WEB-BASED INFORMATION SYSTEM OF THE CAPITAL RUGBY UNION COMPETITION

ARTICLE

A final thesis submitted to the Computer University of Indonesia in partial fulfillment of the requirement for Bachelor Degree in Information System Faculty of Computer Science and Engineering

By:

SHANE JUNIOR JOE KOAL

14012512

MAJORING COMPUTER INFORMATION SYSTEM
FACULTY OF COMPUTER SCIENCE AND ENGINEERING
COMPUTER UNIVERSITY INDONESIA
BANDUNG

2016

ABSTRACT

The Capital Rugby Union (CRU), located in the National Capital District of Papua New Guinea, is one of the premier semi-professional rugby competitions in PNG and South Pacific. Over the years, CRU has produced some of the nation's best athletes, in sporting code rugby specifically. However, one of the major setbacks of the rugby competition today, is that this age of technology, most of live updates and publishing of the CRU news and schedules is still done using newspapers, there's no proper platforms to display information involving affiliated teams and player profiles and also with merchandise sales is still done the CRU social media pages.

In order to overcome this setback, it is proposed that a web-based information system be designed. This information system will cater for displaying latest news updates, game schedules, team's information, gallery and an online shop for merchandise sales. The research methodology that will be used in this research is the object oriented approach method, which will involve the use of UML diagram (i.e. Use Case Diagrams, etc.). For the system development, the prototype model will be used.

This research is aimed at developing a web-based information system for the Capital Rugby Union, which will allow supporters and fans look up latest updates involving the rugby competition and also shop online for merchandise items and thus overcome the problems faced with the current system.

Keywords: Information System, Online System, Web-Based Information System

I. INTRODUCTION

1.2 Background

Information technology (IT) has played a big role in the development of human beings on earth in the 21st century. Information technology is either the study or the use of systems (especially computers and telecommunications) for the storing, retrieving and sending of information from one end to the other in forms of electronic data. IT has built both the world and our society in general. Many fields have been impacted by information technology and these include; sports, education, health, entertainment, communication, business organization, government, military forces, research, security to name a few.

A website is a set of related webpages typically served from a single web domain. A website is hosted on at least one web server, accessible via a network such as the internet or a private local area network though an Internet address known as uniform resource. Many interactive websites, such as community sites, can only function by allowing people to add information. Members must be able to add and share messages. There have to be rules to determine who can see what information and what they are allowed to do. As well as websites where interactivity is a fundamental requirement, there are times when it offers subtler benefits.

The world of sports is continually changing over the years and the use of technology is just one of those areas that has made an impact in the modern day. Rugby Union or simply rugby is a contact team sports which originated in England in the first half of the 9th century. One of the two codes of rugby football, it is based on running with the ball in hand. In its most common form, a game is between two teams of 15 players using an oval-shaped ball on a rectangular field with H-shaped goalposts on each try live. Websites are built to include all the features that sports club need

to help run their club. Members associated with the sports can have easy access to updated information game statistics of the teams, team sheets, photo gallery, forum discussions, registered players, arena location, match results, draws, player profile, Club officials, referees and contact form.

Papua New Guinea Rugby Football Union (PNGRFU) was established in 1962 and over that time has enjoyed a degree of success. The game is played throughout the country and presently there are thirteen provinces actively running 15's and/or 7's competitions. There is a need to increase these competitions to provide more for age grade players and women throughout PNG. Port Moresby is the capital city of Papua New Guinea located south of the country near the coastal land. Port Moresby's rugby competition is known as Capital Rugby Union, Port Moresby Papua New Guinea. One such area in the world of technology that Capital Rugby Union lack is its lack of exposer online. Websites nowadays helps supporters and users online updated with the happenings of the sport. However Capital Rugby Union doesn't run a website at the moment. Most of the updates and schedules of the game are published in the newspaper which I strongly think is unprofessional for an organization to operate with. For instance, one of the supporter of the Capital Rugby Union teams wish to read about the weekly updates (schedules, results, gallery and news,), he or she has to buy a newspaper to have access to, which takes time and effort to go to a nearest destination to purchase. For convenience sake, if there is a Capital Rugby Union website in place, supporters don't need to buy a newspaper every time to have access to the latest updates. He or she simple can log online anywhere in the country or outside the provinces and can have access to daily updates of the Capital Rugby Union competition. Merchandise sales is another issue, most teams associated with CRU usually do sales on their social media pages such as Facebook and Instagram. If the CRU website can contain a merchandise section where supporters of the teams can purchase directly online instead of using

social media for privacy and professionalism sake. Team and players information in terms of teams profile and player profile isn't available for supporters to learn more about their favorite teams and players. Having a team information in place on a website would be of great help and again displays the professionalism in the rugby competition CRU.

