UTP ALUMNI WEB PORTAL

By

SAHRIL AZWIN BIN SAFIE

Dissertation submitted in partial fulfillment of the requirements for the Bachelor of Technology (Hons) (Information System)

•

DECEMBER 16, 2004

Universiti Teknologi PETRONAS Bandar Seri Iskandar 31750 Tronoh Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

UTP Alumni Web Portal

by

Sahril Azwin Bin Safie

A project dissertation submitted to the Information System Programme Universiti Teknologi PETRONAS in partial fulfillment of the requirement for the BACHELOR OF TECHNOLOGY (Hons) (INFORMATION SYSTEM)

Approved by,

(Mr. Khairul Shafiee Khalid)

UNIVERSITI TEKNOLOGI PETRONAS TRONOH, PERAK DEC 2004

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

SAHRIL AZWIN BIN SAFIE

ABSTRACT

The alumni web portal is develop in order to give the opportunity for the alumni to communicate with each other much more easily. However, that is not the only things it can do. The portal will also create more opportunity in knowledge gaining, career opportunity and this portal open more communication network within the boundaries.

The literature review indicates analysis and result based on three main issues that is the definition for the project, the industrial point of view and the review from the past project. These analyses help to provide more idea and knowledge to ensure the project will be better within its usability and functionality.

Waterfall Model had been chose as the method in developing the portal. This is because the method is easy to understand and globally use by the professional in developing a project. Facts finding will also be constructed as information is the greatest resources and this will help when analysis and comparison is being conducted.

For the basic findings, based on the analysis that had been done, normal features or functionality that is usually use is being identified. From the analysis based on the journal and the web portal itself, a few elements will be prioritized in order to differentiate the project better than any other current website.

Hopefully, the project will be a good prospect for the institution and hopefully the alumni can make a full use of the project when it is done.

ACKNOWLEDGEMENT

I would like to take the opportunity to express my appreciation and thanks to all participants for the help, assistance and contribution for my final year project. I believe without their help and guide, it's impossible for me to understand the concept, the result and knowledge acquire to finish my final year project. Therefore, I would like to express the highest appreciation and gratitude to:

- Mr. Khairul Shafee Kalid, my final year project supervisor for his great assistance and guidance to me towards completing the project.
- My parents, Safie Bin Abd Rashid and Tengku Mahrom binti Sutan Mohamed for their moral and financial support.
- Mr. Munawar Bin Mahathir from Multimedia Development Corporation (MDC) for guidance and materials.
- Mr. Faisal Asra Bin Hassaim, Information System student for his technical supports.
- Mr.Jafreezal and Miss Shakirah, from Information System program for his valuable advice.
- Finally, thank you for everyone who involve direct or indirectly with this project.
 Your advice, assistance and guidance are appreciated.

TABLE OF CONTENT

ABSTRACT			1	
ACKNOWLE	DGEN	MENT	ü	
TABLE OF CONTENT				
LIST OF FIGURES				
ABBREVIATIONS AND NOMENCLATURES				
CHAPTER 1:	INT	RODUCTION		
	1.1	Background of Study	1	
	1.2	Problem Statement	2	
		1.2.1 Problem Identification	2	
		1.2.2 Significant Of The Project	2	
	1.3	Objective	3	
	1.4	Scope of Study	3	
		1.4.1 Relevancy Of The Project	4	
CHAPTER 2:	LIT	ERATURE REVIEW AND THEORY		
	2.1	Definition	5	
	2.2	General Aspect of Alumni Web Portal		
		2.2.1 Appropriateness to the Academic Enterprise	7	
	2.3	Industrial Point Of View	7	
		2.3.1 Overall Design Philosophy	7	
		2.3.2 Content	8	
		2.3.3 Concentric Process	8	
		2.3.4 Hierarchy Of Alumni Needs	9	
	2.4	Previous Work Preview	10	
		2.4.1 Analysis on Berkeley University Alumni Web	12	
		Portal		

		2.4.2	Analysis on Northwestern University Alumni Web	13
		Portal		
		2.4.3	Analysis on Portal Vendor	15
CHAPTER 3:	METHODOLOGY AND PROJECT WORK			17
	3.1	Introduction		17
		3.1.1	Scope	17
		3.1.2	Advantage of Using Waterfall Model	17
		3.1.3	Applicabality	18
	3.2	Water	fall Model Phase	18
		3.2.1	Requirement Analysis	18
		3.2.2	Specification	19
		3.2.3	Design	19
		3.2.4	Implementation	19
		3.2.5	Integration and System Testin	20
		3.2.6	Maintenance	20
	3.3	Requi	rement and Specification Phase	21
		3.3.1	Preliminary Study	21
		3.3.2	User Requirement Phase	22
		3.3.3	Feasibility Study	22
		3.3.4	Questionnaires and Interviews	23
		3.3.5	Analysis on Previous Work	24
	3.4	Design	n Phase	27
		3.4.1	Layout Design	28
		3.4.2	Interface Design	28
		3.4.3	Story Boarding	29
		3.4.4	Navigational Tools	30
		3.4.5	Visual Presentation	30
		3.4.6	System Architecture	31
	3.5	Tools		34
CHAPTER 4:	RE	SULTS	AND DISCUSSION	34

	4.1 Diagram And Technical Data			34
		4.1.1	Alumni Web Portal Story Boarding	34
		4.1.2	Alumni Web Portal Context Diagram	35
		4.1.3	Data Flow Diagram	36
	4.2	Result From Research And Discussion UTP Alumni Web Portal Characteristic		42
	4.3			45
		4.3.1	Registration	45
		4.3.2	Services	47
		4.3.3	Linkage	49
		4.3.4	Help Desk / FAQ	50
		4.3.5	Portal Interface Design	51
		4.3.6	Security Issues	52
	4.4	Differentiators		52
		4.4.1	Sharable Search Database	53
		4.4.2	Ethical Policies	53
		4.4.3	Two Way Communication	53
		4.4.4	Logo and Typography to Promote Visual Identity	54
		4.4.5	Internet Relay Chat (IRC)	54
CHAPTER 5:	CHAPTER 5: CONCLUSION AND RECOMMENDATION 5.1 Conclusion 5.2 Recommendation			56
				56
				57
REFERENCES			58	

LIST OF FIGURES

- Figure 2.1: Example of portal that provide customized online work
- Figure 2.2: Northwestern University Project Timeline
- Figure 3.1: Schematic Illustrating Waterfall Model
- Figure 3.2: AACS Alumni Website
- Figure 3.3: Binghamton Alumni Website
- Figure 3.4: Example of Story Boarding
- Figure 3.4: UTP Alumni Web Portal System Architecture
- Figure 4.1: Registration Form Example
- Figure 4.2: Alumni Members News Page
- Figure 4.3: Example of Forum Page
- Figure 4.4: Example of Chat Room available for web sites

ABBREVIATIONS AND NOMENCLATURES

- UTP University Technology of Petronas
- IT Information Technology
- IS Information System
- IDC Internet Data Center
- ISP Internet Service Provider
- DFD Data Flow Diagram
- IRC Internet Relay Chat

CHAPTER 1

INTRODUCTION

1. INTRODUCTION

Chapter 1 explains the fundamental information of the project, which consists of background of study, problem statement, objective and scope of the project. A brief explanation of UTP Alumni Web Portal also included in this section.

1.1 Background of Study

Nowadays, alumni student were having difficulties in communicating with each other. Although the world had improved a lot in communication technology, cost had played a main issue on selecting a communication device. The best way to stay connected is by having an alumni web portal. This will not only help alumni to keep in touch but it also offers several opportunities such as:

> Communication Opportunity

The alumni web portal will allow alumni to communicate by providing a message center and forum column that will allow alumni to break news from each other and to discuss anything that matters.

> Knowledge Opportunity

By looking this opportunity in the future, a lot of UTP graduate student will become a professional or specialized on their field. This will be a great opportunity for a new graduate student or any other people to gain more knowledge on what ever field that they want to as they can just refer to the senior alumni members.

> Career Opportunity

This alumni web portal will be a good place to recruit new worker when there are a career opportunity from the industries. Senior Alumni can help more UTP newer graduate student to get a job in the future if they are still connected and communicate with each other. For this purpose, the web portal will bring a big help.

Gathering / Ceremony Organizing Opportunity

What had happen in the past will remain be as memory. However, this alumni web portal will be a great place to organize some gathering or any formal ceremony in order to create a new memory and to help to remind an old memory.

New Friends

As this alumni web portal will be open to guest to surf, this will be a great opportunity for the graduate student to get new friends from all around the world.

1.2 Problem Statement

The purpose of the project is to connect alumni with each other. As the way it is, the product produce from this project will not be referred as a problem solving method. However, with this project, it will introduce more opportunity to the alumni such as communication opportunity, career opportunity, knowledge opportunity and many others.

1.2.1 Problem Identification

The main priority for the project is to ensure that the functionality of the portal will enhanced user and help them to connect and communicate with each other and with the institution as well. The functionality of the portal will provide them with the opportunity like been told earlier. Implementation of the portal will also help to increase the interaction between the alumni and the institution.

2

1.2.1 Significant of the project

Hopefully, this project will help to enhance the effectiveness and help to optimize the objective and purpose of Alumni Web Portal implementation. It also hoped that users can make a full use of what had been provided. The significant of this project will be that it will open more communication networking between the graduate student and others.

1.3 Objectives

The project will accomplish based on two major activities that is research phase and product design phase. This means the final product will conclude the overall research report and the UTP Alumni Web Portal itself. The objectives of the alumni web portal development are:

- 1. To enable alumni members to easily communicate with each other and to stay in touch although they have lead their own personnel life.
- 2. To develop a portal that acts as the medium between the alumni and the institution.
- 3. To open up more opportunity for alumni including career opportunity, knowledge gaining and gathering organizing.

