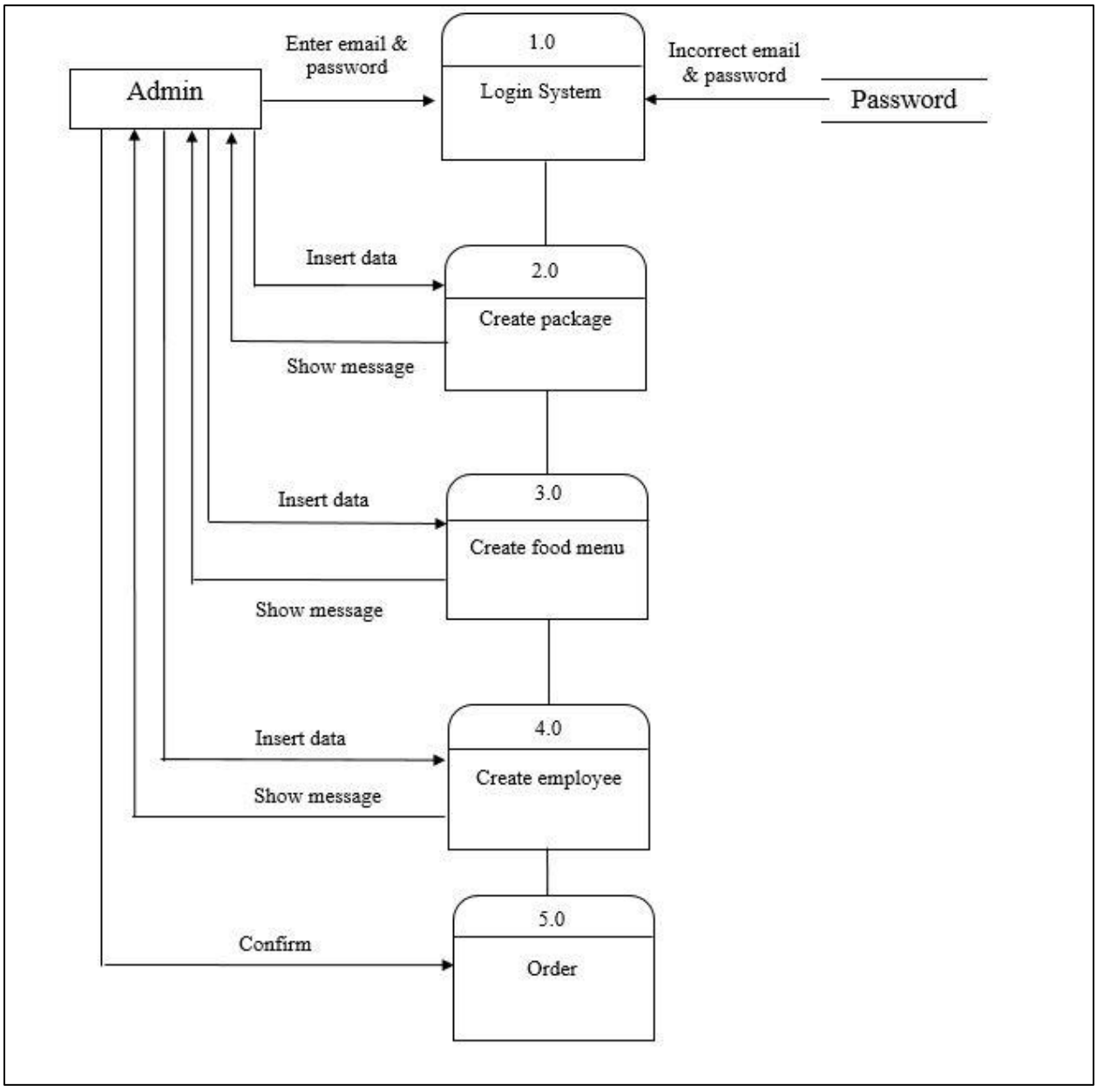

Figure 3.5: Level 1 DFD

3.1.1 2-level DFD:

2-level DFD goes one step deeper into parts of 1-level DFD. It can be used to plan or record the specific/necessary detail about the system's functioning.

