INFORMATION SYSTEM PORTAL

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This project is submitted in partial fulfilment of the requirements for the degree of Bachelor of Science with Honours (Information System)

Faculty of Computer Science and Information Technology
UNIVERSITI MALAYSIA SARAWAK
2006
ACKNOWLEDGEMENT

First off all I would like to thank the God above because I manage to complete the Final Year Project.

There are so many people I would like to thank for the complete fulfillment of this final year project. To start off, I would like to thank my project supervisor, Puan Sharin Hazlin Huspi as a whole for her continued support. Her contribution of time, energy and knowledge are fully appreciated and will never be forget.

Thank you to Dr. Alvin because had give fully corporation especially during the gathering requirements phase of this project. Other lecturers as well as Dr. Wang and Pn Yanti Rosmuni because has well guided the FYP’s students especially in preparing report and project presentation.

Thank also for the support from my family as for their contribution especially in term of money and encouragement. My friends who have give excellent support from the beginning to the completion of this final year project. Thank you very much.
TABLE OF CONTENTS

ACKNOWLEDGEMENT i
TABLE OF CONTENTS ii
LIST OF FIGURES vi
LIST OF TABLES viii
ABSTRACT ix
ABSTRAK x

CHAPTER 1: INTRODUCTION
1.1 Introduction 1
1.2 Background of IS Programme 1
1.3 Description of the project 2
1.4 Problem Statement 3
1.5 Objectives 3
1.6 Scope 4
1.7 Procedure/Methodologies 4
1.8 Expected Outcome 7
1.9 Significant of Project 7
1.10 Summary 8

CHAPTER 2: BACKGROUND STUDY
2.1 Introduction 9
2.2 The Internet 9
2.3 Portal vs Website 9
2.4 Major functions of portal 11
2.5 Portal Usability Characteristics 13
   2.5.1 Ease of use 13
   2.5.2 Ease of learn 13
   2.5.3 Ease to remember 13
   2.5.4 Error frequency and severity 14
   2.5.5 Speed of loading 14
   2.5.6 Subjective satisfaction 14
2.6 The review of existing system
   2.6.1 Layout Design
   2.6.2 Ease of use
   2.6.3 Information displayed
   2.6.4 Features and Functionalities
2.7 Finding and Analysis
   2.7.1 Strengths and Weaknesses
   2.7.2 Comparison of systems’ contents
2.8 Summary

CHAPTER 3: REQUIREMENT ANALYSIS AND DESIGN
3.1 Introduction
3.2 Requirement Analysis
   3.2.1 Interview
   3.2.2 Identified requirements
3.3 Design
   3.3.1 Identify classes
   3.3.2 Class diagram and relationships
   3.3.3 Actor and Use-case model
      3.3.3.1 Actors
      3.3.3.2 I.S. Portal use-case model
   3.3.4 Interaction diagram
      3.3.4.1 Sequence diagram for the ‘register portal’ use-case.
      3.3.4.2 Sequence diagram for the ‘login portal’ use-case.
      3.3.4.3 Sequence diagram for the user ‘manipulate forum’ use-case.
      3.3.4.4 Sequence diagram for the admin ‘manipulate forum’ use-case.
      3.3.4.5 Sequence diagram for the user ‘manipulate album’ use-case.
      3.3.4.6 Sequence diagram for the admin ‘manipulate album’ use-case.
3.3.4.7 Sequence diagram for the user ‘manipulate alumni’ use-case.
3.3.4.8 Sequence diagram for the admin ‘manipulate alumni’ use-case.
3.3.5 Activity diagram
   3.3.5.1 An activity diagram for the general process of IS Portal.
3.3.6 Storyboard
3.4 Summary

CHAPTER 4: IMPLEMENTATION AND TESTING
4.1 Introduction
4.2 Infrastructure
   4.2.1 Development Infrastructure
   4.2.2 Open Source Technology Infrastructure
4.3 Coding Techniques
   4.3.1 Cascading Style Sheet (CSS)
   4.3.2 PHP class template
      4.3.2.1 PHP class template functions
4.4 Main IS Portal Functions
4.5 Page layout
4.6 Testing
   4.6.1 Functionality Testing
   4.6.2 Usability testing
      4.6.2.1 The System Usability Scale (SUS)
      4.6.2.2 Result discussion
4.7 Summary