1.4 Scope of Study

The scope of the study is to focus on functionality of the portal whereby to ensure that alumni members can keep in touch with each others and stay connected with UTP academic institution. In addition, the study will also focus on communication method for web portal that will help alumni to communicate easier within the portal itself.

1.4.1 The Relevancy of the Project

In United States, usually alumni web is being prepared by the institution administration. For institution that doesn't provide their alumni with web portal/site, at least they will provide them with newsletter to inform regarding on outgoing activities from alumni members or the institution itself. In Malaysian culture, alumni and institution are not connected like they are both from two different categories. By providing alumni with a web portal, it will help them stay connected and this symbiosis relation will give advantage for both parties; the institution and the alumni community.

CHAPTER 2

LITERATURE REVIEW AND THEORY

2. LITERATURE REVIEW

Literature review indicates the review from the professional by journal and article. For this session, the report will review on the definition of the alumni web portal, the professional point of view and analysis on the previous work.

2.1 Definition

James P. Frazee sited that a campus portal definition will include two main characteristic. Firstly, the portal should serves as a central gateway to the university database system, resources and web supported courses using a single user name and password. Next, the portal should let user customize their own interface to meet their needs, news or other services.

The challenge in developing a campus portal is to get through the central gateway of the university database resource and developing a dynamic characteristic in order to give an opportunity to the user to customize their own content of the site. As the portal offers a lot of service such as forum column and news breaking, and as the site is free of charge, this will be a great opportunity for the user to make their site be visited more often.

2.2 General Aspects of Alumni Web Portal

Generally, alumni web portal is a diversity combination of culture, intellectual activities and multiracial society. This is where an IT professional will be facing more challenging and rewarding task of projecting this multi – faceted society to the even more diverse Internet community whereby this community will expects more from the campus portal such as:

- Minimal click access to thousand of pages facilitated by a quality search engine
- Collection of information for particular communities (alumni, visitors, prospective students)
- Attention to individual needs.

An alumni web portal can also be a customized Web site that provides an extensive variety of online content and services accessible through one screen to the alumni, like a picture-in-picture TV that includes a Web-based e-mail and calendar. The portal integrates online services such as ISIS and other resources, and can be customized to your own needs and preferences, accessible from anywhere through the Internet.

The portal also provide user to create a customized online workspace that includes:

- e-mail,
- a calendar integrated with your class schedule,
- automatically formed discussion groups with others in your class or department,
- news pages,
- Other Web sites.

	Couga	RNET	
Sector Wals Sector Sector		b-4 G a.mat relation	201. 18 ž pracos dago se dago dago da 2014
Ny Q3 Catandar Data na mjine - our taketor Danàmarka Q3	uneopy folder (1990) (1990) (1997) (20 You controlly have no microgase E.1 (2006)	is iz iz in san <u>er, s</u> onormainetezi.	Hy 리오브 Hoadfines Hoad Nothers or get at Ciclaust (We Stole, stockerses, aparts contail and
ананатагна <u>19-</u> Д 16-215 (атарерн але се	Personal Announcements	cire ;	the towardige of rangy scher foor onlight operators foor onlight of foor onlight

Figure 2.1

Webmaster will be responsible to apply the design interface and navigational pathway for the portal. Aware that the same look and links will not be appropriate for the many disparate and independently developed campus websites, aware that any effort to mandate design characteristics and elements will be met, the team must lead by example and suggestion. Alumni members should be given a freedom to issue their own messages. This is a good harmonic diversity as the alumni can accommodates and influences levels of difference within the website that complement the alumni web portal.

2.2.1 Appropriateness to the academic enterprise

Alumni portal should supports intellectual and cultural diversity within the academic enterprise. This approach, however should not limit the need for centralized and cooperative control of the portals whereby the alumni will be given the freedom to post message. University administrator and communications officers have a reasonable expectation that the alumni portal should be used as a tool to send a sound, positive and complete message to their members. Harmonic diversity acknowledges the strength of difference which enhances the alumni message and the institution.

2.3 Industrial Point Of View

Generally, the purpose on conducting research on industrial point of view is to understand the applicability of the project to the industry. This includes to identify how the industrial opinion is and to ensure that the project is needed in industry.

2.3.1 Overall Design Philosophy

Albert DeSimone Jr. has quoted that the Georgia Web Group provide a set of guidelines for webmasters at the university known as the Seven C's of WebService Design. These guidelines emphasize content and comprehensiveness, as well as sensitivity to portal visitors and their comments.

2.3.2 Content

Albert De Simone Jr. finds that the content for an alumni web portal should be more on the community and not organization. He also finds that campus webmasters often find it natural to create a link to the university's primary page. However, it is often less natural to create links to secondary pages, even though such links can support and strengthen the institutional message and eliminate duplication of effort. Comprehensive student, public service, visitor, alumni, and similar community-based pages unencumbered by internal organizational structure encourage a deeper level of cross-linking. Also, a wider group of campus webmasters are more likely to have a stronger identity to community-based pages. This identity creates a reciprocal relationship, influencing webmasters to share links and content to complement the secondary pages.

2.3.3 Concentric Process

Referring to Georgia's University Alumni homepage for 1999, a redesign began with an analysis of comments and questions from portal visitors. A questionnaire had been conducted and based on the answer and feedback from user, an analysis had been made. This, coupled with supporting statistics for all visitors over a period of time, prompted the redesign.

Albert DeSimone Jr. also quoted that reaching consensus on such a change is an iterative process requiring input from three different, and increasingly broader, groups:

1. The formal webmaster team.

At the University of Georgia, this is the Georgia Web Group. An initial design to which the group should not be strongly attached is created. Analysis has shown that acceptance of a new design "as is" by the next broadest group is unlikely. 2. The campus webmasters group.

This communication is effected through an e-mail discussion group. Suggestions are made for change, reviewed by the webmaster team, and subsequent designs are offered to the campus webmasters group until an acceptable degree of consensus is reached.

3. Visitors.

Off-campus individuals (a sample of about 30) who have sent mail to the Georgia Web Group are requested to review and comment on the page. If significant changes are made by the webmaster team, the campus webmasters group is invited to review the page. The final new design is linked to from the current homepage with a request for comments from all visitors. Again, significant changes are brought to the attention of the campus webmasters group.

2.3.4 Hierarchy of Alumni Needs

To ensure the involvement of alumni their self, it is important to understand their needs Michael V. Geary had sited that there are basically five basic needs to get alumni getting involves that are:

- 1) Family (significant other, kids, relatives)
- 2) Job or profession
- 3) Religion
- 4) Local community activities
- 5) Personal leisure

Family plays the first priorities in getting alumni involve. This is the basic psychology of people whereby family support will help the overall process in getting involves. This includes the desire to introduce your family to the committee member, the desire for family to meets your friends or best friend and any related matters.

Job or profession placed number two in hierarchy of alumni needs. This is because, in alumni, a network had been set up to relate a person to another, a business to another and many others. This will help to get alumni involves in any related events.

For religion, local community activities and personal leisure, Michael V. Geary had quote alumni basic interest in getting their involvement that are;

- A desire to continue friendships in school
- An interest in the status of the chapter
- An interest in the institution
- A desire to see and visit fraternity/sorority friends on special occasions
- A willingness to actively serve the fraternity within certain conditions

2.4 Previous Work Preview

James P. Frazee had also quoted that alumni web portal has become a great resource for helping graduates stay in touch with each other as well as with the school. By looking at the same opportunity, the alumni web site is a great medium to stay in touch with each other as well as the intuition. It will also provide officer and Reunion committee contacts, reach lost or previously uninvolved alumni, and give you a forum to post messages, photos and it's for free.

Alumni portal site needs to be self-service. Dailey reports that Lanphier alumni page have been widely accepted because users can update the information on various aspect such as reunion information, check list of alumni and news from alumni and institution (2001). Guest and visitors is always welcome to visit the site. In addition, user can always update their personal information, send and receive news, read and submit anecdotes from the intuition and the portal will also considered as the best place to break latest news when the colleagues are getting married or die. People can also organize any gathering or ceremony by inviting their old friends and colleagues to the occasion. Intuition can also take this opportunity to hold a formal ceremony to gather all the past-graduate students in one place at one time. Sean Dailey had also quoted that the alumni web portal can link to a page for other classes and page listing notable alumni is being provided. This is due that the alumni page lets visitor links to information on any class activities and any other links.

Most probably, alumni web site is not only for the student but outsider will also allowed to explore and read the class activities with the attachment of a visitor/guest link. This will help to open more communication network between the graduate student, outsider and the intuition itself. This will also open comment from various user that are from the graduate student, outsider and intuition whereby this will help to give more idea on improving the alumni web portal in many point of view.

Sean Dailey had also sited that he include a lot of nostalgia by including a photo of activities that have been done during their study. The portal is the best place to share your best memory during your study in the intuition and user can include nostalgic photo to be downloaded by their colleagues. Latest photo from the user will also help to create more clear visual on how they look like for the time being (as people will barely see each other for a long time). This will also be the best place to place any latest gathering or ceremony picture to be viewed by other user and they can download the picture for their own collection from the site.

As the past graduate student will become a professional in their field, this will be a good opportunity for the intuition to organize funding in any matters. This will help to decrease the financial burden for the intuition in order to increase the technology and improving the student facilities and this will always go on for future generations.

