



Faculty of Computer Science and Information Technology

FITNESS CENTER MANAGEMENT SYSTEM

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Bachelor of Computer Science with Honors (Multimedia Computing)

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ABSTRACT

Any gym or a fitness center that has no website or web application can be considered as missing one of the most powerful marketing tool that is available. The main reason why businesses should have a website is to increase the chances of gaining more customers to come to you. Most people these days go online to find what they need such as researching products or companies before making a decision. Therefore, for this specific reason, we will develop a web application for the fitness center owner to manage their business. The owner regularly use MS Excel or logbooks to keep records. This kind of method is relevant, but it can cause a lot of redundancy of data and a higher probability for errors. If these things were misplaced, it can cause trouble to the owner or the management staffs.

The Fitness Center Management System can remove most of the software limitations and can increase the efficiency, accuracy and also provide a user friendly interface. Besides that, by building this project, it can also maximize communication capacity, maintenance and cost reduction, better than the existing system. This FYP report is to propose a Fitness Center Management System for Yoga Region Center located in Kuching, Sarawak.

ABSTRAK

Gim-gim atau pusat kecergasan yang tidak mempunyai laman web atau aplikasi web boleh dianggap ketinggalan zaman kerana laman web sebagai salah satu alat pemasaran yang paling kuat yang ada. Salah satu penyebab utama mengapa perniagaan harus mempunyai laman web adalah untuk meningkatkan peluang menarik perhatian lebih banyak pelanggan untuk datang kepada anda. Kebanyakan orang pada hari ini pergi ke atas talian untuk mencari apa yang mereka perlukan seperti meneliti produk atau syarikat sebelum membuat sesuatu keputusan. Oleh sebab itu, kami akan membangunkan aplikasi web untuk pemilik pusat kecergasan untuk mengurus perniagaan mereka. Pemiliknya kerap menggunakan MS Excel atau buku log untuk menyimpan rekod. Kaedah semacam ini adalah relevan, tetapi ia boleh menyebabkan banyak redundansi data dan mempunyai kebarangkalian yang lebih tinggi untuk kesilapan. Sekiranya perkara-perkara ini berlaku, ia boleh menyebabkan masalah kepada pemilik atau kakitangan pengurusan.

Sistem Pengurusan Pusat Kecergasan boleh menghapuskan kebanyakan had perisian dan boleh meningkatkan kecekapan, ketepatan dan juga menyediakan laman web yang mesra pengguna. Selain itu, dengan membina projek ini, ia juga dapat memaksimumkan kapasiti komunikasi, penyelenggaraan dan pengurangan kos, lebih baik daripada sistem yang ada. Laporan FYP ini adalah untuk mencadangkan Sistem Pengurusan Pusat Kecergasan untuk Pusat Kecergasan Yoga Region yang terletak di Kuching, Sarawak.

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

A fitness centre is a company that either houses exercise equipment or spaces that focus on physical fitness and health in exchange of a fee. Fitness centre also offer a range of workout classes and programs for members. At present, every management task at fitness centres in Kuching are done manually. Records are kept by writing on forms on papers. Perhaps, the only computerised part of the management system is the finance system of the secretary accountant and their auditors' system. This usually could create confusion and redundant task in keeping up the records. As the number of membership and fitness programs increase, there seem to be a need to speed up the administration tasks. In addition, regardless the size of the fitness centre, processes remain equally complex. Hence, solutions for fitness centre are usually uniquely designed and build based on their needs. Another advantage of fitness management systems is to reduce the carbon footprint.

In a present scenario in the fitness centres or gyms, the common tasks are adding new members to the centre, removing members, managing classes and members, inventory of equipment, keeping payment records and other tasks in managing the fitness centre properly. A digitised system can automate the manual process of each tasks and also provide a better experience in doing such tasks. This digitised system can avoid the hassle of doing cumbersome processes.

