An Automated Platform to Manage Customer Relationship in a Gymnasium

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Abstract -In this advanced world, the computer turns out to be an increasingly famous and imperative to our way of life. The Gymnasium Management System is a collection of wellness centers designed to make dealings with clients easier and more efficient. The project is a computerized computer-based framework and is used to deal with gym members. This study expects to build a framework for people who want to maintain their health and physical wellbeing on a regular basis, relying on the gym. The manager can see all members from the gymnasium and also their details. This project proposes a strategy for an online knowledge base as well as executive exchanges. The plan framework can supervise recreation center members, gymnasium instructors, trainers, gymnasium gear, diet of gymnasium members, instalments of gym members, instalment of instructors, and equipment details. The framework additionally gives the capacity of search and progressed look for looking through records proficiently. The framework, which will store information, will check the legality of data provided by members, stores data of members as per their ID, and creates reports for various IDs.. This framework is much secured, and to login to the framework one's username and password is required. The framework administers the recreation center part's information exclusively for all activity and gymnasium instructor's information separately in terms of thinking about gymnasium needs, and stores information with respect to normal machines. This Automated Gymnasium Management System is reasonable than the manual information base, since it gives trainers automated framework support, huge capacity limit, more faithfulness and high safety.

Keywords: gymnasium management, fitness, database management

I. INTRODUCTION

Everyone knows health is a valuable thing. Without health we don't need anything because there is no value of extravagant vehicle, beautiful house, and without a health, a degree is nothing. The first thing we must remember is to have a healthy lifestyle. Mostly our time depend on our attitudes and how we feel about those issues We have the energy to take on any obstacle when we are healthy and fit. We as a whole know for a person health is a most significant thing and being healthy is first thing that we keep in our brain. We can do anything, anywhere if we are healthy and fit. Actually, great health is significant for calm life. Actual wellness incorporates diet, exercise, and rest. Every person takes appropriate eating routine, appropriate exercise, appropriate rest for sound and upbeat life. These three things are generally significant for non-transferable illnesses free life. Everybody should wise about our health in light of the fact that for healthy and valid life and life is so valuable. Electronic applications are currently a day's gotten exceptionally well known and valuable. A contemporary framework refers to the framework that has been used in the past. The fitness center is putting in physical effort. The current structure is time-consuming and expensive since it requires a great deal of paper effort. The manual treatment of the exercise center framework was a truly troublesome errand. However, today's computerization enables better efficiency at a cheaper cost, as well as a reduction in the weight of paperwork, and freed up time for executives to record the details of every single part and worker, create required reports without any problem.

The purpose of is this project is to plan and built up the mechanized framework, because it

comprises so many obstacles, the existing structure is arduous and costly. The framework isn't proficient. Likewise, there is a weight of paperwork as everything is kept in a solitary register. Because of this, the ideal opportunity for recording subtleties of every single part and worker is massive. The report generate isn't so ordinary. The most significant disadvantage of the project is the need to design and construct an easy-to-understand, easy-to-use, and efficient automated framework. The issue must create associate right and adaptable situation which will kill information excess, also to deliver higher graphical PC program. The arrangement should likewise deal with the security of the information base information by operating login and secret word. The reason or goal of this framework is to digitalize and make a computerized framework. The framework will play out the assignment like adding the new part to the Gym, Eliminating the part or keeping the installments records and other stuff needed in dealing with the gym appropriately. The current state of affairs in the Gym is that records are preserved by handwriting in a document on paper. Physically, each administrative work is completed. In this Gym The board Framework initially motivates the sign-up structure. The client fills in the username and secret phrase, as well as an email address or phone number. If a client chooses to join through email, our system will begin the confirmation process. Client validation will be completed by clicking on a link that will be delivered to the client's email address, and the client will be directed to our main page. On the off chance that client pick telephone number to join, a confirmation code will be shipped off client's given telephone number. Presently if client enter the right check code, If the client enters invalid data, it will be redirected to our framework's main page. On the off chance that client gives both email and telephone number, at that point default validation will be finished by telephone message.

