GYM MANAGEMENT SYSTEM OF TAURAMA FITNESS CENTRE

ARTICLE

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By:

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ABSTRACT

Taurama Fitness Centre is one of the few gym training center in Port Moresby, Papua New Guinea which was founded in 2009, by Johnson Waldford. However, as off its existence, there are some major setbacks or problems that are encountered at Taurama Fitness Centre. This gym is engaged in providing service to the public both men and women of all ages, from all walks of life. The setbacks or problems encountered are mainly related to member registration procedures, member renewal, daily attendance record, non-member daily payment records, and financial recording which are done manually. Thus, it is time consuming, and inefficient.

Therefore, this research was carried out to find solutions and methods that can be used to in terms of technology to help solve these problems. The research methodology that was used in this research is the object oriented approach method, which will involve the use of UML diagrams (i.e. Use Case Diagrams, etc.). For the system development, the prototype model was used.

In order to overcome these setbacks, it is proposed that the gym management system be designed. A gym management system is an information system that manages data information daily and helps record information and transaction from members and non-members. This management system will cater for member registration procedures, daily attendance recording, member renewal and etc. This can help in solving these problems and become more reliable and efficient for the cashier and accounts officer to use.

Keywords: Management System, Gym management System

I. INTRODUCTION

1.1 Background

Along with the development, the advancement of information technology is growing very rapidly and it can be seen from the increasing human dependency on the information technology and is also crucial, thus the quality of information must always be improved to the next level to benefit and have a considerable impact on the development of any institution or an agency for critical decision making. The outposts that once did not feel the technology can now enjoy the online information service technology. Information technology appears as a result of increasingly widespread globalization of organizational life, the rigors of business competition, increasing short life cycle of goods and services offered, as well as the increasing demands of consumer appetite for products and services offered. In anticipation of this, companies are looking for new ground by utilizing the technology. Technology is expected to become a facilitator and interpreter. Initially, the information technology used is only limited to the processing of data. With the development of information technology, almost all activities of the organization today has been penetrated by the application of information technology and automation.

With the development of information technology today, individuals and organizations can work more quickly and accurately process data. That's why many companies, small and medium enterprises, private organizations, big multi-million companies and big organizations are beginning to switch from a manual system to a computerized system for various reasons and the goals to be achieved. A leader is required to think quickly and appropriately in decision-making so that the company can compete with other companies. With Computer based Information System can help individuals and organizations to solve their problem. However managing and keeping data up to date with information technology require commitment and skilled knowledge personals. Computer based information System are a very important asset in many organizations or companies all over the world which effectively contribute to effective decision making for the betterment of those organizations.

Developing of Systems takes a long time of planning and analysis before it is literally developed. Development of an effective system is done through carefully following the regulations set by Major Software development organizations like Institute of Electrical and Electronic Engineers (IEEE) software.

Papua New Guinea is a developing country and most of its organizations and small enterprises still have their systems run manually, one of such business is the Taurama Fitness Centre which is located in the National Capital District (NCD) known as the capital city. Taurama Fitness Centre was founded in 2009, by Johnson Waldford. This gym is engaged in providing service to the public both men and women of all ages, from all walks of life. Taurama Fitness Centre provides fitness facilities and equipment to serve its every customer who comes to exercise or workout in the gym. Taurama Fitness Centre has roughly a total of 20 – 30 people who are not members who uses the facilities on a weekly basis, and about 20 are registered members. Every week the population of public using the gym has increased hence, Taurama Fitness Centre has an estimated total of about 40 people both members and non-members who use the gym. The Fitness Centre opens daily from 8am-9pm Mondays – Saturdays. The setbacks or problems encountered are mainly related to member registration procedures, daily attendance record, non-member daily payment record, and financial recording which are done manually. Thus, it is time consuming, and inefficient.

To manually handle the system daily is really a problem that is faced by Taurama Fitness Centre. Therefore it is in fact necessary to have a medium that is able to overcome the problems described above in which the system takes advantage of a computer-based application development.

In consideration of the above mention problems encountered, Taurama Fitness Center in fact really needs a gym management system to cater for the problems. A gym management system is an information system that manages data information daily and helps record information and transaction from members and non-members. This proposed gym management system will be used by the cashier and accounts officer of Taurama Fitness Centre. From the above background, the author has raised this issue into a research thesis titled "GYM MANAGEMENT SYSTEM OF TAURAMA FITNESS CENTRE."