2.4.1 Analysis on Berkeley University Of California alumni web portal

The University of California at Berkeley alumni web portal was developed from various individual schools such as the business school, college of engineering, law school and etc. In addition, this various schools had developed their own alumni database and had maintained their own individual alumni programs that are separate from Berkeley's overall alumni development effort.

Looking at the same difficulties for UTP alumni, we are having a different situation whereby the alumni were developed from individual batch or year of studies. In addition, the psychology factor that affects the UTP alumni is the involvement of their batch in the committee or the event itself.

The Berkeley University also sited that eAlumni had already been in discussions with some of the various colleges within Berkeley and was the favored choice to undertake the university's overall project, but as with any public university, the final decision had to be made on a fair basis using very specific criteria. Berkeley set about creating a list of stringent pre-requisites that would have to be met in order for eAlumni (or any other portal provider) to be selected as Berkeley's solution provider of choice. These included:

- Demonstrated economic viability as a company;
- A complete solution that would meet the requirements of Berkeley and all of its constituent colleges;
- A comprehensive suite of products that included all the different kinds of online service products that Berkeley would required;
- The ability to provide strong customer support throughout all phases of the implementation process;
- The capability to host the alumni portal's operating environment with its own servers;
- A proven and successful data integration process;
- Solutions that are demonstrated to be highly-scalable; and

• The ability to support the custom needs of separate colleges within the university.

The Berkeley University quote that in order to ensure that the project got off to a good start, eAlumni met with representatives from each school to identify its own specific alumni needs and to discuss the benefits of the products and services they would be providing. This collaborative effort offered a tremendous boost to the university in terms of helping secure funding and support for the project. By spreading Berkeley's visionary plans, eAlumni helped to target and garner backing from all of the communities involved in obtaining the goal of a cohesive online community.

The Berkeley University alumni web portal also implementing the eAlumni's Community Building Module, which will include links to such features as an online alumni directory, the Berkeley volunteer connection, and an online career center. Other functionality is listed as below:

- Bulletin boards for ongoing discussions, including public, private and moderated boards;
- Permanent and temporary chat rooms, allowing alumni around the country to engage in discussions with administrative leaders, professors and others;
- Permanent email forwarding; and
- Web-based email

2.4.2 Analysis on Northwestern University Of Evanston alumni web portal

Elizabeth Smith, Northwestern University's associate director of marketing and communications had sited that in April 2001, Northwestern's service provider notified the school that another company acquired the ISP and was abandoning the higher education market. The university had less than three months to migrate its alumni portal and alumni e-mail system to another service provider. Given the tight deadline and the possibility of losing the alumni portal, Northwestern turned to alumni for help.





Elizabeth Smith also sited that eAlumni was the only company they confidently felt could pull off the migration in the limited amount of time they were working with. They were also the only ones that offered to customize their package of services to meet their needs. Getting Down to WorkIn late April, Northwestern and eAlumni began developing strategies for migrating users from the old Web-based e-mail system to a new e-mail forwarding system in less than two months. Though the migration was difficult and challenging, working as a team eAlumni and Northwestern completed the migration by mid-May.

EAlumni's goal of building a long-lasting relationship with Northwestern seems to be paying off as a result of the team effort. Future implementation plans for Northwestern include alumni chat rooms, the addition of bulletin boards and ListServs supporting various alumni organizations, and a career mentoring module that connects established graduates with students and young professionals seeking jobs and information. Northwestern also plans to redesign its alumni pages to support the university's branding initiatives.

2.4.3 Analysis on Portal Vendor – Web Portal Development

Primary Focus

The primary focus for the portal vendor in developing such portal is to ensure that their product meets the user demand and requirement. For a portal that involve student, it is important to ensure that the portal developed is tally with the changes and expansion of IT technology. This includes a service that can be accessed almost every time and web tools to increase interaction between users. Applied to the same problem in alumni web portal, this will lead to virtual life whereby alumni expect communication like during their student life but element differentiation is the communication is based on the internet boundary or web portal. Role based selectivity gives the administrator a total control over user access, authoring and publishing rights. This wills suite the robust online tools and services that improves communication and enhances a new trend of communication for the user.

Server

For a big portal developer such as CampusCruiser, they have their own server where remotely hosted at one of Exodus Communications Internet Data Centers (IDC) whereby IDC is one of the leading provider of complex internet hosting for enterprises. As for the UTP alumni web portal itself, it is not necessary to have such kind of communication Internet Data Centers and it's necessary to remote from the administration office of the University itself.

Staff Task

In dividing the staff task, the portal vendor will first ask the institution to select their own system administration to complete a simple implementation. This will help the portal to be up and running within a few weeks. They also conduct questionnaire that help to provides them with the client contact information and technical specifications necessary for data and e-mail compatibility. A campus-wide team is recommended to support planning and decision making for system utilization. Once it has been confirmed that the data is complete and successful, an administration pilot test will take place.

The user interface developed by the vendor is so easy to use only very basic computer skills are required. The vendors Marketing Department can provide all necessary support materials such as Quick Reference Guides for end users and promotional materials to help client announce the rollout and promotion.

Corporate Partner

The portal vendor has very strict advertising policies whereby they do not accept advertising from entities promoting pornography, alcohol, tobacco, gambling, guns, weapons and violence. The advertising of a political or religious nature will also be restricted from advertising as they applied professionalism in their work ethics.

Fee Structure

CampusCruiser' fee structure currently offers an advertisement model that is available free of charge. A subscription-based model is under consideration.

Portal Customization

For the portal that they develop, it is unique as they only build communication platform and the client will drive the content. It can also be customized to support the client's brand. In addition, the "My Cruiser" page allows for individual customization.

CHAPTER 3

METHODOLOGY AND PROJECT WORK

3. METHODOLOGY AND PROJECT WORK

The project will required Waterfall model to be develop. This is because the Waterfall Model contains 5 basic phases that be a guide in developing the web portal for both software and hardware. Technically, this model is the most basic structure in developing the project. It is choose as the method to be used as the model is globally known and the structure is suitable in developing a web portal.

3.1 Introduction

This Waterfall model methodology establishes procedures, practices, and guidelines governing the initiation, concept development, planning, requirements analysis, specification, design, development, integration and test, implementation, and operations, maintenance and disposition of information systems (IS) within the Alumni Web Portal.

3.1.1 Scope

This methodology should be used for all alumni web portal information systems and applications. It is applicable across all information technology (IT) environments (e.g., mainframe, client, design,) and applies to contractually develop as well as in-house developed applications. The specific participants in the life cycle process, and the necessary reviews and approvals, vary from project to project.

3.1.2 Advantage Of Using Waterfall Model

There are a lot of advantage can be point out in implementing Waterfall model methodology to the project. The specific advantage expected will include:

- > Help to reduce the risk of project failure
- > Help to identify technical and management issues earlier.
- > Can disclose all life cycle costs to guide decision making process
- Provide information to better balance programming, managing, costing and every aspect of proposed project development or modification.
- > Progress and status of the project can be measure easily.
- > Support effective resource management and costing.

3.1.3 Applicability

This methodology can be applied in the alumni web portal development where all the phases included in the methodology generally is suitable for a web portal development and implementation.

3.2 Waterfall Model Phase

Basically, Waterfall Model includes five phases during which defined IT work products are created or modified. The tasks and work products for each phase are described in subsequent chapters. Not every project will require that the phases be sequentially executed. However, the phases are interdependent. Depending upon the size and complexity of the project, phases may be combined or may overlap.

3.2.1 Requirement Analysis

Here is where the strategy is being plan. Brian Tracy once quote that "Failure to plan means planning to fail" .The concept on this phase will describe how the portal will operate and how the system will impact the alumni members and the university. This is also to ensure that the portal will be finished on-time within the cost budget, project resources, task review and tools identified. Research will be constructed more often in order to make the project better than any current portal with the same purpose.

The major task in the requirement phase is conducting functional user requirement analysis and feasibility study. This entire requirement will need to be measure, test and relate to the opportunity identified in the initiation phase.

3.2.2 Specification Phase

For the specification phase, all the activity done in the requirement phase will be produced in detail. This phase will also clearly define the project functionality and usability. Frank Ritter quoted that usability study is very important because this is one of the determiners of how well a Web site accomplishes its goals.

3.2.3 Design

During this phase, the characteristic based on the user requirement analysis will be design physically. This will include the development of operating environment, major subsystem and their output and input. In addition, the physical characteristic of the system will be specified and the detailed design will be prepared. Subsystem that had been developed will be used to create more detailed structure of the system and each subsystem will be divided into one or more design modules.

3.2.4 Implementation

In this phase, the detailed specification during the design phase will be translated into products which are the alumni web portal. The product will then be tested, integrated and tested. The product will be presented to the evaluator to ensure that the product meet the specification that had been defined in the user requirement analysis. The product will then been modified according to the evaluator suggestion and recommendation and the phase will end after the system had been tested and accepted by the end user. This phase will continue until the system is operating according to the defined user requirement.

3.2.5 Integration and System Testing Phase

In the integration and system testing phase, all the program units are integrated and tested. This is done to ensure that the complete system meets the project requirements. The project will then be delivered to the customer to get user feedback and comments from end user.

3.2.6 Maintenance

The phase will continue accordingly to the user requirement, and needed system modifications are incorporated. Operations will be continued as long as the system can be effectively adapted to respond to the end user needs. When modifications or changes are identified as necessary, the will be reenter the planning phase.



Figure 3.1 : Schematic illustrating waterfall model

{

3.3 Requirement and Specification Phase

This project progress is based on the student proposed timeline that has described earlier in the project Gantt chart. That must to follow certain stages in the project development life cycle based on the selected hybrid methodology which are requirement, specification, design, implementation and integration stages. Besides these four stages, there are also other stages in the project development life cycle such as testing and costing which student has to consider in completing the project.

