

Knowledge Sharing Through Forum Session (K-Center)

by

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Dissertation submitted in partial fulfilment of
the requirements for the
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CERTIFICATION OF APPROVAL

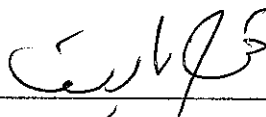
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A project dissertation submitted to the
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Universiti Teknologi PETRONAS
in partial fulfilment of the requirement for the
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July 2007

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.



NIK MOHD FAZLY BIN NIK ABD KADIR

ABSTRACT

In five years of study in Universiti Teknologi Petronas (UTP), a student will finish numerous of assignments, projects and thesis for all courses taken. Unfortunately, all the documentation of their works will be left disorganize when they were graduate. This situation is called “brain drain” and students come and go will leave this situation continuing happen. Knowledge Sharing through Forum Session (K-Center) is the solution to the problem of disorganized sources of knowledge among Universiti Teknologi Petronas (UTP) students. With the function of forum discussion, file sharing and message conversation, K-Center will suited best the university style of having a campus community with competent knowledge sharing. In addition, students will benefit a lot from lesson learn and experience gain that are shared in the forum. With the LAN application among the campus and the academic building, K-Center will be utilized efficiently. K-Center hopefully will enable students to share their projects in the same time they can download others projects, having a delighted forum conversations and fully benefits themselves from message conversation.

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Not forgetting to all my friends that have supported me with ideas and morale support throughout the making of this project, I would like to thank you all. All those morale support and advices were really motivating me to accomplish the project.

I hope that “**K-Center**” project will success and will benefit all users, especially UTP students. Thank you again to everyone who supported me from the beginning of this project until the end.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

This project is about encouraging knowledge sharing between the students and lecturers in Universiti Teknologi Petronas (UTP). It is always becoming a problem for students to find knowledge resources when they need it. Besides of raw information from internet and basic learning material from lecturers, student will find it hard to get the specifically intended knowledge resources. In five years of study in Universiti Teknologi Petronas (UTP), a student will finish numerous of assignments, projects and thesis for all courses taken. Unfortunately, all the documentation of their works will be left disorganize when they were graduate. This situation is called “brain drain” and students come and go will leave this situation continuing happen

Knowledge Management (KM) comprises a range of practices used by organizations to identify, create, represent, and distribute knowledge for reuse, awareness and learning. It has been an established discipline since 1995 with a body of university courses and both professional and academic journals dedicated to it. Knowledge Management (KM) programs are typically tied to organizational objectives and are intended to achieve specific outcomes, such as shared intelligence, improved performance, competitive advantage, or higher levels of innovation.

Knowledge Management (KM) seems the best solution for disorganize knowledge sources among students in Universiti Teknologi Petronas (UTP). It can be practice in

certain method and in this project, the author decide to use a forum as the channel to encourage the knowledge sharing. Having an education forum seems very effective and interesting selection to buy in the student's attention as the knowledge provider and keep the knowledge cluster rolling.

It appear that nowadays network is packed with various forums; entertainment, business and advertisement. The implemented prototype is different because it based on sharing education knowledge and discussion. There will be function like message posting (for discussion) and files upload and download. There are additional section where users can post the lesson learnt and the experience gain throughout the completion of the assignment/thesis/project. It will allow the users to get the documents available by searching the documents name or searching for lesson learnt only. It is a very great addition of the knowledge sharing where students will benefits a lot from lesson learnt available.

1.2 Problem Statement

Currently there is no specific platform or channel system that organizes all assignments, thesis and projects that have been done by students in Universiti Teknologi Petronas (UTP). Everything from the documentation to the implemented prototype will be left wasted because of no system or program to channel them for other benefits. The assignments, thesis and projects submission method (paper printed) will just leave the knowledge sources unreachable from the students that might need them as references. The knowledge is not being distributed even there is someone comes and make copies of the papers or the author place some copies in the library, the knowledge sources will just be reach by small numbers of people and it cannot be spread as fast as it be shared online. For some people who did have the assignments/thesis/projects, they might face the problem in understanding the information included. They might need to see the author ask him/her or about the project. It will be a big help if they can communicate with the author to keep updated about the project. From the problem stated, we should find a solution so other people can reach the knowledge easily, fast and effective.

1.3 Aim, Objective and Scope of Study

1.3.1 Aim

The aim of this research project is to learn and acquire the knowledge experience and expertise to develop a working an online system for students and lecturers and administrators in UTP as well as to study the fundamentals of an enhancement of technology. The second aim here is to ensure that the final result will satisfy end users involved and that too within the promised time scale.

1.3.2 Objective

Every project has it own objectives that work as drivers to achieve success at the end of the whole progression. The objectives of the system that need to be implemented are as stated below:

- To develop a web-based system that enable students to share their projects, download others projects, have forum conversations and message conversation.

1.3.3 Scope of Study

The scope of this project will evolve around the learning of the website development, ASP.NET, MY SQL and IIS script in developing the application. These include creation of necessary database for students, user interface in building the application and its implementation. Besides that, the intended users for this project are UTP students, administrators (ICT & BIS Faculty) and lecturers generally.

CHAPTER 2

LITERATURE REVIEW / THEORY

2.1 Literature Review

Students will benefit from K-Center as an alternative to look for previous assignments, projects and thesis topics and share knowledge among the students and lecturers. Different system is using or having different features. Some might be good and some are not, while others are just the enhancement of the current system. The K-Center is a web-based system and it has the features of forum discussion, document sharing and message conversation. Students may search any knowledge sources in the forum and download for their references. In addition, there will be a section of lesson learnt so students can benefit from other people previous experience.

Based on studies carried by Kevin Kruse (2004) from e-learningguru.com, he pointed that online web-based system has several benefits or advantages compared to the traditional way of learning. When compared to CD-ROM learning, the benefits of Web-based training stem from the fact that access to the content is easy and requires no distribution of physical materials. This concludes that Web-based learning and training yields additional benefits, among them:

- *Access is available anytime, anywhere, around the globe.* In Universiti Teknologi Petronas (UTP) or any other universities or

lower education institutions in the world, students always have access to a potentially huge library of training and information whether they are working from home, in the office, or from a hotel room. This gives free access for the students anywhere and anytime.

- *Per-student equipment costs are affordable.* Almost any computer in the world today equipped with a modem and free browser software. Students and lecturers can access the Internet or a private Intranet.
- *Content is easily updated.* This is perhaps the single biggest benefit to Web-based learning and training. In today's fast-paced business environment, training programs frequently change. With CD-ROM and other forms of training and learning, the media must be reduplicated and distributed again to all the students. But with web-based it is a simple matter of copying the updated files from a local developer's computer onto the server-computer.

Based on the previous report of FYP by Kiranjeet Kaur, a student from UTP, he stated in his report a research by Dr. Suzana from University of Malaya. in the year 2003, she pointed out that using online based system as an assessment and reporting tool will indirectly save the environment. In my opinion this is true because it saves a lot in environment because all data and documents are in electronic form compared to hardcopy which uses paper from tree that has been cut down. This will motivated a lot of users as well as web developer to turn to web-based learning system. Besides free, because of the software used, the language programming sources are free, an online assessment and reporting tool could lead to lesser time consumption of students printing their task as well as lesser money consumption to spend on papers and binding, according to Dr. Suzana again.

Many practitioners of knowledge management increasingly see “knowledge sharing” as a better description of what they are about than “knowledge management”. As what has been pointed by Stephen Denning and Butterworth Heinemann, October 2000, knowledge is not just an open tangible “thing”, like information, but information combined with experience, context, interpretation and reflection. It also involves the full person, integrating the elements of both thinking and feeling. So this is why knowledge sharing is important. Other people can combined with others experience, context and reflection to gain full benefit of knowledge of any area. Denning also pointed that “Others would prefer to emphasize “learning”, since the real challenge in implementing knowledge management is less in the “sending” and more in the “receiving”, particularly the processes of sense making, understanding, and being able to act upon the information available”.

CHAPTER 3

METHODOLOGY / PROJECT WORK

3.1 Methodology of Study

The suggested system development methodology for the system is the Rapid Application Development methodology (RAD). This methodology is a compression of series of short, iterative development cycles which consists of analysis, design, build and test phases. Basically, RAD is a better and proper method because it significantly trying to meet rapid changing requirements by users as well as to arrange the appropriate timeline for this project.

3.1.1 Planning

Planning phase is related on the source of the project, identifying the problems faced and determining the objectives of the project to overcome the problems faced. In this phase, gathering information from friends and lecturers are also conducted by the author to get the main idea, capability and feasibility of the project.

A broad idea to avoid those types of problems as the author mentioned earlier in the Problem Statement section has been raised by doing researches or preliminary studies. Researches and preliminary studies

were done through the internet, articles, and books from the UTP Library. During this study, a suitable initiative has been chosen which is to make web-based system to solve or reduce the problems. The purpose of this study is to obtain as much information in order to find the solution to solve or reduce the problems.

3.1.2 Analysis

User requirements as well as systems requirements information are gathered and documented in this phase. Research and literature reviews about related information of the system are studied by gathering journals, books, articles, and surfing through the internet. Main areas of studies for this project are implementation of web-based system, PHP (PHP Hypertext processor), web and database servers, database software and other related hardware devices such as computers. Software and hardware which will be used for the project development could also be determined during this phase.

Basically, short interviews were also done during this phase. The major target for the interview is to identify the difficulties faced by students when searching for knowledge resources. Besides, how students and lecturers share information and knowledge are also addressed in the interviews.

