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 acknowledgement, and that the original work contained here in have not been undertaken or done by the unspecified sources or persons.

_____

(NUR SHAZANA SULAIMAN)

ABSTRACT

As a student in Universiti Teknologi PETRONAS (UTP), it is compulsory to undergo eight months industrial training in order to complete course requirement. This experience will provide students with valuable knowledge and skills in the designated area. However, the university does not provide a suitable environment for sharing knowledge that had been gained by these students. The current method made it hard to leverage and record the knowledge and lead to knowledge dissipation. As to date, there is no specific Knowledge Management System (KMS) that has been developed for Student Industrial Internship Programme and thus conventional method of keeping all the hardcopy documentations for Internship Final Report and Logbook Information Resource Centre (IRC) is still being used. Realizing this problem, thought was derived to develop a system that will overcome the affirmed situation. Industrial Internship Portal (IIP) is a Knowledge Management Portal for Student Industrial Internship Programme. IIP serve the functions of knowledge sharing medium, reuse of knowledge, store and record the knowledge and to transfer of knowledge among the students especially for those undergoing industrial training. The portal provides support for several purposes including knowledge sharing, promotes continuous collaboration, acquisition and also facilitates "self-kiosk" to the students, lecturers and Student Industrial Internship Unit (SIIU). The portal hosted a range of applications such as forum, discussion, blog, survey, wiki, document workflow and few other pertinent applications. This project will follow a structured approach methodology with a series of questionnaire were being created in order to accumulate relevant feedbacks and information from the aimed scope, which is the students of UTP. The IIP will be beneficial for students, lecturers and SIIU in order to improve the knowledge access and sharing as well as communication through effective collaboration, enhancing the knowledge environment and managing knowledge as an asset for the academic community.

ACKNOWLEDGEMENT

First of all, I would like to express my gratitude to Allah S.W.T for giving me strength and good health. A special thank goes to my helpful supervisor, Ms Mazeyanti Mohd Ariffin. The supervision and supports that she gave had indeed ensures a smooth progression of the final year project.

A bunch of appreciation to all Computer and Information Science (CIS) lecturers and staffs for giving directly or indirectly provides encouragement, supports and assistance to me through this final year project.

Last but not least, I would like to express a sincere appreciation to my lovely family for the continuous encouragement and supportive advices during my ups and downs.

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ABBREVIATION AND NOMENCLATURES

IIP	Industrial Internship Portal
UTP	Universiti Teknologi PETRONAS
IRC	Information Resource Centre
SIIU	Student Industrial Internship Unit
KM	Knowledge Management
KMS	Knowledge Management System
K-sharing	Knowledge Sharing
FYP	Final Year Project
UAT	User Acceptance Test

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CHAPTER 1
INTRODUCTION

1.0 OVERVIEW

As a requirement of university, it is compulsory for all students to undergo eight months industrial training. This experience will provide students with valuable knowledge and skills in the designated area. The non-existent of specific knowledge management portal for industrial training and the practice of keeping logbook on all the activities in the IRC do not promote or encourage the sharing of knowledge that is gained by students during their internship period in engineering field, technology field, management and many more. The conventional method of keeping all the hardcopy documentations for Internship Final Report and Logbook in IRC made it hard to leverage and record the knowledge which leads to knowledge loss.

IIP is a Knowledge Management Portal for Student Industrial Internship Programme. IIP serves as a tool to help knowledge organization such as UTP to improve their collaborative activities. It facilitate knowledge retrieval, knowledge reuse, exchange, sharing and transfer by allowing users (students, lecturers and SIIU) to publish documents, share ideas, work collaboratively and store information as well as knowledge in simple searchable repositories. IIP will become an important part of the information technology infrastructure of UTP as it seeks to integrate the vast intellectual resources within a central virtual space that are easily accessible via web interface. The portal provide an efficient approach to manage all the data systematically for users, as the data are well organized and could be use more frequently.

1.1 Background Of Study

Industrial Internship Programme, coordinated by SIIU, is to be undertaken by all students in UTP prior to the completion of their studies. The purpose of the programme is to ensure that undergraduate students not only learn the theoretical part in class but also apply the theory into practical work in order to produce well-rounded graduates who possess technical competency, lifetime learning capacity, critical thinking, communication and behavioral skills, business acumen, practical aptitude and solution synthesis ability.

1.1.1 IIP Vision
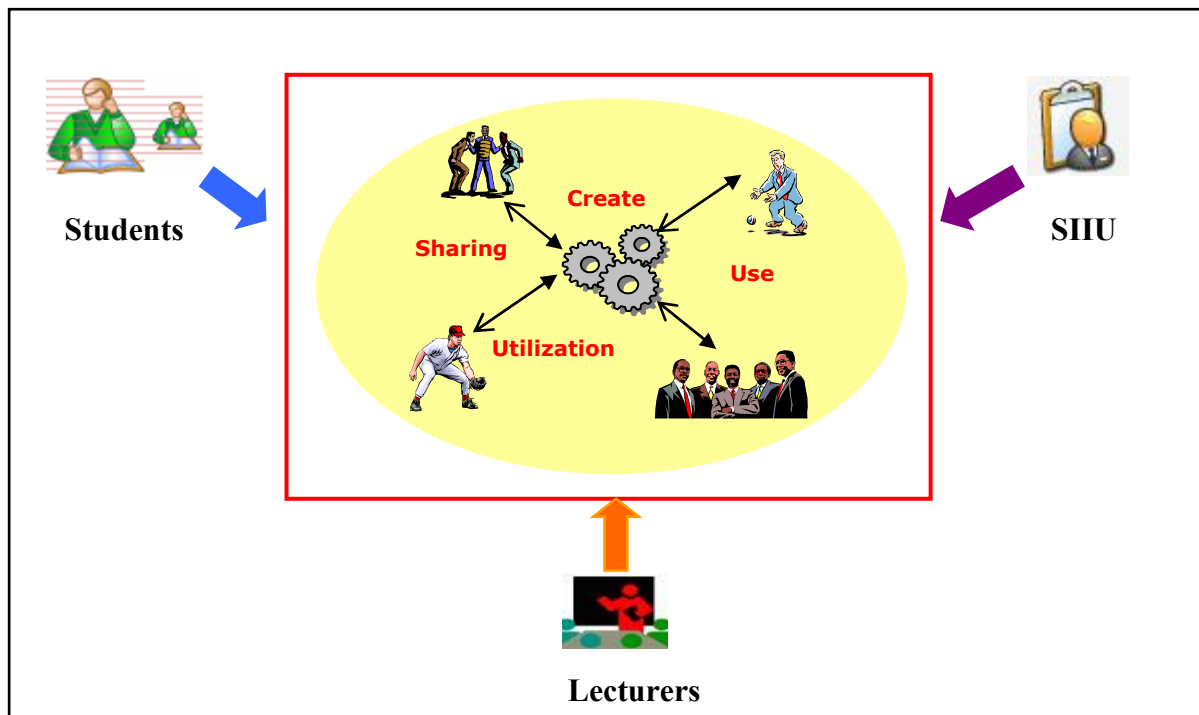
Figure 1: Vision of Industrial Internship Portal (IIP)

IIP development is aimed as a medium of collaboration between students, lecturers and SIIU where all knowledge management activities regarding Industrial Training Programme such as creating the knowledge, sharing, use and utilize the knowledge are virtually linked via the portal. Students or lecturers can start to share their knowledge in a forum section in IIP or upload any document with related to their knowledge or

experience. With the shared knowledge, other practitioners in the related areas could acquire and utilize the information in their work areas.

1.2   Problem Statements

- **No specific Knowledge Management Portal has been developed for students to capture/record their internship's experience.** Lessons learned are validated working knowledge derived from success or failure, that when reused, can significantly impact an organization's process [1]. As mentioned by Secchi the lesson learned by a person is valuable knowledge which provides benefits to other people and even organization if they are shared and reused. There is no proper channel of communication to share knowledge, which in this case referring to the lesson learned by students during their internship period. The current practice of using e-learning to check for announcements or updates does not encourage people to share their knowledge.

- **Share of lesson learned is difficult.** The conventional method of keeping all documentation for Internship Final Report and Logbook in the IRC had caused several difficulties, especially for potential future students to understand what will be expected from them during the internship programme based on past students experience. Knowledge if not shared properly will be not efficient or effective [2]. The value of knowledge which is derived from students experience cannot be fully utilized if it is not properly captured, stored and shared and this will lead to the waste of important information of potential host companies, lesson learned, work environment and any information related to Industrial Internship Programme which might be useful to future students.