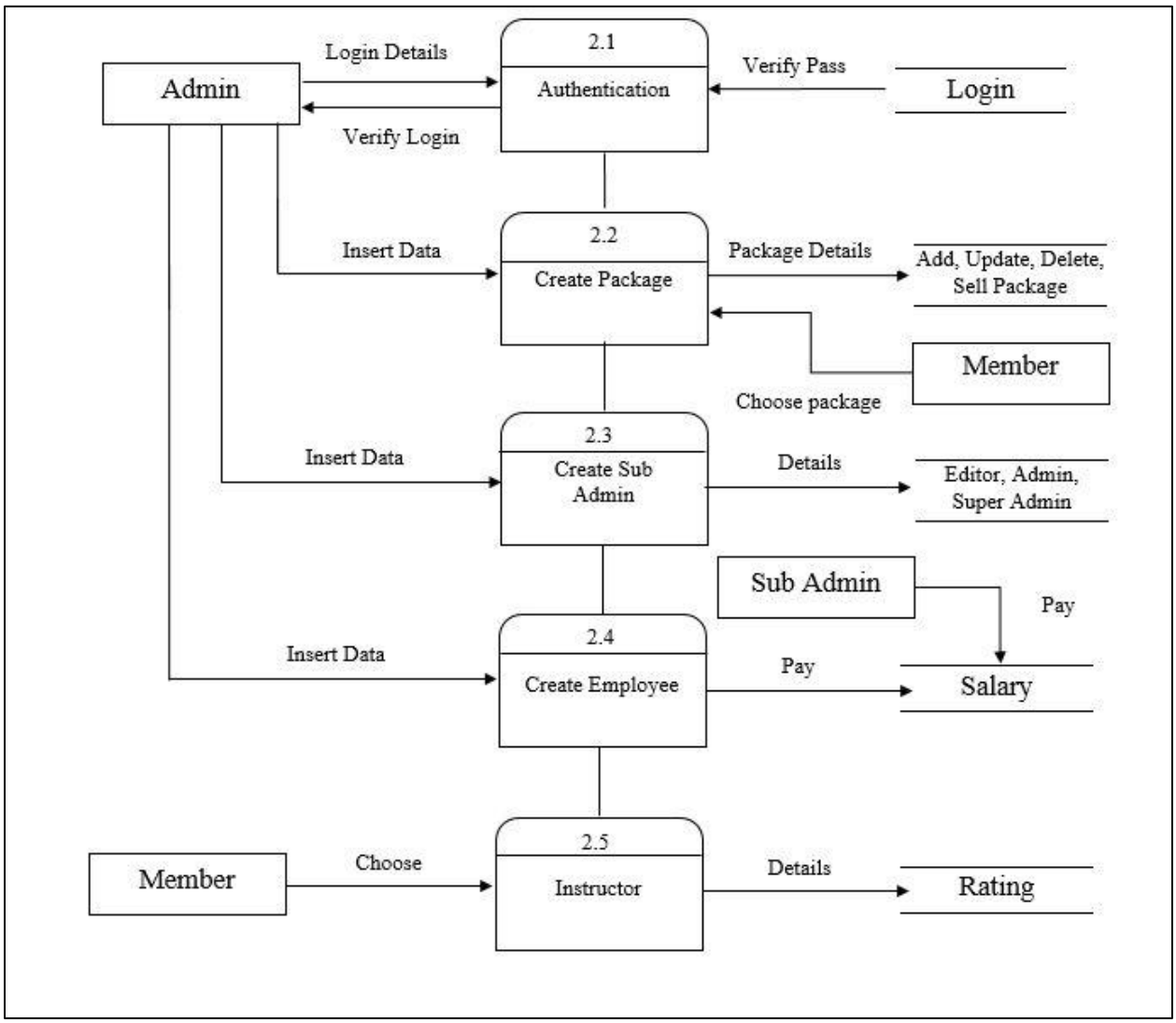

Figure 3.6: Level 2 DFD

3.4 Entity Relationship Diagram

An entity-relationship diagram (ERD) is crucial to creating a good database design. It is used as a high-level logical data model, which is useful in developing a conceptual design for databases. An entity is an areal-world item or concept that exists on its own. Entities are equivalent to database tables in a relational database, with each row of the table representing an instance of that entity. An attribute of an entity is a particular property that describes the entity. A relationship is an association that describes the interaction between entities. Cardinality, in the context of ERD, is the number of instances of one entity that can or must, be associated with each instance of another entity. In general, there may be one-to-one, one-to-many, or many-to-many relationships [13].

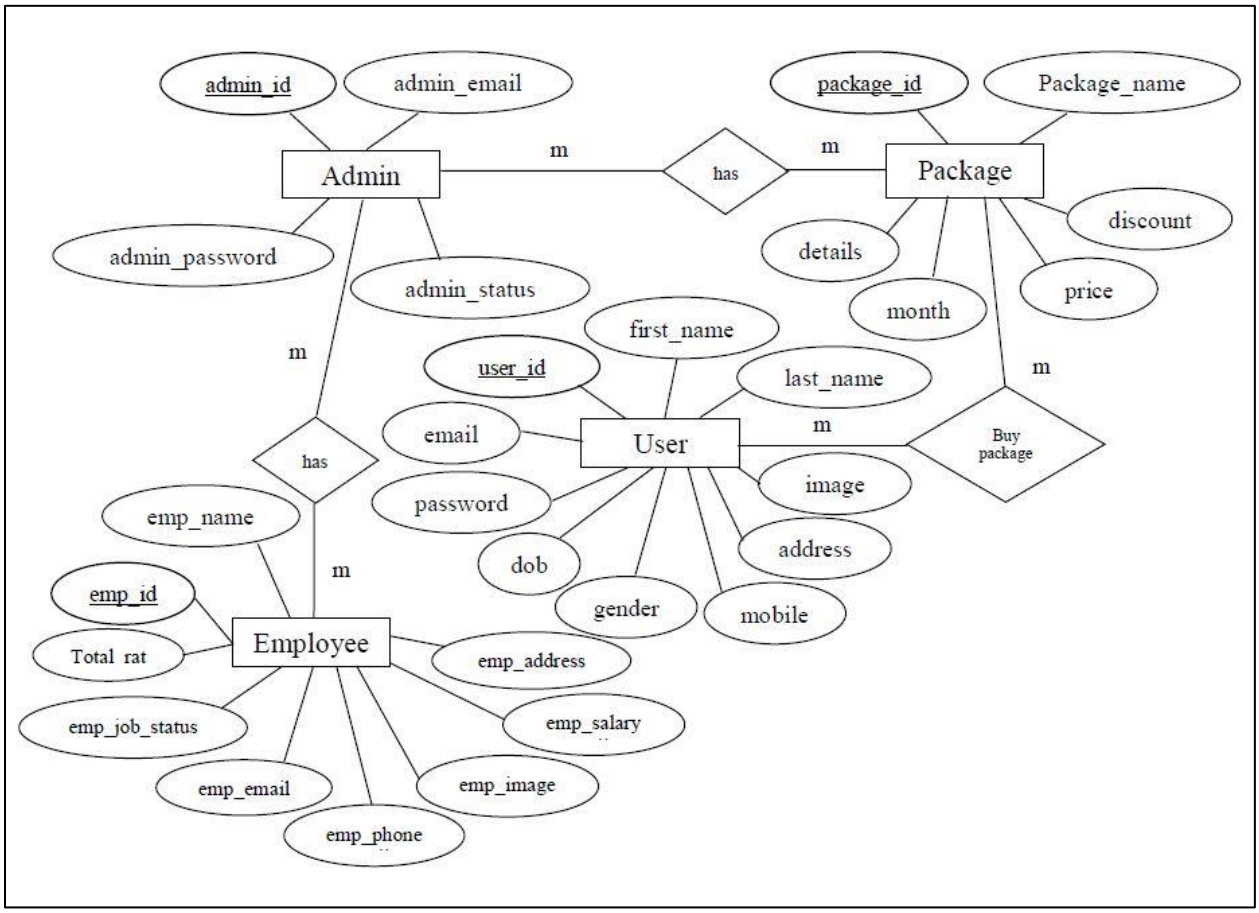

Figure 3.7: ER-diagram

4 Data Definition

4.1 Data Definition for the Proposed System

Regardless of how our application's data is physically stored, the data is typically organized into multiple tables, each having a set of rows and columns, similar to the rows and columns of a spreadsheet. Each row in the table contains all of the information.

4.2 Database Table

Our proposed system consists of the tables based on database which we have used in our project. The described tables are for Admin, Employee, Food, Order, Package, Salary and User.

Table 4.1: Table structure for Admin

Name	Type
Admin_id	Int(20)
Admin_email	Varchar(255)
Admin_password	Varchar(255)
Admin_status	Tinyint(4)

Table 4.1 has been created for admin login. Here "admin_id" is primary key. "admin_status" is 0, 1 and 2.

Table 4.2: Table structure for Employee

Name	Type
Emp_id	Int(11)
Emp_name	Varchar(200)
Emp_job_status	Varchar(200)
Emp_email	Varchar(200)
Emp_phone	Varchar(200)
Emp_image	Varchar(200)
Emp_salary	Varchar(200)
Emp_address	Text
Total_rat	Int(11)
Hit	Int(11)

Table 4.2 has been created for employee. Here "emp_id" is primary key.

Table 4.3: Table structure for Food

Name	Type
Id	Int(11)
Age_limit	Varchar(150)
Menu	longtext

Table 4.3 has been created for food menu. Here “id” is primary key.

Table 4.4: Table structure for Order

Name	Type
Order_id	Int(11)
Mobile_no	Varchar(150)
Pack_id	Int(11)
Pack_price	Int(11)
Pack_month	Varchar(20)
Pack_discount	Varchar(20)
Status	Int(11)
Trainer_id	Int(11)

Table 4.4 has been created for order. Here “order_id” is primary key. “Trainer_id” is foreign key.

Table 4.5: Table structure for Package

Name	Type
Package_id	Int(20)
Pack_name	Varchar(255)
Details	Text
Month	Varchar(255)
Price	Int(25)
Discount	Int(25)
Del_pack	Tinyint(10)

Table 4.5 has been created for package. Here “package_id” is primary key.