3.3.1. Preliminary Study

During the preliminary study phase, a lot of research had been done to collect data and fact. Basically, the research was being constructed on four basic tools that is internet surfing, journal, magazines and books. The main idea on the research is to identify the scope of study that can be collected from the books and internet surfing. Journals and magazines help to identify the spec and characteristic for the project itself. This data will be a big help in analyzing phase whereby analysis on the information and the fact will be done in order to ensure that the progress that had been made is within the project scope of study.

The preliminary study also will discuss on the project generally that is Alumni Web Portal development. The project will also give an overview on definition of Alumni Web Portal whereby the analysis is more focused on the advantages of having the Alumni Web Portal to the community, university and to the alumni their self. Further analysis will be done as guidance for the result and discussion where the analysis will help to give more idea from the previous work that had been done and the industrial point of view regarding the matter.

3.3.2 User Requirement Phase

There are many methods that can be used in order to accomplish the user requirement analysis phase. For this purpose, a questionnaires and interviews had been conducted whereby 18 graduate students and 15 undergraduate students had been participate in the question and answer session. For this purpose, 33 copies of question set had been distributed. The major purpose of the questionnaire session is to identify the functionality of the portal and to give a general idea on design phase within the end user point of view.

A study on the previous work had also been conducted. For this purpose, analysis had been done to Berkeley University and Northwestern University alumni web portal. There are many things that can been learned from others previous work and the best part is on how improvement can be applied to the portal development. The final outcome of this project analysis phase would be the completion of system requirement documentation which detailed about the problem analysis, requirement analysis and specification.

3.3.3 Feasibility Study

Feasibility study is one of the important aspects in this project. By studying feasibility, three important constraint can be identify in developing the project that is time, scope and cost. On determining the time constraint for this project, Gantt chart had been used as the tool to schedule and planning the task within the time period. As the time constraint is being fixed, it will help to finish the project by following the schedule of task that had been set.

In studying the scope of the project, the scope of study had been determined earlier in the preliminary phase. This will help to guide through in completing every task and objective for the project within the project scope area. This means that every task constructed should be related to the Alumni Web Portal development with the help of a supervisor in

S.

determining the task and scope of the project. Scope of the project has been determined earlier at the preliminary phase.

Cost is considered as own cost where the project will used own money to overcome cost occurred during the progress of the project. From the feasibility study, it will the feasible of the project can be determine such as how to manage time which has given, the scope regarding project research and system development and cost that will occurred and how to manage it.

3.3.4 Questionnaires and Interviews

Basically, the questionnaires had been divided into 4 sub section, A - D (Please refer the appendix). Section A will cover the general aspect such as the participants of the phase, level of their knowledge (regarding the portal itself) and the priority between function of the web portal and interactivity of designing the web. The rational factor in conducting this section is to identify the participants between the graduate and undergraduate student and their knowledge about web portal itself. This is to ensure that the participants get a clear view for this project and to identify the priority between the functionality and design interactivity from their point of view.

Section B will cover the question regarding the functionality of the web portal itself. As the participants is also the end user for the project, this section will help to specific the scope and to give the developer a general view on the functionality of the portal. This is a long term strategy whereby if the portal function meets the end user expectation, this will help to attract more alumni to the portal itself. This section will also discuss on the registration issue, the service and the features that the end user expected from the portal and the link that they would like to be added to the portal.

Section C will cover the design from the end user point of view. Generally, three aspects are being categorized for the portal design that is the formality of the design, the interactivity of the design and the design navigation. The answer from this section will be a guideline for the developer to design the interface, layout and finally overall design of

the portal itself. The rational of the section is that to ensure that the portal can be specifically being design within the end user expectation and to attract more alumni to participate in the future.

Finally section D will discover the help desk for the portal itself. The section will cover on rules and guidelines that should be considered to ensure that alumni who participate in the portal can join any activity without any harassments or abuse from other user. Guidelines will help to guide less literature alumni and visitors in using the service that had been provided.

3.3.5 Analysis on Previous Work

Alumni web portal is not a new service in town. Many schools, university and organization had use alumni web portal to connect with old friends and teachers. Analysis had been done simultaneously by comparing several web portals to have a clear view regarding on the objective of the development and several attraction that they had to ensure the participation of the alumni itself.

Basically, two aspects had been analyze from the study on other alumni web sites that is their functionality and their design. By studying their functionality, this will help to identify the functionality that generally exist in other portal that can be applied and be improve during the portal development. As for the design, this will give a general idea on the layout and interface whereby it can help to identify tools and overall design that can be used to make the portal more interactive

Comparison from other website

> AACS alumni Association

Address: www.aacsalumni.com

Interface: Linear presentation whereby the web only content a page divided into three borders. First border were place at the top and it contain the association's logo. The second and third borders were divided left and right at the bottom where the second border contains links to other sites while the third border contains notes and important news.

Content: Touch overall aspect as they include the joining guideline, list of alumni email address, alumni book, visitor's center and many more.

Interactivity: Less interactive as it is too linear and lack of activities for the user.

🗿 AACS Alumni Association - Microsoft Internet Explorer		PX
File Edit View Favorites Tools Help		
Favorb	s 😵 Medie 🚱 (A) • 💭 🖾 • 🗍 🎖	-
Address D:\My Study\FYP\FYP RESEARCH\AACS Alumni Association.htm	n IV 🛃 Go	Links »
Search - Retrieving button	: from My Search	5
		<u>^</u>
😰 AACS, AFCS, AFCC, AFC4A, AFCA, AFFSA Logos		
	AACS ALUMNI ASSOCIATION	
	<u>www.aacsalumni.com</u>	ť
	Comprised of over 2,600 members (Communications/Information, Air Traffic	
	Controllers & Support personnel) who served in or are serving in any of the	
	following Air Force Organizations:	5
	 Army Airways Communications System 	
	 Army Airways Communications System Wing 	
	Air Communications Service	
	Airways and Air Communications Service	
	Air Force Communications Service Air Force Communications Command	
	Air Force Communications Communications & Computer Agency Air Force Comand, Control, Communications & Computer Agency	
	Air Force Communications Agency Air Force Communications Agency	
	Air Force Flight Standards Agency	
	Approximately 35% are Communicators, 35% are Air Traffic	
L	Controllers, and 30% are Commanders, Maintenance, Adminstrative	÷.,
	and other MOS/AFSC's that were assigned to communications units.	
Links to Alumni News, Events, HOME PAGE WAS LA	ST UPDATED on July 23, 2004: Questions or suggestions should be directed to Hank Sauer at	
and Membership Information DirAACS@comcast.pat		
How to Join Membership Application		
Mailing & E-mail Address		v
I Chances	Internet	
		-04 5M
Start : : : : : : : : : : : : : : : : : : :	i 🧠 final draft - Microsoft 👌 AACS Alumni Associat 🧐 🔆 🦻 🦻	

Figure 3.2 : AACS Alumni Website

Binghamton Alumni

Address: http://alumni.binghamton.edu/

Interface: Same as AACS alumni Association, the Binghamton Alumni's page also were divided into three borders. The header contains the University logo with attachment of main link of the site. The second and third borders were divided left and right at the bottom where the second border contains links within the page while the third border contains notes and important news.

Content: The content is richer compared to AACS alumni Association. Basically, the page contains 4 main link that is Binghamton University links, search link, contact info links and Alumni home link.

Interactivity: More interactive where it uses a lot of tools. The page is more academic type and it have a database link to enable user to search for the alumni.



Figure 3.3 : Binghamton alumni website

3.4 Design Phase

For the design phase, two main things will be design that is the interface design and the layout design. For this purpose, a story board had been develop to give the general idea on how the layout design will be looks like and some interface had been design by using adobe Photoshop software. Design phase will include interface designing.

The project phase is the most important phase in project development where if the project design failed, the other phases in the project development cannot be continued. Student must keep alert in this phase and the outcome from this phase, design and requirement review will be used in the development phase later.
3.4.1 Layout Design

The end user will affect the design and the content for the portal. If the target user is educator, the portal presentation will be different from presentation where the children are the target user. As the target user is elementary level students, it is more suitable for the web activity to be diverse in one page.

In the layout design phase, the interface that had been sketch will be inserted into the story board of the alumni web portal. For this purpose, the layout will be divided into two major categories that are the user story board and the administrator story board. This two categories will play a different set of story board where basically all the function that occurs in the user story board will also been included in the administrator story board. However, the administrator will have more function that didn't been included for the user story board to the real product or portal, the development of the portal will be much easier.

3.4.2 Interface Design

For the interface design, a sketch had been done by using adobe Photoshop software. The design will include the design of the header, footer and overall interface itself. The interface design will then be inserted into the story board for the use of the layout design. The outcome from the interface analysis will help in designing the interface for the portal. Analysis on other web will also help to increase the creativeness of the interface design whereby the idea from the professional art of work from other web sites and portals will be implement in developing the interface design.

3.4.3 Story Boarding

Michel Fortin quote that there are two possible approaches in designing web storyboard. One is called the "top-down" approach where a box or note is placed at the very top that usually representing the index, splash or home page, and others are subsequently placed below it for the rest of the site. In the end, the storyboard looks something like a pyramid; the deeper a user goes into a site the more content and choices one will be given.

The second technique is called the "build-up" approach where the web designer can start from the content and user outcomes and bring it to the bottom. Multiple boxes are placed on the storyboard whereby each one defining a specific idea or purpose.