- **Knowledge is not being reuse.** The knowledge are kept in human mind and not dispersed to others, therefore the knowledge could not be fully utilized and will contribute to brain drain. K-sharing habits can inculcate through specific programme and activities and by providing the system, procedure, time and place to practice the habits [3]. Portal facilitates a k-sharing culture by bringing disparate sources of information together and enabling communication. By providing an efficient and accessible knowledge portal, anyone will be able to utilize it. Students could be made to upload their lesson learned in IIP in order to capture, organize and preserve the knowledge within the community environment. Therefore, IIP would cultivate K-sharing culture among students and lecturers alike.

1.2.1 Significant of the Project

This portal will be beneficial not only for the students in UTP, but it will also benefit the lecturers and SIIU as well because the application will improve their collaborative activities. People will be encouraged to start sharing, reuse, retrieve and exchange knowledge by using the portal. IIP will also help to promote and support knowledge management culture within the university itself.

1.3 Objectives

- To study current practices of UTP regarding industrial internship programme.
- To develop a knowledge management portal that focus exclusively on Student Industrial Internship Programme where all students, lecturers and SIIU staff will be able to access the information, knowledge and lesson learned related to Industrial Internship Programme.
- To do a comparison study on IIP and UTP e-learning to find out which tool would be best used to promotes knowledge sharing in the university.
- To stimulate the use of available resources within the university itself.

1.4   Scope Of Study

1.4.1   Students

The focus will be on current and future UTP's student that will go for industrial internship programme; third year first semester student for Technology Programme and third year second semester students for Engineering Programme. Appropriate feedback will be acquired to develop the system to meet user's requirements. As the knowledge is well kept in the organization, which will be Universiti Teknologi PETRONAS in this study, students will be encouraged to share their knowledge and subsequently promotes knowledge sharing culture in the university.

1.4.2   Lecturers

During the industrial internship, lecturers will visit intern twice to check on their progress. They will be evaluating students' performance with the Host Company supervisors, review their logbooks and detailed reports, evaluate students' oral presentation at the Host Companies, assess the final reports submitted by students at the end of the internship programme and finally submit the results to the SIIU. The lecturers could download the evaluation form for the visits from the repository in IIP. They will also be able to share their knowledge while at the same time retrieve information being shared by other lecturers or students.

1.4.3   SIIU

SIIU responsible for the student industrial internship matter before, during and after the industrial internship programme. It is also responsible to provide information such as updates and announcements, present the list of companies and also provide guidelines to students and lecturers.

CHAPTER 2

LITERATURE REVIEW OR THEORY

2.1 Knowledge and Knowledge Management

Knowledge is a person's range of information or the sum of what is known [4]. This gives indication of the experience and skills possessed by the individual. Information known and acquired that will bring benefits to other can be considered as valuable knowledge. To some, knowledge is a commodity; whereas others consider it is a learning tool, and still others see it as a set of best practices [5]. The lesson learned that will be shared by students IIP could be considered as beneficial knowledge in the community and which also a form of organizational knowledge.

KM is the process of transforming information and intellectual assets into enduring value [6]. It connects people with the knowledge that they need to take action, when they need it. KM can also be seen as a practice in which an organization consciously and comprehensively gathers, organizes, shares, and analyzes its knowledge to further develop its aims [7]. Knowledge Management is not an end in itself. It is also fundamentally about sharing knowledge and putting that knowledge to use in daily life.

2.2   Knowledge Sharing and Knowledge Management Portal

Knowledge sharing is not just simply about sharing knowledge, but it is more comprehensive than that. The idea includes working together, helping each other and also collaboration with other parties. Sharing knowledge is not about giving people something, or getting something from them. That is only valid for information sharing. Sharing knowledge occurs when people are genuinely interested in helping one another to develop new capacities for action; it is about the creation of learning processes [8]. Knowledge sharing strategy will only be effective if both students and lecturers are interested to share their knowledge with others which will eventually promote knowledge sharing culture and consequently shorten the learning curve. This is due to the fact that if the knowledge is not shared, then the knowledge will rapidly lose its value.

Knowledge cannot be shared efficiently within an organization without any implementation of technology. Much of the past concepts had been focusing entirely on social and cultural aspects while ignoring the role of technology sharing the knowledge. Technology plays a crucial transformational role and is a key part of changing the corporate culture to one which is based on knowledge sharing [9]. Gurteen stressed that in many aspect, it is technology that has made knowledge sharing a reality.

Knowledge Portals represent as one of the knowledge management technology, as they provide a flexible knowledge environment to a potentially large number of users [10]. The mission of a portal is not only to provide a library-like pool of information, but to actively support the user in his or her business processes and as well can encourage people to start sharing their knowledge with others.

The portal concept implies a single interface for students, lecturers and staffs in SIIU which provides all the information related to the Industrial Internship Programme. In addition, the portal also provides each user with a channel to acquire, document, transfer, create and apply knowledge to meet the organization's knowledge priorities.

Arun Hariharan further added that the most popular form of knowledge management technology enablement is knowledge-portal [11]. This is due to the ease in which documents and multimedia materials can be linked and made widely available to almost anyone with an Internet connection and a browser.

IIP that derived from the idea to capture the lesson learned that students gained during their internship period can be used to preserve students' knowledge and transform it to an organizational knowledge which if shared, would benefit the work of others. Thus, the organizations can protect their business from corporate amnesia phenomenon while maintaining its sustainable development in knowledge-based economy growth [12]. The development of IIP will hinder UTP from brain-drain as entire lesson learned can be preserve within the university network and community.

When people are willing to apply, share and extensively exchange their knowledge with each other, it will establish organizational structure in a way which enables people to get sufficient space and opportunities to gain both experiences and valuable thoughts.

2.3   Related Work

This study is a comparative between the advantage between the current practice by using e-learning and IIP

From the comparison between e-learning and IIP, there are similarities of both systems as the availability of announcement and update sections that can be utilize by students to obtain any updates about their internship programme such as date of lecturer's visit, etc. Both systems also provide platform of forums and discussion for students, lecturers and coordinator from SIIU to discuss any matter regarding internship programme. Additionally, a list of potential host companies was also put on view in order for future student who will be undergoing the internship program to apply in any company that is related to their studies.

IIP has several additional functionalities that are lacking in the current e-learning. The lesson learned is what students gain from their internship training. They can upload their weekly report and post to the forum regarding any knowledge that they have acquired. Internship tips and tricks' section is the space where students who had undergo internship can share tips or tricks with other future students who are going to internship, such as how to tackle supervisor in order to get a good marks, how to meet the expectation of the Host Company or how to complete the project given before the dateline, etc. frequently asked questions (FAQ) is where lecturers or SIIU can post the answers for questions that frequently asked by the students so that they not to have to answer the same question again. The host company's review is the section where student will be able to obtain information of potential Host Company and the work culture in the company itself. With this knowledge, students will be able to do all necessary preparation before joining the designated / selected company.

CHAPTER 3
METHODOLOGY

3.1   System Methodology

The development of IIP is based on a structured approach which consisted of six phases as shown by the diagram below:
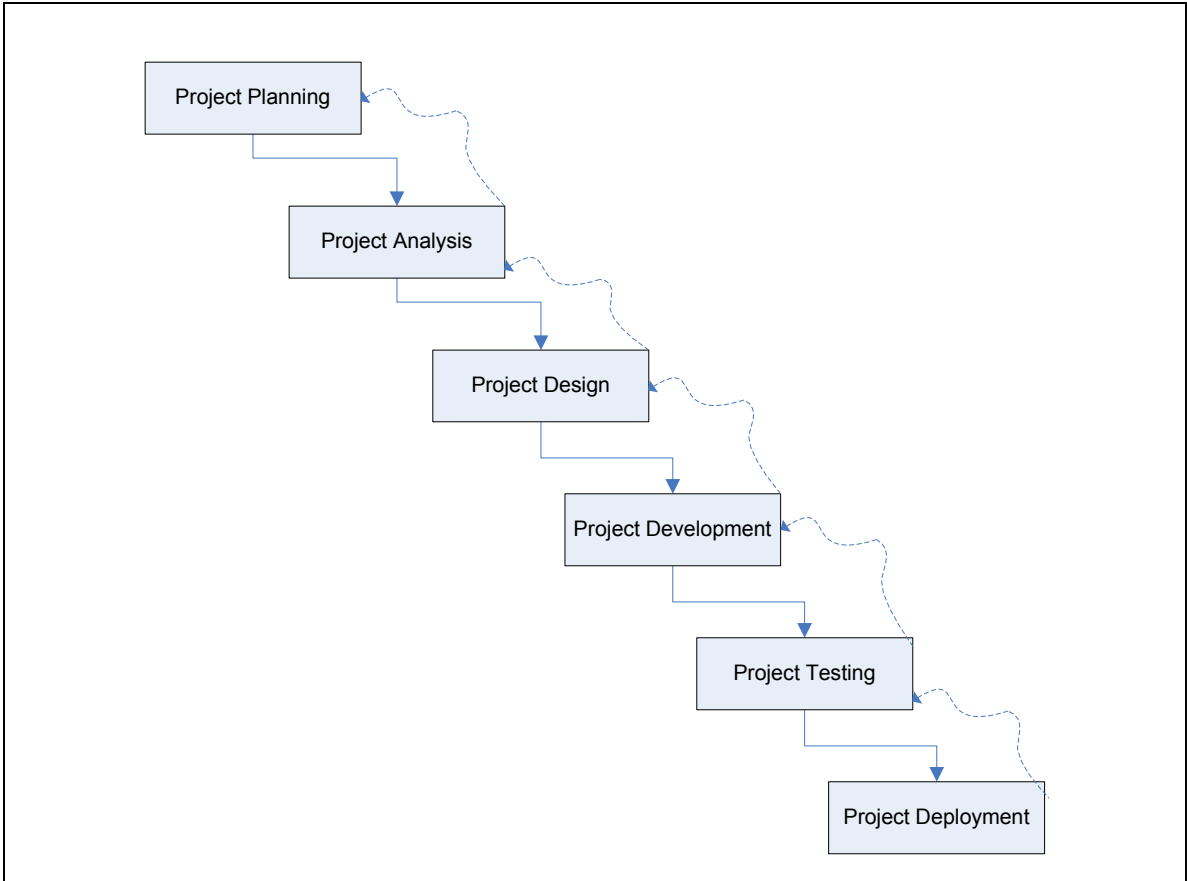
Figure 2: Methodology approach for IIP