CHAPTER 5: CONCLUSION AND FUTURE WORK
5.1 Introduction
5.2 Main findings
5.3 Limitation
5.4 Future works 56
5.5 Summary 57
REFERENCES 58
APPENDIX A: FIGURES 60
APPENDIX B: TABLES 84
APPENDIX C: STORYBOARDS 99
APPENDIX D: QUESTIONAIRES 104
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Appendix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1.1</td>
<td>Diagram of each phase that involved in the project development.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 2.1</td>
<td>Website 1- Department of Information Systems, University of Melbourne, Australia.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 2.2</td>
<td>Website 2- Department of Computer Information Systems, Georgia State University, United States.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 2.3</td>
<td>Website 3- Department of Information Systems, National University of Singapore.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 2.4</td>
<td>Website 4- Department of Information and Systems Management, Hong Kong University of Science and Technology.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.2</td>
<td>Object model diagram</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.3.2</td>
<td>IS Portal Use case diagram</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.1</td>
<td>Sequence diagram for ‘register portal’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.2</td>
<td>Sequence diagram for ‘login portal’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.3</td>
<td>Sequence diagram for user ‘manipulate forum’ use-case</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.4</td>
<td>Sequence diagram for admin ‘manipulate forum’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.5</td>
<td>Sequence diagram for user ‘manipulate album’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.6</td>
<td>Sequence diagram for user ‘manipulate album’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.7</td>
<td>Sequence diagram for user ‘manipulate alumni’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.8</td>
<td>Sequence diagram for admin ‘manipulate album’ use-case.</td>
<td>APPENDIX A</td>
</tr>
<tr>
<td>Figure 3.3.4.9</td>
<td>Sequence diagram for ‘send private message’ use-case.</td>
<td>APPENDIX A</td>
</tr>
</tbody>
</table>
Figure 3.3.4.10 : Sequence diagram for user ‘manipulate about us’ use-case.  
Figure 3.3.4.11 : Sequence diagram for admin ‘manipulate about us’ use-case.  
Figure 3.3.4.12 : Sequence diagram for user ‘manipulate award’ use-case.  
Figure 3.3.4.13 : Sequence diagram for admin ‘manipulate award’ use-case.  
Figure 3.3.4.14 : Sequence diagram for the user ‘manipulate course outline’ use-case.  
Figure 3.3.4.15 : Sequence diagram for admin ‘manipulate course outline’ use-case.  
Figure 3.3.4.16 : Sequence diagram for user ‘manipulate industrial training’ use-case.  
Figure 3.3.4.17 : Sequence diagram for admin ‘manipulate industrial training’ use-case.  
Figure 3.3.4.18 : Sequence diagram for user ‘manipulate lecture note’ use-case.  
Figure 3.3.4.19 : Sequence diagram for admin ‘manipulate lecture note’ use-case.  
Figure 3.3.4.20 : Sequence diagram for user ‘manipulate lecture directory’ use-case.  
Figure 3.3.4.21 : Sequence diagram for admin ‘manipulate lecture directory’ use-case.  
Figure 3.3.4.22 : Sequence diagram for user ‘manipulate newsflash’ use-case.  
Figure 3.3.4.23 : Sequence diagram for admin ‘manipulate newsflash’ use-case.  
Figure 3.3.4.24 : Sequence diagram for user ‘manipulate student directory’ use-case.  
Figure 3.3.4.25 : Sequence diagram for admin ‘manipulate student directory’ use-case.
Figure 3.3.5.1: An activity diagram for the general process of IS Portal.

Figure 4.5.1: home.php page
Figure 4.5.2: User successful to login page.
Figure 4.5.3: User registration page.
Figure 4.5.4: Registration agreement page.
Figure 4.5.5: aboutus.php page.
Figure 4.5.6: Forum page.
Figure 4.5.7: alumni.php page.
Figure 4.5.8: album.php page
LIST OF TABLES