The data about the different things contained in the framework resemble Gym members, instructors, equipment can get by only a couple clicks different to the paperwork required the genuine checking for such data. It helps in making the different group as per their inclination or on the off chance that they need a specific gym instructor. It made simple to create the reports of different activities replaced in the Gym, look like paying the expense, it tends to be put away and later assessed and get the rundown of people who didn't pay the charge. The framework doesn't just restrict itself to the organization and yet additionally helps the people from the Gym. The Gym members can have choices like participation and charge installment change lot demand. This will improve the straightforwardness between the members which is consistently a decent quality in the framework. It will likewise give the cover of security to the organization and the clients that private approved clients can access by their certifications.

II. LITERTURE REVIEW

The "SMART GYM MANAGEMENT SYSTEM" has been successfully created and developed to meet the necessary needs established during the requirements analysis process, such as the system being very user pleasant, form level validation, and field level validation operating very well. There were a number of flaws in the old manual system. The present project has been developed to meet the aspirations indicated in the modern age. (Ahmed & Nayeem, 2016).

In today's world, computers are becoming increasingly popular and crucial in our culture. We can use computers almost anywhere, and they are extremely handy in our daily lives. Websites, like computers, play an important role in daily life. We now have the ability to learn about anything in the world with a simple click on many websites. As a result, we set out to create a Gymnasium-themed website for people who want to keep their health and fitness in check on a daily basis. The user of the Gym Management System can save information about meals, employees, people who are at the gym, gym equipment, and so on. This software program allows you to save all of the information about a gymnasium. The newly built Gymnasium site is better suitable than the manual database since it offers features such as huge storage capacity, high speed, greater accuracy, and increased security. The frontend of this project is Visual Studio, and the backend is SQL Server(Jishnu T Jojo2, 2012).

The recreation center administration framework is with progress planned and created to satisfying the necessary necessities, as known inside the necessity's examination part, similar to the framework is inconceivably bountiful easy to use, type level approval and field level approval territory unit playing appallingly speedily. The framework brings about fast recovery of data that is exceptionally indispensable for the advancement any association. Cost is limited if there should be an occurrence of fixed. Weight of manual work is decreased as at whatever point exchange happens, there is no compelling reason to record it in numerous spots physically(Utkarsh Krishak, 2018, p. 8).

It was becoming increasingly inconvenient to use the old manual system. Because the entire organization had to be kept aware of hands, the path to keeping, keeping up, and retrieving information was dismal and long. There used to be a bevy of difficulties in coordinating a particular trade with a certain environment. If any information could be found, it was expected to come across a slew of registers containing records that had nothing to do with the age of the report. While entering and retrieving records, there would almost likely be a waste of time. The force board's work is currently being done honestly, which is causing the division a lot of headaches. The clarification for it is that there is package of information to be kept up and should be recalled while keeping up the business .For this clarification we have given features Present structure is generally motorized (robotized), truly existing system is persevering as one requirements to enter same information at three better places (Vazhacharickal, et al., 2017).

The project 'gym management system' is prepared to eliminate the time required for existing system in the previous system there is no records secured as all the paper work was there and if the paper misplaced then all the records will be gone so to avoid all these problems this gym management system project has been developed. Through these all the records are maintained and secured. In gym management system it requires a system which handle the details easily and security according to user. It also requires software which store data about staff and persons. This is very useful system and beneficial also (Mahima, et al., 2019).

In this gym management system total computerization of the activities of the gym to Maintaining records of everything in the automated system. There will be inbuilt software which can detect mistakes immediately. This is a completely created system that will assist in the management of the gym, so making a mistake is not an option because it would manifest itself in a large form after that. It also requires software to keep information on students, employees, merchandise, and any agreements or deals made in the gym. This is very useful system as it records and maintains all the information related to the people in the gym. (Kumar, et al., 2019).