The rationale of this methodology it to be able to capture clear user requirement, develop system that are complex and also decrease the constraints of unfamiliarity with the programming language used.

3.1.1 Project Planning

Important information required for the development of the portal was drawn together proceeding to the commencement of the project. Project goals, objectives, technology usage, project timeline and resources were determined in this phase. Planning involve explicit description of the research, determining the scope of studies, analyzing possible problem occurrence and forwarding recommendations to tackle the problem. Additional literature and journal readings were also reviewed to further support the research area while each phase of project development was carefully planned within a designated time frame.

3.1.2 Project Analysis

Project analysis phase ascertain the functional and technical requirement of the system. Carefully constructed questionnaire had been distributed among 30 students in UTP, 5 students from each course (Business Information System and Information Communication Technology, Civil Engineering, Mechanical Engineering, Electrical Engineering, Mechanical Engineering and Chemical engineering) which serves to gather information on different aspect of the project.

3.1.3 Project Design

In this phase, the preset features and design of the portal were applied which include the navigation, the layout for the portal and the high-level structure of the portal. This phase is vital as a guideline to ensure that the development of the project will run smoothly and progress according to the timeline provided in the earlier phase.

3.1.4 Project Development

The design specifications were translated into computer code, build database and also the development of the system during this phase. Among the activities involved are
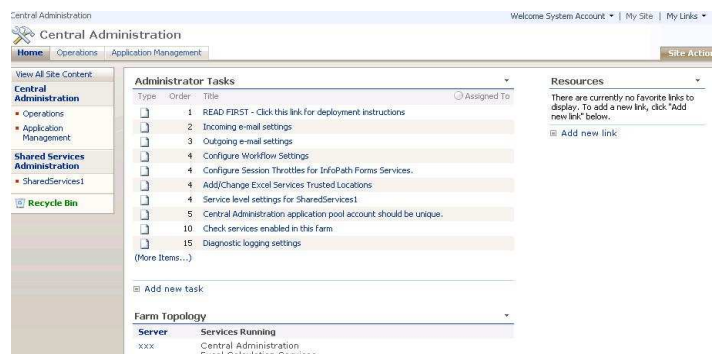
installation and configuration of the Microsoft Virtual PC, Microsoft Server 2003, SQL Server, and Share Point.

Figure 3: Microsoft Virtual PC installed with Microsoft Windows Server 2003
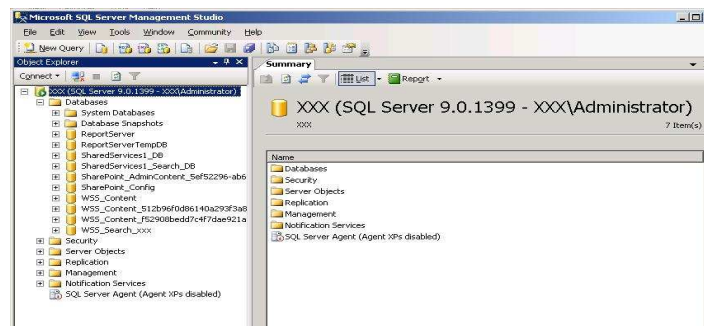
Figure 4: Microsoft SQL Server

Figure 5: Share Point Central Admin (For Configuration)

After these installation and configuration is completed, the customization of the portal was initiated based on the layout and navigation that already been identified during the project design phase.
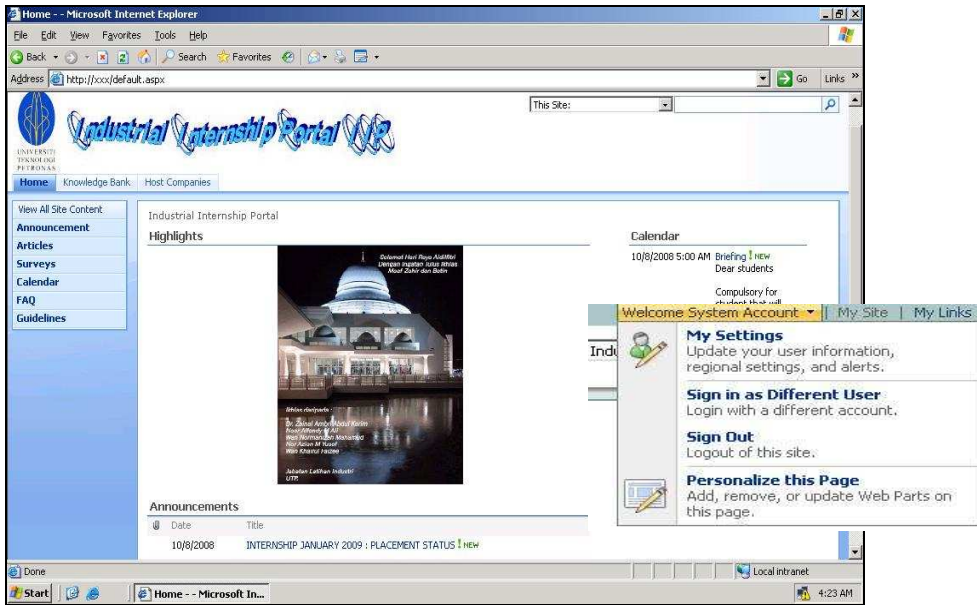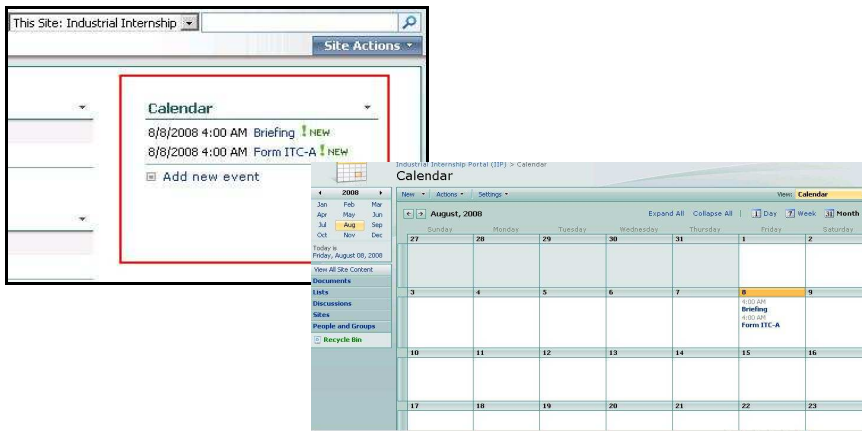
Figure 6: IIP Home Page

Figure 7: Web Part (Calendar)

3.1.5   Project Testing

The purpose of this phase is to detect any defect in the system, apart from serving as the assessment of whether the system will function in an operational situation. The testing was conducted by asking 20 samples comprising of UTP student from various background to test the system in order to get relevant feedbacks to further improve the portal.

3.1.6   Project Deployment

This final phase at the end of project development aims to ensure that the system is completely ready to be used and feedback will be collected from students on their experience of using the system.