1.1 Problem Identification and Formulation

The identification and formulation of the problem is as follows:

1.2.1 Problem Identification

As from the background description, the author has identified several issues regarding the current system of Taurama Fitness Centre are as follows:

a. In terms of registration for new members, member registration procedures are sometimes slow due to handling data manually (handwritten) more new members being registered by only one staff on duty. Having to register by usage of registration forms is an expensive measure and not reliable having to use paper and have them stored in files which require more storage space.

b. It is time consuming and difficult when in the process of searching for membership data/records in terms of renewing membership, which is done manually by going through all the members' record files one by one.

c. It is less efficient when having to record daily non-members payment fees with only one duty staff available, this can be quite time and energy consuming

d. Recording of daily attendance of members and non-members is time consuming when being done manually by recording into the attendance log journal.

e. It is time consuming for the accounts officer to having to go through all the daily transaction activities when they are in the form of journal books, and getting to document into a monthly financial report errors can also arises.

1.2.2 Problem Formulation

Therefore based on the identified issues, the current problems of the system can be formulated as follow:

a. How to analyze the current gym management system of Taurama Fitness Centre, in areas of new members registration, non-member transactions, renewing monthly membership, recording daily attendance, and manage financial records, to point out the associated problems.

b. How to design and develop a computer-based gym management system for Taurama Fitness Centre to help solve problems faced with the current gym management system.

c. How to evaluate and test the proposed gym management system at Taurama Fitness Centre so that it meets the user requirements for new members registration, non-member transactions, renewing monthly membership, recording daily attendance, and manage financial records, in order to avoid system functional error

d. How to implement the proposed gym management system into a programming language that is integrated with a database so that it becomes a ready-made application package at Taurama Fitness Centre.

1.2 Research Objectives

The main purpose and objective for conducting this research are as follows:

1.3.1 Purpose

The main goal of this research is to design and develop an authentic user friendly computer-based gym management system for Taurama Fitness Centre, that can manage an accurate effective membership registration processes for new and existing members and non-members, keeping records of daily attendance, financial records, data storing of members details and monthly report generation .

1.3.2 Objectives

a. To analyze the current gym management system of Taurama Fitness Centre and point out major issues in areas of new members registration, non-member transactions, renewing monthly membership, recording daily attendance, and manage financial records

b. To design and develop a computer-based gym management system for Taurama Fitness Centre to help solve problems faced with the current gym management system.

c. To evaluate and test the proposed gym management system at Taurama Fitness Centre so that it meets the user requirements.

d. To implement the proposed gym management system into a programming language that is integrated with a database so that it becomes a ready-made application package at Taurama Fitness Centre.

1.3 Research Implications

The author expects this research to benefit both theoretically and practically by the following parties:

1.3.1 Practical Uses

From this research, the author hope that through the development of gym management system will be used by Taurama Fitness Centre to improve processing and managing of data more efficiently and accurately. In addition to that, this system may also be implanted in other similar companies in Papua New Guinea, who have similar issues that are faced by Taurama Fitness Centre.

1.4.2 Academic Usability

The academic uses of the research are:

1. Development of Computer Science

Given this research can be used as a reading material and reference journal to future students to develop insight knowledge in the field of Computer Science and other related topics.

2. For Other Researchers

The ideas generated from this research may also be implemented by other future researchers who wish to broaden their knowledge about information systems development.

1.5 Limitations of Research

Taking into consideration the time limit and ability of the researcher, the discussion of this research will be restricted on the following regarding the development of the gym management system of Taurama Fitness Centre. The development of gym management system of Taurama Fitness Centre will contain:

1. Data processing of new members registration which includes renewing existing members, members and non-members transactions.
2. Recording daily attendance record of members and non-members
3. The output produced includes financial records of the payments of fees from every members, monthly transaction report, attendance report and relevant information of every registered member.

4. A login account access right for the gym management is only given to the parties employed at Taurama Fitness Centre that is the cashier or the employee on duty at the front desk and the accounts officer.

II. THEORITICAL

2.4 Research Case

The main case of this research is the development of a gym management system of Taurama Fitness Centre. Therefore the following sections will explain concepts related to the research case.

2.4.1 Gym Management System

According to Codecanyon.net, gym management system is an easy-to-use management information system that manages data information and helps record members and their memberships.

1. **Registration**

   According to Merriam Webster dictionary, registration refers to the act or process of entering personal (member) information in a system of public records. In this case, the registration section of the gym management system will register any interested personal who wants to be a member by entering his/her personal details into the system.

2. **Memberships Renewal**

   This section will be used in the gym management system for renewing monthly payments for existing members and also updating any relevant information of the member.

3. **Non-Member Transaction**

   This section will be used in the gym management system for recording daily payments for those who are not members that use the fitness center from time to time occasionally.

4. **Attendance**

   This section will be assigned for recording daily attendance of anyone who wish to use the fitness center at any given time. Whether it be a registered member or

non-member, a daily record of the time and date he/she enters the fitness center and, the time and date when he/she leaves.