1.2 Problem identification and Formulation

1.2.1 Problem Identification

From the background outlined above, some of the issues identified in the Rugby Union Organization of the Capital Rugby Union are as follows:

i. The Capital Rugby Union semiprofessional competition does not own a current website for its fans and any individual involved.
ii. The current system still uses the newspaper to publish out schedules, results and the ladder of the weekend's game to the CRU supporters.
iii. The CRU system doesn't have a platform in place for its fans to have access to which teams associated with the union and its player profiles.
iv. The current situation with merchandise sales for the Capital Rugby Union is done on its Facebook fan page
v. CRU uses its Facebook fan page to display galleries of the rugby matches.

1.2.2 Problem Formulation

Therefore, based on the above stated problems, the formulation is as follows;

i. How to analyze the new web-based information system design process of the Capital Rugby Union, in areas of schedules, results, gallery, news, development programs, live streaming, sponsors and subscribe.
ii. How to design the web-based information system to help solve the problems faced by the organization and its supporters.
iii. How to test the web-based information system of the Capital Rugby Union using an offline server so it meets the user requirements such as schedules, results, gallery, news, development programs, live streaming, sponsors and subscribe to avoid system functional errors.
iv. How to implement the web-based information system so that it becomes ready-made website package online for the Capital Rugby Union supporters.

1.3 Research Objectives

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

1.3.1 Purpose

The main aim of this study is to design and develop a reliable web-based information system for the Capital Rugby Union Competition, which will cover procedures under the schedules, results, gallery, news and the rugby development program.

1.3.2 Objectives

The purpose of this study is as follows:

i. To analyze the web-based information system design process of the Capital Rugby Union, in areas of schedules, gallery, news, sponsors.
ii. To design the web-based information system to help solve the problems faced by the organization and its supporters
iii. To test the web-based information system of the Capital Rugby Union using an offline server so it meets the user requirements such as schedules, results, gallery, news, development programs, live streaming, sponsors and subscribe to avoid system functional errors.
iv. To implement the web-based information system so that it becomes ready-made website package online for the Capital Rugby Union supporters.

1.4 Research Implications

It is expected this study will be used by the following parties:

1.4.1 Practice Uses

The development of the informative website will be used the by the supporters and followers of the Capital Rugby Union competition and the public online users in general. In addition to the, the website may also be implanted in other sporting codes in Papua New Guinea, who have similar issues faced by the CRU.

1.4.2 Academic Uses

1. Institutions

Hopefully, this research paper will be used as a reference journal for the future students working on a similar project.

2. Other Researchers

The ideas generated in this research may also be implemented by the future researches, who wish to broaden their knowledge about information systems development.

1.5 Limitations of Study

Taking into consideration the time limit and ability of the researcher, the discussion of this study will be restricted to the following regarding the development of the web-based information system of the Capital Rugby Union:

1. The development of the web-based information system of the Capital Rugby Union be applicable to only one language i.e. British English (United Kingdom).
2. The development of the schedules section of the Capital Rugby Union. This section will only display schedules of the Capital Rugby Union weekend games venue and time.
3. The development of the schedule section of the Capital Rugby Union. This section will only display weekly results of scores and table placings (ladder) of each teams.
4. The development of the gallery section of the Capital Rugby Union. This section will only display pictures of teams and associates that deal with the Organization only.

5. The development of the news section of the Capital Rugby Union. This section only displays news regarding the Capital Rugby Union teams, players and sponsors
6. The development of the sponsor's section. This section only displays the logos of the companies that Capital Rugby Union is sponsored by.
7. The development of the subscription section. This section is allocated to any viewers or supporters willing to get updated information of the Capital Rugby Union Competition website directly to their email address after they have filled in their personal information on the website.
8. The development of the merchandise section. This section only allows;
    - ATM transfers for payment of items only
    - No delivery of items, there's a specific location (CRU office) for the purchased items to be picked up
    - Only available for fans and supporters within the Nation's Capital City only.

II. LITERATURE REVIEW

2.4 Research Case

Web information system, or web-based information system, is an information system that uses Internet web technologies to deliver information and services, to users or other information systems/applications. It is a software system whose main purpose is to publish and maintain data by using hypertext-based principles.

1. News section of the Capital Rugby Union Web-based system displays mainly updates of every weekend's game and basically what's going in in the organisation.
2. Schedule section contains details of date, time and venue of teams playing each other. It also displays an update of the final score and shows who wins with how many points scored against its opposition. The ranking table displays from the top winning team to the lowest.
3. Team section displays details of the teams that partake in the Capital Rugby Union competition. Its shows the teams profile, players profile and the teams home base location.
4. Merchandise section displays the Capital Rugby Union teams merchandise on sale with prices which a supporter can purchase online.
5. Gallery section displays mostly the weekend's game of all the teams of Capital Rugby Union.