3.2   IIP System Architecture
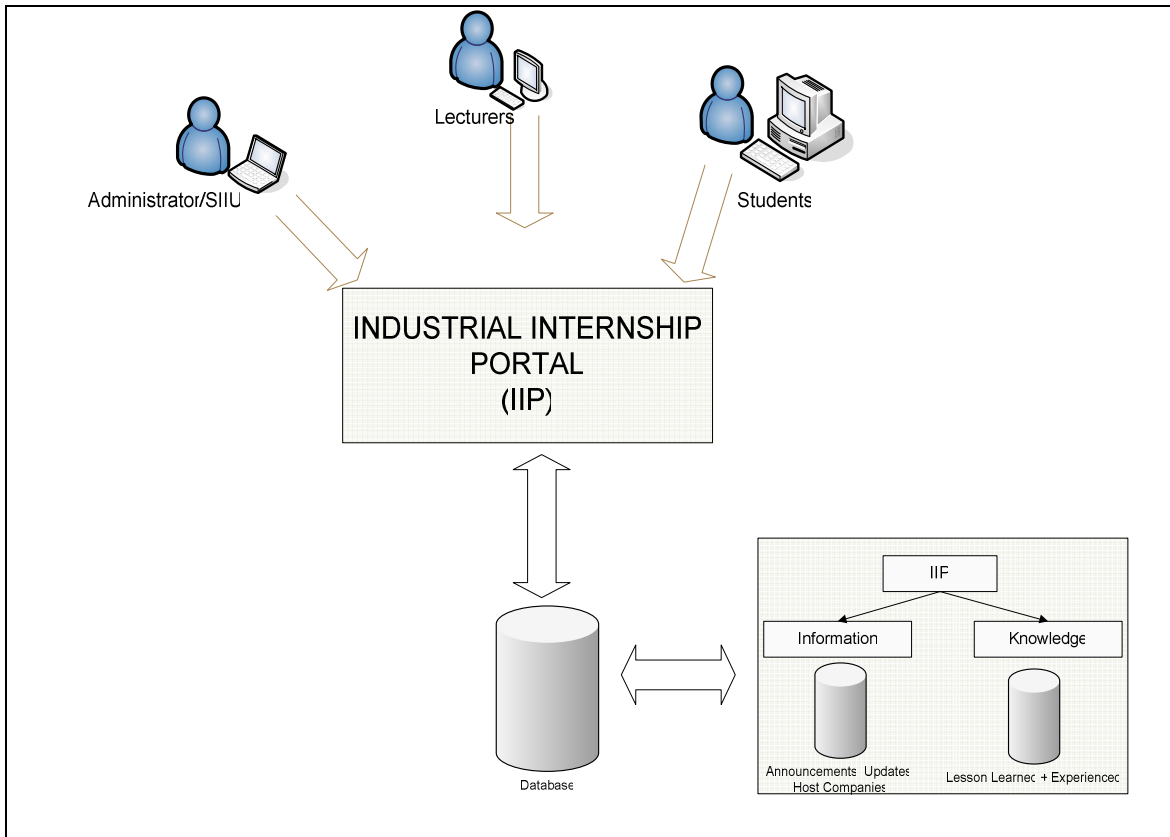
Figure 8: IIP System Architecture
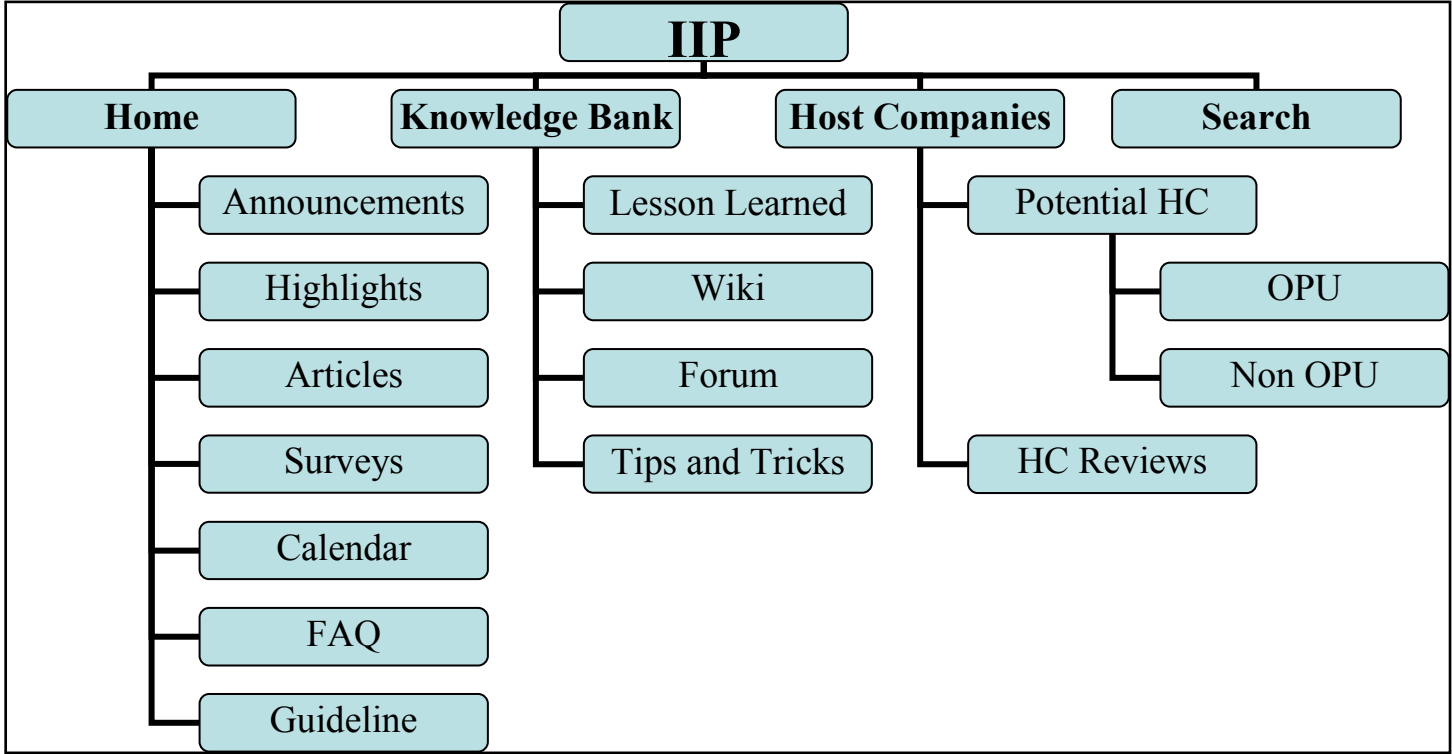
3.3   IIP High-level Structure

Figure 9: IIP High Level Structure

3.4   Research Methodology

3.4.1   Questionnaire

The questionnaire focused on both students that will be doing their internship and also students that had undergone internship. These carefully written questionnaires drew opinions from students to identify their expectation of the Industrial Internship Programme. Additionally, the questionnaire also accumulated feedbacks from previous students that had undergone internship with regards to the current situation/process that they feel need to be further improved. The questionnaires distributed are as below:

- 5 students for each programme (Business Information System and Information Communication Technology, Civil Engineering, Mechanical Engineering, Electrical Engineering, Mechanical Engineering and Chemical engineering)

3.4.2   Interview

This interview exclusively focused on staffs working at SIIU in order to learn how they manage students undergoing industrial training. The interview session was conducted within a week with the focus on Ms Wan Normanizah who held responsibility for any matter involving student undergoing internship. The main aim of the interview was to identify the need and also possible issues faced by SIIU in managing student internship programme. Interviews were also conducted with respective lecturers in order to understand their needs and views of the internship programme.

3.5   Tools

- Microsoft Share Point Server 2007

  Collaboration and knowledge sharing – Share Point provides a single point of access to people, teams, knowledge, and applications. All students, lecturers, and SIIU can contribute to the content to the portal. This simplifies the process of publishing and storing of the documents.

- Microsoft SQL 2005

  Database that use together with Share Point 2007.

- Microsoft Windows Server 2003

  Windows Server 2003 as a server operating system for the portal.

- Microsoft Office Visio

  Development of diagrams

3.6   Gantt Chart

The project timeline consisted of two fundamental milestones which involve two semesters in a row for completing this final year project.

The first semester is the research and study of the project as well as the non-functioning prototype development. The second semester is the stage for the initial development of the system.

(*See Appendix A for the Gantt Chart)*

CHAPTER 4
RESULT AND DISCUSSION

4.1   Questionnaires Analysis

The results are derived from the eight questions stated in the questionnaire form which was distributed among 30 students in UTP. The objective of this questionnaire is to get student's feedback on the development of IIP.

