

Gym Management System

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Abstract: In these modern days people have become so concerned about their health and diet; it is but obviously they seek out a gym. Gym is equipped with all the modern machinery and other supportive items to provide a better service to its customers. So the numbers of members are tending to increase day by day and Gym Management has decided to go for an IT solution in order to handle the increased volumes.

The system is supposed to provide easy access to the resources of the gym to its members while empowering the management process of the gym. Following major functionalities such as member management, attendance management, charges management, maintenance management and reports generation were identified. Access control was achieved with the username and password. High level of customization is embedded into the system where administrators can control the access and appearance of the system.

Index Terms: Database, Bootstrap, Website, Laravel, Webpack.

I. INTRODUCTION

Gym and club management systems provide fitness businesses the functionality to manage schedules, memberships, and facilities. The capabilities of gym management systems include storing member information in a database, managing financial records, scheduling classes, and reserving facilities. Gym management software or fitness software is a software solution that helps businesses to streamline, organize, and run their operations. While you can have a big range of functionality, the majority of gym management systems offer both an employee and a client-facing portal.

Physical fitness is very necessary for a healthy and tension free life. Physical fitness includes diet, exercise and sleep. These three basic things have their own importance in each individual's life and everyone should be sensible with regard to these for a healthy life. Therefore the tendency of going to a gym has increased and the following facts can be identified as the reasons.

Most of the foods that we consume today are having High rate of calories, fat, sugar and carbohydrates. Though a high rate of calories are consumed, the lifestyle of the modern world has a very low rate of burning of calories. Ultimately people tend to go to a gym to exercise and burn calories.

This project is supposed to be providing a full sized back end experience for a management website. The login page will only let the user enter a valid user ID and password which should complete the criteria required. This project is based on giving yoga and exercise tips to the customers of the gym by announcements from the administrator (admin). Gym Management System provides fitness businesses the functionality to manage schedules, memberships and facilities.

The capabilities of the gym management system include storing member information in a database, managing financial records. Gym management software or fitness software is a software solution that helps businesses to streamline, organize and run their operations. The project will provide functionality of to-do list of tasks which will be easy and helpful for customers to keep track of his/her schedule.

This system will be very useful for those who are busy in their day to day life to keep themselves healthy and fit. This website will help the admin to view his earnings and expenses according to his sales. This software will show the graph of services reports like fitness, cardio, sauna based on how many customers are registering for these services.

II. LITERATURE SURVEY

The most favorable way of making your life work for a beloved brand is to make it available on the internet. A website is available all day, every day meaning your customers can visit our website at all time, no matter what their schedule might be. Our website is one of the best marketing tools our business has not only can we use SEO when building our website but lead to more chance to getting found in search engine, but huge amount of marketing techniques can also work alongside our website including pay per click advertising, social media marketing and mail, all which can include links back to our website.

Most of them have only used HTML, CSS, JS and MySQL but we have used a framework known as Laravel to improve the efficiency and maintaining the consistency like Laravel there is a particular file according to their work and each file is easily accessible and editable. It provides some good features too like MVC Architecture Support, secure migration system, libraries and modular and innovative template engine.

Other majorly used software in the development process is Visual Studio Code Text Editor. This is a free to use cross platform software used as a text editor for multiple coding languages. Visual Studio Code includes support for languages like HTML, CSS, JavaScript, Java, Python, Php, etc. Visual Studio Code is just a text editor which is only used for writing / modifying the code and not an IDE. Our project was mostly written in the text editor and not in any IDE. Visual Studio Code provides auto complete for the syntax which saves a lot of time and not needing to remember the syntax.

We have used HTML, CSS, JS languages for building the user friendly GUI of the website. JavaScript (JS) is a powerful scripting language which provides many in-built methods to develop nice and useful features which are very helpful for developing software, web-applications and websites. We have used CSS's most popular framework known as bootstrap to develop this project. Designed to enable responsive development of mobile-first websites, bootstrap provides a collection of syntax for template designs.

III. PROPOSED SYSTEM

The main focus of our suggested system is to create a system that helps the gym owner/ administrator manage all the aspects of the gym more efficiently. At the login page, administrators can login, along with the staff members and the client.

Whenever an administrator logs in to the system, they will be able to view profit margins, monitor losses with utmost precision. They would also be able to see the list of registered members, the daily tasks of the registered members, announcements where they can either send announcements to all the registered members at once or see the current announcements and even schedule announcements. The administrator will be able to view analytics and graphs of various data in the dashboard. For example, they will be able to see graphs for earnings, expenses, registered gym member overview by gender, staff members overview by designation, etc.

The administration can also manage members by listing all members, viewing member entry forms, removing member details, view member details, updating member details etc. They can also manage the gym equipment by adding, removing and updating the status of the gym equipment from the database.

The staff members will also have a separate login role and after logging in they can do almost all the tasks that of the administrators except for managing the staff members. The staff members are a subset of the administrator class.

The client can also login/register to the system. If registering, the customer will be provided with the registration form which he can fill for generating the login credentials. The customer can then login and do have access to various things like adding tasks in daily to-do list, looking through the announcements track daily attendance, daily progress, and all of it would be updated on the database for the administrator and staff members to see and then guide the clients according to their requirements, they can also generate the report and print it at the end of month and track it in that way. They can essentially view their membership status and can also prevail for certain discounts if available.

The gym will also include services like cardio, sauna, fitness programs which will be handled by the staff and regular fitness sessions will help motivate the clients to continue regular exercises making sure the gym retains all the customers as they would notice the effects of regularity which would in turn be monitored and promoted by all the gym trainers/staff members.