3.1.3 Designing

In this phase, storyboard of the system is drafted based on the information gathered during analysis phases. Draft of the system interface and algorithms of the system will also be identified during this phase. The sub-systems and functional part of the system will be

developed. The designing part will start at building a database to store information. Then, the system interface will be developed followed by developing coding and source code for the system. Continuing the design part, the next step is to configure database connection to the system so that the system will allow the connection between the database and computers (interface). After all the functional parts developed is combined, the whole system will be up and running.

In this phase, the web development software (Macromedia Dreamweaver MX 2004), the database software (MySQL), the web and database servers (Apache Server) are installed in a single computer.

3.1.4 Construction and Testing

This phase is where the real development of database and interfaces is done. All the data and information related to projects, thesis and lesson learnt are gathered and exported into the database. The configuration on the database is also done. This is to make sure that the system interface and the interface are connected to each other. The interface is developed using Macromedia Dreamweaver because it is easier and the features it gives are understandable and easy to implement. Furthermore, it is compatible with PHP and Java Script.

During testing phase, the functionality and reliability of the system will be tested on the computer. First of all, the White-box testing will be used in this phase to test the internal functionality and the basic structure of the system. This includes the codes testing, to ensure the software runs accordingly to the requirements and process, and to find out which unit/statement/chunk of the code is malfunctioning.

The Acceptance testing is then conducted to allow the end-user or customer to decide whether to accept the product or not. In this stage, two types of testing have been conducted; *Alpha testing* and *Beta testing*. In Alpha testing, the potential users of the system will typically test the system (internal acceptance) before the software goes to beta testing. In this case, the author had done the test with some students. In Beta testing, the beta version of the system will be released to limited outside users. Further testing will be conducted in Beta testing to ensure the product has few faults or bugs.

3.2 Methodology of Implementation

3.2.1 Data Gathering

Abouchedid and Nasser (2002, p. 200) points out that the procedures to obtain the feedback from a clustered sample of ICT/BIS students is an adaptation of the methods introduced in to suit the current setting of student population in UTP. The following describes the steps involved in each phase:

a. Questionnaire creation

A questionnaire consisting of was prepared and administered to ICT/BIS final year students randomly (See Appendix A). The first part sought to obtain standard demographic and background information of course and year. Names and contact details were left optional for respondents and its purpose explained as merely for contacting respondents who did not complete the questionnaire or there was a need to clarify certain opinions pertaining to the answered questionnaires.

The second part of the questionnaire had 4 questions, which sought to understand respondents' perspective on the implementation of a new online project assessment and guidance reporting tool to help students

achieve their targeted results. The questions in this part can be categorized into the following:

i. Control Questions

There are three control questions, namely Question 2, Question 3 and Question 4 in the questionnaire, which will be used to determine whether feasibility of implementing proposed reporting tool.

ii. Perception and awareness

For question 5, respondents were asked to offer the criteria which would determine the effectiveness and the usability of a proposed online project assessment and guidance reporting tool reporting tool.

3.2.2 Questionnaire Distribution

i. Sample selection

A sample representing 0.6 percent of the total population of UTP students and was selected based on cluster sampling techniques in which a minimum quota of 30 respondents from final year first semester and second semester were selected to represent population of ICT/BIS students who will be primary users of the proposed system. This satisfies the internal validity criteria as opinions from all levels of background were selected to account for students' perceptions and opinions.

ii. Distribution and collection strategies

In order to minimize classroom disruptions, the researcher sought out representatives to act as agents to distribute and collect the questionnaire. The main weakness of this

procedure was that some respondents did not understand the questions posed and therefore did not respond accordingly.

3.2.3 Data Analysis & Interpretation

For control questions and levels of interest, quantitative measures of causality and perception and awareness, data is summarized by categorizing students' opinions into similar answers and relevant points will be highlighted in Results and Discussion.

3.3 System Hardware and Software

3.3.1 Minimum Software Requirements

3.3.1.1 Database Application

The database will enquire MySQL as the database program and Apache as the hosting. The advantages of using MySQL are as follows:

- MySQL is similarly easy to understand and learn.
- MySQL can support large databases of 50 million rows or more.
- MySQL is compatible with the vast majority of operating systems (UNIX, Windows etc.).
- MySQL is freely available under the GNU GPL (General Public Licence) and can be tailored to suit individual requirements and personally customized under the terms of the licence.

3.3.1.2 Coding Language

The suitable programming languages for the system are PHP and Java Script. PHP Hypertext Processor is a server-side web programming language that can be embedded into HTML. PHP uses are widespread, and can include any kind of

server functionality that takes user's input and displays or manipulates the input. PHP can run on both UNIX and Windows servers, which makes it more accessible than Windows (ASP). This scripting language is growing day by day.

Another plus of PHP is that the language interfaces very well with MySQL, a popular type of online database. MySQL is a commercial trade database application that is made available free under the Open Source to anyone. Another plus of PHP is that it is Open Source Code. The actual code that is PHP is available to the public for free, while the source code for products such as ASP is not. So PHP is very cheap. Because PHP is open source, there is a large community of PHP programmers that help each other with code. This means PHP programmers can rely on each other by using reusable pieces of code called functions and classes rather than constantly reinventing the wheel.

This can dramatically cut down on production time. PHP is based on C++ language and the syntax used in PHP is quite similar to C/C++. C/C++ is still considered the best programming language by many programmers and people who love this language would surely feel more comfortable with the syntax of PHP. PHP and MySQL are excellent choice for webmasters looking to automate their web sites.

3.3.1.3 Macromedia Dreamweaver MX 2004

This software is used to develop the user interface for the system. This is the ideal software to use when developing system with PHP.

Some features of Macromedia Dreamweaver MX 2004 are:

- CSS support is vastly improved, making it easy to create and edit styles.
- Cut and paste directly from Word and Excel - preserving fonts, colors, and styles.
- Secure FTP encrypts file transfers to help make your site more secure.
- Support for XHTML, XML, ASP, PHP, and SQL with code libraries and color coding.

- New start screen makes it a snap to access most recently edited files and more.

3.3.1.4 Adobe Photoshop

This software is used to create and enhance the banner of the web-based system or any images or graphics that will be included in the web-based.

3.3.1.5 Macromedia Flash 8

This software is used to create movie file of the banner (*banner.swf*). The banner will look more lively and interactive

3.3.2 Minimum Hardware Requirements

Operating System	: Window XP Professional 2002
Processor	: Intel Pentium 4 2.8 GHz
Memory	: 1024 MB DDR RAM
Hard Disk	: 80 GB

3.4 System Architecture and Design

3.4.1 Use Case Diagram

The Use case diagram is used to “identify the primary elements and processes that form the system” (James, 2002). The developer wants to represent the functionalities of the system in a simplified and easily understandable manner to understand the functional aspects of the system at hand. While developing the use case diagram, significant characteristics in the system were discovered and this will further help with the design of the system.

The preliminary investigation conducted helped in the design of the system as the use case diagram shows and depicts what are the

functionalities of the system. The user requirements gathered are showcased in Figure 1. Each use case represents the functions available in the system, who are the users of the system and what functions are available for their use.

As a conclusion, with the help of preliminary investigation that took place, user requirements were gathered and with the help of use case diagrams, the user requirements were finalized and they were defined and modeled which will lead to the proper development of the prototype of the system.