4.3.1   Question 1
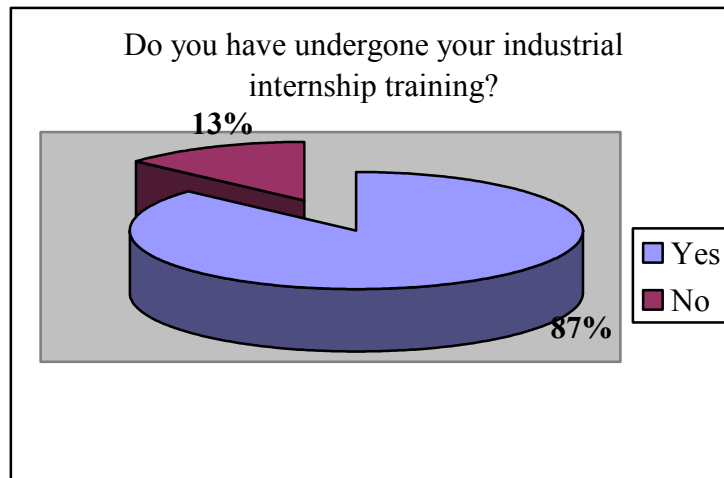
Figure 10

For Question 1, the pie chart in the *Figure 10* illustrated the number of respondents who had done their internship training. 87% or 26 out of 30 of the respondents had gone for their internship training while 13% have not gone for their internship training.

4.3.1 Question 2

Do you agree with the practice where student have to write and print their logbook and keep them in the Information Resource Centre (IRC) are a waste of capturing and storing the knowledge?

13%

87%

Yes
No
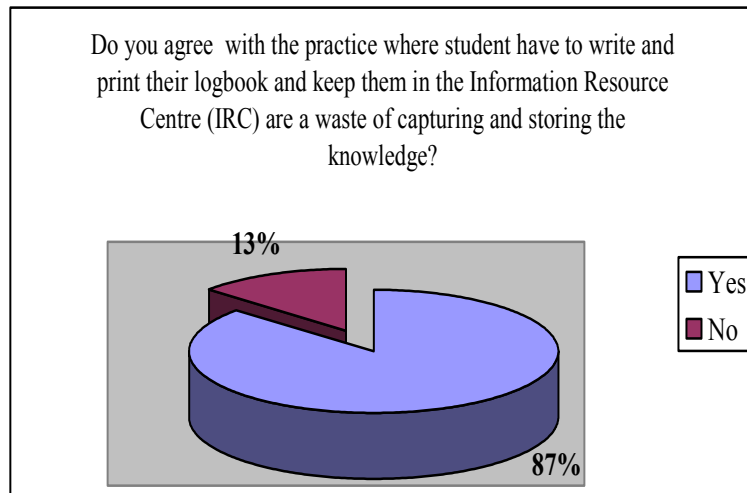
Figure 11

For Question 2, 87% or 26 students agreed that the practice where student have to write and print their lesson learned (logbook) and keep them in the Information Resource Centre (IRC) are a waste of capturing and storing the knowledge, as other student who want to access the contains of the logbook have search for it in IRC. Keeping the logbook in IRC will make it more difficult for student to access the information compared to keeping the data online which will be easily accessible.

4.3.1 Question 3

Do you think, by make lesson learned (logbook) available online, can enrich your knowledge?

33%

67%

Yes
No
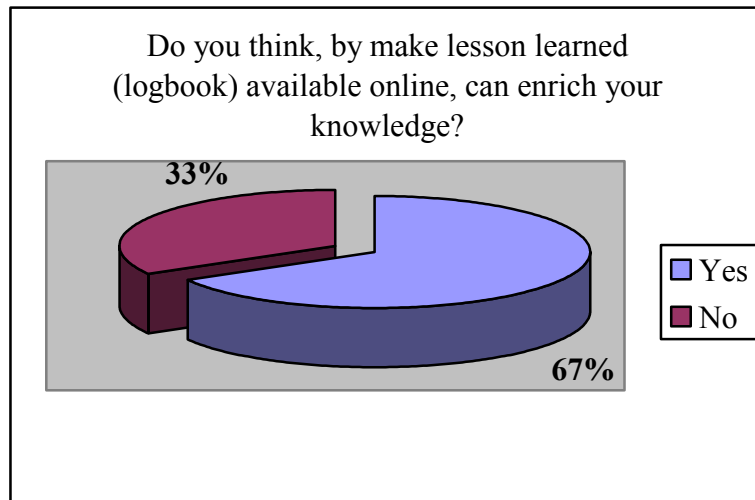
Figure 12

67% or 20 out of 30 respondents agreed that by making lesson learned (logbook) available online, it will enrich their knowledge because it is easier to find the logbook online rather than going to IRC to find the logbook. Some students found that is a hassle to go IRC as they need to travel which will eventually hinders knowledge sharing and reuse.

4.3.1 Question 4
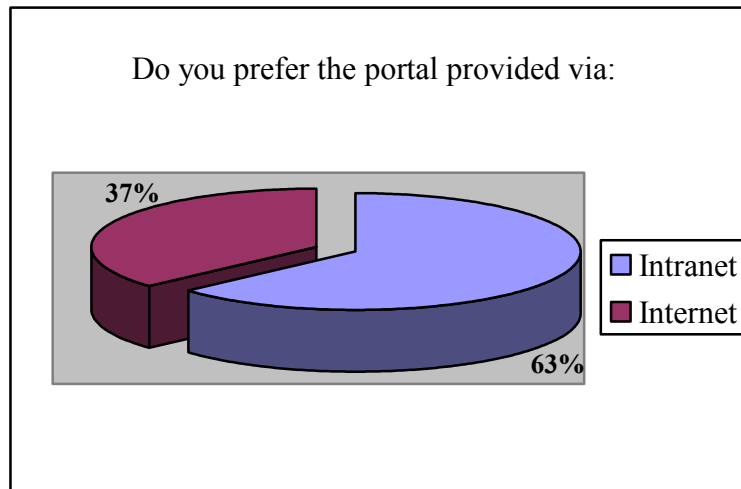
Figure 13

For Question 4, 37% of the respondents prefer the portal to be available via Internet while 63% chose via Intranet. Students and lecturers can have access to the portal from virtually anywhere with just an Internet connection instead of the more limited Intranet network.
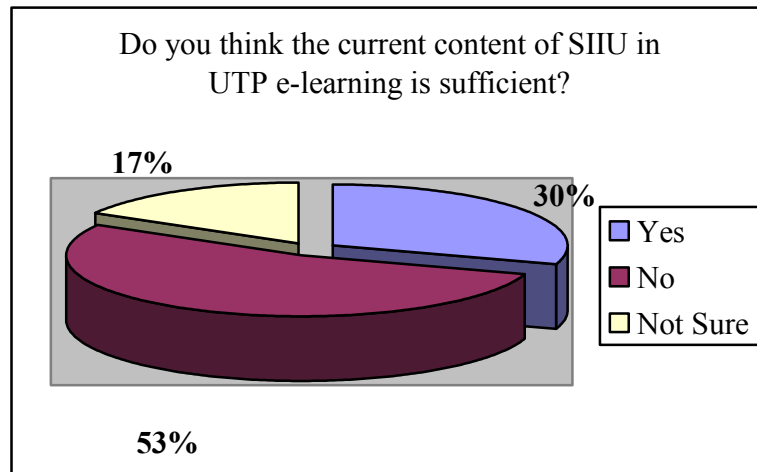
4.3.1   Question 5

Do you agree that the portal can help student
to share their knowledge based on their
experience during the internship and also help
them during their FYP?

3%   97%

Yes
No
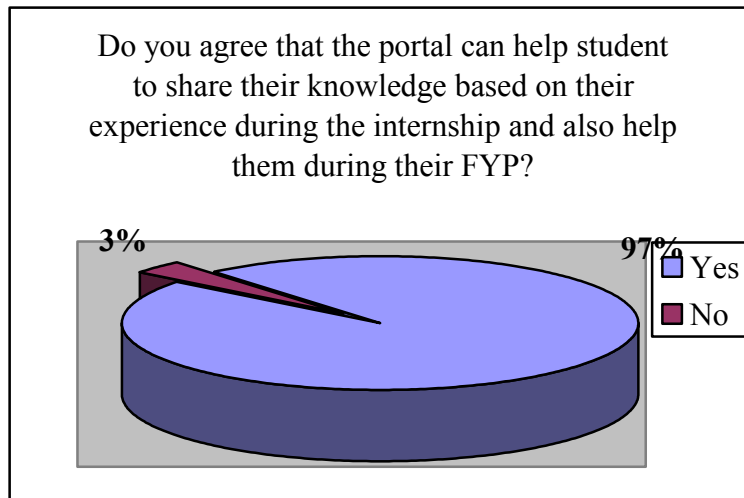
Figure 14

97% of the respondents agreed that portal will help and encourage student to share their knowledge of the experience during the internship and also help them on doing their FYP. As an example, if a student share his/her experience working with a server during internship, other student who are doing FYP that is related with the server could search on how to configure or setup the server. This will subsequently promotes the practice of knowledge sharing in the organization.