Table 1.1 : Timeline of the project development. APPENDIX B
Table 2.7.1.1 : Comparison of systems’ strengths and weaknesses. APPENDIX B
Table 2.7.2.1 : Comparison of systems’ contents. APPENDIX B
Table 3.2.1 : Identified requirements APPENDIX B
Table 3.2.2 : Some association and their cardinalities between classes APPENDIX B
Table 3.3.1 : Identified actors Page 24
Table 3.3.2 : Identified use cases. Page 26
Table 4.2.2 : Development Infrastructure Page 41
Table 4.2.2 : Technology version Page 42
Table 4.2.2.1 : PHP class template functions. APPENDIX B
Table 4.4.1 : Main IS Portal Functions. Page 46
Table 4.6.1 : Test plan. APPENDIX B
Table 4.6.2.2 : Usability test result APPENDIX B
Table 4.6.2.3 : Number of respondent’s rate for each question APPENDIX B
Table 4.6.2.3 : Identified usability problems and solutions APPENDIX B
ABSTRACT

Information System Portal (IS Portal) is designed to provide information about Information System programme in Faculty of Computer Science and Information Technology, University Malaysia Sarawak (UNIMAS). The purpose of IS Portal is to provide a platform for the people in IS programme to get together and share information. The content in IS Portal can also be shared with people outside the IS programme or UNIMAS. The target user to use the portal are the lecturers, current IS students, ex-IS students and prospective students. The portal is convenient because it is always available anytime and can be access anywhere by anyone who needs the information. The study of the IS Portal is concern with the portal usability where the portal tailored to fulfill the usability characteristics. The methodology that is applied to this project is the waterfall model which consists of planning phase, analysis phase, design phase, implementation phase and testing phase. The design of the portal is using the unified modeling language (UML). The implementation of this project is using the prototype approach where paper base storyboard is used to design the page layout. The portal is developed using open source application such Apache web server, MySQL database and PHP as the server side script. There are two types of tests that had been conducted which are functionality test and usability test. IS Portal is expected to become a popular website among IS students and lecturers as a platform for them to provide and retrieve information regarding the IS activities. The prospective students are expected to use this portal to get information regarding IS programme in Unimas.
ABSTRAK

CHAPTER 1
INTRODUCTION

1.1 Introduction
This chapter reviews on the description of the project and some related background information on the project. Beside that, this chapter observes the problem statement of this project to give a clear insight of what is the scope and objectives of the project. This chapter will become the guideline to all the work that is to be carried out in the later stage.

1.2 Background of IS Programme
Information System Programme or known as IS Programme is conducted by Faculty of Computer Science and Information Technology (FCSIT) in University Malaysia Sarawak (UNIMAS), Kota Samarahan, Sarawak. IS programme was introduced in July 1994 as one of the earliest programme in FCSIT.

IS programme is concerned on the study of information systems with the development of systems to get the right information to the right people at the right time. Besides giving lectures to the students, IS programme also organized various events such as talks from invited speakers to give exposure to the student with the real world challenges.
1.3 Description of the project

IS (Information Systems) portal is designed to provide information about IS programme in Faculty of Computer Science and Information Technology (FCSIT), University Malaysia Sarawak (UNIMAS). The information can also be shared with people outside the IS programme or UNIMAS, thus, the people targeted to use the information are the lecturers, current IS students, ex-IS students and prospective students. The purpose of IS portal is to provide a platform for the people in IS programme to get together and share information.

The lectures are able to interact with the people by posting announcements and news. The portal will ease the lectures to disseminates information to the people inside the IS programme especially to the students. The portal also act as a platform for the students to interact with each other by posting message, share information and conduct discussions in a forum. The portal can be use to track the ex-IS students where they can join the IS student’s alumni. The prospective students that are curious to know about IS programme that offered by FCSIT, UNIMAS can use this portal to retrieve all the information that they required.

This portal act as a channel for the people in IS programme to get the latest information and also for information sharing. The portal is very convenient because it is always available anytime and can be access anywhere by anyone who needs the information. This portal also will make the required information’s flow more effectively to the right people.
This portal will be developed using hypertext markup language (HTML), server side scripting language such as PHP, database such as MySQL and run in web server such as Apache.

1.4 Problems Statement

Retrieving detail and accurate information is very critical especially for public and people that are involved in an organization. The information reflect an organization on a positive or negative way. The current problems that face by the IS programme are:

1. IS programme needs a proper medium where they can easily manage and display information regarding the programme itself.

2. Announcements or news by lecturers or students sometimes does not get to the right person at the right time, so IS programme should have a proper channel for them to keep updated with the latest information.

3. The prospective students are also have difficulties to find information about IS programme in FCSIT, UNIMAS. IS portal should provide the right and detail information for them so they are interested to be apart of the programme.