III. OBJECT AND METHODS

3.2.3 Method and System Development Approach.

In this section the system development approach, the system development method, and the analysis and design tools will be described.

3.2.3.1 Systems Approach Method

The system approach method used in this study is the object-oriented approach. The object oriented approach focuses on objects rather than actions, and data rather than logic. For this study, 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 Systems 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.

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. Following is a picture of a prototype model :

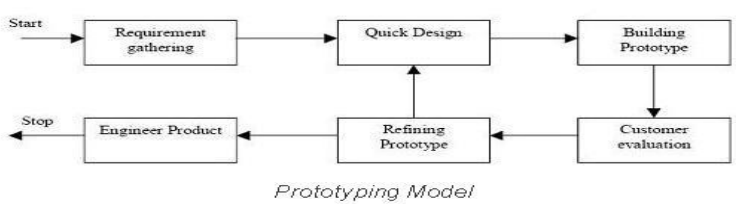


Figure 3.2 Prototype model

IV. RESULTS AND DISCUSSION

4.1 System Design

Systems design is the process of defining the architecture, components, modules, interfaces and data for a system to satisfy specified requirements. System design could be seen as the application of systems theory to product development.

The system to be developed in this study is the web-based information system of the Capital Rugby Union. This system will assist CRU fans and CRU employee's to carry out the various procedures of the rugby competition. In the following sections, the system design of the proposed system will be outlined.

V. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions

Based on this research thesis entitled "The Web-based Information System of the Capital Rugby Union", the following conclusions can be drawn:

1. The development of the web-based Information System of CRU is effective as it overcomes the problems of time and energy constraints and location, providing a much flexible method of carrying out online shopping procedures and displaying information to its audience.
2. In terms of the news section, the web-based information system provides an alternative method of receiving news

updates, making it possible for supporters from other provinces and other countries to have access to.

3. In terms of schedules, the web-based information system of CRU provides an alternative way of viewing game schedules, other than paying for a newspaper to view updates, simple subscribe with an email address to receive direct updates.
4. In terms of teams, the web-based information system of CRU provides team profiles of each teams affiliated with the unions and the player's profile of very single registered player.
5. The web-based information system of CRU provides an alternative method of merchandise sales, overcoming of the problem to have a Facebook account to place an order, which I think for security reasons isn't that safe.
6. The web-based information system of CRU provides an alternative way of viewing gallery of their favourite players and teams instead, overcoming the newspaper purchases and Facebook accounts.

5.2 Suggestions

As the web-based information system will be used by the large population of supporters/fans and the admin of CRU, it is necessary to make further maintenance on the system to cater for any security flaws and other system errors. In addition to that, as the supporters are more familiar with android devices today, it is suggested that implementation of the web-based information system, an android application be developed to make the academic information system more flexible. In addition, a ticket reservation system would be another suggestion to include in the future

BIBLIOGRAPHY

[1] Behrouz A. Forouzan. 2007. *Data Communications and Networking*. Fourth Edition. McGraw-Hill.

[2] James A. O'Brien and George M. Marakas. 2010. *Introduction to Information Systems*. Fifteenth Edition. McGraw-Hill.

[3] Jeffrey A. Hoffer, V. Ramesh and Heikki Topi. 2011. *Modern database Management. Tenth Edition*. Pearson Education.

[4] Mike O'Docherty. 2005. *Object Oriented Analysis and Design: Understanding System Development with UML 2.0*. John Wiley & Sons, Ltd.

[5] Tavangarian D., Leypold M., Nölting K., Röser M. 2004. *Is e-learning the Solution for Individual Learning*. Journal of e-learning. 6(1):20–24.

[6] Wahana Komputer. 2011. *Mastering CMS Programming with PHP & My SQL*. Penerbit ANDI, Yogyakarta.

[7] Whitten and Bentley. 2007. *Systems Analysis and Design Methods*. Seventh Edition. McGraw-Hill.