These type systems have increased the efficiency of booking and managing process and decrease the time taken to process each activity. By having an online management system, centers such as fitness centers or gymnasiums are now able to connect with new prospects and existing clients online. In this era, by having an online management system, it is the

fastest and easiest way to interact with customers online. It is also important to ensure the customers' need are satisfied alongside the efficiency of the system is accomplished. Fitness centers are currently using manual booking system to keep the customers' information, details of session booking and store these details in a manual way. This manual way has been facing limitation such as data repetition and time wastage. These limitations are prone to errors and cannot be undo once the file is corrupted. To manage these kinds of issue, a solution is proposed which is by developing an online system for the clients to make their booking and instructors' manage their session which will be administrate by the fitness center.

1.2 PROBLEM STATEMENT

In a particular fitness centre, which is still using a manual process of the fitness centre management system which is through walk in, phone call and even by listing names in social application (Whatsapp groups). These are the few problem(s) that some centers facing as there were no systems to book and manage the centre. The manual management system that they are using now require a complicated and meticulous method as it is based on paper and also social application. Besides that, by using this traditional method, they were unable to fully track all operations in the fitness center. For example, the separation registration of booking classes becomes cumbersome for the members and the instructor(s) as it can cause data repetition and also time wastage. Last but not least, the lack of efficiency in this method causes the center to loss their profit as some people can forfeit last minute without paying the session.

1.3 OBJECTIVES

The main objective of this system is to ease the fitness center management and also provide the instructor(s) an easy booking session system. Besides that;

- i. To develop and automate the manual process of the fitness management system.
- ii. To develop a yoga region management system based on specific need.
- iii. To develop and implement a basic financial and reporting method in the system.
- iv. To evaluate the usability and functionality of the developed booking system.

1.4 BRIEF METHODOLOGY

In developing this project, Fitness Center Management System, I have chosen a suitable methodology that will be implemented to complete the proposed project which is the Software Development Life Cycle (SDLC) model . SDLC is a process of developing a system with a legit analysis, design, implementation and maintenance. It is said to be equal to layer of open systems interconnection or OSI model of network communication [2012, Sami,Mohamad]. This can assure the data flow from a level to another. SDLC breaks down the entire life cycle of the software development and made it easier to evaluate each cycle in the software development.

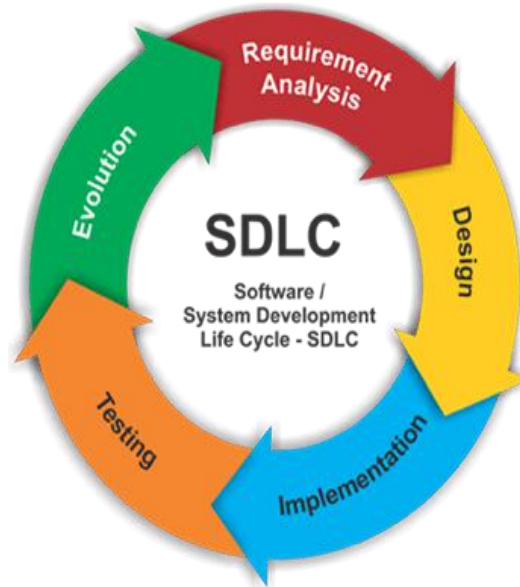


Figure 1.4.1 :Software Development Life Cycle Model

(Source:<https://melsatar.blog/2012/03/15/software-development-life-cycle-models-and-methodologies/>)

SDLC has many models that can help with the project system development, such as Waterfall model, V-shaped Model, Spiral Model, Agile Development and many more. It also has many advantages that could bring the project to move forward further.

1.5 PROJECT SCOPE

This proposed system is to develop and automate the current manual process system. The current manual process is fully under the responsible of the staffs or the fitness center admin. The system will be connected to the admin database at the center to retrieve all information regarding the members and also instructors. The system will be accessible via phone, tablet and also laptop as it uses a common browser, such as Chrome, Safari and other browsers to ease all phone users either iOS and also Android. This system will be using common browser which will go through the Google or other search engines and connected to the system.

The system will mainly focus on the registration of the members, the instructors and also the registration of the sessions by each instructors.