1.5 Objectives

To develop a portal that will:

1. Efficiently manage information about IS program.

2. Effectively provide information about IS program to anyone at anytime and anywhere.

3. Provide appropriate information for prospective students.

4. Act as a platform for lecturers to provide information to students.
5. Act as a platform for IS students to get the latest information.

6. Be a medium to keep track of the ex-IS students.

7. Act as a platform for students and lecturers to interact with each other.

1.6 Scope

This portal is about the IS programme that conducted in Faculty of Computer Science and Information Technology, University of Malaysia Sarawak. The portal will be able to specifically provide information about IS programme. Besides that, it is also able to generate forum, display latest news and others that had been mention in the introduction of this proposal. The people that expected to fully utilize this portal are:

- Lecturers
- IS students
- Ex-IS students
- Prospective students.

1.7 Procedures/Methodologies

The Unified Modeling Language (UML) and storyboards will be use to design this portal, meanwhile, prototype approach will be use to implement this portal. This methodology is relevant to this project because it can easily meet the user requirements and fulfill the objectives of this project.

There are five phases that need to be followed which are planning, analysis, design, implementation and testing. Each phases may required several iterations before the portal reaches the objectives. Please refer to Figure 1.1 in Appendix A.
Planning

In the planning phase, the procedures to gather information will be planned such as interview, questionnaire and observation. This techniques is use in order to collect the users’ requirements to build an effective portal. The questionnaires will be done in e-mail and paper format. The questionnaires will be carefully design so that the responses to questions are easy to complete, thus minimizing the effort required by the respondent. Interviews also will be done to explore issues that could be difficult by using questionnaires and observation.

The work plan that details the project tasks and time allocated will be develop by using Gant Chart. The duration that has been allocated to this project is about 12 months from April 2005 until Mac 2006. Please refer to Table 1.1 in Appendix B.

Analysis

The purpose of analysis is to establish the feasibility of the project. The analysis will be conducted in the second phase. The analysis will be emphasized on the website usability. The analysis also will be done to four similar website available in the Internet. The four websites will be compared to identify their strengths and weaknesses. Analysis is important because to make sure this project is usable and fulfill the current needs. The results and findings will become the guideline during the product development.
Design
The UML (Unified Modeling Language) will be use to design the portal and storyboard technique will be use design the interface. Class diagram, use-case diagram, sequence diagram and activity diagram will use to illustrate the project design. The UML is most preferable because it is easy to specify, construct, visualize and document the project’s design. Storyboard is use to visualize the input and output interfaces. In order to make the process effective, the design in the storyboard will be finalize first before it is applied.

Implementation
The prototype approach will be use to implement the portal because it provides a starting point for subsequent development. Prototype describes the first conceptual version of a product and as a platform for discussion with users and others who are involved in the project. The potential problem can be identified at early stage and the misunderstanding with the users’ requirement can be clarified. The prototype will be continuously revised and refine until it is finalize. This approach can easily determine the lack of the project and quickly correct it. The prototyping include the mapping of functional requirements, interface design and the technical design.

Testing
The testing will be conducted in the final stage. The usability testing will be use to evaluate the portal. The testing also will cover the correctness of spelling, layout and consistency of style, compatible browsers, correctness of all hyperlinks, graphic
rendering and the programming scripts. The test case and test plan will be designed and conducted to detect errors and to refine the portal.

1.8 Expected Outcome

IS portal is expected to provide clear and accurate information about IS programme in FCSIT, UNIMAS. IS portal is should be able to manage all the information about IS programme efficiently. This portal will also make the information’s flow among lecturers and students become more effective.

IS portal is expected to become a popular website among IS students and lecturers as a platform for them provide and retrieve information regarding the IS activities. The prospective students are expected to use this portal as reference to get the information on IS programme. This portal also expected to serve as an alumni for all ex-IS students.

1.9 Significant of Project

The website usability is will be focused in this research because it concerned on the ability of the portal to give benefits to the targeted audience. The study of usability factor will be done in detail by comparing and referring to other similar website or portal. Thus, this will make the portal be able to provide the right information anytime, anyone and to everyone.

The benefits from this project are faster information retrieval because IS Portal act as platform for a group of same interest to provide and share information. The
participation from the professional group such as lecturers will definitely make IS Portal become more usable. Once IS Portal is online, it will indirectly promoting the programme as Internet is a borderless world where people all around the world can access it. Thus, it will facilitate people to know more about IS programme in UNIMAS. Besides that, information regarding the programme is well organized and it is easier to maintain.