3.4.1.1 User Module

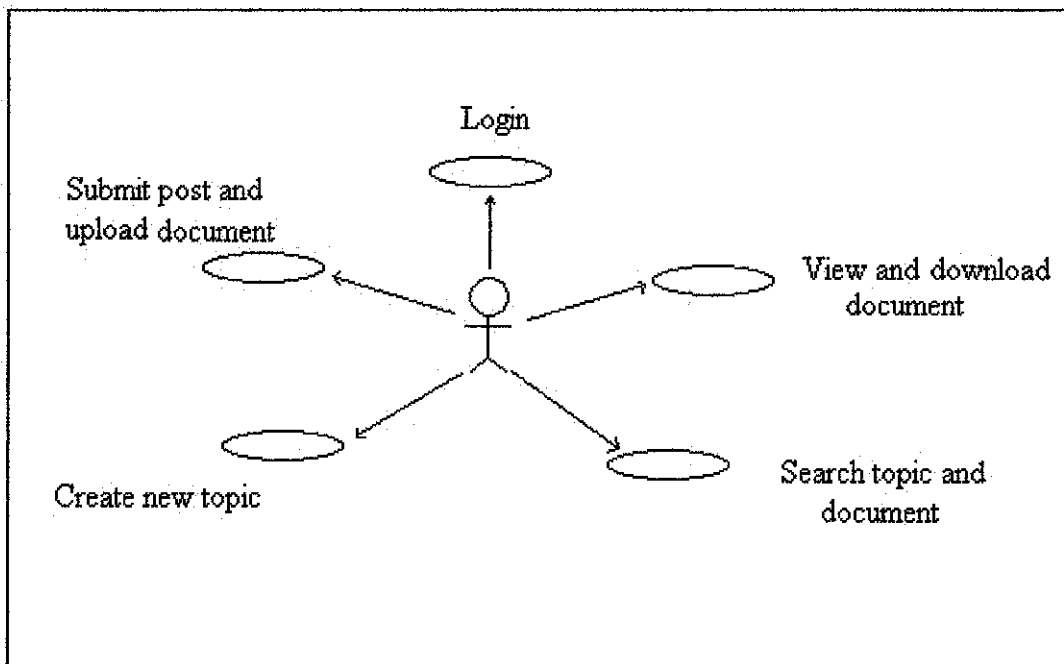


Figure 3.4.1.1: User Use Case diagram

3.4.1.2 Admin/Moderator Module

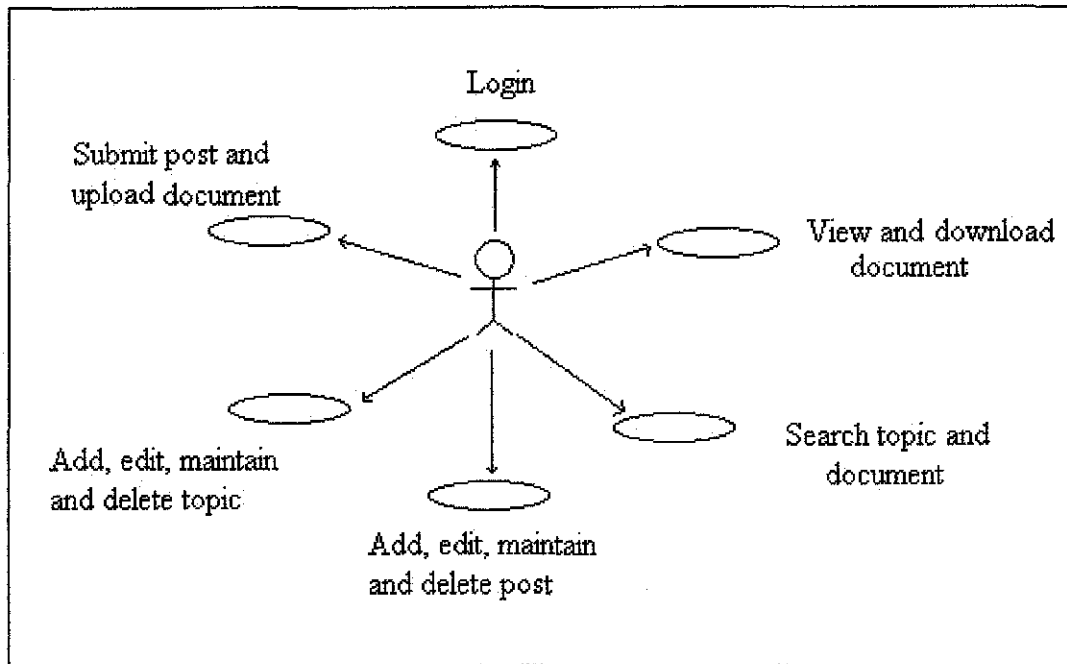


Figure 3.4.1.2: Admin/Moderator Use Case diagram

3.5 Comparative Study of Available Tools

Research on technical matter explains the reasons as to why the programming language, database server and other relevant technical matters are chosen. This section explains to the reader in detail what made the developer chose and why it was chosen to help with the development and implementation of the system at hand.

3.5.1 Programming Platform Used (ASP.NET)

ASP.NET is a set of .NET classes used to create Web-based, client-side (Web Form) and server-side (Web Service) applications. ASP.NET was derived from the Microsoft Active Server Pages (ASP) Web technology and adapted for use in the .NET Framework. Even though ASP.NET takes its name from Microsoft's old web development technology, ASP, the two differ widely. Programmers can write ASP.NET code using any of the different programming languages supported by

the .NET framework, usually Visual Basic.NET, JScript .NET, or C#, but also including open-source languages such as Perl and Python. ASP.NET encourages the programmer to develop applications using an event-driven GUI paradigm, rather than in the conventional web scripting fashion. ASP.NET uses the .NET Framework as an infrastructure. The .NET Framework offers a managed runtime environment, providing a virtual machine with JIT and a class library, like JAVA

There are ever so many reasons to select ASP.NET as a project platform to develop this Online Project Assessment & Guidance System. Some of ASP.NET's main competitors are Perl, Microsoft Active Server Pages (ASP), PHP Hypertext Preprocessor (PHP), Java Server Pages (JSP), and Allaire Cold Fusion. In comparisons of these languages, ASP.NET has much strength including the following:

- Improved Security.
- ASP.NET is part of the .NET Framework.
- Multiple language support.
- Cross-Language Compatibility.
- ASP.NET pages are compiled. Ease of configuration.
- Code-behind logic.
- Browser-independent applications.
- Memory leak, deadlock, and crash protection.
- Performance and scalability.
- Simplified deployment.

Through the research that has been carried out, it allows the developer to analyze as to why ASP.NET is the appropriate language to be used in developing my system. By analyzing the benefits of the web development language it is found suiting the developers programming needs. Not only does ASP.NET allow the developer to finish the work faster (after which the developer understood the language thoroughly well), ASP.Net allows the developer to re-use codes, which

also leads to faster deployment of the system. Another way on how ASP.NET improves efficiency is by pre-compiling and dynamically compiling codes when a page is requested, allowing for faster response. The developer was working on developing a system that will allow her to implement a faster responding system, so as to that this is a suitable language for the system.

Even if PHP is open source, ASP.NET is also available for free over the internet, so that is not a reason for the developer to divert to using PHP. As a conclusion it is understood that ASP.NET is the most appropriate language for the deployment of the system at hand not only because it will provide the developer with a more efficient system but also due to its security features.

3.5.2 Database Server Used (Microsoft SQL Server)

Microsoft SQL Server is a relational database management system produced by Microsoft. It supports Microsoft's version of Structured Query Language (SQL), the most common database language. MS SQL provides many benefits to its users, allowing for more reasons as to why the database server is used widely among developers. The many benefits of MS SQL are:

- Scalable from Laptop to cluster
- Replication Services
- Full-Text Search
- Ease of use

3.5.3 Internet Server Used (Internet Information Services Server)

Microsoft Internet Information Services (IIS, sometimes Server or System) is a set of Internet-based services for servers using Microsoft Windows. It is the world's second most used web server in terms of overall websites but most widely used web server for corporate, commerce and secure websites.

As comparison to Apache server, there is not much that can be said about which server is better. Both have their positive properties but, the IIS server does come

across as a better server in certain areas compared to the Apache server. It fully depends on what programming platform or what operating system one is using. Like in the case of this project, ASP.NET is used and ASP.NET and IIS server work together, hand in hand. The compatibility level is far more superior compared to using Asp.NET and Apache server.

Analyzing all the facts, IIS server is better to be used to develop this particular system compared to the other servers because of its compatibility reasons.

CHAPTER 4

RESULT AND DISCUSSION

Records gathered from the feedback of system's primary end users (students) was compiled, analyzed and summarized to give good reason for the feasibility of implementing K-Center to guarantee that the system's goals is met. Results from the attempted data gathering techniques, namely, surveys and response from prototypes will serve to determine user requirements and used as a starting point to determine the effectiveness and usability of the system. The response analyzed through the surveys is as shown below in the form of pie charts.

4.1 Pie Charts

These pie charts are derived from the respondents view and opinion through the Questionnaire handed out to them. A pie chart was derived for each question to get a better understanding on the primary end users view on the current system and functionalities that they expect to be in the proposed system. This survey was carried out among 30 ICT/BIS students.

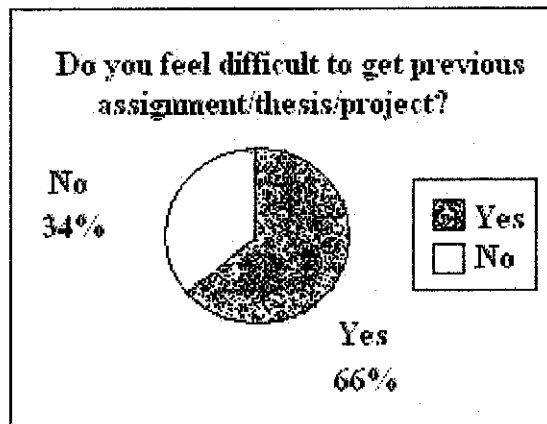


Figure 4.1.1: Knowledge accessibility

About 20 respondents agree that they having difficulties in finding previous assignment/thesis/projects while another 10 respondents disagree because they do it not often. Having a knowledge sharing forum will encourage students to upload their projects and students will find it easy to get previous projects.

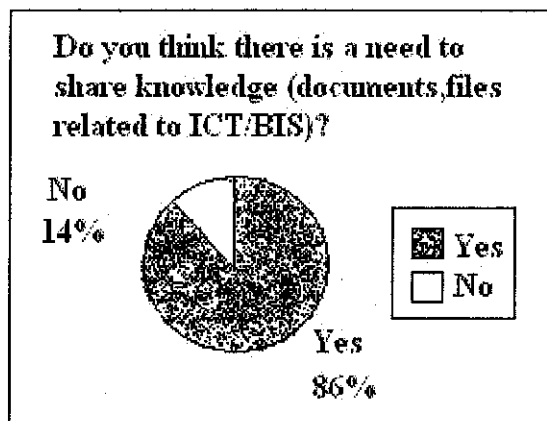


Figure 4.1.2: Title selection

About 26 respondents agree that education knowledge should be share among the students while 4 respondents disagree. Knowledge sharing is agreed by majority because it will benefits students and help them in their learning process.