For UTP alumni web portal, the build up approach had been used. In the beginning of the design phase, a story board had been created whereby every idea that available to be use in the portal activity will be pointed out by the story board. As a starter, every concept of activity had been listed and writes on a different piece of paper. These papers will then be physically arranged until the structure of the portal was created.

Michael Fortan also quote that key questions should be ask (and ask often), with each and every paper in the storyboard that are:

- "What do I want my visitors to know here?"
- "What do I want my visitors to do at this point?"
- "What do I want my visitors to feel right now?"
- And, "Where do I want my visitors to go next?"

As the key question had be asked often, a general perspective can be identified and created based on the user point of view. This is to ensure that all the information that the user or visitor should get from the page will be get and to ensure that user or visitor know where they are and guide them on what to do next.



Figure 3.4 : Example of story boarding

3.4.4 Navigational Tools

A navigation tools within the portal activity had been planned carefully. This include on how people will navigate through the portal. Every page will be link to the main menu page. As for the forum or discussion board, every topic will have next button to make easier to surf around the activity. This is also an important element for the portal navigation as it helps to make the portal more users friendly and easier to use. In addition, a navigation tools had been plan on how visitors or alumni members will advance to the next page or return to the previous one. A graphical navigation had been design by using Adobe Photoshop software. As graphic is used as a navigational button, an alternative text had been included for navigating.

3.4.5 Visual Presentation

Although content is more important that design interface, visual presentation of the portal plays an important role too. In order to increase the visual presentation or to make it more attractive, several points had been point out that is:

 \triangleright Graphics

Thumbnail image will be use for a graphic that is larger than two inch square or three inch rectangle. Color palette of the image will be reduced to the lowest as possible. This is to ensure quick download of the portal. Same graphic such as logo will be use as often as possible. This is because, repertitive image only had to be download once. If a lot of different graphic and image is used in a page, this will slow the download time for the portal. This will decrease visitors and alumni members intention to visit the portal as it will take a lot of time to download the page.

> Background

Page background will not be left empty. Although white was selected as the background color but blurry image will help as the background image for the portal.

> Font

Tally with the background color, dark text will be used to contrast the light background that had been selected. This is to ensure that every text is readable. In addition, font size will vary to the body text and the heady tags will vary to the header and sub header size.

Credit

Credit will be given to the graphical artist (if it is not originally made).

To increase credibility to the portal, some information will be included. This will include information on when was the portal last updated and links were checked and the name of the host portal.

3.4.6 System Architeeuture

For this purpose, system flow diagram had been design. Basically, the system architecture will consist on two parts that is user parts and administrator parts. For the user parts, the architecture indicates on how the system works from the beginning to the end. As for the administrator system architecture, this will tell on how the portal administrator will responds to the system and the user. For more detail, please refer figure below.



Figure 3.4 : UTP Alumni Web Portal System Architecture

3.5 Tools

3.5.1 Personal Computer

Of course you will need a personal computer to get connected to the internet to be able to view develop the portal.

3.5.2 Web Server (Apache)

The web server that will be used is Apache. It was selected because of its stability, efficiency moreover it is a freeware.

3.5.3 MySQL

It is an open source software that used for database management. It manages data transaction between user and application. It provides user friendly interface and using the *Structured Query Language (SQL)*

3.5.4 Macromedia Dreamweaver

It's a web page/application authoring tools which used to design for the platforms page of the WBT.

3.5.5 Adobe Photoshop CS

This graphics authoring tools is used for designing user interface of the elearning and for some graphics editing.

3.5.6 Macromedia Flash MX

It will be used as animation designer to design animation in the alumni web portal for interactivity

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Diagram And Technical Data

4.1.1 Alumni Web Portal Story Boarding



4.1.2 ALUMNI WEB PORTAL CONTEXT DIAGRAM



4.1.3 DATA FLOW DIAGRAM















4.2 RESEARCH RESULT AND DISCUSSION

From the research and analysis that have been made, common features had been identified for the alumni web portal. This analysis had been made by doing same analysis from several alumni web sites from various universities and school.

Based on analysis from the precious work, normal features and services had been identified. This will include :

> Date of your upcoming Reunion and any class-specific event information.

Usually, this is the common thing that they have in alumni web portal. Any news such as date for the upcoming reunion is being discussed and post by the webmaster or any community member for the sites. In fact, seems like every alumni web portal have the same objective or purpose that is to gather their past graduate student to attend special occasion or to gather their self.

> E-mail links for the site Webmaster and Alumni Relations

It seems that a Webmaster or community member for the portal has a big responsibility in order to ensure the efficiency of the web. In other to ensure that the user and the webmaster or community members communicate well with each other, an email or any links is always been provided. This will also ensure that the portal will always been improved with the help of upcoming ideas from the user. > List of class officers and the Reunion planning committee, with e-mail links and/or phone numbers to encourage visitors to provide feedback and get involved.

This is also one of an important feature that should be considered in order to develop a good alumni web portal. Selecting officers and reunion planning committee would be tough but in order to get organize, every class or batch should have their own officer and community member and this officer will be listed to acknowledge their class member. There are many ways to get connected for this and for example, including email links and phone number is one way to encourage class members to get involve.

> Link to the main Reunion and Class Information page and AlumServ's main page.

To get connected, every class information page and reunion page will be link through the main page and this main page will act as the official portal for the past graduate student. By this, every portal will get more organize and this will ensure that the portal will be working effectively.

For Reunion year classes, a "Who's Coming" list and e-mail address to which visitors can send additional names, and updated information about class-specific events.

Usually, the list of past graduate student who intend to attend the reunion year classes will be provided and user can also give feedback in the sites either they are coming or not. This will make the class officer works easier to do the reservation and stuff. This will also ensure that every reunion that will be organized will work fluently without any problem.

Link to any change of address

This link will indicates information about the user for instance you can update your information such as latest address, latest status (in order if you have married recently), new job and any related information about the user.

> Link to the class notes submission

This link will indicates the sender names, email, major, degree, class year, and class notes contribution that will share your latest news in your life with other members of the portal and your classmates.

> Link to the lost reunion alumni lists for each appropriate class year.

This link is occasionally provided in order to keep in track on those who had really lost in track with the class member. This will make it easier to search and gather all the people who are still not register for the portal.

> Photos from past rounions or any occasion and a guestbook or message area, where visitors can leave greetings or post ideas

This portal will allow the user to post photos, message and guestbook will be provided for people to leave greetings and give any idea for the portal improvement. This will increase user involvement towards the portal and the community itself.

4.3 UTP Alumni Web Portal Characteristic

Based on the questionnaires and analysis that had been done, general features had been produced based on three major aspect of the alumni web portal that is portal functionality, portal design interface and security issue.

4.3.1 Registration

Every alumnus has to register as some of the services offered to the community are restricted from visitors and outsiders. This registration will be stored in the database in order to ensure that the search menu offered will be a big help for alumni member to search for other member from the database system. To register, alumni will have to input the related question below:

Name

Full name should be entered to be stored in database system. This will be use later by administration for alumni registered listing.

➢ Nickname in UTP

This features is important as some of the alumni is known from their nickname better than their real name. This will help to identify user more clearly.

> ID

Real ID should be inserted by user. This will help in the security system whereby every ID will only be registered once. This will help to prevent outsider to pretend to be alumni member.

Programmed and Intake

Previous programmed and intake will help alumni to identify user more easily. This feature will be display in the profile page.

\succ Location

Location should be entered as one of the option to give the latest news regarding on their location. This is due as some of alumni may have transfer to other place and this will help people to organize gathering and reunion.

Email Address

Basically, email address will be used by administrator and alumni members to submit news to user personally. This will include gathering invitation and others.

Date of Birth, Current Status and Job

This feature is only to be display on how well they are doing. Except for the date of birth, status will help alumni to get latest news on the user status either they are married or still single and job will help to make connection with specialist in event.

For the user display page, only the nickname, programmed, intake, location, status and job will be displayed and other information from the registration is for the administrator use only. To make the portal more interactive, user can upload their picture in the registration process whereby this will help alumni members to remember their friends clearly. Example for the registration form is shown below:

	y FYP/vesearch paling latest. Journal Send Alumni News, Get Alumni News. htm	💙 🔛 Go Liels 🎽
Search -	Geogle - Yahool - Ask Jeeves LookSmart 103 biet toolbar Hosting	
	Fall 2003 I Capital University Journal	
	Get Alumni News	
	Please submit your request in the form provided below:	
Return to Cover	Name & Address	
University Links Capital University News	First name:	-
<u>, apital University News</u> Lents Calendar	Last name:	
tews by E-mail		
<u>Ashe a Bift to CBUS</u>		
<u>Alumni Association</u>	Address:	
<u>oblic Affairs</u> SUS Bomenage	Street address 1: Street address 2:	
1979-1999 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1	City: State/Province: (select)	• i
	Zip: Country: USA	
	Phone:	
	email:	
	Submit Reset	
	· · · · · · · · · · · · · · · · · · ·	
		<u>×</u>

Figure 4.1: Registration Form Example

4.3.2 Services

For the alumni web portal, the services offered will be functioning as the main menu for the portal. Those services offered will help alumni to connect with each other better and make the boundary and connection becoming easier. The services that had been identified suitable for the alumni web portal is:

▶ News from UTP

UTP should be involved with the alumni portal. This feature will improve the relationship between the institution and the alumni community. Latest news from UTP will help to update alumni info regarding on the UTP institutional

> News from alumni members

Alumni members can submit news on any upcoming event to be alerted in the alumni members' news page. This will include gathering information, marriage, and loss (in case alumni members die or involve in accident).