APPENDIX

UNIVERSITAS KOMPUTER INDONESIA
PROGRAM STUDI SISTEM INFORMASI

KARTU BIMBINGAN



Nim : 14012512
Nama : SHANE JUNIOR JOE KOAL
Program Studi : Pembimbing: System Information
Judul : Capital Rugby Design Web-based Information System

PELAKSANAAN BIMBINGAN

No	Tanggal	Materi Bimbingan	Usulan Perbaikan	Paraf Pemb?
1	28/4/16	Discuss topic	Start Chapter 1	
2	25/4/16	Chapter 1	Correction	
3	5/5/16	Chapter 1 correction	Start Chapter 2	
4	13/5/16	Chap Chapter 2	Correction	
5	19/5/16	Chapter2 correction	Start program	
6	26/5/16	Software (System)	System recommendation	
7	13/6/16	General checks	Membership, Ticket sales	
8	20/6/16	Chapter 3	Chapter 4	
9	21/7/16	Chapter 4	Chapter 4	
10	28/7/16	Chapter 4	Chapter 4 (Use Case)	
11	24/8/16	Chapter 1, 2, 3	Correction Chap 1~3.	
12		Chapters 1, 2, 3.	Acc. Seminar	
13		Chapter 4.	Correction Chap 4.	
14	16/8-16	Chapter 4 & 5	Acc. Sidang	
15				

BIMBINGAN PROGRAM

No	Tanggal	Catatan Revisi	Tanggal Rencana Revisi	Paraf Pembimbing
1	19/6/16	Database	19/5/16	
2	26/6/16	Hasilnya	19/5/16	
3	28/6/16	Mardemadica	21/6/16	
4				
5				

KEHADIRAN DI SEMINAR

No	Tanggal	Materi Seminar	Penyaji	Paraf Pembimbing
1	14-07-16	INTEGRATION SYSTEMS OF PHP STUDENTS ON SCHOLARSHIP IN INDO	DAVID PURIA	
2	14-07-16	GYM MANAGEMENT SYSTEM DI TANGAMA FITNESS CENTRE	SEROBERTH KENDIGA	
3	14-07-16	SISTEM PENDAFTARAN ONLINE DI KURSUS GUJURAT NSRL KOTA ASHGABAT	SEROAR KOMUTAN	
4				
5				
6				
7				
8				
9				
10				

PELAKSANAAN SEMINAR DAN SIDANG

No	Tanggal	Kegiatan	Catatan	Paraf Pembimbing
1	14/7-16	SPMTIN215		
2	16/8-2016			
3				
4				

Mengetahui

Dosen Pembimbing,

Bandung,

Ketua Panitia TA/Skripsi

Julian Chandra Wibawa, S.Kom, M.Kom

4127.7026.034

UNIKOM
UNIVERSITAS KOMPUTER INDONESIA

PROGRAM STUDI
SISTEM INFORMASI

Bandung, September 25, 2016

Nomor : 1399/Prodi-IS/FTIK/UNIKOM/IX/2016
Lampiran : -
Perihal : Asking Permission for Research

Kepada Yth.
Capital Rugby Union Office
P.O BOX 450 Waigani National Capital District
Papua New Guinea

Dear Sir/Madam,

We are Indonesia Computer University would like to ask permission for our student bellow to do research for his thesis in your company:

Name	: Koal Shane Junior Joe
Nim	: 14012512
Study Program / Major	: Information System / S1

The time for doing the thesis research of our student will be adjusted and followed the regulation of your company.

Thank you for your attention and we are looking forward.

Sincerely Yours,
The Head of Informatics System Department
Indonesia Computer University

Cipta Novivasari, S.Si, MT
Nip. 4127.7026.009

CAPITAL RUGBY UNION
P.O. Box 450, WAIGANI, National Capital District,, Papua New Guinea
Telephone: (+675)325 48697 Fax: (+675)341 23657 Email: capitalrugbyunion@gmail.com

Date: 27/09/2016

Attention:

Citra Noviyasari, S.Si, MT
Head of Information System Department
University of Computer Indonesia

Dear Madam,

Subject: RESEARCH APPROVAL LETTER

We have reviewed the letter request 1399/Prodi-IS/FTIK/UNIKOM/IX/2016 dated 25th of September 2016 with respect to the above subject matter.

I hereby as the President of the Capital Rugby Union pleased to inform you that your request has been approved for your student:

Name: Shane Junior Joe Koal
NIM: 14012512
Program Study: Information System/ Bachelor's Degree

To peruse his research based on the website Capital Rugby Union at the University of Computer Indonesia.

Yours Faithfully,

Company President
Capital Rugby Union

Richard Sapia, Mr

Capital Rugby Union

Transaction Report September 2016

#	Status	Price	Transaction Approved At
1	Hat Rugby World Cup 2015	K 40	Sep 24, 2016
2	Hat Rugby World Cup 2015	K 40	Sep 24, 2016
3	Hat Rugby World Cup 2015	K 40	Sep 24, 2016
4	Chain Key Mouthguard	K 30	Sep 24, 2016
Total		K 150	