Table 4.6: Table structure for Salary

Name	Type
salary_id	Int(11)
Emp_id	Int(11)
Month	Varchar(200)
Salary	Varchar(200)
Year	Int(11)

Table 4.6 has been created for package. Here “salary_id” is primary key. “emp_id” is foreign key.

Table 4.7: Table structure for User

Name	Type
user_id	Int(20)
First_name	Varchar(255)
Last_name	Varchar(255)
Email	Varchar(255)
Password	Varchar(255)
Dob	Varchar(255)
Gender	Varchar(255)
Mobile	Varchar(255)
Address	Varchar(255)
Image	Varchar(155)
Flag	Tinyint(10)
Otp	Int(11)

Table 4.7 has been created for package. Here “user_id” is primary key. “flag” is “0”.

5 System Interface

In this chapter, we will run the project and test the application. The outcome of testing will be provided to verify the application's ability and quality.

5.1 Home Page:

Figure 5.1 Home Page

This is the home page of our website. When a user enters the link of the website they can see these features. Users can visit Home, Portfolio, Team, Contact and Registration/Login panel.

5.2 Our Package:

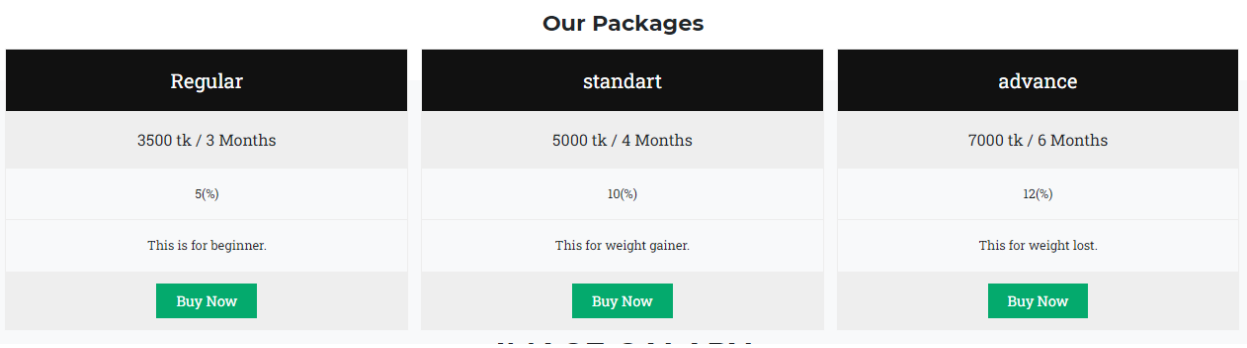

Figure 5.2 Our Package

This is shown all packages. Users can choose the package from there and buy a package with a login.

5.3 Our Instructor:

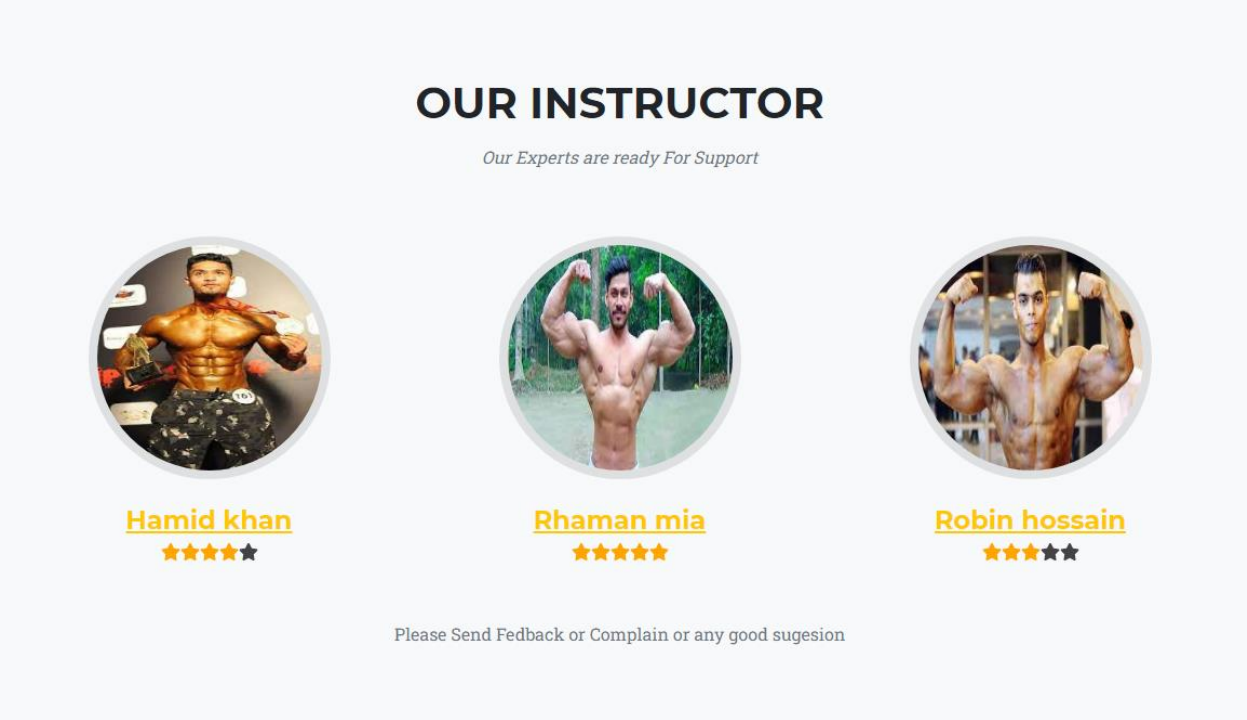

Figure 5.3 Our Instructor

Here, members can see instructor profile and review.