> Forum or Discussion Board

Forum or discussion board will help the alumni members to have a two way communication whereby alumni can set topic to be discussed and other member can give comment on the topic itself. This will help to attract more user involvement from the portal as they are not entering the portal to receive news but also to post or submit their idea. This can be used in knowledge gaining and job finding other than been offered in the link provided.

Message Box

Message box can improve communication better between alumni to another. As forum or discussion board only allow the two way communication to be posted publicly, the message box is used to post message to a person individually.

4.3.3 Linkage

The portal will be link to several web sites to attract alumni to get involve to the community and the portal itself. This linkage is being derived into several categories that usually being use by alumni during their student life. This linkage will help the alumni community to get a quick link to the linkage that can be access through the portal itself. The link character is listed as follow:

➢ UTP Web Site

Example: www.utp.edu.com.my

\triangleright Sports

Example: www.espn.com, www.soccernet.com

> Newspaper

Example: www.bharian.com.my, www.utusan.com.my, www.hmetro.com.my

➢ Financial

Example: www.maybank2u.com.my

External Career Campus

Example: www.jobstreet.com

> Search Engine

Example: www.google.com.my, www.yahoo.com

4.3.4 Help Desk / FAQ

Help Desk will be provided as a guideline to the alumni member. This will help to give several descriptions regarding on the related issues in the portal operation. This will include a guideline on :

- ➢ Login and Registration
 - ✓ Why can't I log in
 - ✓ Why do I need to register at all?
 - ✓ I've lost my password
 - ✓ I registered but cannot log in
- > Posting Issues
 - \checkmark How do I post topic in the forum
 - ✓ How do I edit or delete a post
 - ✓ Why can't I access a forum
 - ✓ How can I create poll?

- Formatting and Topic Types
 - ✓ What are smileys?
 - ✓ Can I post picture?
 - ✓ What are sticky topics?
 - ✓ What are locked topics?
- User Level and Groups
 - \checkmark What is administrator?
 - \checkmark What is moderator?
 - \checkmark What is user group?
- Private Messaging
 - ✓ Why can't I send private message?
 - ✓ I keep getting unwanted message

4.3.5 Portal Interface Design

For the portal design interface, the main software that is being used is PHP, Macromedia Dream Weaver and Adobe Photoshop. PHP is used to transfer the entire design page into a useful page through PHP coding. This will include linking a page between one to another, button functioning and many others. Many designs had been created by using Adobe Photoshop Software. These include design from the header, background and menu button for the portal. As for the Macromedia Dream Weaver, it helps to design the layout of the portal whereby the design created from the Adobe Photoshop software is being coordinated and being arranged by this software.

4.3.6 Security Issues

For the safety of the alumni web portal, registration is necessary. Student ID will play an important role as this will prevent outsider to register as one of alumni members. The student ID can only be register once. In case of somebody have used others ID accidentally or in purpose, the real user can report user to the administrator of the portal and the fraud will then be judge. For instant, the fraud user will be banned from the portal.

٠

As for harassment issue, any user that had been harass by another user can post report to the administrator of the portal and a warning will be privately. If the warning doesn't effect the harassment from being done, official warning will be announced publicly. If the second attempt brings no effect to the harassment, the user will be grounded from the portal. This means that the user access to a particular service will be block and maybe worse, been terminated.

As for the safety of the portal, it is convenient for the portal to have a back up system. This will not only to ensure that the portal is safe but this will help to ensure that the system will be operating everyday. In case of maintaining purposes, when the main portal was in maintenance phase, the backup will be responsible to replace the main system so that user can still continue to surf the portal.

4.4 Differentiators

Currently, school and college-focused Web sites are mostly fun or at best information oriented. Most Web sites target students and alumni, offering them features and school/college content hoping to generate interest from targeted users. For UTP Alumni web portal, it is unique for the institution because the administrators will drives the content. Unless the Web site answers a personal need on a regular basis, users tend to surf from one site to another just to sample the novelty. By offering communication and collaboration tools combined with the ability to integrate to back-end administrative systems, UTP Alumni web portal creates the user to visit more frequently. Based on the analysis that has been done, there are several elements that is highly recommended to differentiate the project with any other current web portal.

4.4.1 Sharable Search Database

Albert DeSimone, Jr. sited that providing a quality search service for portal visitors has become a requirement. Having the search entry form on the primary homepage is of even greater service to these visitors. However, for the UTP alumni web portal, this function will not only allow the user to search for another user but they can also search for information and data related. In the forum side, people can post forum which include educational and knowledge For this, they will only have to insert the keyword and the portal will sent all the necessary information within the forum discussion board.

4.4.2 Ethical Policies

An official policy statement on the ethical and legal use of the Internet and the World Wide Web, which is binding to all faculty, staff, and students, is an invaluable resource for the webmaster team.

4.4.3 Two Way Communication

Based on analysis on previous work, usually alumni web portal are design to give information and not to receive feedback. For the UTP alumni web portal, it enable user to communicate better with each other by providing them forum column. In the other words, the portal will not only allow information giving but will also allow receiving feedback from another user. This functionality can be seen in the forum and news column.

	rotohundred.com/forums/		<u> </u>	<u></u>	▼ 🚔 Go
A second statistics of the second	Print + @Print @High Speed Print & Preview Options # [Juplex	E View }	Print List	
and the second	2 Announcement	an a			an a
	Forum	Topics	Replies	Last Post Info Oct 28 2004, 11:48	
	News Site Updates	37		In: ^{>} BFGoodrich Asian Motorsport By: <u>ninia iga</u>	
	Features The Stuff you want from Zerotohundred.com	42		Oct 28 2004, 23:33 In: [™] <u>Tufoil Reviaw</u> By: MGF7474	
	a hara da a hara da da kuna kuna ku na ku		in Al	HERE CHARGE	
	📚 Lars			in the second second	
	Forum	Topics	Replies	s Last Post Info	
	Car Talk General car discussions	1759	41765	Oct 29 2004, 81:44 In: <u>is this allow in MME?</u> By: <u>DRFT_240sx</u>	· · · · · · · · ·
	<u>Car Modification</u> All on modifications	1567	25965	Oct 29 2004, 02:35 In: Phow to strengthen the body By: <u>Rekalo</u>	a da anti- a da seconda de second A contra da seconda de
ri a contra A contrata A interational	Forced Induction Tachnical discussions on turbocharging, supercharging, Also includes Nitrous, propane, and water injection.	183	3184	Oct 29 2004, 01:53 10: ¹² upgrading turbo By: drill	
	<u>Car Care</u> Car detailing and maintainence	337	4382.	Oct 29 2004, 01:33 In: <u>Road Tax stains</u> By: <u>Battousai</u>	
	ICE Short for In Car Entertainment, Audiophiles hang out here.	614	5420	Oct 29 2004, 01:41 In: -> <u>Excellent SQ / SPL sub for</u> By: <u>xtorm</u>	en na Star Star – Star Star – Star
	Do-It-Yourself Garage Trying to save \$\$\$7 Do it yourself. Read amazing projects, post and answer questions on building and fiddling your own parts.	315	11418	Oct 29 2004, 02:09 In: ⁽²⁾ Change Interior Colour By: goddfadda	<u></u>
and a state of the	Your Shots Photographs of your machine, Also, other Interesting car-related shots you took yourself. If you have a feature-worthy photoset of cars or events, PM me.	243	9839	Oct 29 2004, 02:24 In: <u>Vteckillers Birthday Bash (</u> By: <u>vteckiller</u>	
	The Garage Get your car listed in the Zerotohundred.com Garage now! A useful too			Redirected Hits: 6084	i

Figure 4.3 : Example of forum page

4.4.4 Logos and Typography to Promote Visual Identity

A set of images and logos, easily accessible from the Web, encourages campus webmasters to create a visual connection to the university. These graphical elements can be combined in a way suitable to the page on which they will be used.

4.4.5 Internet Relay Chat (IRC)

By using the Internet Relay Chat (IRC), alumni members can communicate with each other much better. This is because, IRC allow user to receive feedback as soon as possible such as normal communication but its done in virtual reality environment. This function can help user to interact with each other in more convenient way.

Back - 🔺 🗐	Search Favorit	es 🚱	- 12 - 13		33					
ress 🙆 http://iogin.prospero.com/dir-	login/clientLogin,asp?webtag∞tr	-newtochatelgnDS	T=http%3A%	2F%2Fforum	~ %2Etakcity	%2Ecom%2Ft	c%2Dnewtocha	%2Fchat%3	Froemi 🗸 🚡	Go Lin!
non Easy-WebPrint - (Print AHigh Speed Print	D Preview	Options	👼 Duplex	ji View	Print List				
(i) <u>Home</u>	<u>My Rooms</u>	Chat Roor	<u>05</u>	D Chat	<u>Sames</u>	0	Info Central		🕒 Log	
	옥이는 사용적인 것은 것은 사용적인. 									iotané ngl
New2Chat					•					
lopic: Welcome to lew2chat, Where Friends								•		ê na
come to Chat & Meet VEW Friends !! 5 talking:			-						'our Host Idneadle	198 V
fridge 81 Jo smoggie				Back To Di	cussion L	ist				
	Chats in New2chat									
NAYBUG New2ChatBot	New2Chat					. •				
nova7240 Vamp321		me to New2ch	at, Where I	riends cor	ne to Chai	t & Meet N	EW Friends I	l		
	<u>fridge 81</u> J <u>a smoga</u> ie									
	<u>Kacy4</u> <u>MrsTedyBare</u>				· · ·					
cent Visitors	NAYBUG New2ChatBot	t	-			1				
<u>eve648ga</u> igna54	<u>nova7240</u> Vamp321					· .				
<u>mini39</u> Li -					•				÷.	
nsantafa36				-						
<u>11788472</u> <u>YBUG</u>	<u>T</u> e	<u>ik City</u> is a serv	vice of <u>Delph</u>	i Forums, L	<u>.C.</u> Copyrig	ght © 2004.	All Rights Re	served.		
ndropairl owingrose										
andini										
TATA AND SAVE!										
Cick Here amazon.com										

Figure 4.4 : Examples of chat room available for web sites

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5. CONCLUSION AND RECOMMENDATION

This chapter highlights the most significant things in relation the objectives of this project. Later in this section, also included the recommendations for future project work.