1.10 Summary
This chapter generally described the introduction of the project. The overview of the project and the problem statements has been described in this chapter. The objectives and scope of the project have been clearly stated. The procedure and methodology has been discussed in this chapter where this project will be design by using UML (Unified Modeling Language) and implement by using prototype approach. The next chapter will discuss about the background of the project.
2.1 Introduction

This chapter discusses the literature review and background study of the project. Literature review is important to achieve a successful system because it helps to identify problems that occurred in the existing system. Beside that, it also helps to identify the best approach to achieve the project goal based on the study. This chapter focuses on the study of portal usability and comparison of existing systems.

2.2 The Internet

Since the existence of Multimedia Super Corridor (MSC), Malaysia’s government strongly highlighted the importance of ICT among people and organizations in Malaysia. Internet starts to bloom and become a popular and competitive advantage to many organizations. In this world of technology, Internet is a popular medium to access and share information. It is the easiest and fastest way to broadcast and retrieve information. Internet also provides unlimited access to anyone, any place and at anytime.

2.3 Portal vs Website

Portal and website are definitely different in term of their definition where portal is a gateway to access information meanwhile, website represents the basic delivery of online content. There is chemistry between portal and website where portal build on
the same technology used for web site, but enhance the functionality and flexibility to cater for the demands of specific classes of user.

**Websites**

Web sites depend on the fact that the user has a browser such as Mozilla, Netscape, Konqueror, Opera, or Internet Explorer but carry out most functionality on a server. The browser speaks HTTP and will render HTML’s code sent to it. Several additions to the basic protocol allow for instance cookies to be used for persistent communication, digital certificates to be used for authentication and java script to give some necessary client-side functionality.

Web sites typically provide access to a variety of permanently on-line data linked using HTML references. CGI, the Common Gateway Interface, provides a mechanism to invoke a script or executable program running on a Web server. User input can be provided from a form, radio button or active map. Use of server-side CGI, JSP or PHP languages can also enable dynamic pages of information. Plug-in technology helps to render pages in special ways such as to show PDF documents, display VRML or other images, show video or play audio tracks.

**Portals**

Portals build on the same technology used for Web sites, but enhance the functionality and flexibility to cater for the demands of specific classes of user. According to Gerd Waloszek (2005), “Portals are a special breed of external or internal Websites offering
a blend of information, applications and services. This implies that portals always have more than just information to offer, as many Websites do”.

According to Rob Allan (2004), “Put simply a portal is a presentation layer which aggregates, integrates, personalizes and presents information, transactions and applications to the user according to their role and preferences”.

From both perceptions portal can be conclude as a gateway to web access which users can locate all the web content they commonly need which required personalization, search, channels, links, and customization base on role and workflow.

According to Ramona Winkler (2005), “Traditionally, a portal denotes a gate, a door, or entrance. In the context of the World Wide Web, it is the next logical step in the evolution to a digital culture”. Formerly, portals are defined as search engines where it offers a full text index of document content. Today’s Internet portals offer a more structured, navigable interface compare to Internet search engines. Internet portal is more focused on better delivery of specific information among a group with the same interest.

2.4 Major functions of portal

Portal can be very hard to define sometime because it provides wide range of functions. According to Ovum (2000) the ideal portal is based on eight functionality areas which are search and navigation, information integration, personalization, notification, task management and workflow, collaboration and groupware,
integration of applications and business intelligence and infrastructure functionality. The project is only concentrate in three major functionalities which are search and navigation, personalization and collaboration and groupware.

**Search and Navigation**

This functionality forms the basis for most of the successful public web portals meaning that a successful portal should support its users in an efficient search for contents. The portal should automatically present its users with the information appropriate to the user’s role and allow the user to search for information that was not previously known to be relevant to the user’s role, but which may be available through the portal

**Personalization**

Personalization should be based on user roles, as well as user preferences. Personalization of navigation should provide shortcuts to specific information, mostly known as bookmarks or favorites. The design of personalization is such as the initial appearance of the portal, which may be pre-personalized according to the user’s role.

**Collaboration and Groupware**

Knowledge management and groupware ensure that the required information is stored in the right place and in the right mode. By this means the right persons are brought together with the right information. Groupware software assists in less formal collaboration than workflow tools.