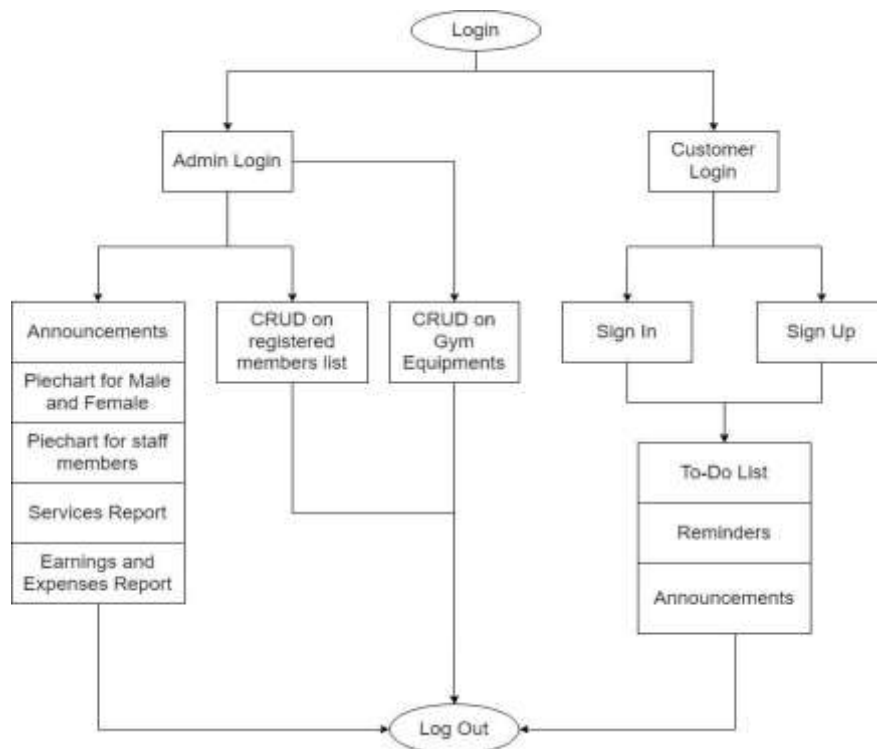


Fig. 1 Block Diagram of Proposed System

IV. PROJECT PROCEDURE AND FLOW

The project development started with a basic HTML program which was written in Visual Studio Code Text Editor. The HTML script consisted of the basic tags, headings, etc. The HTML acts as a nervous system for the full website, which means it looks after the basic functioning of the website.

After the HTML is complete we focus on CSS. For CSS we use basic CSS along with Bootstrap which is a free open source framework for CSS. Bootstrap offers various pre-made objects which makes the frontend process much faster. Bootstrap consists of Buttons, icons, navbars, animation for the front end needs.

With the help of HTML, CSS and Bootstrap the pages of the website were made. To add functionality to the pages we added JavaScript. JavaScript is an integral part of building a website because it offers the functionality which cannot be obtained through basic HTML and CSS.

Lastly for the back end we opted for the PHP and Laravel framework. Laravel is the biggest framework of the backend which helps in improving the efficiency and maintaining the consistency of code and files. Laravel provides excellent features of MVC architecture support, secure migration system, libraries and modular and innovative template engine. Log in/Sign up, CRUD on registered members, CRUD on staff members, CRUD on gym equipment is handled via PHP.

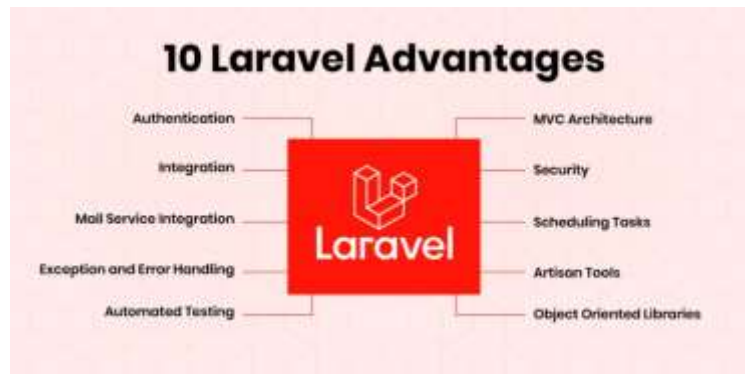


Fig. 2 Advantages of Laravel

V. FUTURE RESEARCH

Our future plans for the website are firm as the internet is growing day by day. With the ease of our back end tool we can grow our website and increase our reach digitally. In future, we can add features to keep track of the progress of users from his joining and after his membership expiry. We can also add the functionality which will ask the user to enter his/her weight according to that the system will generate the diet plan for him/her.

We will think about adding automated billing and payment which will automate recurring membership payments, manage accounts and keep track of bills. It is very difficult for the admin to manage the attendance of customers, so for that we can add integrated biometric functionality so customers can easily maintain their attendance.

We are thinking of making the database bigger for all gym branches, at the current moment, we have implemented a database only for the main branch of the gym. We can also add support to different international, national and regional languages. We aim to improve certain elements of the website as modifications and updates are required from time to time. We have to keep the GUI of the website updated again and again as per customer requirements. We will try to add the login functionality using social media like Google+, Facebook, Twitter, etc.

VI. CONCLUSION

From the research we understood that, gym management system plays a very efficient role for the health of the people. This software package allows storing the details of all the data related to gymnasium.

In the gym the requirement of proper equipment, maintenance and variability is required and thus cannot be achieved without proper management of the staff, the customers and overall aspects of the gym in general. Our system will provide the administrator with all the necessary tools to perform the tasks and provide a clear path of development for the gym. Our system not only ensures development of the gym but also the customers and employees working there hence, benefiting everyone involved.

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We did some research on the Gym Management System and found some research papers on this topic. We refer some paper and got idea for the implementation of the project as mentioned below:-

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