5.1 Conclusion

As a conclusion, to develop an alumni web portal, creativity is needed and analysis have to be made in experimenting and catching the user interest in order to ensure the portal work effectively. Although the alumni web portal is a very common concept, this will create a lot of opportunity for the past graduate student in order to stay in touch and to enjoy the services that will be provided to make this common concept getting more interesting.

To ensure the effectiveness of the alumni web portal, functionality will play the best issue whereby research will be made to ensure that the alumni web portals is not only normal portal but It also offers a lot more function for the user. To achieve this, analysis on strength and weakness of the common web portal will be made.

However, the real problem will be the time constraint whereby it's really important that the portal can be developed within the time given. Feedback from questionnaire and answer form will be one of the important elements as it'll help to give some quick idea and references.

5.2 Recommendations

For the recommendations, it's important to ensure that this web portal can attract the user and to differentiate the portal from any other common portal. The issue is to ensure that this web portal can be fully operating and is always been updated. By this, a webmaster will be train to maintain the web and strategy will be planned in order to optimize the opportunity in developing the portal.

Improving the functionality will be the best recommendation as it will help to attract more user to get involve. A lot of research and analysis should be made to optimize the functionality of the portal and how to attract more user to get involve. Improving the portal in this aspect will give a lot of advantages and strength to the project itself.

REFERENCES

- 1 James P. Frezee, 2001 EDUCAUSE QUARTERLY Number 3
- 2. URL: www.websiteassist.com/marchingrocketsalumni/
- 3. URL: www.illinoisstate.edu/alumni/questions.shtml
- 4. Albert DeSimone, Jr.2000 Harmonic Diversity and Campus-Centric Web Portal Design
- 5. URL: www.AACSALUMNI.COM
- 6. URL: http://alumni.binghamton.edu/
- 7. The State Journal, Copyright 2001, by Sean Dailey www.princeton.edu/~howarth/SHS/town/sjr-2001.html
- 8. Omar El Akkad, Journal alumni day attracts the industry's brightest
- 9. Michel Fortin, Web Site Planning Can be a Sticky Situation
- 10. Eva M. Thruvy, Analysis of Student Web Browsing Behavior: Implications for Designing

thuty@drexel.edu

- 11. James, P. Frazee Charting for Portal Development- A smooths Course
- 12. Portal Vendor Questionnaire For EDUCAUSE

www.campuscruiser .com

- Notes made of the 26th meeting of the APHIS Alumni Organization, October 1, 1997 by Terry Hall
- 14. Rensselaer Home Page

www.rensseelaer.com

- 15. Michael V. Geary, Getting and Keeping Alumni Involve
- 16. College of Engineering Alumni Network Web Portal

www.sigbusiness.com

Appendices

•

APPENDIX 1: PROJECT SCHEDULE

	Duration	Start	Finish	Prec slay	04	Jun '64	Jul '04 4 21 28 5		ig '04	Sep '04	Oct .	34 **	NOV 114	Dec 'C
1 Selection of Project Topic	A days	May 16 94	May 13 1	a 311	0 17 24 3	<u>n 7 </u> 1	4 21 28 5	12:19:20 2	18,1401	23 30 0 1	3 20 27 4	11 110 14	2011.0.10	Tax (xo' o')
1.1 Consult Lecturers on interested areas		May 10 '04									1		:	
Form 01 and 02 Submission (To FYP Coordinator)		May 14'04			6 5/14							-	1	
		,			· .								4	
3 Approval of Tapic		May 18 04			5/18									
4 Form 03 Submission (To FYP Coordinator)	1 day	Jul 21 '04						ll ∣						
5 Preliminary Information Gathering	15 days	Jul 28 184						- -						
5.1 Information Gathering through media and internet	13 days	Jul 20 '04					1	array of the party						
5.2 Scope Definition	2 days	Aug 4 04			,						1			
5.3 Requirement Specification	1 day	Aug 5 04					:							:
6 Submission of Requisition Form	1 day	Aug 7 '04							6 /7					
2 Submission of Preliminary Report	1 day								ð		-		1	
8 Progress Report	34 days	Aug 23 84	Sep 30 U	14			:	:	•				i.	
9 System Enhancement	52 days	Aug 17 84	Oct 15 🕽	4					-			-		
9.1 Work on 2nd Increment - Application Enhancement	33 days	Aug 17 '04							1993	1.1.2.1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	लिहरू		1	
9.2 Work on 3rd Increment - Prototype Improvisation	22 days	Sep 20 '04	Oct 14'0) 4 :							Statistics of a	<u>⊒</u> 1	į	
9.3 User Approval	1 day	Oct 15 '04					-				1	· ¥ĩ	i	
18 Final Draft to Respective Supervisor and FYP Committee	9 days	Oct 6 '84										<u>т</u>	ĺ	
10.1 Information Gathering for Final Draft Report	7 days	Oct 6 '04		. 2							200		l	
10.2 Final Draft Writing	5 days		Oct 14'0				:				E	2 0	1	
10.3 Printing and Compilation	1 day							:			;	- H		
10.4 Submission of Final Draft	1 day											• 10 A	15	
11 Final Draft to Supervisor and External Examiner	12 days			i										
11.1 Final Draft Amendments	10 days											1000	2703 L	
11.2 Printing and Compilation	l day	Nov 1 '04	Nov 1 T	26						:			11	
11.3 Submission of Final Draft	1 day	Nov 2 '04	Nov 2 %	34								1	11/2	
12 System Testing	10 days	Oct 16 '84										t the second sec	4	
12.1 System Integration and Testing	3 days	Oct 16 '04	Oct 19 %	14 19				:				்தோ	1	
12.2 User Approval	3 days	Oct 20 '04	Oct 22 1	04 30								́ ҧ		
12.3 Documentation	4 days	Oct 23 '04	Oct 271	34 31							:	臣	<u> </u>	
13 IT IS Exhibition/Oral Presentation	19 days	Oct 19 '84					:					-	+	
13.1 IT IS Exhibition	2 days	Oct 13 '04					:					₽ <u>_</u>	1.	
13.2 Preparation for Oral Presentation	15 days						:					Č2		
13,3 Presentation Day	2 days		 Nov 8 1 				:						11/6	
14 Project Dissertation	41 days	Nov 3 '04	Dec 20 1	4 25			-						-	
14.1 Dissertation Amendments	4 days	Nov 3 '04	Nov 6 1	94									ា	:
14.2 Seek of Supervisor's Official Approval on the Discertat:	on 2 days	Nov 8 '04	Nov 9 1	34 38									T	
14.3 Printing and Compilation	1 day	Nov 3 '04	Nov 31	14]	
14.4 Submission of Hard Cover Copies of Report	1 day	Dec 20 '84	Dec 20 1	34 40										

APPENDIX 2: PROJECT QUESTIONNAIRE

All questions must be answered. Please add comments on the aspects or criteria that need to be improvised. Type your comments in different the space provided (if needed).

Section A : General Question

1. Are you a/n?

a) Undergraduate b) Graduate Student

- 2. Have you ever used a web portal before? (e.g., My Yahoo [http://my.yahoo.com/]?
 - a) Yes b) No c) I don't know
- 3. Which one of the features should be put in the first priority?
 - a) The Functionality b) The Portal Design
- 4. If you could name the alumni web portal, what name would you choose?

Section B: Questionnaires on the portal functionality:

- 1. Which of the following service would you like to access through your portal? (Please check all that apply):
 - i. News from UTP
 - ii. News from alumni members
 - iii. Forum or discussion board
 - iv. Message Box
 - v. Link to other pages
 - vi. Others (please list);
- 2. Which of the following links would you like to access through your portal? (Please check all that apply):
 - i. UTP web site
 - ii. Sports
 - iii. Newspaper (eg. Berita Harian, New Straits Times, etc.)
 - iv. Financial (eg. Maybank, Bumiputra Commerce, etc)
 - v. External Career Campus (eg Job Street)
 - vi. Entertainment (eg. Jiwang.org)
 - vii. Others (please list) :

- 3. If UTP Alumni Web Portal offers a mix of the features listed in question 1 and 2, would you think it helps you to connect with your alumni and external community?
 - a) Yes b) No
- 4. From the service listed below, which one do you think is the most important features for the Alumni Web Portal and should be considered in more detail?
 - i. News from UTP
 - ii. News from alumni members
 - iii. Forum or discussion board
 - iv. Message Box
 - v. Link to other pages
 - vi. Others (please list) :
- 5. If you could name the alumni web portal, what name would you choose?
- 6. Would you like to receive the University newsletter Portal?
 - a) Yes b) No
- 7. Would you like to provide photo to yourself in your profile for the portal?

a) Yes b) No

8. Do you like your profile to be view by others so that people can make contact with you easily?

a) Yes b) No

- 9. Do you agree that some information about you should not be display?
 - a) Yes b) No

If Yes please check the related data that you think should not be accessible to others:

- i. Name
- ii. Location
- iii. Email Address
- iv. Date of Birth
- v. Status
- vi. Job

vii. Others (please list) :

- 10. From the service listed below, which one do you take is the most important features for the Alumni Web Portal and should be considered in more detail?
 - i. News from UTP
 - ii. News from alumni members
 - iii. Forum or discussion board
 - iv. Message Box
 - v. Link to other pages
 - vi. Others (please list) :

11. Would you agree to write articles to be published in the portal?

- a) Yes b) No
- 12. Do you think registration and log in process is necessary?
 - a) Yes b) No
- 13. Do you want to add anything not covered in this questionnaire?

