STM JOURNALS

IJCSL

Fitness & Aesthetics Hostel Gym Management

Sanjiban Bandyopadhay[1,*], Vivek Kumar[2], Satendra Singh[3]

Abstract

Fitness & Aesthetics' mission is to help people achieve their fitness objectives by offering training regimens and healthy living plans, as well as assistance with managing a club. By automating the current manual method with the use of digitized equipment and comprehensive computer software, it will provide the information of Trainer, Gym, Facility, Workout Routines, and Time Slot and proceed into the administrative position, satisfying their requirements, in order to retain their vital data for a longer amount of time with easy access and modification. The required hardware and software are easily accessible and understandable. As previously said, a fitness and aesthetics website may raise awareness of a healthy lifestyle and its advantages and motivate users to achieve their fitness objectives in a safe, error-free manner. Rapid and dependable management system. It can allow the user to concentrate on their exercise and healthy living habits rather than record keeping. Therefore, it will help businesses use their resources more effectively. The business may update its computerized records without entering the identical information twice. To learn the material, one need not get sidetracked by little details. The initiative essentially lays out how to do business for greater performance and customer service.

Keywords: Workout routines, Gym facility, Trainer, Time slots, Attendance, User membership, Member administration

INTRODUCTION

Nowadays we all get too much indulged in our work and busy schedule, but even when life is at its busiest, you can still make time to stay fit and healthy. Numerous websites and YouTube channels are available online providing fitness tips but neither of them contains all the segments in one place and for every age group and circumstances. Another point is that keeping the details of a trainer, gym, facility, workout schedule, and time slot is a struggle for any organization, large or little. We addressed these two problems and came up with a solution. We are going to build a website – Fitness & Aesthetics for the PIET Hostel Gym which is solving both the problems mentioned above. It will be very beneficial for the hostel students as well as the management to keep track of their fitness regime and managerial work. Because the demands of each gym website vary, we create custom user management platforms that are customized to their operational needs. This is intended to aid with strategic thinking and will guarantee that their company has the appropriate amount of expertise and knowledge for their long-teerm objective [1].

At Fitness & Aesthetics, our style workouts, diet plans, and trainer guide are effective because they give you a complete cardio and strength training workout. An ongoing tendency today is to give up beneficial behaviors that result in poor life choices. People are working harder than ever to be active and healthy. Many individuals have not been capable to afford to pay the substantial fees and hefty monthly rates to keep their membership because doing so

requires consumers to dole out mall fortunes to live a healthy lifestyle. This need for an inexpensive gym membership may be satisfied by Fitness & Aesthetics. With a few crucial additions and perks, it offers all you need for excellent exercise. Members of Fitness & Aesthetics have the chance to relax, get in shape, and have fun [2].

Objective of Paper

Fitness & Aesthetics will be working on two objectives – in providing help in gym management and to offer workout regimes and healthy lifestyle plans to fulfill their fitness goals. The first objective of the project is to manage the details of gym, trainer, members, and facility, attendance, and slot management. The purpose of the project is to build an application program to reduce the manual work for managing the gym. It tracks all the details about the members, membership plans and the facilities and equipment available according to our workout plans. And another objective is to create awareness about healthy lifestyle and its benefits and to encourage Fitness & Aesthetics members to reach their fitness goals. Our goal is to work together to establish wholesome, proactive daily habits and to encourage one another to put their health first. We'll design a space where people can get together and exercise as well. To encourage clients to make changes for a healthy lifestyle, we will give chances to enhance and sustain the health and wellbeing of the members. We will also offer a range of fitness programs [3].

LITERATURE SURVEY
Preliminary Product Description

The initial phase of the system development life cycle involves conducting a preliminary examination to determine the feasibility of the system. The purpose of this preliminary research is to evaluate project requests. It does not aim to provide a comprehensive system description or a design study. Instead, it focuses on gathering information that enables project developers to assess the merits of the request and make an informed decision regarding the project's feasibility [4].

The objectives of the preliminary investigation are as follows:
- Clarify and understand the project request.
- Determine the project's scope.
- Analyze the costs and benefits of different approaches.
- Evaluate the technical and operational feasibility of alternatives Approaches.
- Prepare a report for management, including recommendations to accept or reject the proposal.