Our proposed " Gym Management System" is for the individuals who maintain an exercise center business. Prior to busy, we did respectable examination on significant troubles for rec center proprietors. We analyzed cautiously about how to make a gigantic enlisting framework without disappointment just as various capacities for various sort of client relying upon their advantage. The Gym the chiefs requires a system that will manage all the basic and second nuances adequately and genuine data base security in like manner to the customer. They require programming, which will store data about people, delegates, things, money, receipts of people and all trades that occur in Gym. The online rec center administration framework is an easy-to-understand application. This mechanized framework makes all usefulness simpler for the two proprietors and clients. It is extremely basic in plan and to execute. The framework prerequisites are low. Framework assets and the framework can work in practically all setups (Shakoor, et al., 2018).

We are all aware that health is a valuable asset. We don't need a flashy automobile, a large apartment, or a doctorate if we don't have good health. The first thing we must remember is to stay healthy. Because our attitude is mostly determined by how we feel. Being healthy and fit provides us with the energy to accomplish anything. Physical fitness is essential for living a healthy and stress-free life. Diet, exercise, and sleep all contribute to physical fitness. These three essential items are important in everyone's life, and everyone should be sensible about them in order to have a good existence (Monir & Jannatun, 2016).

Our "Smart gym management system" for those who run the company proposed to the gym. Before doing anything, conduct some study on the primary problems that gym operators face. We have other responsibilities for different people depending on their privileges and the memory of how to develop a massive system in safety and carefully considered these concerns. The administration is required to treat them conveniently from the gym and to provide all necessary services based on security and a user database. Members, workers, carrots, chocolate protein, and members who got transactions in the gym are not required to retain data in the software. Each is an internet application with a user-friendly administration structure. This facilitates the automated system owners and other features. (Kumar, et al., 2020).

This venture builds up an administration data arrangement of recreation center in schools and colleges and does site support and the executives of exercise room through the usage of the framework in each college gym. This paper picks VisualStudio.Net2005 as the improvement stage to keep up the data the executive's arrangement of the exercise center, and afterward picks C# as the advancement language. The connected frameworks in this paper can coordinate a wide range of the executive's capacities. It incorporates representative administration, client the executives, site the board, cost the executives and framework the board. At long last, these capacities are coordinated into the framework, and they can likewise share and send information data. The framework gives them various advantages as per the various characters of the client and improves the general cycle of the entire framework. In addition, it understands the objective of the open administration of the everyday data of the college exercise room and can utilize its open interface to understand the reconciliation of the administration framework with different schools and colleges. The examination shows that the data the board arrangement of college exercise center has improved the proficiency of the administration of sports gym and has pragmatic application esteem in the administration of school gym. (Babu, et al., 2019).

Gym Management System (GMS) is a web-based application. In This Project, we don't need to go to Gym House to Admit Manually. This project can help to reduce Time and record complete details of Gym subscriber. This is a whole process that will be started for member's physical statistics. This Project Requires, which will be stored data about members, employee, products, payrolls information and modify any record. Gym Management System is a fitness facility management system that makes it easier to manage members. The administrator has access to all of the fitness center's members as well as their personal information. The system's basic module is as follows. This project is an internet platform that maintains gym members, personal, and administration. This system also maintains the student's details, to provide the valuable reports regarding the progress of the gym member. (Rahman & , 2020).

III. METHODOLOGY

The goal of this study is to identify and assess the issues with the current gym management system. and introduce a Smart Gym Management System which to address the issues and increase the efficiency and the automated solution enhances working techniques by replacing the present manual system with a computer-based system, which increases the effectiveness of routine management functions.

The main drawbacks of the solution were identified as the high cost the development and implementation entail, designing a user-friendly system and carrying out end-user trainings.40 people from the gym had been selected as the sample and semi-structured interviews were held with them. The people selected for the sample were the registered members of the gymnasium for more than 03 months with a good record of attendance. Interviews were conducted by 04 people and 10 candidates were allocated for each interviewer. The interviews were held in the office room as well as in the reception lobby area of the gymnasium for 02 days and the sample were selected and informed in advance in order the interviews to be conducted before a candidate starts working out to ensure the candidate is focused and not exhausted to increase the quality and validity of the answers provided by them. The time allocated for an interview with one person was 8 to 10 minutes and notes were taken to record the answers

given by the interviewees. Moreover, all 40 interviews were recorded using voice recorders with the consent of the interviewees.