1.6 SIGNIFICANT OF PROJECT

This system can provide instant display of all the fitness sessions provided by the center at the homepage rather than navigating through unnecessary ads and also websites for the sessions. Additionally, this system can also enables the instructors to register their fitness sessions and be notify the time and place available at the center.

1.7 PROJECT SCHEDULE

The project was started on the 23rd of September, 2019 and is expected to finish on 15th June, 2020. The detailed project scheduled is shown in the Gantt chart which is shown in Appendix A.

1.8 EXPECTED OUTCOME

The expected outcomes at the end of the project, is to successfully build a system with the following functions – login and logout session for the different users of the system, display the available fitness sessions that allow user(s) to book the session(s), and instructor(s) to add to the session(s), limit check for each session, reporting on the overall sessions and finance analysis and ledger (monthly and yearly for the center and each instructor), allowing the basic functions (i.e. add, delete, store, display).

The finance system that is taken to account in the system, will also provide the number of members in the fitness centre and also the yearly income of the fitness centre. But due to some limitation of confidentiality. The incomes of the centre cannot be exposed during the study.

1.9 THESIS OUTLINE

Chapter 1 is the background study of the system that is proposed and also brings the overall purpose to the project. In this chapter, the problem statement, objectives, project scope, proposed methodology, significance of the project, expected outcome of the proposed system are identified and briefly explained. The problem statements that were stated, describes the problems and inconvenience of using the current system . The objectives illuminate the main purpose of the project. The project scope shows the focus of the proposed project. In the methodology, the system development cycle used is the SDLC method, Software Development Life Cycle, which shows the overall process throughout the project. Gantt Chart is used to mark the milestone and display the development of the project to make sure the project is on track with the planned dates and milestones. Expected outcome that was mentioned explains the result of the project.

1.9.1 Literature Review

In completing this project, a literature review is needed and it plays an important role in developing this project. This chapter will discuss of all the information from the web system, and the studies that has been done from the project. Based on the studies and research regarding literature reviews, it is a form of process and documentation of a relevant research regarding of the project or of a particular topic. In addition, it also consists of a certain knowledge and how the elements of the knowledge are implemented in the project and combined with each other. Chapter 2, an existing system which has similar functions is analyzed and used for review. The three systems determined and examined based on their limitations, constraints, architecture, structure and also algorithms.

1.9.2 Methodology

In this chapter, methodology is an important key in finishing and succeeding in a project within a time frame while still be able to satisfy the user's requirements. It is also an approach that will be used while developing the project. Each of the phase that will be used in the methodology is crucial and cannot be left behind or skipped.

Firstly, the process of the whole project is needed to be sketched properly or be mapped in an organized way earlier to make sure that the whole project is on the right track towards the mentioned objectives in Chapter 1. In conclusion, the methodology of this whole project will include the introduction of the project title, objectives, flowcharts and also the time frame of the whole project that is planned beforehand.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 2 is mostly on explaining the literature review of similar existing web application systems with the features of booking and managing centers that is mainly related to fitness centers with purpose of booking sessions that can be accessed on daily basis.

Web application system is known worldwide and are not a stranger anymore to the people nowadays as it has been used widely in many fields such as medical health, education, navigation and many more. These web application provides a systematic way to manage all the affairs in a fitness center in a professional way with the help of technology.

Non web application system are still used nowadays, but we rarely see that anymore as we are in the modern days. Manual booking systems requires manpower to go to the venue itself and manage their affairs on the spot or by making a phone call for a session. It also can cause redundancy in data information system. These kind of disadvantages can be troublesome to be deal with annually or monthly not to mention financing of the center. Based on the information provided, here are a few existing web system application with the features mentioned.

2.2 REVIEW ON SIMILAR EXISTING SYSTEM

A manual system is a system where records are kept up by hand, without utilizing a PC system. Rather, exchanges are written in journals, from which the data is physically folded up into a financial statement. These systems experience of a high error rate and are much more slow than modernized systems. Manual systems are most regularly found in little enterprises that have not many transactions in their record.