5.4 Contact Us Page:

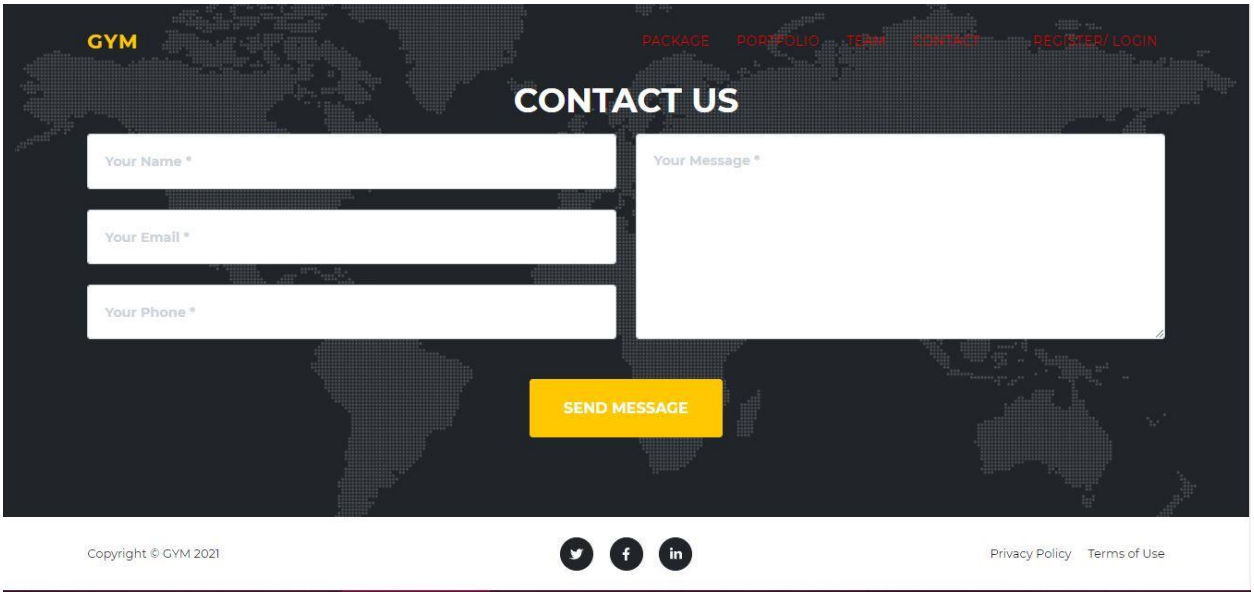

Figure 5.4 Contact Us Page

If any member encounters any question they can leave a message.

5.5 Login/ registration Page:

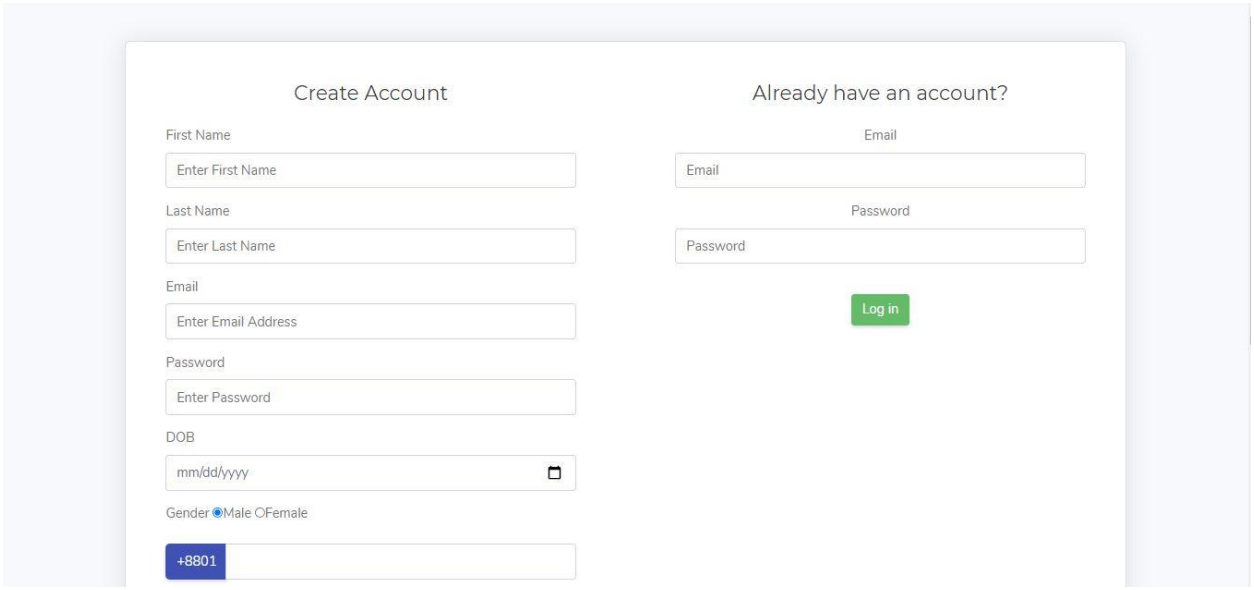

Figure 5.5 Login/ registration Page

Here, the user first creates an account then login to the system. The user enters a valid email and password then goes to the next steps.

5.6 Admin Login:

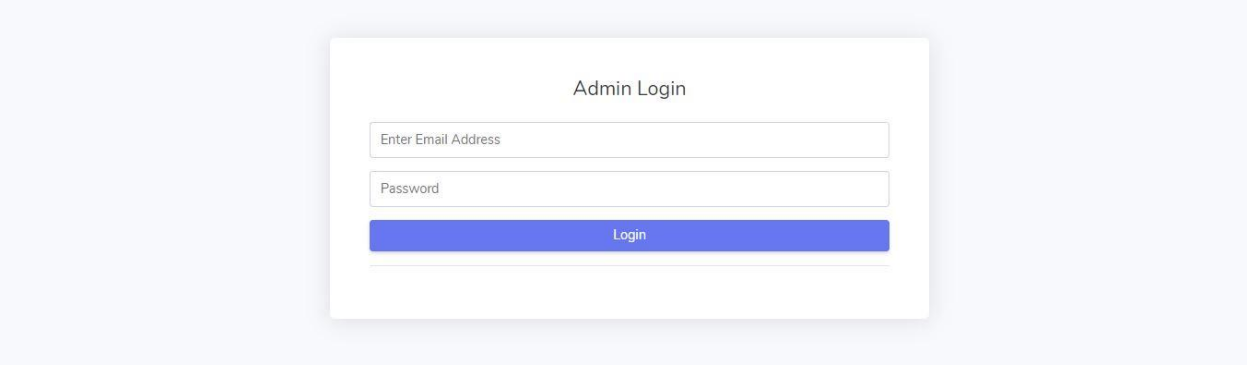

Figure 5.6 Admin Login

This is the admin login page. The admin enters a valid email and password then goes to the admin panel.

5.7 Admin Panel Dashboard:

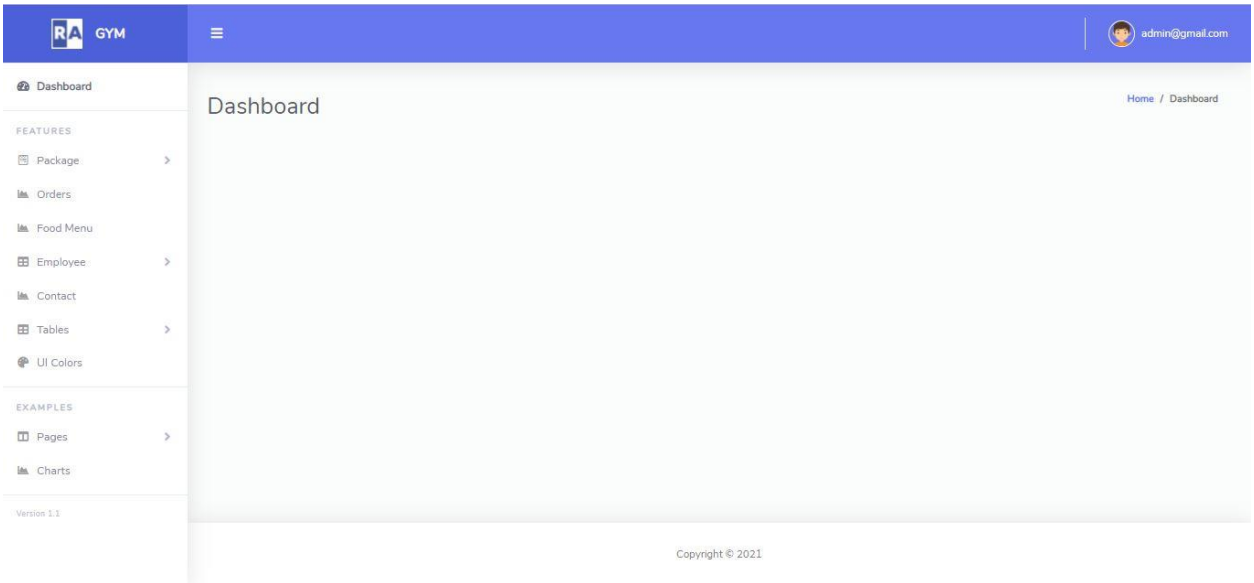

Figure 5.7 Admin Panel Dashboard

This is the admin panel dashboard. Admin can control all sections.