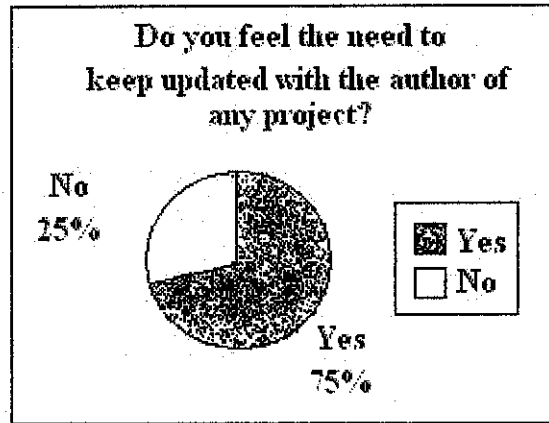


Figure 4.1.3: Students communication with project’s author

23 respondents agree that they need to keep updated with the author of the project while another 7 of them disagree. In forum, user can communicate and having private discussion with the project uploader through message function.

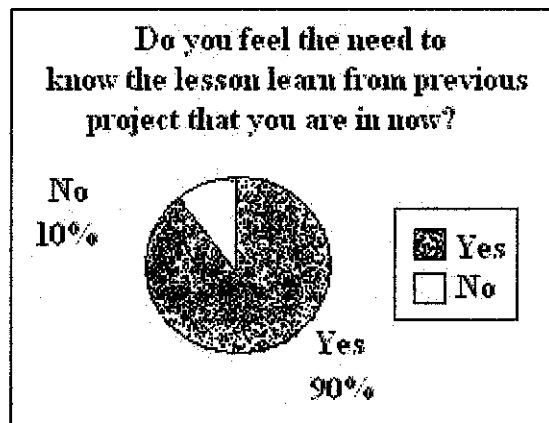


Figure 4.1.4: Lesson learnt and experience gain

27 respondents feel the need to know the lesson learnt from previous project and another 3 respondents are disagreeing. In K-Center, user can obtain the lesson learnt from the user post and there are search functions available in the forum.

4.2 Use Case Specifications

Use case specifications allow for better understanding of the flow of events that take place in a system. The use case specifications are as a reference to the sequence diagrams that are attached at the later part of this documentation. The use case specification is used to understand the possible set of event that can take place in the system.

4.2.1 User Module

4.2.1.1 Use Case: Upload Files

Description: This use case is for students to upload files

Author: Kamarudin Jaafar

Actor(s): A student

Location(s): UTP

Status: Pathway defined

Priority: (1)

Assumptions: A student has to be logged into the system to upload.

Precondition(s): Students has to log in and selects to upload files.

Post condition(s): The schedules will be displayed

Primary (happy) path: Student is able to view the schedules after clicking on the function.

Alternate pathway(s): None

Exception pathway(s): Error while uploading.

Happy Path Flow of Events

Student is able to view the schedules after clicking on the function.

1. Student logs in with valid username and password
2. Main menu will be displayed.

3. Click on the upload files link and upload files.

Exceptional Path Flow of Events

Error while uploading.

1. Student logs in with valid username and password
2. Main menu will be displayed.
3. Click on the upload files link.
4. Upload files.
5. Files unable to be uploaded.

4.2.1.2 Use Case: Download Files

Description: This use case is for user to download files available.

Author: Lim Hwei Hwa

Actor(s): A student

Location(s): UTP

Status: Pathway defined

Priority: (1)

Assumptions: A student has to be logged into the system to upload files.

Precondition(s): Student has to log in and selects to download files.

Post condition(s): The schedules will be displayed

Primary (happy) path: Student is able to view the schedules after clicking on the function.

Alternate pathway(s): None

Exception pathway(s): Error while uploading.

Happy Path Flow of Events

Lecturer is able to view the schedules after clicking on the function.

1. Lecturer logs in with valid username and password
2. Click on the upload files link.

3. Upload files.
4. Files uploaded.

Exceptional Path Flow of Events

Error while downloading.

1. Students logs in with valid username and password
2. Click on the upload files link.
3. Upload files.
4. Files unable to be uploaded.

4.3 Class Diagram

The class diagram here shows the static existence of classes, class categories, and their relationships. This diagram would provide the readers with a clearer picture on the functionalities of the system and how they operate.

4.3.1 Use Case : Upload Files

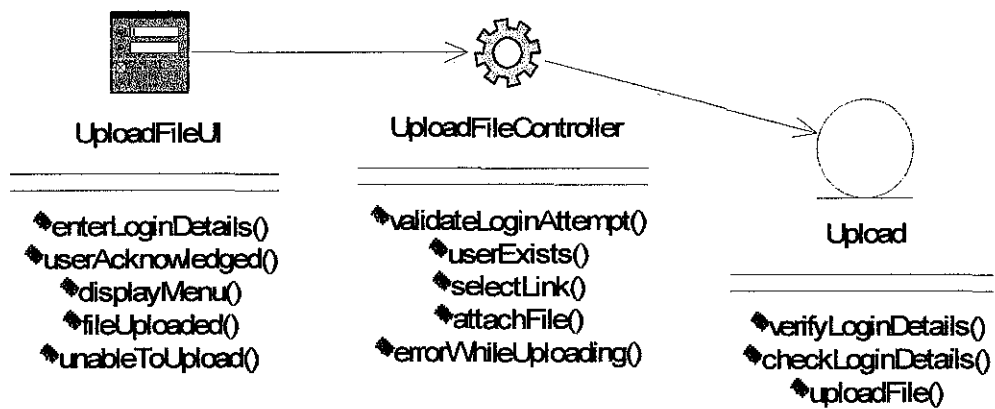


Figure 4.3.1.1: Upload File

4.3.2 Use Case : Download Files

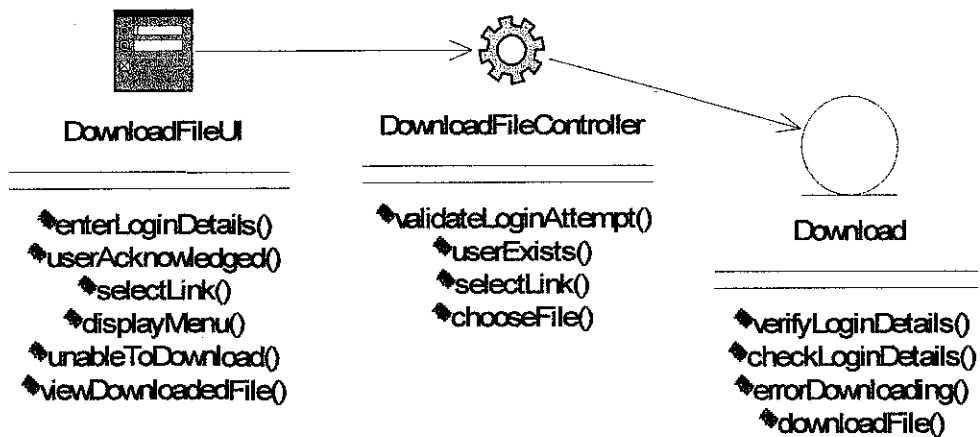


Figure 4.3.1.2: Download File

By using this system, it will definitely enhance the usage of online technology. This is one of the advantages of the system. Some security features have been implemented inside this system which is the password to login – this is for ICT & BIS students, lecturers and administrators only. This login will verify that not all the staff of UTP can see the information and that only the right person can view and access the page where there would be an access privilege.

4.4 Sequence Diagram

The sequence diagram shows how the objects interact with others in a particular scenario of a use case. The sequence diagrams were used to show the behavior of the system. To show the reader as to how the interaction takes place in the system, the sequence diagrams were used. These diagrams allow the user to understand what interaction and when the interaction takes place. The analysis sequence diagrams show the reader the interactions in a simplified manner. Design sequence diagrams allow the reader to see what needs to be implemented in the system and what interaction takes place from the developer's point of view. The diagrams attached here are concerning the core functions of the system.