Questions for the interviews were formed in order to check the willingness of the sample to work in an automated environment, considering the gym members in the sample as the prospective users of the solution to be introduced. 10 Yes or No questions and 05 questions with Likert Scale were formed in the following areas. Online booking system, Online payments system, Online gym equipment reservation system, Free time schedules messaging system. The data obtained from the interviewees were then transferred to Microsoft Excel for the analysis.

Figure 1 shows the overall architecture of the system.
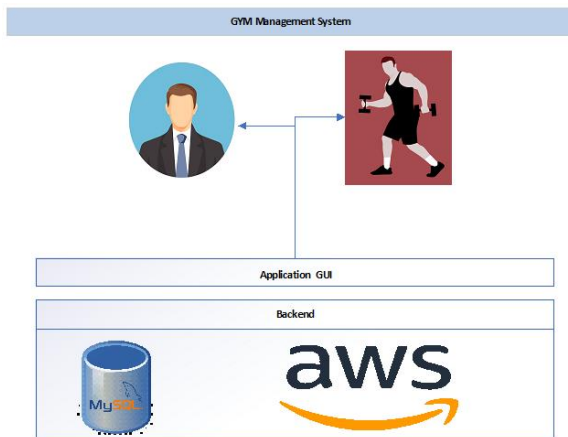
Figure 1. Overall Architecture of the Gym System

In this unit, interpret the results for analysis. I interviewed 50 members of my gymnasium. After interviewing them some future developments were highlighted in the interview. And also, I investigate some features of gymnasium management system need to be developed in future.

Among them I selected four majority of features which most useful for gymnasium management system based on responses of gymnasium members. 40% responses of gymnasium members like to use booking system, 30% responses of gymnasium members like to use payment system, 10% responses of gymnasium members like to use gymnasium equipment reservation system and 20% responses received

for free time schedules massage system. The results which I analyzed are presented in graph.
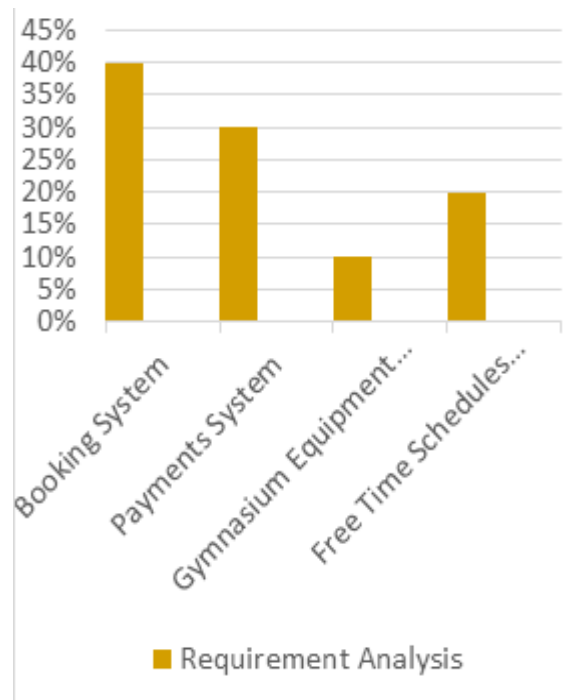

Figure 2. Requirement Analysis for Gym System
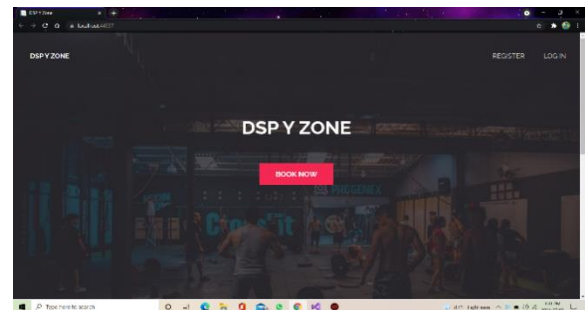
IV. IMPLEMENTATION