5.8 Add Package:

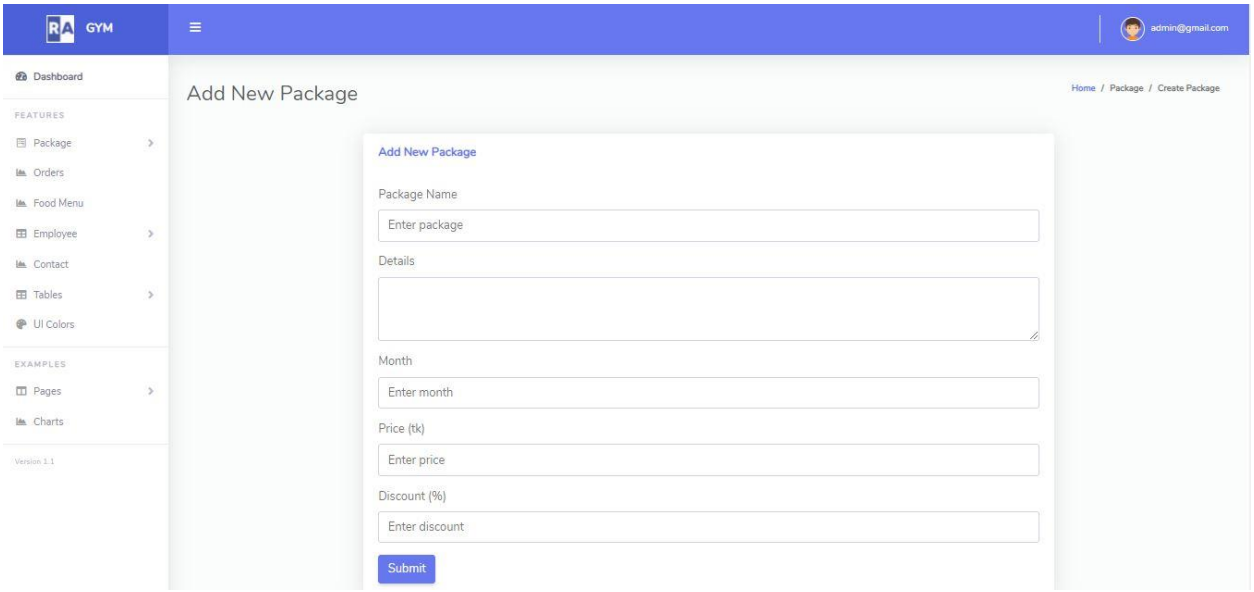

Figure 5.8 Add Package

In this module, admin can create a new package.

5.9 All Package List:

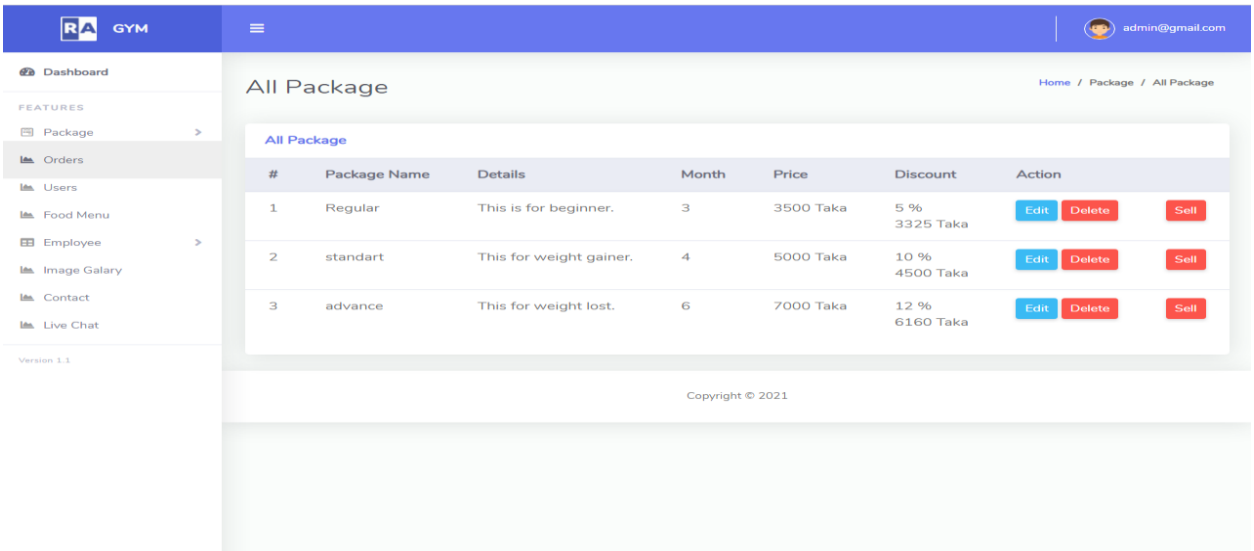

Figure 5.9 All Package List

In this module, admin can edit, delete and sell the package.