4.4.1 Student Module

4.4.2.1 Use Case: Upload Files

Happy Flow of Events

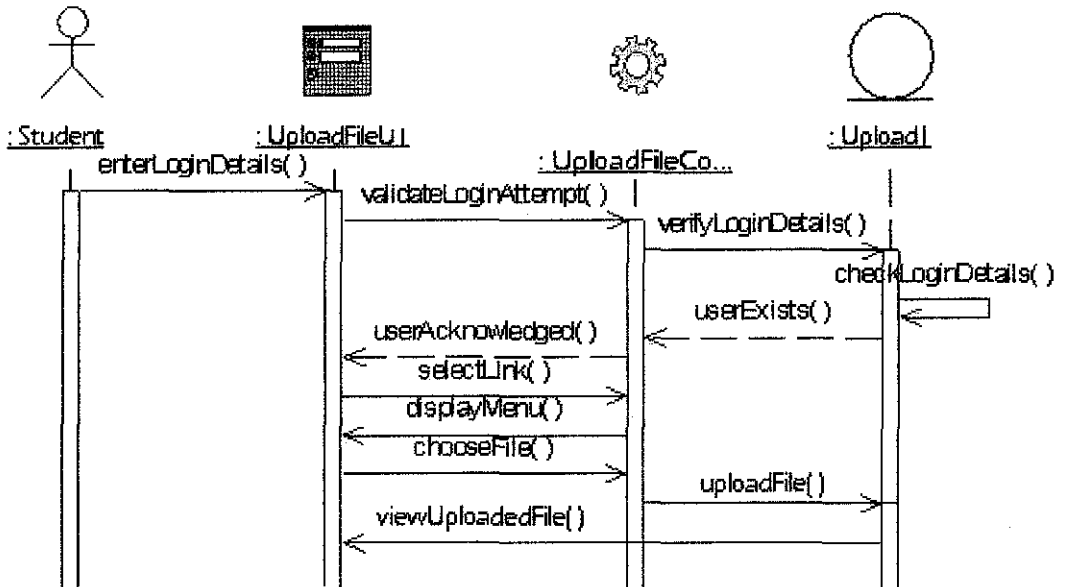


Figure 4.4.2.1.1 : Use Case Upload File: Happy Flow of Events

Exception Flow of Events

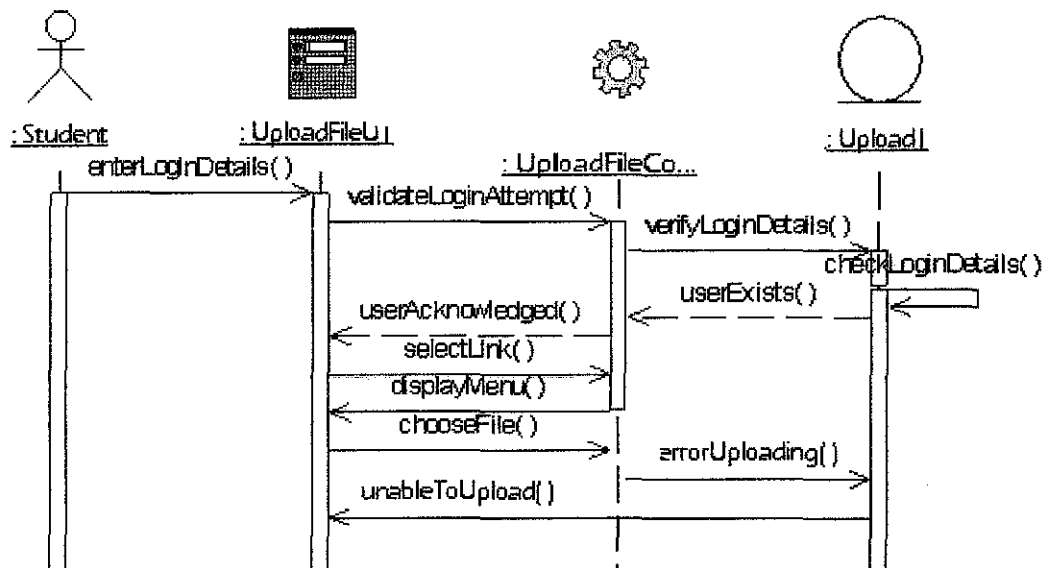


Figure 4.4.2.1.2: Use Case Upload File: Exception Flow of Events

4.4.2.2 Use Case: Download Files

Happy Flow of Events

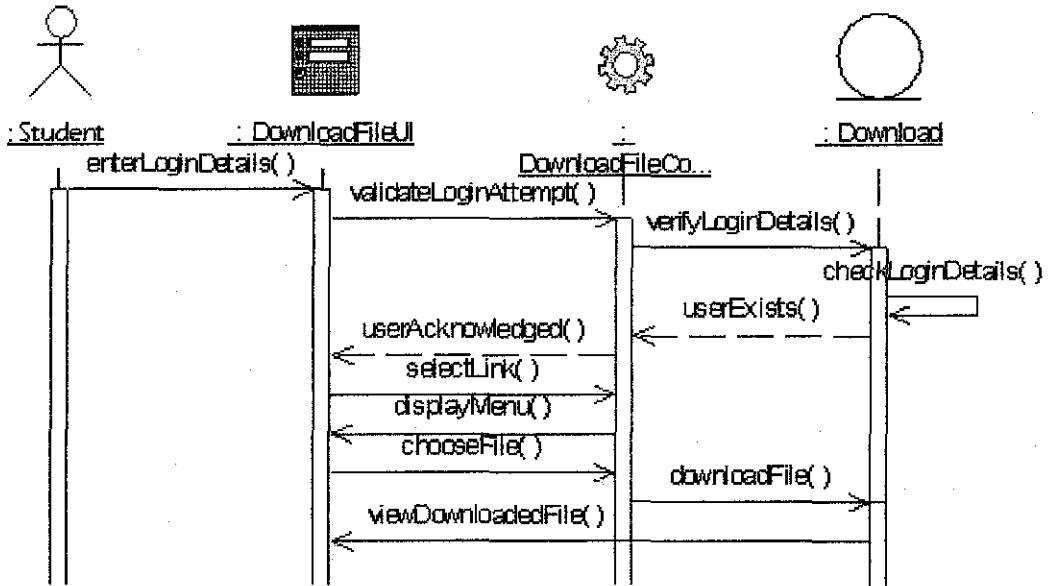


Figure 4.4.2.1.3: Use Case Download File: Happy Flow of Events

Exception Flow of Events

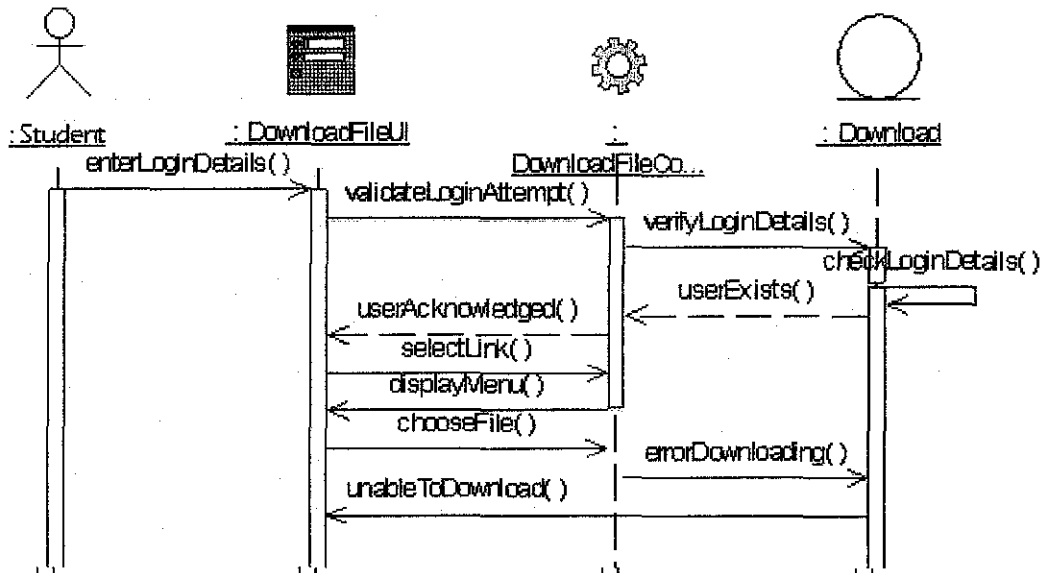


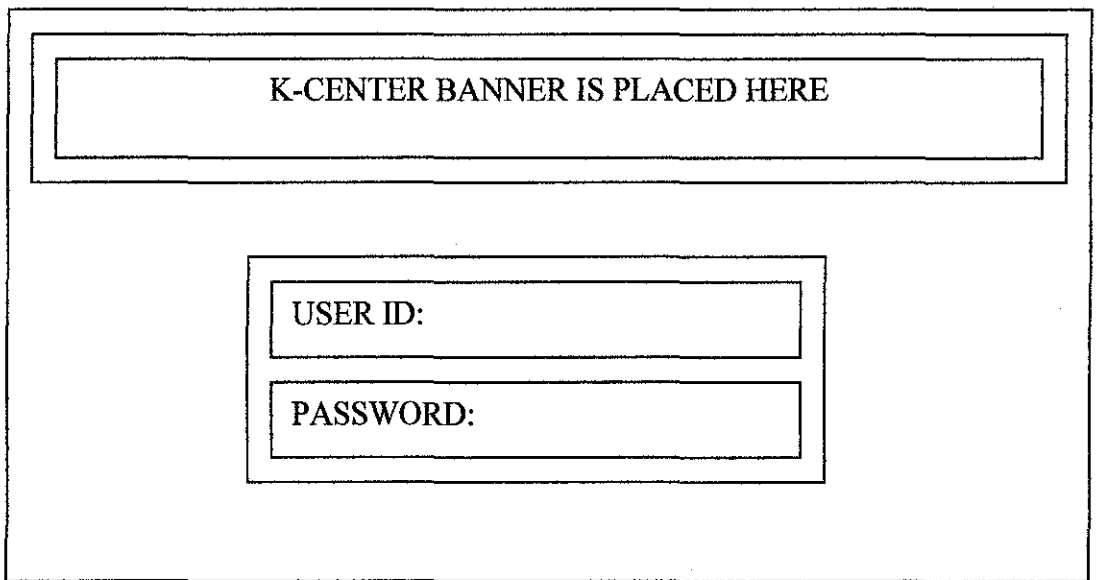
Figure 4.4.2.1.4: Use Case Download File: Exception Flow of Events

4.5 Interface Design

It is important to design the interface so that time is not wasted trying to figure out what the system should look like. The interface designs shown here only concern the login and main page as the design is standardized.

4.5.1 Storyboarding

4.5.1.1 Login Screen



The diagram illustrates the layout of a login screen. It features a large outer rectangular frame. At the top, there is a horizontal rectangular box containing the text "K-CENTER BANNER IS PLACED HERE". Below this banner, centered within the main frame, is a smaller rectangular box. This box contains two vertically stacked input fields. The top field is labeled "USER ID:" and the bottom field is labeled "PASSWORD:". Each input field is represented by a horizontal rectangle with a thin border.