5. **Reports**

This section will be used in the gym management system refers to a summary records consisting of the members registrations, membership renewal, non-member's transaction and attendance.

III. OBJECT AND RESEARCH METHOD

3.2.3 Methods and System Development Approach

In system development method, system development approach and the analysis and design tools, as briefly explained in chapter two previously, in this section it will be described in more detail.

3.2.3.1 System Approach Method

The system approach method used in this research is the object-oriented approach. The object oriented approach focuses on objects rather than actions, and data rather than logic. For this research, the object oriented approach was chosen because objects are easier for people to understand, data and processes are not artificially separated, and code can be reused more easily.

3.2.3.2 System Development Method

The system development method used in this study is the development of a prototype model. A prototype is a model or a program which is not based on strict planning, but is an early approximation of the final product or software system. A prototype acts as a sample to test the process.

3.2.3.2.1 Prototype

A prototype development method is employed when it is very difficult to obtain the exact requirements from the system end user. A prototype model makes it easier for the system user to clarify the user requirements specification to system developers. Developing a prototype models involves gathering user requirements for the desired system, and then developing a prototype system inclined to what the system users really want. A prototype system is usually not the final or real system.

However, it provides a display or preview of what the real system will look like. After the prototype system is evaluated by the end user, the system developers can be able to determine the system specifications in accordance with the wishes of system users, and thus create the real system. Illustrated on figure 3.2 is a prototype model:

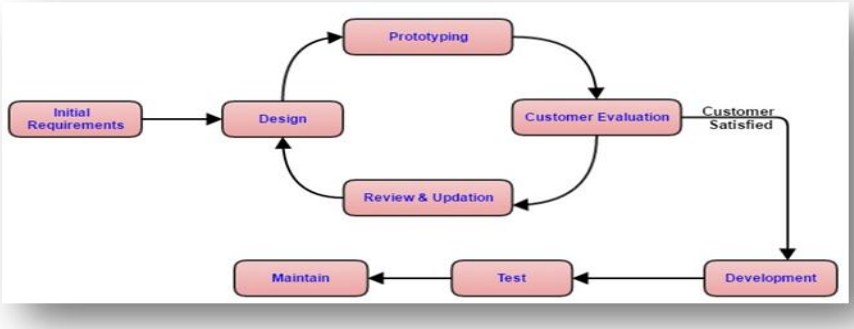


Figure 3.2 Prototype Model

Source: Building Prototypes with Framer by T. Mat, 2011. [11]

IV. RESULT AND DISCUSSION

4.1 System Design

System design is basically the laying out the structural design of a system clearly step by step in a procedural manner. The design of system requires many aspects for effective design. In addition Systems design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development. System design is also the process of defining the elements of a system such as the different interfaces of those components and the data that goes through that system. It is meant to satisfy specific needs and requirements of a particular organization through the engineering of a coherent and well-running system.

In this research, the system to be developed is the gym management system of Taurama Fitness Centre. This system will assist the staff (cashier) to carry out daily

business procedures of Taurama Fitness Centre. In the following sections, the system design of the proposed system will be discussed.

V. CONCLUSION AND SUGGESTIONS

5.1 Conclusion

Based on this research thesis entitled “Gym Management System of Taurama Fitness Centre”, which was developed and had solved the problems that were identified in the current system as follows:

1. The development of gym management system of Taurama Fitness Centre hopefully could solve the problem of member registration by performing the procedure online which is more efficient and less expensive.
2. The development of gym management system of Taurama Fitness Centre could also solve the problem of membership renewal by renewing membership dates faster and searching process is done more effectively.
3. The development of gym management system of Taurama Fitness Centre hopefully could solve the problem of non-member transaction by payment records be done quickly and reduce errors.
4. The development of gym management system of Taurama Fitness Centre could solve the problem of Attendance by recording date and exact time of every gym user automatically from the time of entry to the time of exit.
5. The development of gym management system of Taurama Fitness Centre hopefully could solve the problem of financial reports by generating proof of output produced per period in the form of a report from the processing of transactions that can facilitate the process of checking the income of member registration, membership renewal and non-member transactions.

5.2 Suggestions

As the gym management system will be used by the cashier and accounts officer, it is necessary to make further maintenance on the system to cater for any security flaws and other system errors. Feedbacks from the cashier will also be used to evaluate and make any changes to the system by the developers. In addition to that, in the near future it is suggested that a member ID card could be issued to members so the system can be more effective and manageable.