Figure 3. Main Window of the Gym System

Figure 3 shows the main window of the system. In this screen new user can registered to the system by pressing register button. Then figure 4 show the registration window. User can enter details and press submit button.
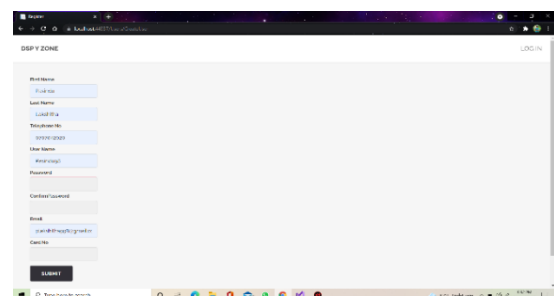

Figure 4. Registration Window of the Gym System

After the registration user get the window displayed in figure 5. By entering username and the password user can login to the system.
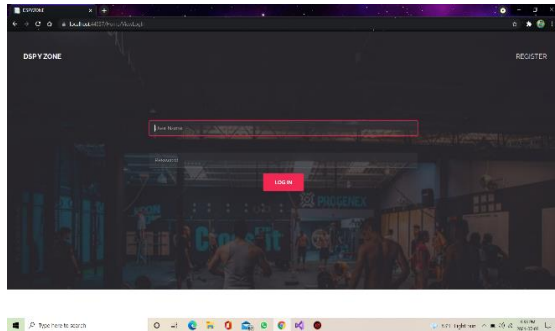

Figure 5. Login Window of the Gym System

Figure 6 shows admin's dashboard. Admin can check all details in the gym system. It includes branches, bookings, and user details.
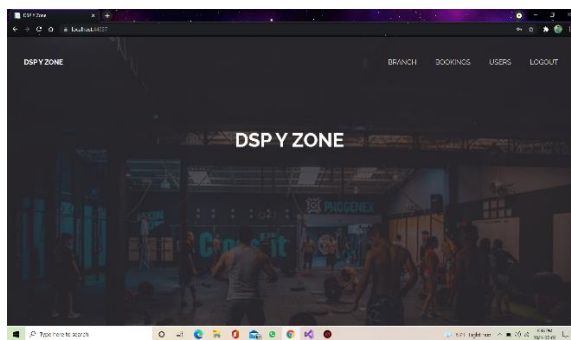

Figure 6. Admin Dashboard of the Gym System

Admin can add branches and edit and delete these details. In this window shown figure 7.
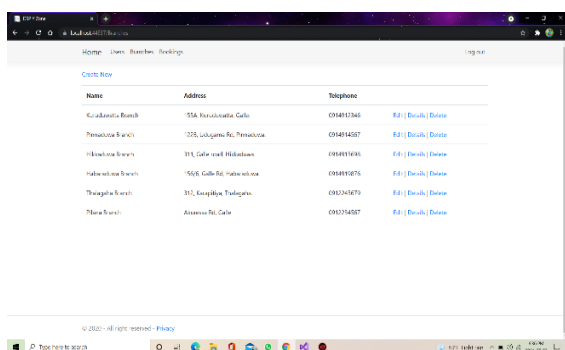

Figure 7. Branches Window of the Gym System

This is a booking window; User can book the gym for particular time period using via system. It shows in figure 8.
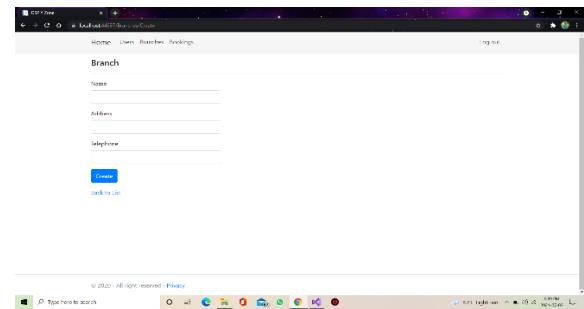