Figure 4.5.1.1: Login Screen Design

4.5.1.2 Other Screens

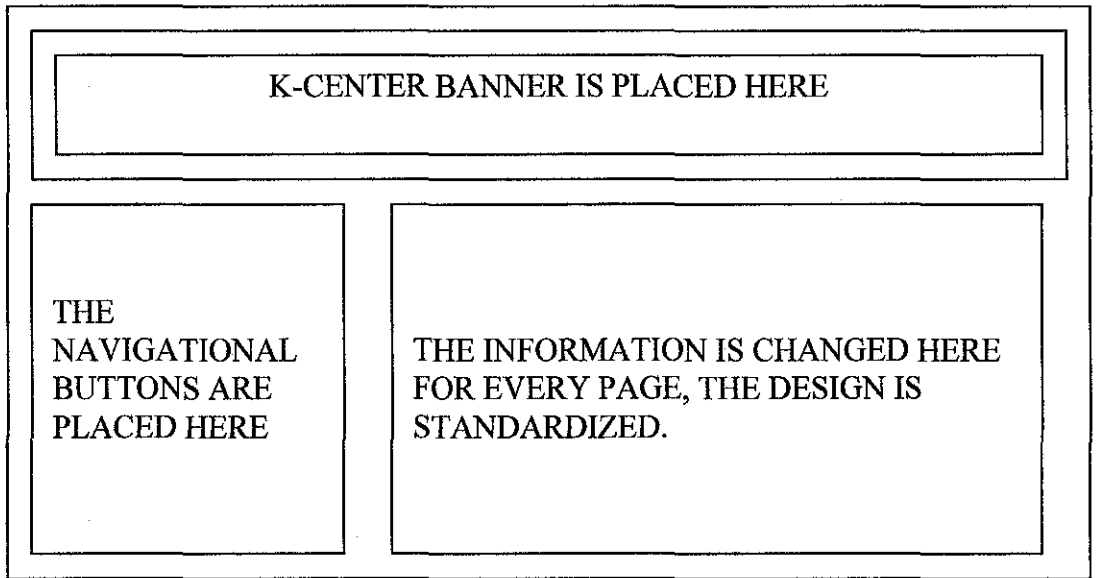


Figure 4.5.1.2: Other Screen Design

4.6 Screen Shot

4.6.1 Login page

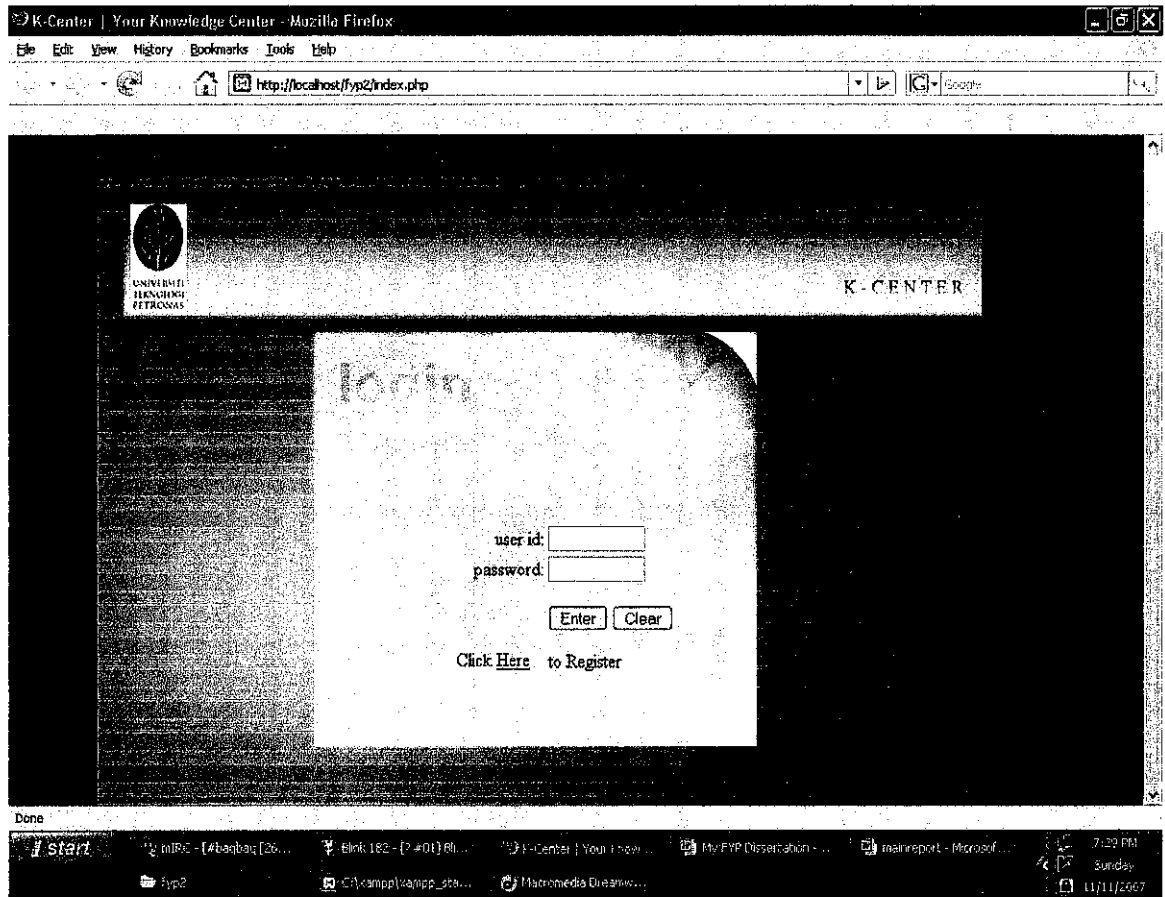


Figure 4.6.1.1: Login Page

This is the first page (index.php). The user will have to enter user ID and password in order to login to the system. New user can register by click at the link available at the below and they will be directed to the registration page.

4.6.2 Main page

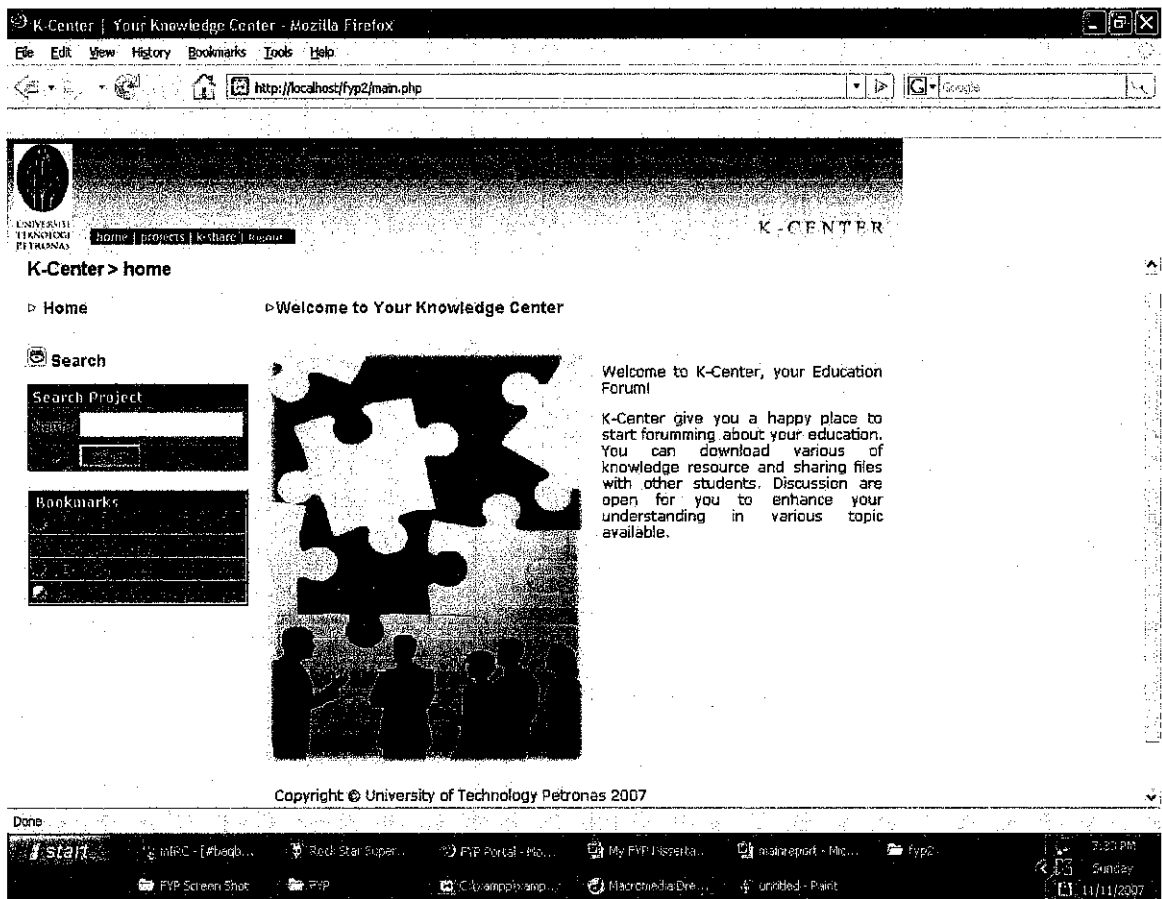


Figure 4.6.1: Main Page

The main page, namely home.php, will include a brief introduction about the forum. At this main page, student can search for articles, documents or project needed.