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APPENDIX

UNIVERSITAS KOMPUTER INDONESIA
PROGRAM STUDI SISTEM INFORMASI

KARTU BIMBINGAN



Nim : 14013009
Nama : JECOBERTH. W. KENDAGA
Program Studi : INFORMATION SYSTEM
Pembimbing : IMELDA, S.T, MT & RAUF FAUZAN
Judul : GYM MANAGEMENT SYSTEM OF TAURAMA FITNESS CENTRE

PELAKSANAAN BIMBINGAN

No	Tanggal	Materi Bimbingan	Usulan Perbaikan	Paraf Pemb.
1	24-05-16	CHAPTER 1, 2	BACKGROUND	
2	31-05-16	CHAPTER 1	INTRODUCTION	
3	14-06-16	CHAPTER 3	RESEARCH METHODS	
4	14-06-16	CHAPTER 1, 2	PROBLEM IDENTIFICATION	
5	14-06-16	CHAPTER 3	EVALUATION OF CURRENT SYS.	
6	24-06-16	CHAPTER 4	SYSTEM DESIGN, IMPLEMENTATION	
7	24-06-16	CHAPTER 4	COMPONENT & SEQUENCE DIAG	
8	24-06-16	CHAPTER 4	CHECK	
9	25-06-16	SYSTEM APPLICATION	REGISTRATION MENU	
10	26-07-16	SYSTEM APPLICATION	RECEIPT, REGISTRATION	
11				
12				
13				
14				
15				

BIMBINGAN PROGRAM

No	Tanggal	Catatan Revisi	Tanggal Rencana Revisi	Paraf Pembimbing
1	24-06-16	Program Outline		
2	28-06-16	Registration, Attendance		
3	26-07-16	Registration, Receipt		
4				
5				

KEHADIRAN DI SEMINAR

No	Tanggal	Materi Seminar	Penyaji	Paraf Pembimbing
1	14-07-16	INFORMATION SYSTEMS OF PMS STUDENTS AND SCHOLARSHIP IN ADD	DANIO TURIA	
2	14-07-16	[illegible] OF THE CAPITAL BUDDY [illegible]	[illegible] ANE KOAL	
3	14-07-16	SISTEM PENGETAHUAN ONLINE DI KUDUS UNTUNG NEGRI KOTA ASHLAND	SEBAR KOSUMAN	
4				
5				
6				
7				
8				
9				
10				

PELAKSANAAN SEMINAR DAN SIDANG

No	Tanggal	Kegiatan	Catatan	Paraf Pembimbing
1	14/7/16	SEMINAR		
2	16/8/16	SIDANG		
3				
4				

Mengetahui

Dosen Pembimbing,

Julian Chandra Wibawa, S.Kom, M.Kom

Bandung,

Ketua Panitia TA/Skripsi

[illegible]127.7020.03[illegible]

UNIKOM
UNIVERSITAS KOMPUTER INDONESIA

PROGRAM STUDI
SISTEM INFORMASI

Bandung, 13 April 2017

Nomor : 522/Prodi-SI/FTIK/UNIKOM/IV/2017
Lampiran : -
Perihal : Permohonan Penelitian

Kepada Yth.
Pimpinan Waldford Johnson Taurama Fitness Centre
PO.BOX 480 Port Moresby National Cartal District
Papua New Guinea

Dengan Hormat,

Kami dari **Universitas Komputer Indonesia**, dengan ini mengajukan permohonan kepada Bapak/Ibu untuk dapat kiranya menerima mahasiswa/i kami berikut ini:

Nama	: Jecoberth Waigaemo Kendiga
Nim	: 14013009
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Untuk melaksanakan **Penelitian Skripsi** di tempat yang Bapak/Ibu pimpin.

Pelaksanaan **Penelitian Skripsi** mahasiswa/i **Universitas Komputer Indonesia** disesuaikan dengan jadwal yang ditentukan oleh instansi/perusahaan yang Bapak/Ibu pimpin.

Demikian permohonan ini kami sampaikan, atas perhatian dan kerjasamanya kami ucapkan terima kasih.

Hormat Kami,
Ketua Program Studi Sistem Informasi
Universitas Komputer Indonesia

Marliana Budhiningtias Winanti, S.Si, M.Si
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TAURAMA FITNESS CENTRE
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Date: 14/04/2017

Attention:
Marliana B Winanti, S.Si, M.Si
Head of Information System Department
University of Computer Indonesia

Dear Madam

Subject: RESEARCH APPROVAL LETTER

Thank you for your request letter number 522/Prodi-IS/FTIK/UNIKOM/IV/2017 dated on the 13th of April, 2017. I as the Owner of Taurama Fitness Centre greatly appreciate and by all means give approval to this student:

Name:	Jecoberth Waigaemo Kendiga
NIM:	14013009
Program Study:	Information System/Bachelor

To continue her final year thesis research based on the Gym Management System of Taurama Fitness Centre in University of Computer Indonesia.

Yours Faithfully,

Company Owner
Taurama Fitness Centre

Waldford Johnson, Mr