4.3.1   Question 6

Do you think the current content of SIIU in UTP e-learning is sufficient?

17%

30%

53%

- Yes
- No
- Not Sure

Figure 15

For Question 6, only 30% of the respondents agreed that the current contents of Industrial Internship Programme in UTP's e-learning are sufficient enough while 53% stated that the current contents are not sufficient enough. The remaining 30% were not sure of the content.   The problem of insufficient information/knowledge regarding industrial internship programme could be improved with the development of IIP.

4.3.1 Question 7
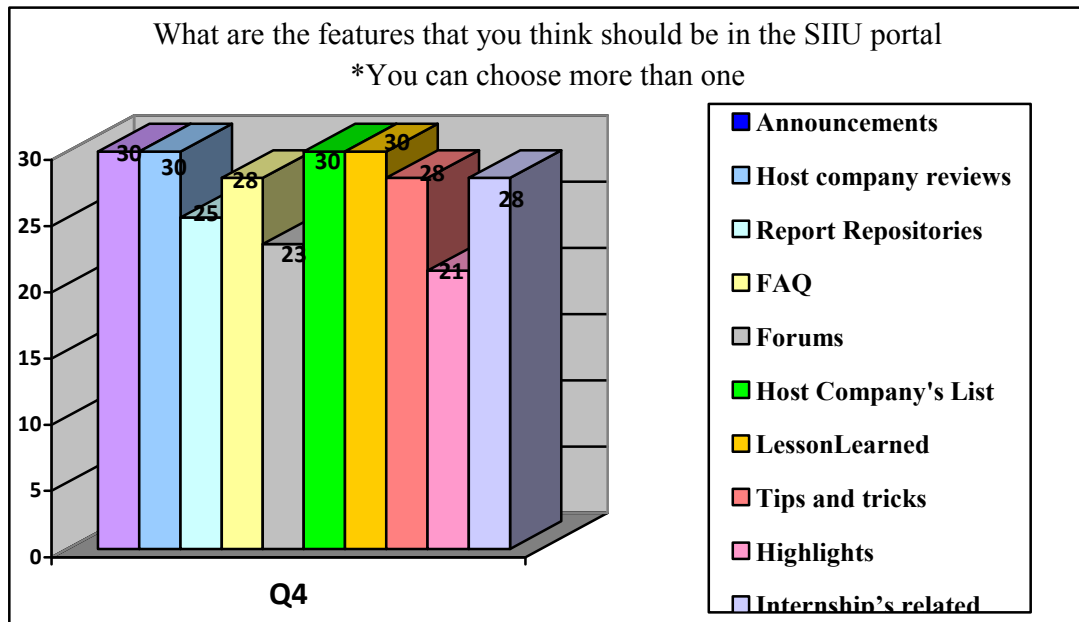
Figure 16

For Question 7, respondents had to choose among the features that they think should be implemented in the portal. The results of the questionnaire are displayed below:

Table 1: Results of Question 7

Features	No of respondents (/30)	Percentage (%)
Announcements	30	100
Host company reviews	30	100
Internship Report Repositories	25	83
Frequently Asked Questions (FAQ)	28	93
Forums/Discussion	23	77
List of Potential Host Company	30	100
Lesson Learned	30	100
Internship tips and tricks	28	93
Highlights	21	70
Internship related document	28	93

36

4.3.1   Question 8

Do you think the portal will be beneficial for all students?

17% 0%

83%

- Strongly agree
- Agree
- Disagree
- Strongly Disagree
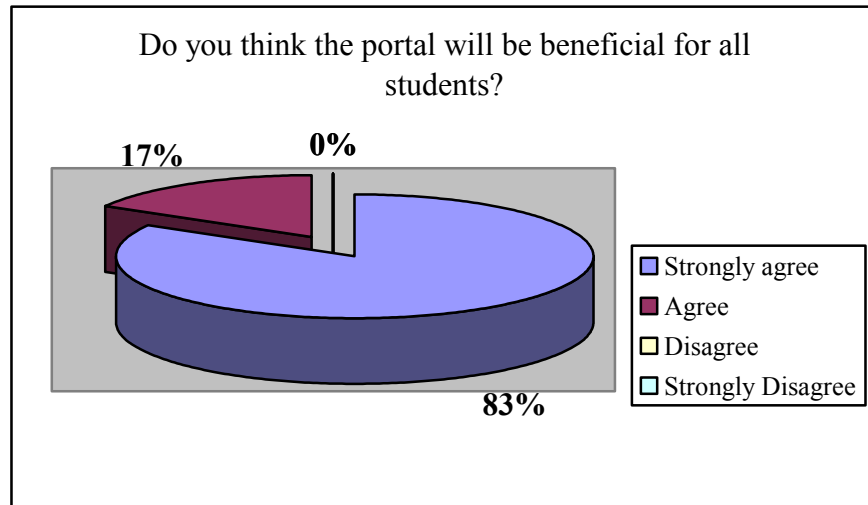
Figure 17

For Question 8, pie chart in *figure 17* above shows that respondents have to choose whether or not they think IIP will be beneficial for all students when it is implemented. 83% of the respondents strongly agree and 17% agree with the idea. The portal will be beneficial for all because it can serve as a knowledge management tool to help students, lecturers and SIIU to improve their collaborative activities and will it will also develops knowledge management culture in the university.

4.3.1 Summary of the Questionnaires

- The portal will be beneficial for all because it can serve as a knowledge management tool to help students, lecturers and SIIU to improve their collaborative activities.

- Keeping the lesson learned (logbook) in the IRC are a waste of capturing knowledge because student have to go to IRC to search for the lesson and learned manually rather than accessing the information online.

- The portal will encourage people to start sharing their knowledge and facilitate knowledge acquisition, transfer and reuse. Problem on insufficient information/knowledge regarding industrial internship programme could be improve with the development of this portal.

4.2   Interview Results

4.2.1   SIIU

The program will alleviate the workload of staffs as it will be easier for them to assess and manage the online database instead of keeping all the data and information in excel format which require regular monitoring.

4.2.2   Lecturers

They will be able to share their knowledge or experience on the internship program during the site's visit with other fellow staffs and students. Previously lecturer need to request from SIIU or other staffs for evaluation form and guideline but with IIP, they can directly download the forms from the portal.

4.2   IIP Development

The IIP high level structure is divided into four branches which are Home, Repositories, Host Companies and Search. Each high level structure will have its own branches and functionalities.

Figure 18: Users and Permissions

For the users and permissions, the accessibility is divided into three groups which is the owners (administrator), members (contribute, read) and visitors (read only). After the development of the system is completed, it will proceed to the next level which is project testing. The objectives of project testing are to detect any defects in the system, apart from serving as the assessment of whether or not the system is usable in an operational situation.

4.3   User Acceptance Test

4.3.1   Abstract

The test was conducted by asking 20 samples comprising of UTP student from different courses to experience the system.

4.3.2   Objective

Determining user's level of acceptance in using the system while at the same time evaluating the portal level of easiness.

4.3.3   Expemerintal Procedural

- The testing was conducted in UTP. 20 samples were asked to try out the system.
- The samples were asked to test and evaluate the system.
- Questionnaire was given to them in order to evaluate the performance of the system in term of functionality and the level of ease.
-

Figure 19-23 shows results consolidated from the questionnaires for user acceptance test.
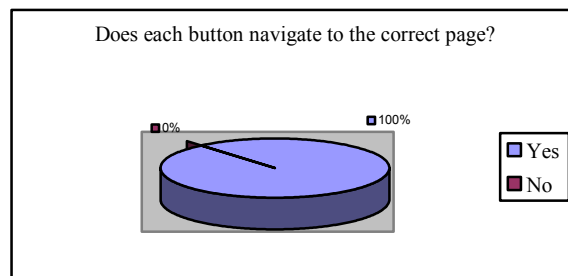
Figure 19

For Question 1 UAT, pie chart in *figure 19* above shows that respondents have to choose whether each button in the portal is functional. 100% of the respondents said that every button and tab in the portal navigate correctly to the designated page.
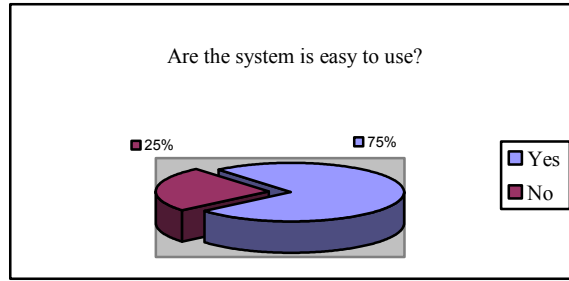
Figure 20