4.6.3 Project page

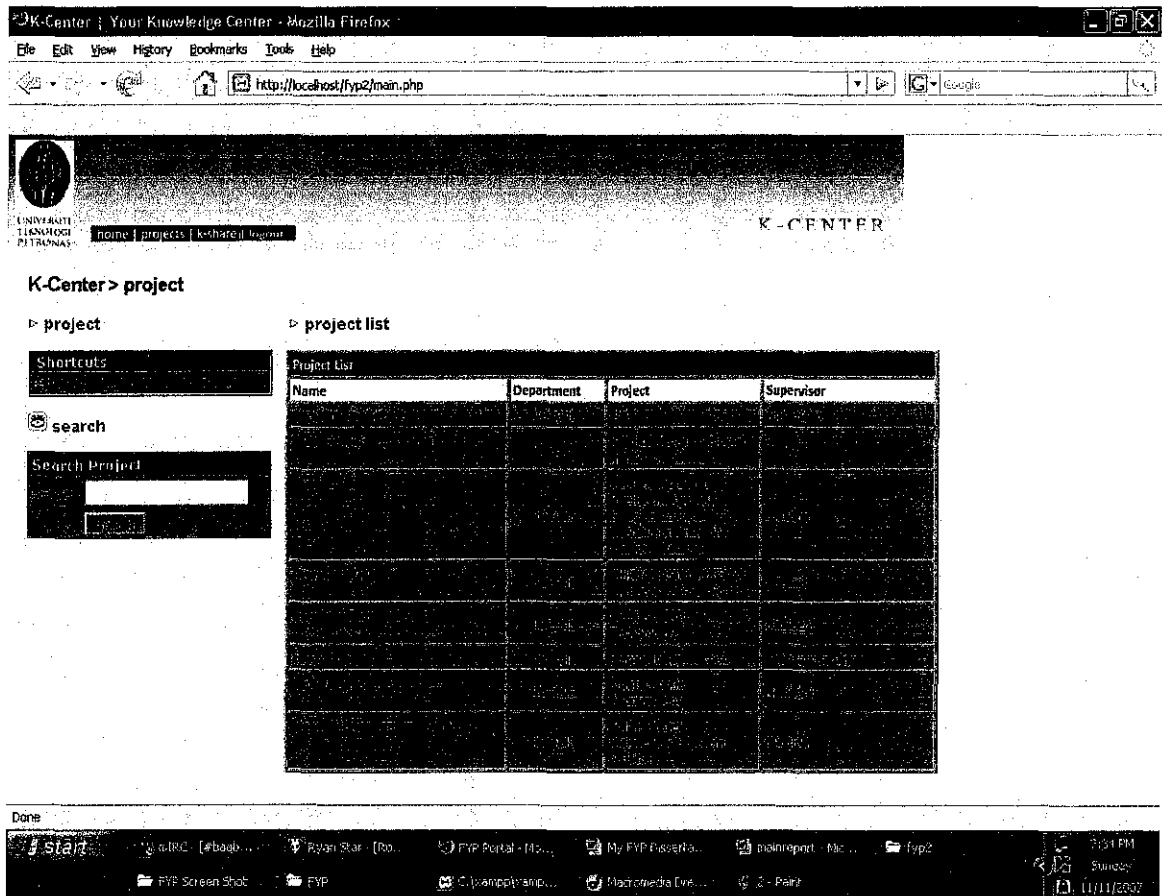


Figure 4.6.3.1: Project Page

The project page will enable the students to search and view projects. When the user clicks on the names, the project detail page will be redirected.

4.6.4 Project Details page

K-Center > Your Knowledge Center - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://localhost/fyp2/main.php

UNIVERSITI TEKNOLOGI PETRONAS

Home | projects | k-sharif1 logout

K-CENTER

K-Center > project

project

project list

Project Detail			
Student's Name:	abu hanifah	Supervisor:	Sharifah Bahyah
Topic:	semantic approach foy fyp	Software/Tools Used:	JSP,Macromedia Dreamweaver,Apache

Brief Description :

Problems and Opportunities Retailers and consumer products companies lose an average of 5 percent of their total sales each year due to so-called stock-outs (McCullagh D. 2003). This is due to lack of efficiency in inventory control. If there is a way computers can sense that stock is running low automatically, restocking of the product can be done immediately. By doing so, retailers would no longer have to rely on employees to monitor their shelves. Furthermore, information can be received and processed real-time. In a warehouse, normally goods are arranged according to specific category or sequence of numbers. Therefore, by arranging in such a way it is utilizing valuable warehouse space. With a system that can track and monitor goods, it means goods can be placed according to shapes and sizes thus eliminating the wastage of valuable warehouse space. With these capabilities of tracking, therefore my system will be focusing on access control tracking. This means to allow access after scanning the RFID. Aim My project is to develop a tracking system that would address tracking related issues. However the application of my system would possibly not be developed specifically for issues stated above. On the other hand, the involvement of my system will be to prove a concept that the tracking involved, would be very helpful in place to manual conventional systems. Challenges The main challenges in developing such a system is to find a suitable environment to test run the system, issues such as where to place the transmitter and the accuracy of information being transmitted. Another challenge is to program the transponders with the correct information and right frequencies so that the response is not interfered by other radio frequencies circulating within an area.

File name : [no file attachment]

Done

start

MYPC - [abagh...]

Ryhan Rafi - [Ro...]

FYP Portal - [No...]

My FYP Dossia...]

mainReport - [No...]

fyp2

7:34 PM

Sunday

11/11/2007

FYP Screen Shot

FYP

C:\transp...amp...

Macromedia Dre...

3 - Paint

Figure 4.6.4.1: Project Details Page

At this page, student can read the detail of the project and download the attach file.

4.6.5 Knowledge Share page

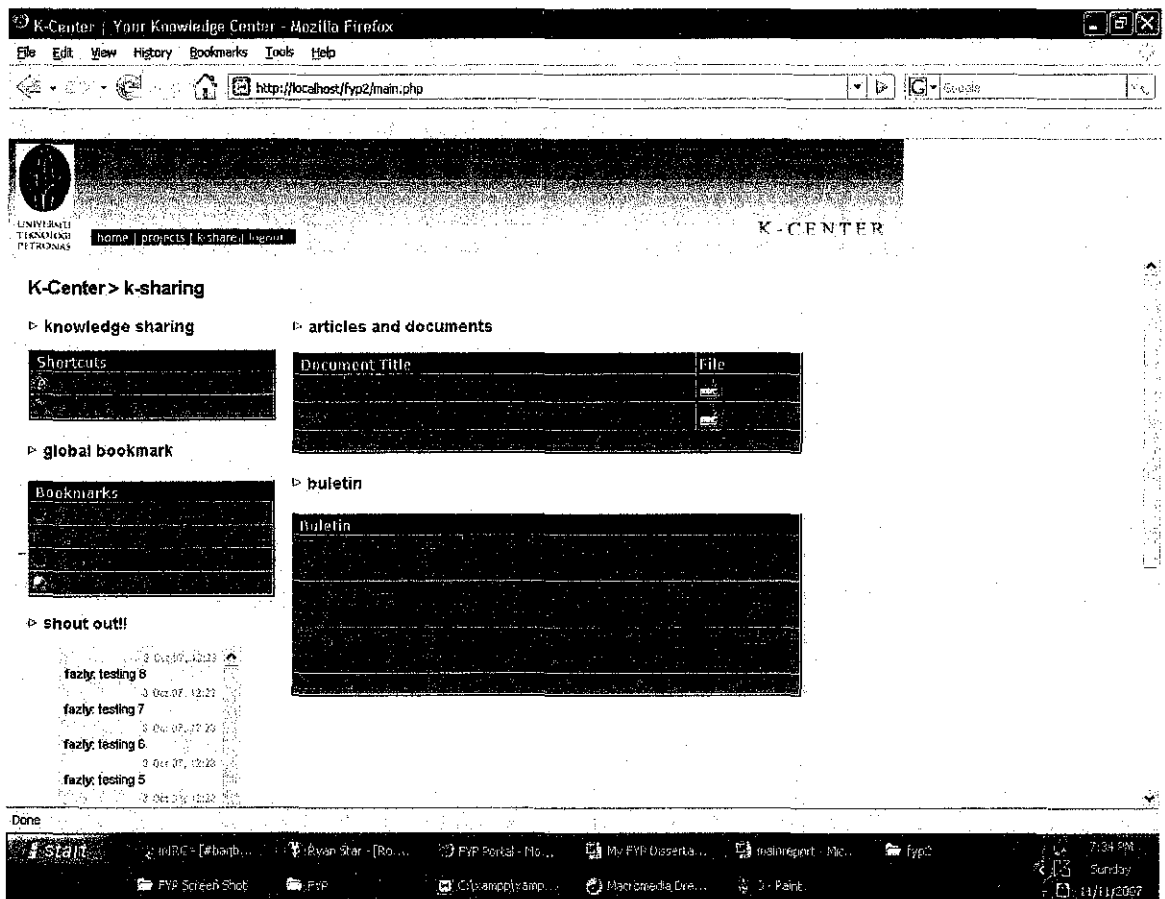


Figure 4.6.5.1 Knowledge Share page

Knowledge share page which include articles and documents share/ download and bulletin board.