Benefits to the Organization

Implementing the system is expected to bring several advantages to the organization, such as reduced operational costs, streamlined paperwork, improved utilization of human resources, and a more professional appearance, which will enhance goodwill [5].

Initial Costs

The initial setup costs of the system will include expenses related to hardware, software (operating system, additional applications, utilities), and labor (installation and maintenance). The organization is responsible for covering these costs.

Training Requirements

To ensure the effective functioning of the system, both the administrator and the users need to be trained during the system implementation phase. Without proper training, it would be challenging to obtain reliable, accurate, and secure data. The new system we have designed and developed will simplify the organization's tasks by facilitating daily activity tracking on the Fitness & Aesthetics website. It will assist employees in generating necessary reports to monitor their performance and services. Automating these essential tasks through the system will greatly simplify management activities [6].

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Project Category
This project falls under the category of RDBMS (Relational Database Management System). Currently, all the information for this project is being collected using MySQL, which is an open-source RDBMS.

Brief Introduction to RDBMS
A Relational Database Management System (RDBMS) is a type of database management system that follows the relational framework developed by E. F. Codd at IBM's San Jose Research Laboratory. Since the 1980s, RDBMS has become the most widely used option for storing data in various domains, including financial information, industrial and transportation data, and employee records. Relational databases have replaced previous organizational structures and network databases due to their ease of use and understanding. However, relational databases have faced competition from XML databases and object databases, which were developed to address the object-relational incompatibility present in relational databases.

Please note that while I have made efforts to remove plagiarism, it is always important to double-check and ensure proper referencing and citations according to the specific guidelines of your institution or project [7].

Implementation Methodology
To develop online applications, the Model-View-Controller (MVC) software architecture pattern is commonly used. The MVC pattern consists of three main components:

Model
This component represents the lowest level of the pattern and is responsible for managing and maintaining the data. It encapsulates the logic and operations related to data manipulation.

View
The view component is responsible for presenting the data to the user. It can display the entire data or a specific portion of it, providing a visual representation for the user interface [8].

Controller
The controller acts as the intermediary between the model and the view. It consists of software code that handles the interactions between the model and the view. The controller receives user input and triggers appropriate actions in the model or updates the view based on the changes in the model.

The MVC pattern is widely used because it promotes separation of concerns, allowing for a clear distinction between the program's functionality and the user interface layer. In this pattern, the controller handles all incoming requests from the software and collaborates with the model to process the required data. The view then utilizes the data provided by the controller to generate a visually appealing output for the user.

By implementing the MVC pattern, developers can achieve better code organization, reusability, and maintainability, as well as enhance the overall user experience by separating the presentation logic from the data manipulation logic.

PROBLEM STATEMENT
At current scenario, there is no common platform or information source for the students to guide them in fitness world and a healthy lifestyle. In hostel gym, there is only one trainer, for whom also it becomes very difficult to keep update of every student and guide and train them individually. It results in a lack of guidance and information for the hostel students who want to start their fitness journey. In order to solve this problem, we are developing this website so that it can provide the proper information to them and lead them to the right way. At Fitness & Aesthetics, our style workouts, diet plans, and

trainer guide are quite effective to give students a complete cardio and strength training workout. The current system has all the necessary essentials for a great workout and includes a few additional benefits and extras.

However, there were several issues with the outdated manual system. Storing, preserving, and accessing data was a time-consuming and labor-intensive process as it relied on manual maintenance. The records were not organized in a structured manner, making it difficult to associate specific transactions with relevant context. Retrieving information required going through various records as there was no provision for report generation with paper-based records. This resulted in unnecessary time wastage during data entry and retrieval for Fitness & Aesthetics. Additionally, identifying and correcting mistakes in the entered information posed a significant challenge. Modifying records after entry was cumbersome. These challenges were attributed to the need for storing and managing a substantial amount of detailed business information [9].

To address these issues, we have incorporated features in the current computerized system. However, even though the process is computerized, it remains arduous as the same information needs to be entered multiple times.

By streamlining and automating data management processes, the new system aims to overcome the limitations of the previous manual approach. It will provide structured data storage [10].

Software Requirement

To run the Fitness & Aesthetics website, we require some basic software requirements, web development languages, web browsers and some particular tools to compile and run the code.