Figure 8. Booking Window of the Gym System

V. FURTHER WORKS

This gymnasium management system comprises everything from the complete computerization of the gymnasium's activities to the automatic maintenance of all records. There will be built-in software that can immediately detect faults. This is a fully formed system that will aid in the management of the gymnasium, therefore making mistakes after it has established itself as a significant form of the system is not an option. The goal of this project is to come up with a design for managing online databases and transactions. It also provides search and advanced search options for discovering records quickly and effectively. This system uses a graphical user interface to store data and generate reports (GUI). It's usually vital to analyze and recognize the flaws in an existing system during a system study, which can assist in determining the needs for the new system analysis aids in the discovery of several options for a better solution. It also requires software to keep information about gymnasium members, instructors, and equipment, among other things. And any arrangement or deal made in the gymnasium. This is a highly important system because it records and keeps all of the information on the gymnasium's users. This system reduces the amount of paperwork as well as the amount of human resources required. We have automated all of the records in this system, and this is a highly essential and valuable effort. The five goals are: enhancement, automation, accuracy, user-friendliness, availability, and maintenance cost. Each is a user-friendly gymnasium management system that simplifies the automated system for gymnasium owners, gymnasium members, and gymnasium trainers.

VI. CONCLUSION

The "AUTOMATED GYMNASIUM MANAGEMENT SYSTEM" was successfully built and developed to meet the required needs, as identified throughout the requirements analysis process, such as the system being exceptionally user friendly and working efficiently. There were a number of flaws in the old manual system. The current proposal was created to meet the goals expressed in the modern era. The new automated system was shown to be substantially faster, more reliable, and more user-friendly than the previous method; the system was designed and tested step by step. It eliminates human error, which is nearly certain to occur during activities that require the processing of a huge amount of data. In the case of stationary, the cost is minimized. The burden of manual work is decreased because anytime a transaction occurs, It is unnecessary to manually record it in numerous locations.

The gymnasium management system is properly performed to satisfy all the important requirements that we want in gym. The older system was tackled with so many problems/issues. The present system has been developed to make work easy and efficient. This system is automated system, only use of machine work.

REFERENCES

Ahmed, M. & Nayeem, J., 2016. Smart Gym Management System. This system about the use of the technology in order to reach a better lorem is to become part of human life, june.p. 12.

Babu, R., Jin, Z. & Ahmad, A., 2019. INFORMATION MANAGEMENT SYSTEM OF SPORTS GYMNASIUM IN COLLEGES AND UNIVERSITIES. This project develops a management information system of gymnasium in colleges and universities., p. 12.

Jishnu T Jojo2, J. M. J. a. G. T., 2012. The newly developed site for Gymnasium is more suited than the manual database. Gym management interface: an overview.

Kumar, A. D., Ram Rayal, K. B. & M. S., 2020. Smart Gym Management System. p. 18.

Kumar, R., Rasthi, W. & Raam, K., 2019. Smart Gym Management System. In this gym management system total computerization of the activities of the gym to Maintaining records of everything in the automated system., p. 18.

Mahima, K., Pooja, R., Niyati, W. & Lodha, G., 2019. Survey Paper on Gym Management System Project. The project 'gym management system' is prepared to eliminate the time required for existing system in the previous system, May.p. 10.

Monir, A. I. 2.-2.-6.-0. & Jannatun, N. I. 2.-2.-6.-0., 2016. A Project Paper on Smart Gym Management System. p. 9.

Rahman, M. M. & B., 2020. Gymnasium Management Web Based System. Gym Management System (GMS) is a web based application., July.p. 16.

Shakoor, M. A., Abbas, M. & Mehdi, M. I., 2018. DATABASE AND TRANSACTIONS MANAGEMENT SYSTEM FOR A SMART GYM: LAYYAH FITNESS CENTER. December.

Utkarsh Krishak, R., 2018. Survey Of Gymnasium Management System. The system results in quick retrieval of information that is very vital for the progress any organization., April.p. 10.

Vazhacharickal, P. J., Joseph, S. K. & Thomas, G., 2017. The Data Collection Of Gym Management System. The reason behind there is lot of information to be maintained and have to be kept in mind while running the business, Jan.p. 8.

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