4.6.6 Post page

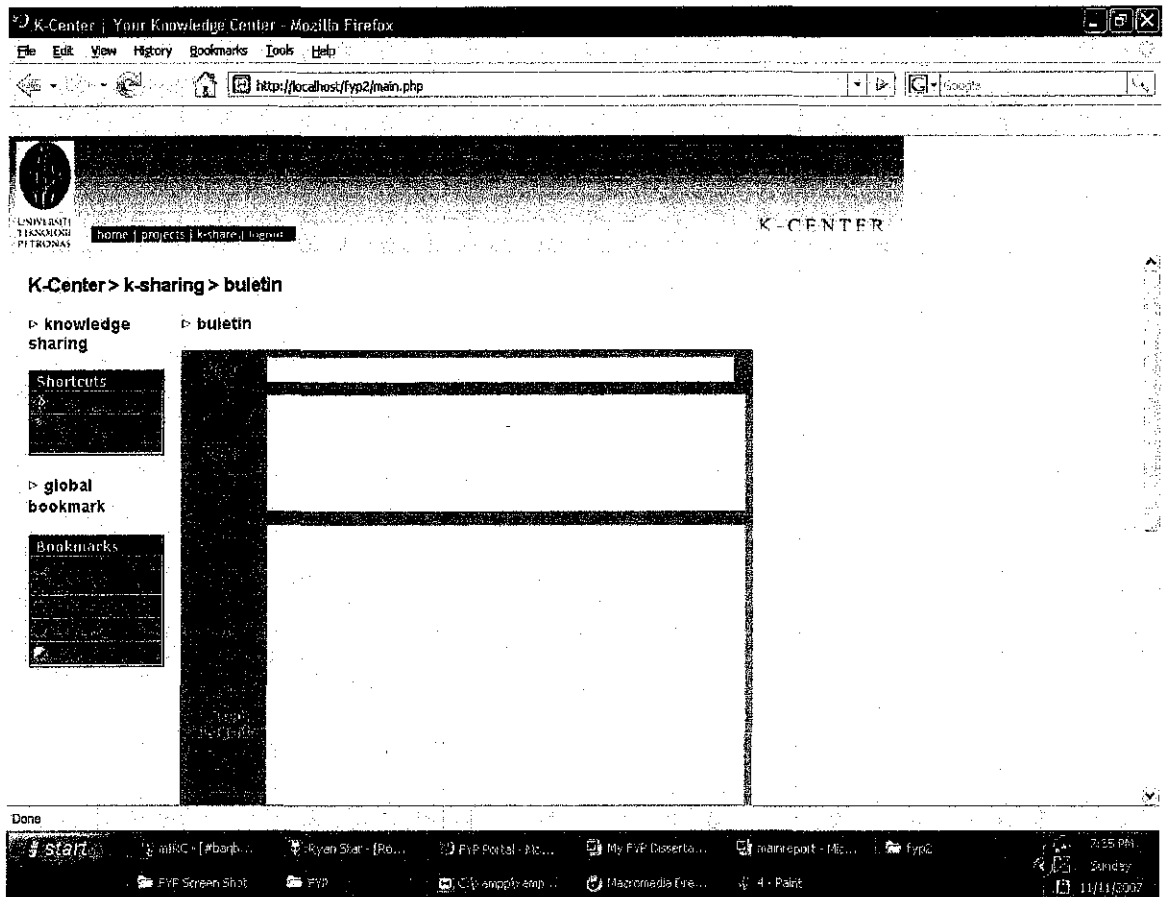


Figure 4.6.6.1 Post page

This is post page where students can post the comments for the files and the lesson learnt they had.

4.6.7 Add Articles and Document Page

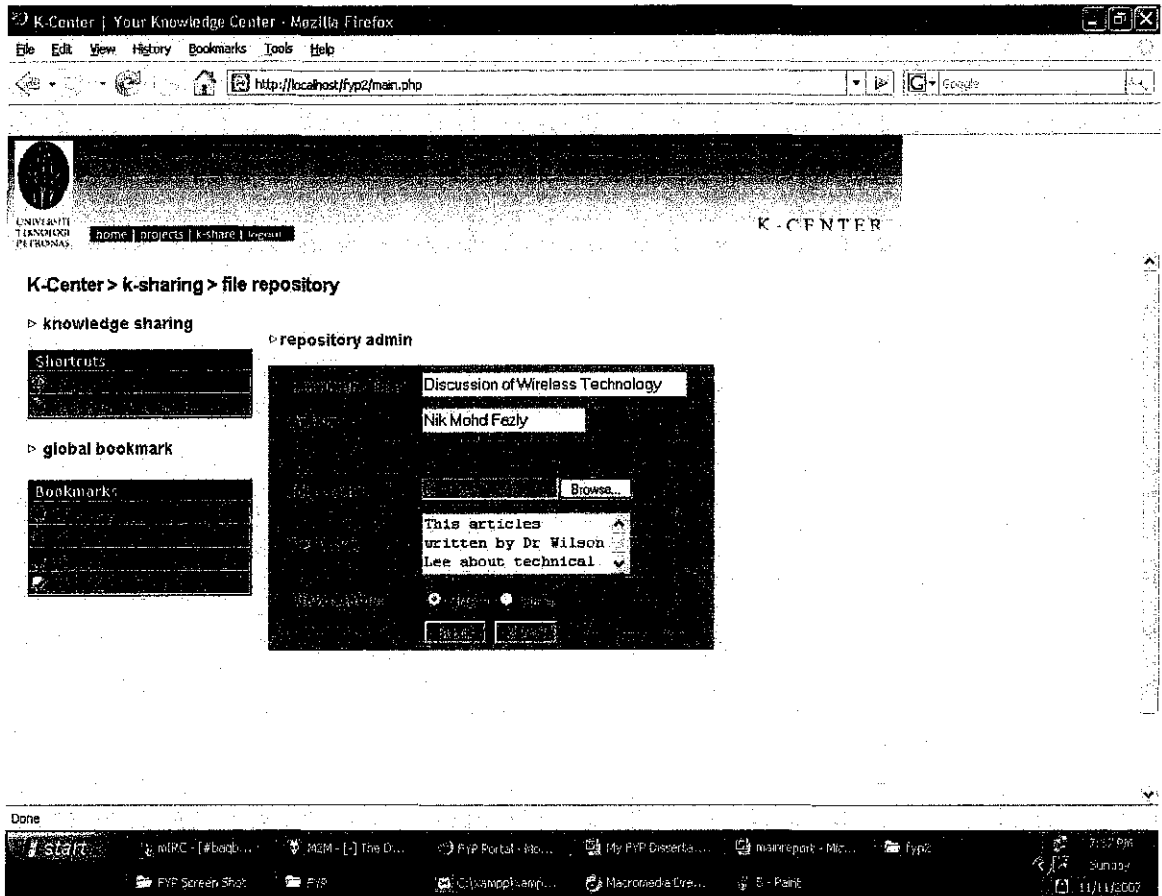


Figure 4.6.7.1 Add Articles and Document Page

By accessing this page, student can upload any documents and articles to share with all other users.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This author has reach the objectives to develop a web based that enable students to share their projects, download others projects, have forum conversations and message conversation. K-Center forum is fulfilling all the objectives targeted by the author. K-Center forum is becoming a knowledge center where students can share their projects. They can download each others projects and having discussion/conversations about the projects. It will help the students to understand more with the help from the project's author at the first place and the help from other students on the forum. K-Center forum is also having a function for the user to send messages to each other so they can benefits and having private conversations.

This forum is operating successfully in the Universiti Teknologi Petronas (UTP)'s Local Area Network (LAN). For future recommendations, hopefully the forum can be operate on the internet so there will be more outside users including the students that having their internship training. For the lesson learnt and experience gain, hopefully the knowledge filter will be handle automatically by lesson learned server. This will increase the efficiency of the knowledge sharing among students.

5.2 Recommendation

For the future enhancements, there is some recommendations offer by the author like:

- **Add search agent to aggregate the content from online database and e-resources**

Online database or e-resource is excellent sources for student to search for latest journals or work papers. Examples of e-resources currently available are ACM Digital Library, IEEE/IEE Electronic Library, IT KnowledgeBASE, Springer LINK, Science Direct and SPE e-Library. Search agent can be created to search information from online databases and e-resources.

- **Improve security features**

Security plays a crucial role in any system. A better and more secure system would be implemented in the future. For example, students and lecturers should be able to set and change their own password and not only use the one given to them. This can help others access their account easily by random guessing of passwords.

- **Provide citation function**

This function will acts like any other citation web-site. Students and lecturers can just search for any keyword in the text area and the result will based on any projects report regarding on what the user search. This would benefit the user as it returns more results than any regular search function.

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APPENDICES

Name: _____ Contact No: _____
Year: _____ Course: _____

This is a survey about the needs of having an organize knowledge center for knowledge sharing among UTP students:

1. Do you feel difficult to find any previous assignment/thesis/project?

- A- Yes
- B- No

2. Do you think there is a need to share knowledge (documents, files related to ICT/BIS)?

- A- Yes
- B- No

3. If you do some reference on a project/thesis, do you feel the need to communicate with the author of the project to keep updated?

- A- Yes
- B- No

4. Do you feel the need to know the lesson learn from previous project that you are in now?

- A- Yes
- B- No

5. If UTP run a system that will allow students to have knowledge sharing and forum conversation, what will be expectation from you about the forum?