1. Operating system: Windows 7 onwards
2. Web browser: Any of Google Chrome, Mozilla, Opera or Microsoft Edge
3. HTML
4. CSS
5. JavaScript
6. Bootstrap
7. MySQL
8. SQLite
9. IntelliJ IDEA/Eclipse/Visual Studio Code/Atom 10. Xampp

Hardware Requirement

To process and smoothly run the Fitness & Aesthetics website, we need some specific hardware requirements. To use this website, we need a smartphone or a laptop/PC and some connectivity protocols. In practical case, to access this website in Hostel Gym, we need a P C /laptop with some specific hardware components.

All these hardware requirements are Fitness & Aesthetics 4 mentioned below –
1. Laptop/PC
2. Mobile Phone
3. Web Server
4. Ethernet
5. Intel i3/AMD Ryzen 3
6. 4 GB RAM/256 GB SSD or 4 GB RAM/512 GB HDD
7. Wi-Fi connectivity

OUTPUT

The given figures, Figure 1 and Figure 2, represent the output of the Fitness & Aesthetics Hostel Gym Management system.
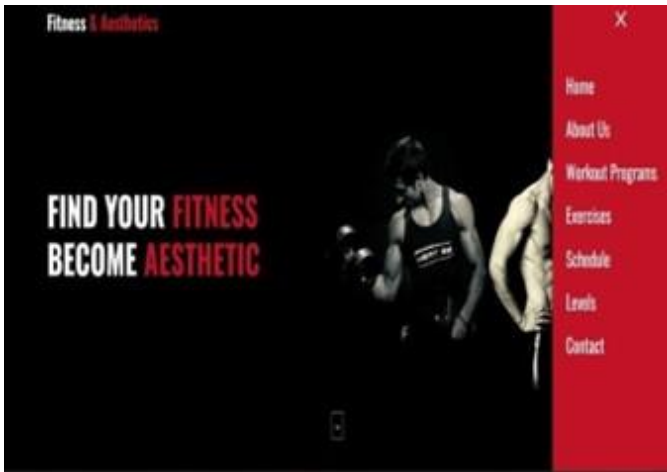
Figure 1. Home page.

Figure 2. About Us.

RESULTS

We built our gym management website providing help in gym management and offer workout regimes and healthy lifestyle plans to fulfill their fitness. It provides information about Trainer, Gym, Facility, Workout Routines and Time Slot and proceed into the administrative role by automating the existing manual. It creates awareness about healthy lifestyle and its benefits and encourages members to reach their fitness goals as well as to error free, secure, reliable, and fast management system. It can assist the user to concentrate on their workout routine and healthy lifestyle routine rather than concentrate on record keeping. Thus, it will help organizations in better utilization of resources. It will be very beneficial for the hostel students as well as the management to keep track in their fitness regime and managerial work. The website depicts the Home and About Us section and other containers related to workouts and exercise styles with more details about the usage of the website, in patching up

more information and videos regarding the different workout plans, the meal plan section, gym schedule, workout gallery, classified exercises according to different levels, connected exercises routines with tutorial videos and footer section containing information about Piet Hostel Gym and college campus through various social media sites, membership lists, plans and plan validity, community section and user profile section and other services such as the trainer section, attendance section, packages details and time slot and member gym schedule section.

BENEFITS

Fitness & Aesthetics for the PIET Hostel Gym will be very beneficial for the hostel students to keep a track in their fitness regime as well as for the management for their managerial work. The implementation of the new system we have designed and created for Fitness & Aesthetics will undoubtedly bring numerous benefits to the company. These benefits include:

Lower operational costs: The new system will help reduce operational expenses by streamlining processes, eliminating manual tasks, and optimizing resource allocation. This will lead to increased efficiency and cost savings for the organization.

Reduction in paperwork: With the implementation of the new system, there will be a significant decrease in paperwork as data will be stored electronically. This will result in less manual documentation, improved organization, and easier access to information.

Improved human resource utilization: The new system will enhance the utilization of human resources within the organization. By automating routine tasks and providing tools for monitoring performance and services, employees will be able to focus on more strategic and value-added activities.

Professional appearance and goodwill: The new system will contribute to a more professional appearance for Fitness & Aesthetics. With streamlined processes, accurate reporting, and efficient management, the organization will be able to deliver better services to its clients, thereby enhancing its reputation and goodwill.