75% of the respondents or 15 users agreed that the system is easy to use while 25% disagree with the question.
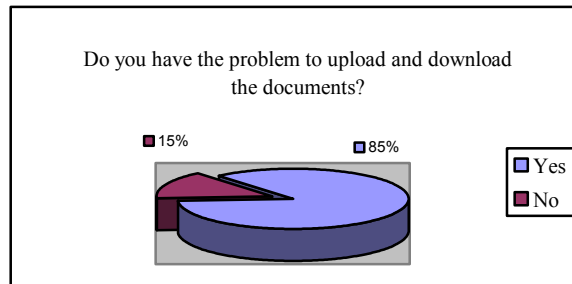
Figure 21

17 respondents out of 20 mentioned that they have no problem with uploading and downloading documents from the portal. This is one a vital function because students will need to upload their lesson learnt in IIP.
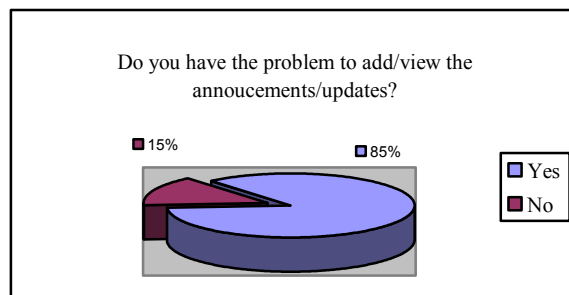
Figure 22

17 respondents out of 20 mentioned that they have no problem to add or view the annoucements or any updates in the portal. They can easily click on the subject to view the annoucements.
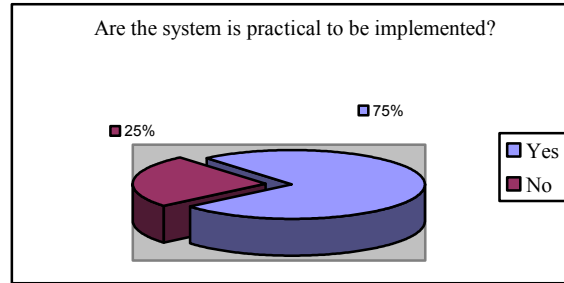
Figure 23

75% or 17 respondents said that the system is practical to be implemented in UTP. This is because there are no spesific system has been develop exclusively for Industrial Internship Programme and by using this portal they can search for information or knowledge easily.

4.3.1   Summary of the UAT Questionnaires

- The portal is relative user-friendly and all the navigations are linked to the correct page.

- From the samples, most of the users were able to easily upload or download the documents and it is particularly easy for them to add or view any announcements or updates in the portal.

- From the feedback and comments gathered, most of the participants believe IIP is practical to be implemented   in UTP because it provides all the information related to the Industrial Internship Programme

CHAPTER 5
CONCLUSION AND RECOMMENDATION

5.1   Conclusion

Managing knowledge is not an easy task. This is due to the fact that knowledge is human based although sometimes people do not realize that they possessed information or knowledge of value to others in the organization. Often they will just keep the knowledge within themselves, rather than sharing it with others. Thus, knowledge sharing is essential in order to spread the knowledge within communities or network. Technologies play a significant role as a medium for people to share their knowledge and therefore people should be educated on the effective use of technologies.

As for FYP wise, the objectives were achieved in the given time frame. The study about current practice that using by the university regarding the industrial internship programme and comparison between IIP and UTP e-learning were done and achieved by the end of the day. IIP was successfully implement as a knowledge management portal that focus exclusively on Student Industrial Internship Programme and intended to encourage all individual to start sharing their knowledge in order for knowledge sharing to be adapted as a culture in the university. The portal will introduce way of communication that enable the establishment of work groups amongst students with the same interests by increasing the flow of information amongst them.

5.2   Recommendation

For future enhancement, there are few additional features that could to be added to further improve the system. These are some of the features recommended that might be useful in the future:

- **Email notification**: It will propagate email notification if there is any new document, announcements added by the users.

- **SMS notification**: Instead of propagating using email, this system also capable of notifying the users by using SMS notification if there is any new update in the system.

REFERENCES

[1]   Secchi, P.

"An Effective way to prevent failures and problems", In Proceedings of Alerts and Lessons Learned, 1999

[2]   Anil K. Gupta and Vijay Govindarajan

"Knowledge Flows Within Multinational Corporations", Strategic Management Journal, Strat. Mgmt. J., 21: 473–496 (2000)

[3]   Rapieh Aminuddin

"Knowledge Management Initiatives at MINT", Technical Meeting/Workshop on Managing Nuclear Knowledge, 2005

[4]   The Oxford Dictionary

[5]   Taylor & Francis Group

"Knowledge Management", LLC, 2006

[6]   LaBranche, Gary A.

"Knowledge Management: The Killer App for the 21st Century." American Society of Association Executives

[7]   KM Magazine, http://www.kmmagazine.com

[8]   Peter Senge

http://www.gurteen.com

[9]   David Gurteen

"Creating a Knowledge Sharing Culture", Knowledge Management Magazine, Volume 2, Issue 5, February 1999

[10]   Christoph M. Jansen, Volker Bach, Hubert Österle

"Knowledge Portals: Using the Internet to Enable Business Transformation", Institute for Information Management at the University of St. Gallen Switzerland, 2000

[11]   Arun Hariharan

"Knowledge Management: A Strategic Tool", Journal of Knowledge Management Practice, December 2002

[12]   M. Nazir Ahmad Sharif, Nor Hidayati Zakaria, Lim Shu Ching, Low Soh Fung

"Facilitating Knowledge Sharing Through Lessons Learned System", Journal of Knowledge Management Practice, March 2005

APPENDIX A
Project Gantt chart for FYP 1 and FYP 2
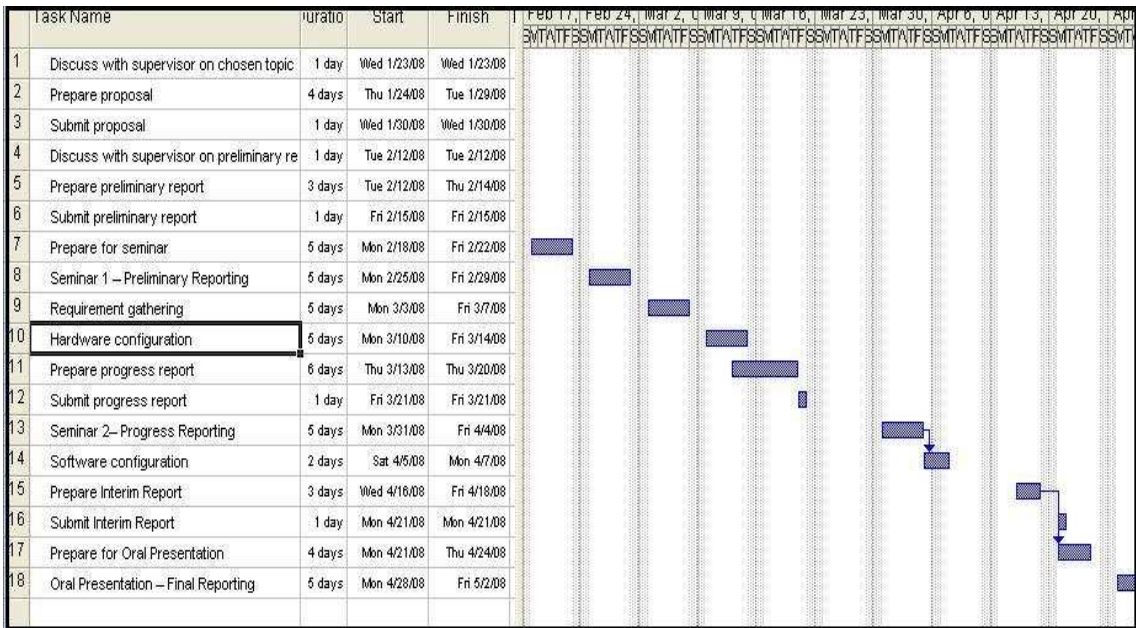
Figure 24 Gantt chart for FYP 1
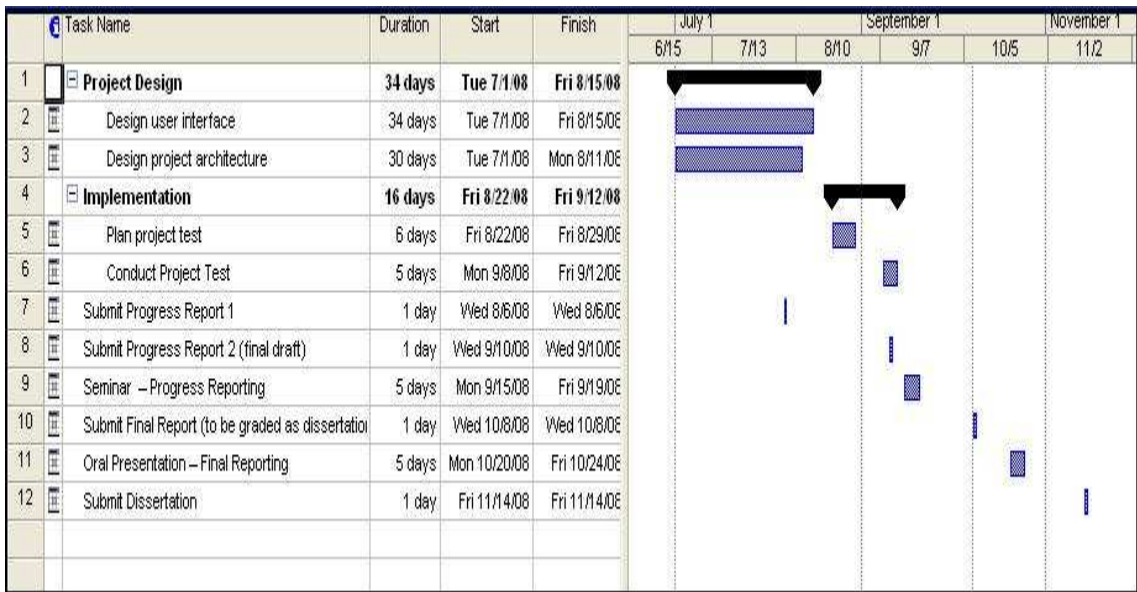
Figure 25: Gantt chart for FYP 2