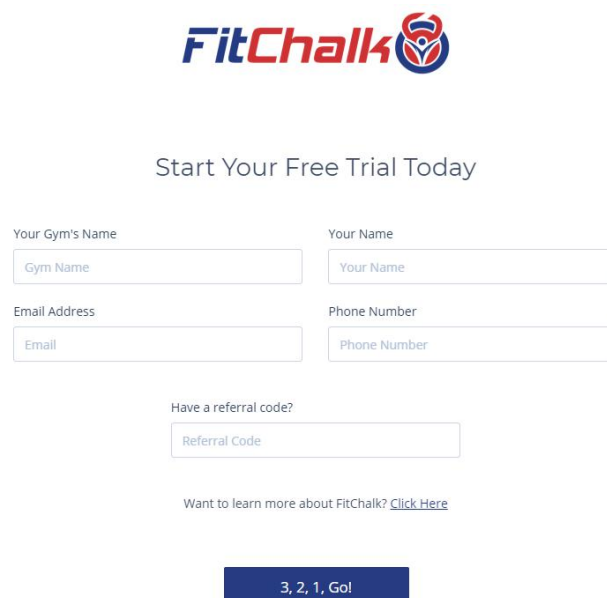
Automated system operations are a mix of both programming and equipment that is structured and modified to work naturally without the requirement for a human administrator to give data sources and guidelines to every operation. Automated systems operations are utilized in a wide range of application like control and checking systems, information security applications, manufacturing plant automated systems, automated message response systems and so on. These systems took system and environmental events as sources and do operations based on conditional decision making and specific control logic. Some of the benefits of automated system operations are eliminating risks of human errors, improving user productivity, system standardized operations and also better operations management.

Even though the automated system operations can result in higher productivity and reduced costs, the initial cost of setting up an automated system is high and requires research and development efforts.

2.2.1 Fit Chalk

Fit Chalk is web application that provides a platform for gym owners or instructors to provide their service to the community. This web application could be accessed in the web application through logging in the web application.

When accessing in the web application, the user itself can search for the specific gym wanted, then search the sessions available in the application. Besides that, the user can also act as a gym owner or an instructor and advertise through the web application about their sessions with the details given in the information details.



FitChalk

Start Your Free Trial Today

Your Gym's Name

Your Name

Email Address

Phone Number

Have a referral code?

Want to learn more about FitChalk? [Click Here](#)

3, 2, 1, Go!

Figure 1.1 Example of Fit Chalk Sign Up Page

(Source: <https://app.fitchalk.com/trial>)

This application satisfies both needs either user and also the instructor. This web application features can be considered to be added in the proposed application features.

2.2.2 Celebrity Fitness

Celebrity Fitness provides information of the gym on the web application and online reservation systems. Customers or one time visitors can get most information of the gym on the web such as its location, the equipment provided and also the type of training sessions provided by the instructors. There is an online form for the customers who wants to book a training session in the gym and preferred gym area.

The structure of the system is well-organized as it is easy for the customers to navigate through it from logging in, going through booking processes and logging out. The sufficient information that has been provided in the website are informative and up-to-date. The website can be taken as an example as it provides information sufficiently.

The screenshot shows the top of the Celebrity Fitness website. On the left is the logo, and on the right is a hamburger menu icon. Below the navigation bar is a grey banner with the text: "So sign up and try us out for yourself. Tour our clubs, meet our StarMakers and join the A-list today." The main heading is "GIVE US A TRY" in purple, followed by the subtext "Fill in the form and get in touch with us." The form consists of several fields: "FIRST NAME *" and "LAST NAME *" (text inputs), "EMAIL *" (text input), "+60 MOBILE NUMBER (A VERIFICATION LINK WILL BE SENT TO THIS NUMBER) *" (text input), "PREFERRED CLUB *" (dropdown menu), and "PREFERRED CONTACT TIME" (dropdown menu). At the bottom left is a checkbox for "I've read and agree to the Terms and Data Privacy policy". At the bottom right is a red "SUBMIT" button.

Figure 1.2 Example of Celebrity Fitness Login Page

(Source: <https://www.celebrityfitness.com.my/free-trial>)