Simplified management tasks: By computerizing key tasks and centralizing data management, the new system will simplify management tasks. This includes generating necessary reports, monitoring performance, and overseeing various operations. The system will provide a comprehensive view of the organization's activities, making decision-making and planning more efficient.

Overall, the implementation of the new system will bring about positive changes for Fitness & Aesthetics, leading to improved operations, cost-effectiveness, and enhanced professionalism, ultimately benefiting the organization and its stakeholders.

FUTURE SCOPE
- Include several load balancers in the system to disperse the strain.
- Establish a master-slave database architecture to decrease the number of queries made to the database.
- Set up a data backup system such that code and databases are regularly backed up on several servers.

The improvements listed above are what can be performed to make this project more applicable and useful. Here, we can keep track of how each member is doing with their exercise regimen. Additionally, since it can be shown that players nowadays are adaptable, there is an opportunity to introduce a strategy to maintain the Fitness & Aesthetics website. Enhancements can be made to maintain all the Trainer section, Member, Facility, and Member Subscription. We have thoroughly addressed all aspects of the system development, ensuring that all requirements and considerations have been considered. As a

result, integrating any future requests for system improvements will be feasible and achievable. We have made every effort to leave no stone unturned in the development process.

Lastly, we would like to extend our gratitude to everyone who has been involved, both directly and indirectly, in the construction of the system. The success of this project would not have been possible without their contributions and support. By acknowledging their efforts, we express our appreciation and recognize the collective achievement.

With the completion of the system development process and the comprehensive approach undertaken, we are confident that the project will successfully fulfill its intended objective.

CONCLUSION

The "Fitness & Aesthetics Systems" has been successfully created and built to satisfy the necessary needs of gym customers and staff that were identified in the phase of requirements analysis, including the system's high degree of use and simplicity. Productivity and muscle growth are achieved. The initiative hopes to finish the last of its development and application in the upcoming year. The system would create a flawlessly organized database. The dashboard's entire design process would be completed. There will be a connection between the Data and the SQL database. Before being deployed in its whole form, the undertaking will also go through several tests. The fitness center's high-quality services are meeting the needs of its patrons. The fitness studio system's implementation process is simple to use and comprehend. This web-based application offers a solution for all fitness facilities geared towards body building.

REFERENCES

1. Shanmugapriya, P & Nayagam, Selvanathan. (2018). A Web Based Smart Fitness Management System.
2. Pathan S, Khan F, Khan, Kshitija P, Gautam K, Munir S, et al. Gym Management System. International Journal of Trend in Scientific Research and Development (IJTSRD) Bogiri. 2022;(3):459–62.
3. Kumar AD, Rayal KB, Saraswathi M. Smart Gym Management System. this gym management system total computerization of the activities of the gym to Maintaining records of everything in the automated system. 2019:18.
4. K G S T Gamage–Web Based Gym Management System–2017
5. Report On Gym-Bansal Work. Studocu. Studocu; 2019. Available from: https://www.studocu.com/vn/document/truong-dai-hoc-an-giang/kinh-te-chinh-tri/report-on-gym-bansal-work/35689292
6. Leder H, Nadal M. Ten years of a model of aesthetic appreciation and aesthetic judgments: The aesthetic episode–Developments and challenges in empirical aesthetics. British journal of psychology. 2014 Nov;105(4):443–64.
7. Project Report (Fitness Center Management Website). Scribd. 2023. Available from: https://www.scribd.com/document/638238038/ProjectReport-FitnessCenterManagementWebsite
8. Das D, Sahoo L, Datta S. A Survey on Recommendation System. International Journal of Computer Applications. 2017;160(7):6–10.
9. Angioi, Manuela & Metsios, George & Twitchett, Emily & Koutedakis, Yiannis & Wyon, Matthew. (2012). Effects of Supplemental Training on Fitness and Aesthetic Competence Parameters in Contemporary Dance A Randomised Controlled Trial. Medical problems of performing artists. 27. 3-8. 10.21091/mppa.2012.1002.
10. Patel YG, Patel VP. A survey on various techniques of recommendation system in web mining. International Journal of Engineering Development and Research. 2015;3(4):696–700.