APPENDIX B
Project Screenshots
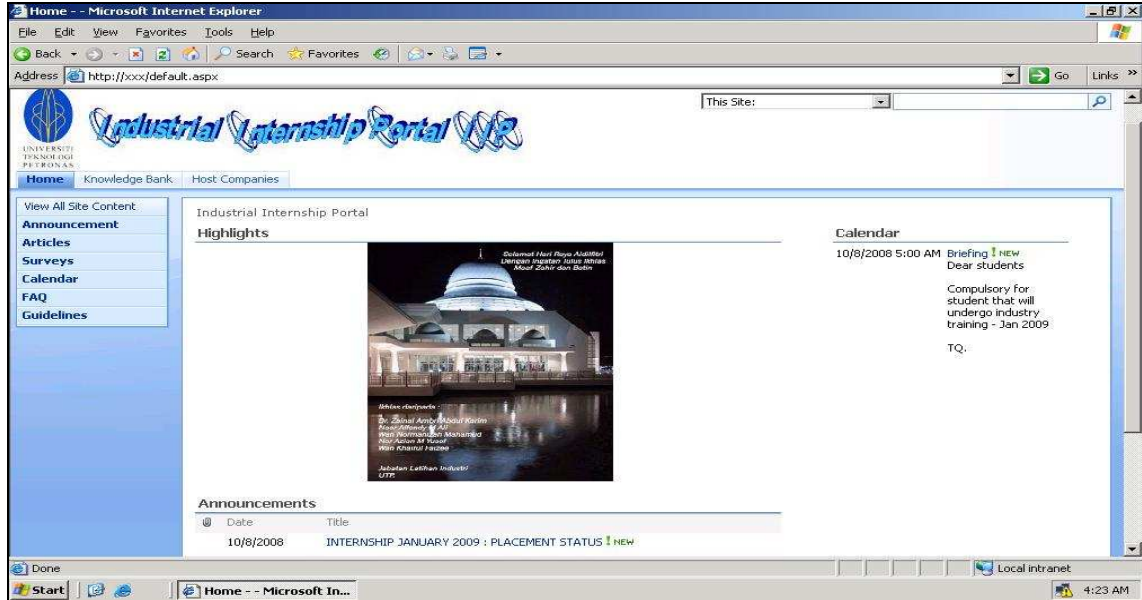
Figure 26: IIP main page
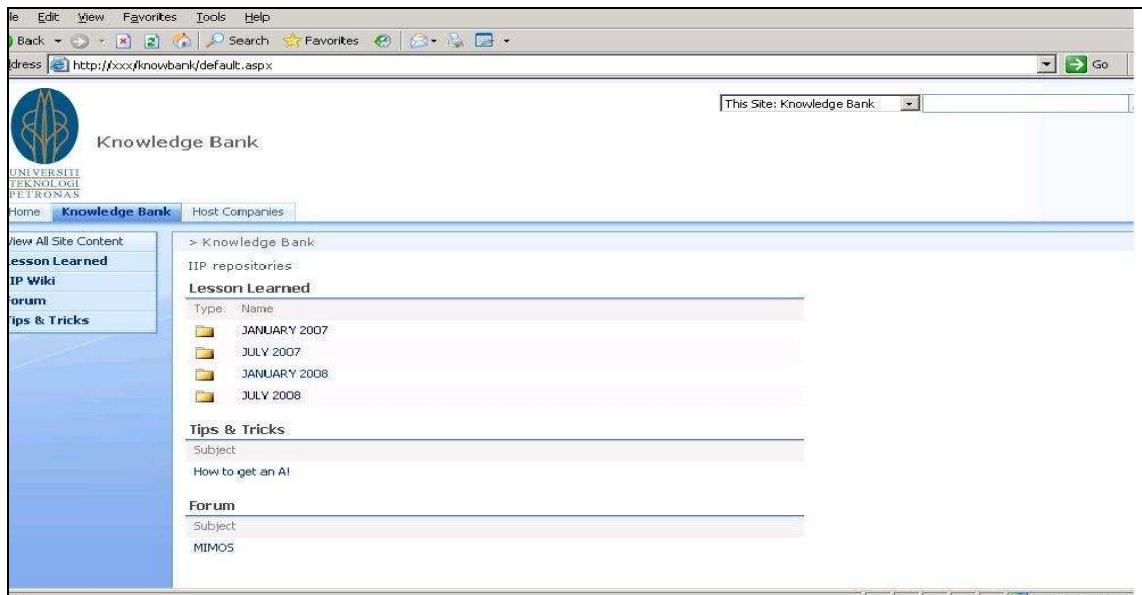
Figure 27: Knowledge Bank
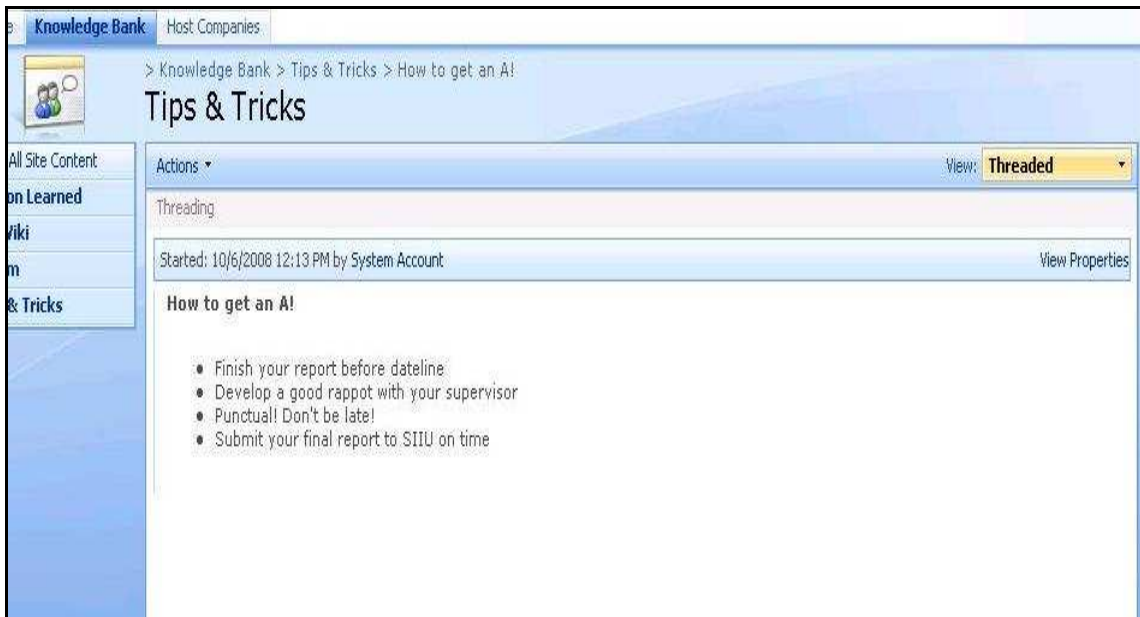
Figure 28: Lesson Learned

Figure 29: Announcements

Figure 30: FAQ

Figure 31: Tips and Tricks