5.10 Order List:

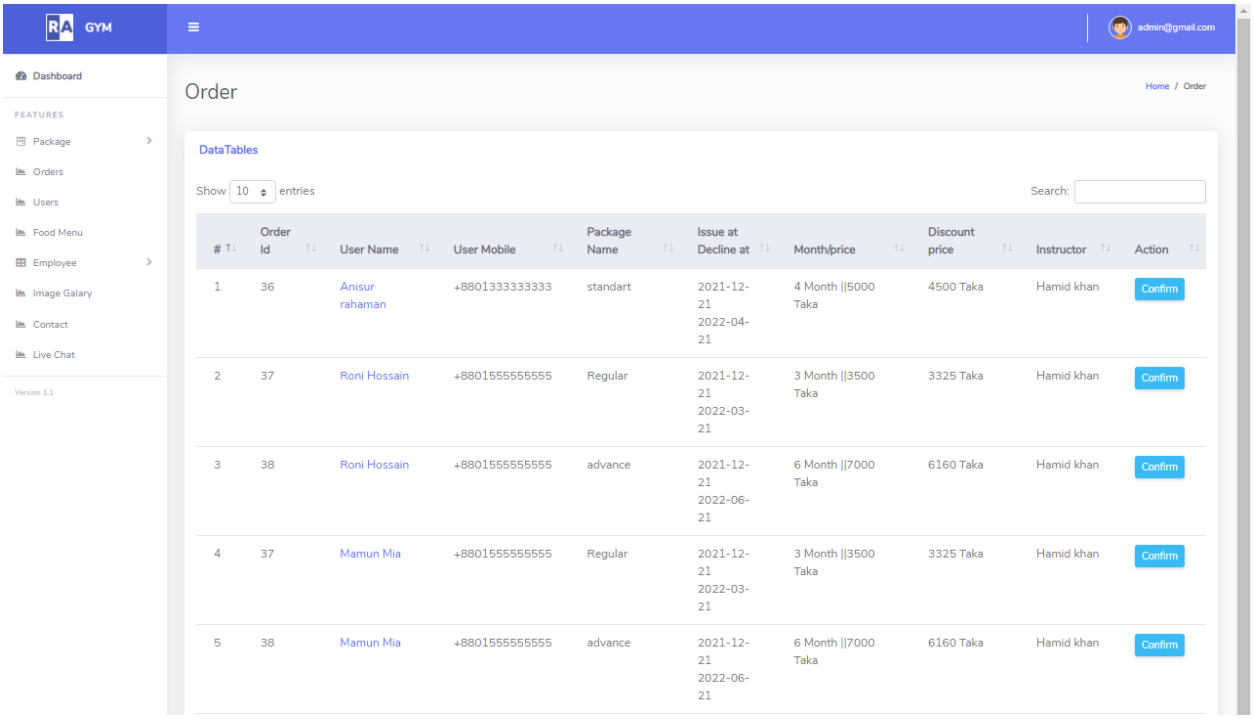

Figure 5.10 Order List

In this module, admin confirm the orders and provide ID card.

5.11 Add Food:

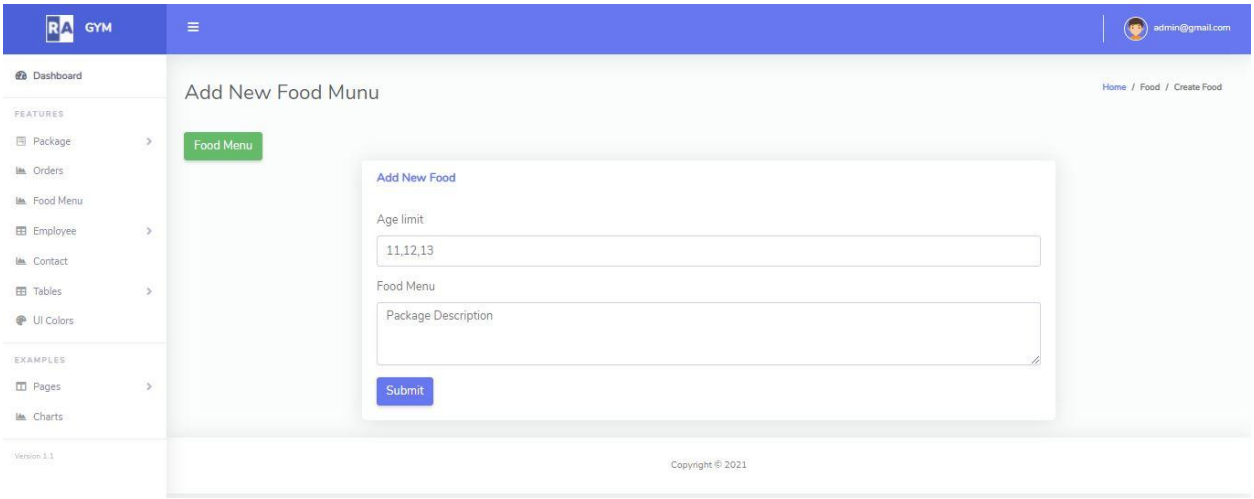

Figure 5.11 Add Food

In this module, admin can add a new food for health instruction.

5.12 Food Menu List:

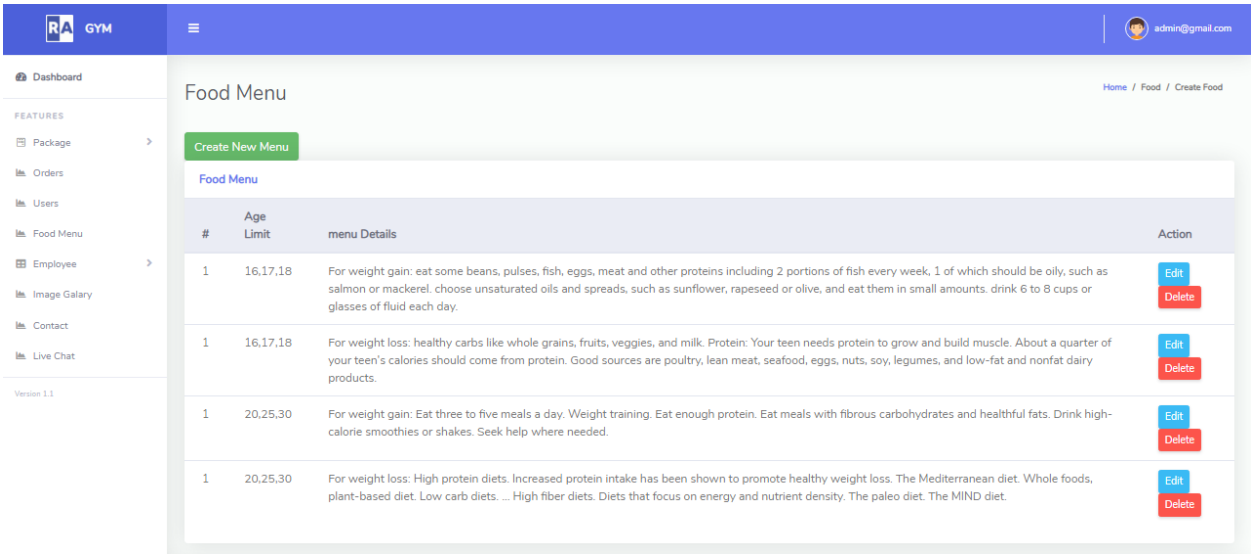

Figure 5.12 Food menu list

In this module, admin can edit and delete food menu.