Section C: Questionnaire on web portal design

- 1. How formal do you want the overall web portal design to be?
 - a) Less formal b) Normal c) As formal as it can be
- 2. How interactive do you want the overall web portal design to be?

a) Less interactive b) Normal c) As interactive as it can be

- 3. How do you like the overall design looks like?
 - a) Corporate b) Simple but interactive c) Not important to me
- 4. Do you think we need logo as the trademark of the alumni web portal?
 - a) Yes b) No

If Yes do you think UTP logo should be declared as the alumni web portal logo officially?

a) Yes b) No

5.	Where do	you think is the	best place to	locate the menu button?
----	----------	------------------	---------------	-------------------------

a) Top Left b) Top Right c) Left Side d) Right Side

6. What color do you think is the best as the background color?

a) Black	b) White	c) Gray	d) Others (please state)
----------	----------	---------	--------------------------

7. Do you think banner will help to make the portal more interactive?

a) Yes b) No c) Not Sure

8. Do you think interactive multimedia such as macromedia flash should be use to make the portal more interactive?

a) Yes b) No c) Not Sure

9. Do you find that scroll bar will make the design less interactive?

a) Yes b) No

10. What image / picture do you think is the most suitable to be put in the main page?

a) Graduate Student b) UTP environment c) UTP building d) Not Important

Section D: Questionnaire on user friendly help desk

- 1. Do you think guideline should be provided in the portal?
 - a) Yes b) No

If Yes, what aspect from the list given should be provided with guidelines? (please check all that apply)

- i) Login and Registration Issues
- ii) User Preference and Setting
- iii) Posting Issues
- iv) Formatting and Topic Types
- v) User Level and Issues
- vi) Private Messages
- vii) Others (please list)
- 2. Do you think rules should be set for the portal? (eg. No explicit language)
 - a) Yes b) No

APPENDIX 3: UTP ALUMNI WEB PORTAL EXAMPLE





A CiFrerer	😰 🗿 🏠 💭 Search 🔗 Favorites 🕐 🖓 🦿 🤤 👘 😓 🦉 🏂	~~
ott Gasy-W	(EDPrint - CDPrint CDHigh Speed Print 💭 Preview 😳 Options 🖗 Duplex 📑 View Print List	
help protect you	security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options	×
Als .		
N	UN VERSICI TEXN OF GIRETRONAS	
111		
	Please enter all the information below. All the info below will be stored in our database and all the profile created can be view	ed and search in
	our search page. Please take note that all this information can only be viewed by other registered member only.	
Horac		
	Name:	:
NCAS		
	Nickname	
search	Student ID:	
ionno ."	$\circ \pi$	
alencar	ं IS	-
	Programmed: CE	
Linko	́ ме	:
FACL	O CV	
	Intake:	
	Location	
	Email Address:	
		y My Computer
le west		y My Computer
Back ▼	Dete OF Pirth	y My Computer
Back ▼ ∰C:\Firese IOTI €asy-V	Date Of Pirth	y My Computer
Back ▼ ∰C:\Firese IOTI €asy-V	Dete OF Pirth	g ny Conputer
Back ▼ ∰C:\Firese IOTI €asy-V	Date OFPirit x 2 Search Favorites rvjwwwi/jypinaripage.htm VebDr/int - CD/Pink Ofligh Speed Print Options VebDr/int - CD/Pink Ofligh Speed Print Options VebDr/int - CD/Pink Options Duplex If View Print List x security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options	g ny Conputer
Back ▼ ∰Cr\Firess On Easy-V	Date Of Pirth	g ny Conputer
Back ▼ ∰Cr\Firess On Easy-V	Date OFPirit x 2 Search Favorites rvjwwwi/jypinaripage.htm VebDr/int - CD/Pink Ofligh Speed Print Options VebDr/int - CD/Pink Ofligh Speed Print Options VebDr/int - CD/Pink Options Duplex If View Print List x security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options	g ny Conputer
Back ▼ ∰Cr\Firess On Easy-V	Date OFPirit x 2 Search Favorites rvjwwwi/jypinaripage.htm VebDr/int - CD/Pink Ofligh Speed Print Options VebDr/int - CD/Pink Ofligh Speed Print Options VebDr/int - CD/Pink Options Duplex If View Print List x security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options	g ny Conputer
Back ▼ ∰Cr\Firess On Easy-V	Detr. OF Birth Search Favorites PrivewyFypInatrosge.htm VebPrint Othor Speed Print VebPrint Othor Speed Print Security, Internet Explorer has restricted this file from showing active content that could access your computer. Okt here for options University TEXN CIPETRONAS %/LUMNI C//EMBER ASSOCIATION	g ny Conputer
Back -	Detr. OF Birth Search Favorites Privewwif-yplinatrosge.htm VebPrint Otight Speed Print VebPrint Otight Speed Print Preview Options Duplex Vew Print List recurry, Internet Explorer has restricted this file from showing active content that could access your computer. Okt here for options UpwerNestric Texmining active content that could access your computer. Okt here for options UpwerNestric Texmining active content that could access your computer. Okt here for options UpwerNestric Texmining active content that could access your computer. Okt here for options Check back periodically for updates! For more information on any event call Mr. Mazizan Fitri Mokhtar at (03)	g ny Conputer
Back - Back - CitFross Off Easy-V help protect you CitFross Off Easy-V help protect you CitFross Off Easy-V help protect you CitFross Off Easy-V help protect you	The OFBett Search Peworkes Search Peworkes Search Peworkes Trywwwlyppinatrooge.htm WebPrint - Ciphink Colligh Speed Print Preview Options Duplex View Print List r security, Internet Explorer has restricted this file from showing active content that could access your computer. Cick here for options UVWERSELI TEXN CIPETRONAS AllUMNI AllUMNI AllEMBER ASSOCIATION Calendar of Events Check back periodically for updates! For more information on any event call Mr. Mazlizan Fitri Mokhtar at (03) 2333-5333	g ny Conputer
Back - Back - Con Casy-V help protect you Con Casy-V help protect you	Detr. OF Birth Search Favorites Privewwif-yplinatrosge.htm VebPrint Otight Speed Print VebPrint Otight Speed Print Preview Options Duplex Vew Print List recurry, Internet Explorer has restricted this file from showing active content that could access your computer. Okt here for options UpwerNestric Texmining active content that could access your computer. Okt here for options UpwerNestric Texmining active content that could access your computer. Okt here for options UpwerNestric Texmining active content that could access your computer. Okt here for options Check back periodically for updates! For more information on any event call Mr. Mazizan Fitri Mokhtar at (03)	g ny Conputer
Back - Back - Con Casy-V help protect you Con Casy-V help protect you	Date Of Dirth Image: Search Favorites	g ny Conputer
Back - Back - Diff Casy-V help protect you Diff Casy-V he	Deter OFBiett Search Favorites Provide State Search Search Favorites Provide State Options Duplex View Print List resurvity, Internet Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Check back periodically for up dates! For more information on any event call Mr. Mazizan Fitri Mokhtar at (03) 2333-5333 Board Meetings of the UTP Aharmi Board of Directors 2004-2005 November 1, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC March 14, 2005, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC	g ny Conputer
Back - Decyseese On Casy-V help protect you Casy-V help protect y	Date Of Dirth Image: Search Favorites	g ny Conputer
Back - Back - IC (Freese IOH Easy-V help protect you with a system I for the Norws Vegister Score the Score the	Image: Start Fevorites Image: Start Fevorites <td< td=""><td>g ny Conputer</td></td<>	g ny Conputer
Back - Back - Diff CaSup-V help protect you CaSup-V help protect you CaSup-CaS	Deter OFBiett Search Favorites Provide State Search Search Favorites Provide State Options Duplex View Print List resurvity, Internet Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Upper Explorer has restricted this file from showing active content that could access your computer. Ock here for options Check back periodically for up dates! For more information on any event call Mr. Mazizan Fitri Mokhtar at (03) 2333-5333 Board Meetings of the UTP Aharmi Board of Directors 2004-2005 November 1, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC March 14, 2005, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC	g ny Conputer
Back - Back - Diff CaSup-V help protect you CaSup-V help protect you CaSup-CaS	New OFBatt Image: Search Feworites Image: Search Ference Check back periodically for updates! For more information on any event call Mr. Mazlizan Firi Mokhtar at (03) 2335-5333 Board Meetings of the UTP Ahanni Board of Directors 2004-2005 November 1, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC March 14, 2005, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC Ahunni Events 2004 The UTP Academic Department cordially invite you and your	g ny Conputer
Back - Back - Diff CaSup-V help protect you CaSup-V help protect you CaSup-CaS	New Of Dart Image: Search Forwards Search Forwards Search	g ny Conputer
The protect you The protect you The protect you The protect you The protect you Network Register Second b Forcerts Infondur Links	New OFBatt Image: Search Feworites Image: Search Ference Check back periodically for updates! For more information on any event call Mr. Mazlizan Firi Mokhtar at (03) 2335-5333 Board Meetings of the UTP Ahanni Board of Directors 2004-2005 November 1, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC March 14, 2005, Monday, at 6:00 p.m. Kenangan Meeting Room, PWTC Ahunni Events 2004 The UTP Academic Department cordially invite you and your	g ny Conputer