5.13 Add Employees:

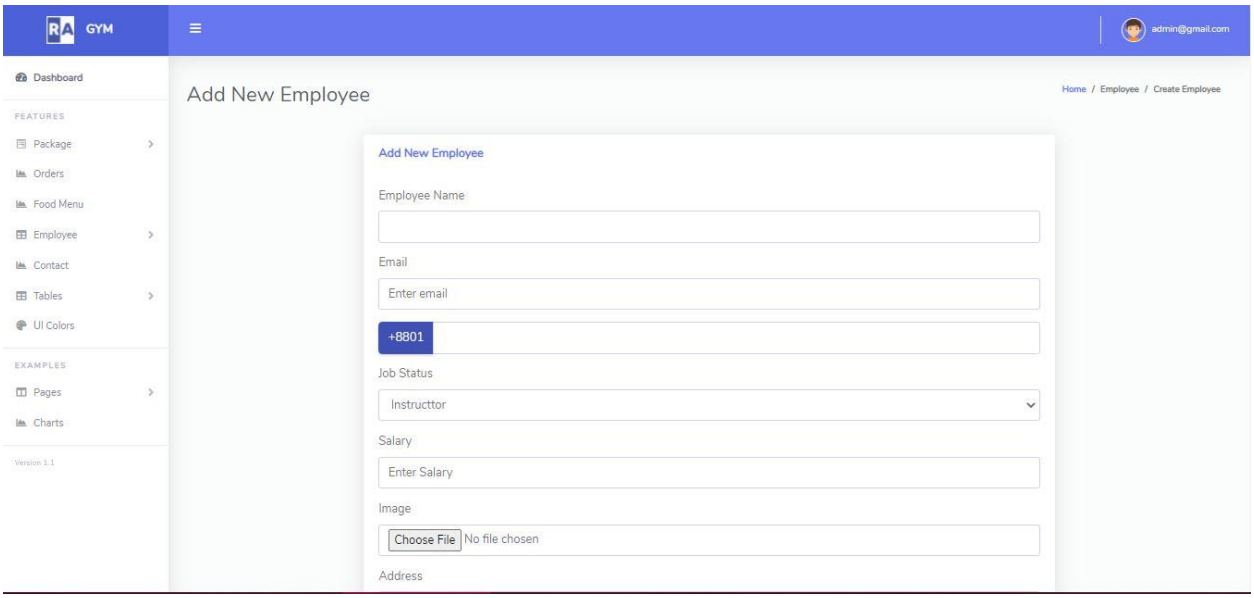

Figure 5.13 Add Employee

In this module, admin can add a new employee.

5.14 Employee List:

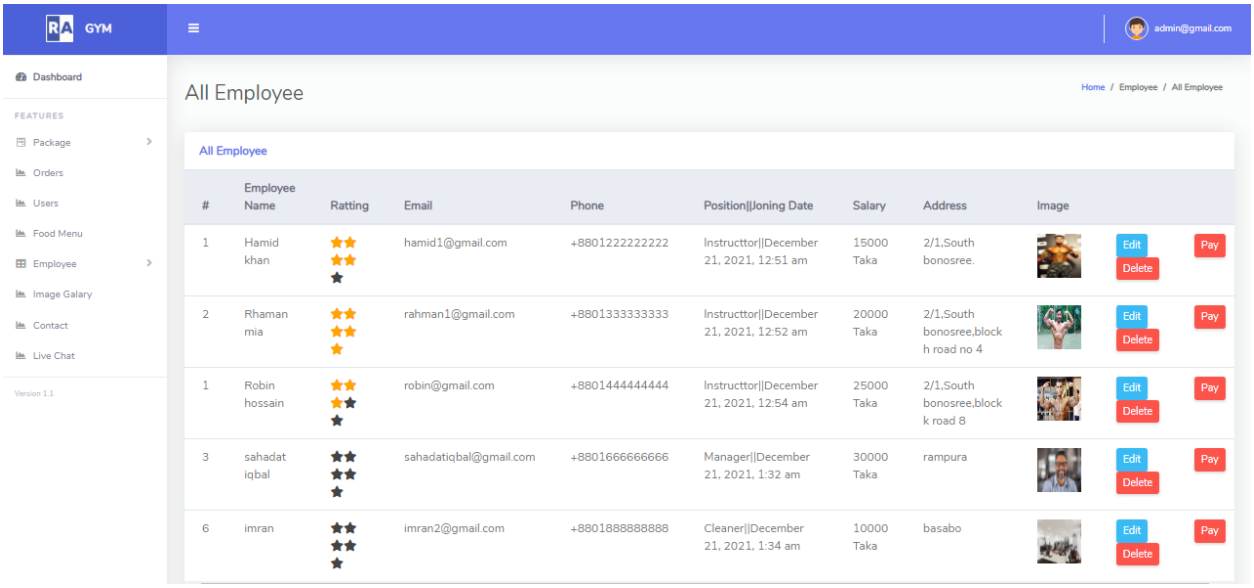

Figure 5.14 Employee List

In this module, admin can edit, delete employee and pay salary.

5.15 Salary Info:

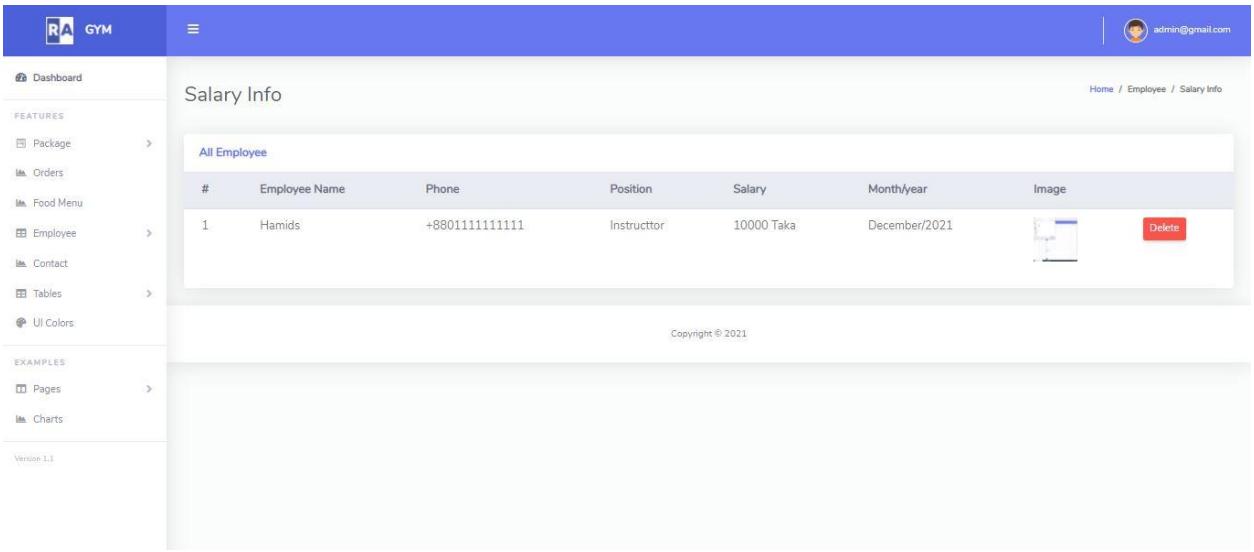

Figure 5.15 Salary Info

In this module, admin can see the salary information.

5.16 User ID card:

Figure 5.16 User ID card

Admin can provide ID card for joining.

5.17 User Profile:

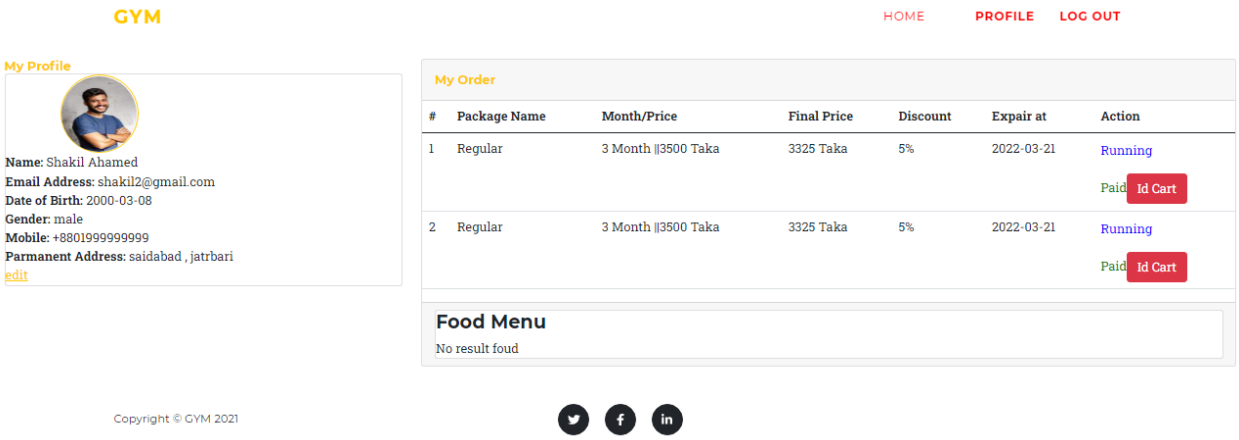

Figure 5.17 User Profile

The user can see orders and food menu.

5.18 User List:

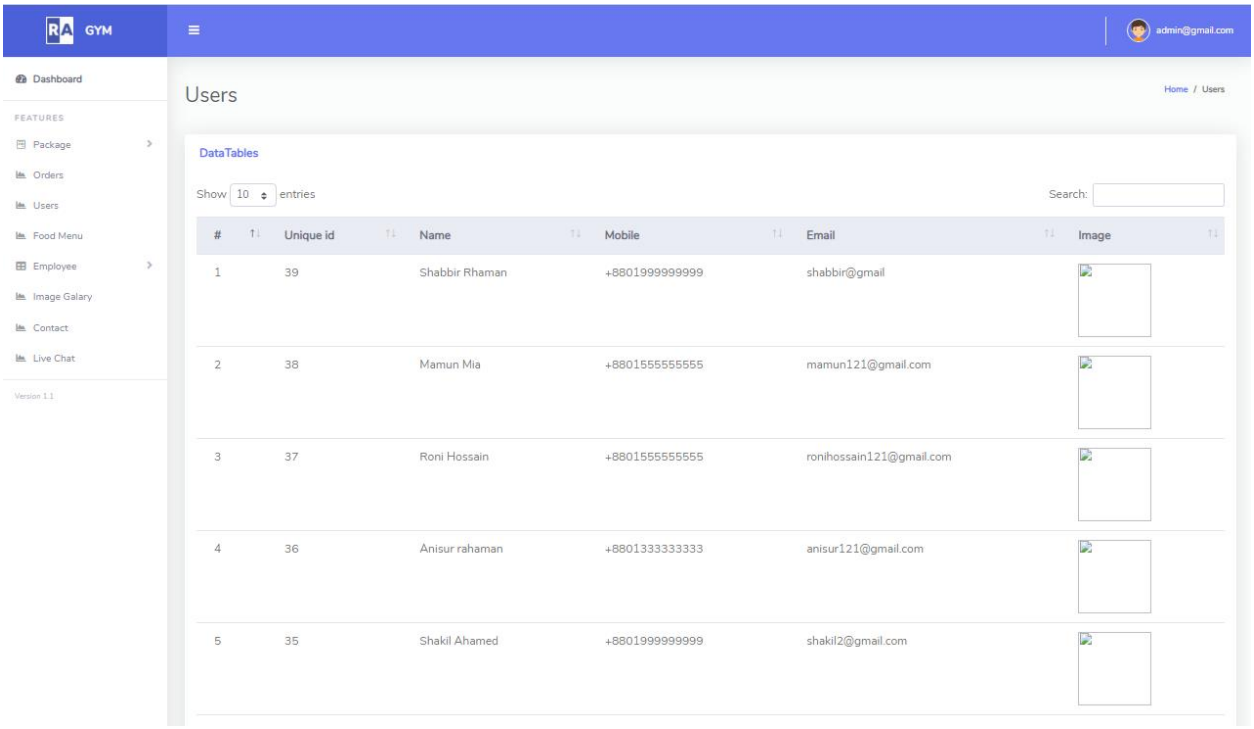

Figure 5.18 User List

All user list shown in this.

5.19 Live Chat:

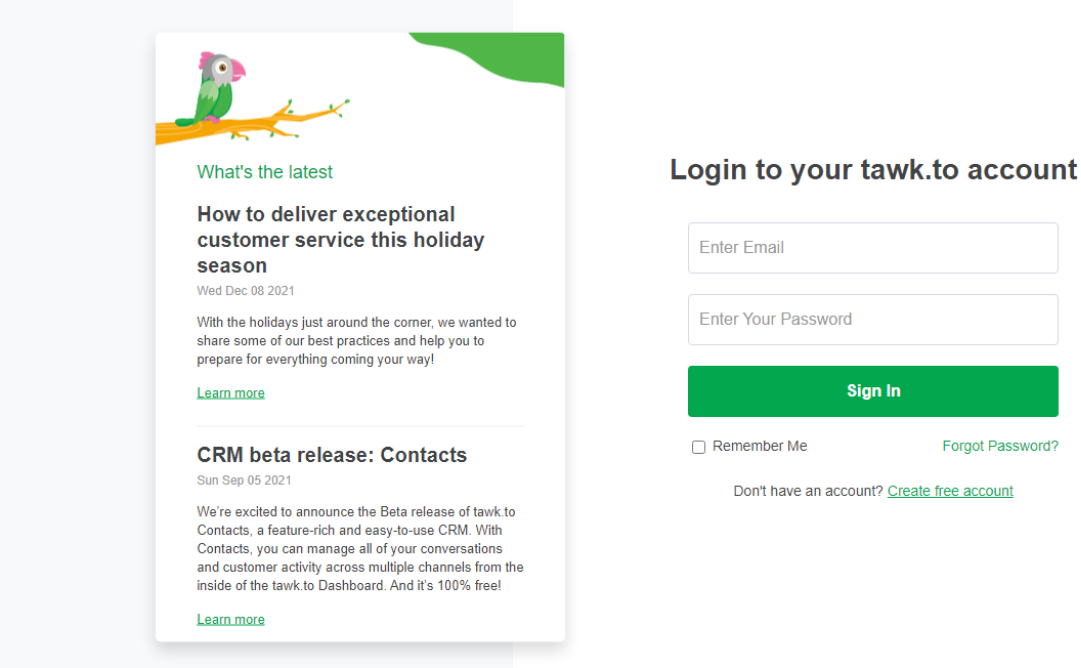

Figure 5.19 Live Chat

6 Conclusion and Future Scope

It is a web-based application that provides health tips, instruction for our body. GYM culture is now a new trend for the youth of Dhaka. Very fast and unplanned urbanization there is no way to breath in the air of this city. Furthermore, the open space and playing fields are disappearing. In this situation, a large number of teenagers and young people who spend time at home or on the screen of computers or mobile phones are now going to the gym. Here the user can choose a package then buy and viewing their details. This project provides an effective solution for users who can package buy and pay. Users can easily communicate with admin. Users can save time. The admin offers the package.

6.1 Future Scope:

The future scope of the project is given below:

- Add a mobile app
- Add branch in a rural area
- Include more trainer
- Campaign & offer management
- Update the payment system with cards, mobile banking and internet banking

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