DEVELOPING ONLINE COURSE AND LECTURER EVALUATION
SYSTEM FOR UTP

IZYAN IZZATI BINTI BAHARUDDIN

BUSINESS INFORMATION SYSTEM

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Developing Online Course and Lecturer Evaluation System for UTP

By

Izyan Izzati Baharuddin

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UniversitiTeknologi PETRONAS
Bandar Seri Iskandar,
31750 Tronoh
Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

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A project dissertation submitted to the
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Approved by,

_____
(Dr. Baharum Baharudin)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
MAY 2012

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.

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IZYAN IZZATI BAHARUDDIN

ABSTRACT

UTP requires students to complete lecturer and course evaluations as part of the institution-wide assessment process. The evaluation result is used to improve teaching within courses. Despite the branding of technology university, UTP still uses a semi-auto (in-class) evaluation activities comprises of pencil scan sheet method. The disadvantages of the current system are the slow feedback as it takes time to compile the result, it is quite expensive to administer because of the printing costs, it takes up class time thus students have limited time to give their thoughtful rating and the participation is low as it is limited to the attendees of when the evaluation activity is conducted. Therefore, this project is targeted to bring the current evaluation system to different level which is online based. The objective of this study is to come out with a working web-based system capable of handling the course evaluation exercise and storing of data obtained from the evaluation activity. To achieve the objective, these three important steps need to be conducted which are to analyse the problem in current lecturer and course evaluation system, to design a system that can be used to improve the current system based on the analysed problem and to develop the online evaluation system based on the design. The scope of this study is limited to Universiti Teknologi PETRONAS since such system has not yet been developed and implemented in the institution and are focused on improving lecturer and course evaluation system in the institution only. The methodology used in developing the system is rapid application development (RAD) which is a type of prototyping methodology. The method minimized period of planning phase thus allows the system to be written faster yet easier to change requirements later. From the study, it is found that there are four important key points in developing the system. They are easy format for creating and editing evaluations, student online access to evaluations that maintained their anonymity upon submission yet could be tracked for completion, a mechanism for sending automatic e-mail reminders and a mechanism for report generation

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CHAPTER 1

INTRODUCTION

1.1 Background

Every educational institution has a system to keep track of their staffs' performance. Often, an evaluation system is used (Timpson and Andrew, 1997). The evaluation system requires the staffs, often lecturers to distribute evaluation form to students to evaluate the performance of their lecturers (Pounder, 2008). Students are required to complete the evaluation as they are the group that communicate most with these lecturers. As lecturers' performance is evaluated on their teaching performance, the activities that keep students' interests in class, knowledge on subject and the delivery of the subject, students are the most suitable evaluator for the evaluation activity.

Lecturers' evaluations by students serve as one of the tool to evaluate lecturers' performance or KPI. It is a part of decision making tool for salary and promotion. The evaluation also serves as communication tool. Students do not always complain directly on the teaching method of lecturers to the department. They utilize the evaluation form to communicate the opinion to the higher level of administration. Using the evaluation results, lecturers and the department can gain feedback thus know what should be improved, what is delivered best and at worst and how their teaching method can in return help students' performance.

Apart from lecturers' performance evaluation, students also need to evaluate the course itself. The evaluation is done to identify the suitability of the course, the suitability of the outlined topic and whether the outlined topic would add value to the students' programme of study. The result of the evaluation would give feedback to lecturers and department of what should be taught in class and how to tackle students' interests.

1.2   Problem Statement

Currently, in Universiti Teknologi PETRONAS (UTP) the course and lecturer evaluation activity is conducted in class. The system used to obtain the data is manually as lecturers will distribute evaluation form to be filled by students. The compilation of data is done using semi-automated system. Semi-automated here means the compilation for scores is done using a machine called pencil scan sheet method for score calculation while all the comments provided by students will be compiled manually by staffs. The staffs will type in all the comments into a system for report generation and performance calculation.

The problems persist with the current system is that the evaluation activity is limited to students who attend the class of the period of when the evaluation is done only. It cannot be said that 100% of students enrolled in the course will come to class during the period thus the opinion and result gathered is not of the various category of students as some of the absentees might have their personal reason of not attending the class. However, their opinion and voice is not being communicated because while not attending the class, they do not have other medium to communicate the opinion.

Besides limiting the number of evaluator for the evaluation activity, the current system provides slow feedback. The case occurs as it takes time for the staffs to compile all the comments and score into their system (Dommeyer, C., Baum, P., Hanna, R., & Journal of Interactive Online Learning Donovan, Mader, Shinsky 159 Chapman, K., 2004). It also takes time for lecturers to view their acquired comments thus improvement strategy is delayed and sometimes lectures do not know of what to be improved as the evaluation result is not being communicated back to them.

Apart from that, the evaluation exercise takes up class time thus require lecturers to spend some time for the activity (Nulty, 2008). The exercise usually being conducted towards the end of the class period thus giving students limited time to give more thoughtful ratings on the evaluation. Students often do not take the exercise seriously

and only give scores without really evaluating the course or the lecturer. Comments columns also are usually left blank as students do not have more allocated time for the evaluation.

The current system is costly because of the printing costs (Barkhi, 2010; Nulty, 2008). For the evaluations, UTP have to print the evaluation form for each course offered during the semester. The cost is tripled as UTP applies the tri-semester system. The example of calculation of the course is as shown below:

Printing cost for one lecturer evaluation form
= RM 0.10
Printing cost for one course evaluation form
= RM 0.10
Total of course offered per semester
= 200 courses
Number of students enrolled in each course
= 60 students
Number of lecturer evaluation form to be printed
= 200 courses x 60 students
= 12, 000 forms
Number of course evaluation form to be printed
200 courses x 60 students
= 12,000 forms
Number of forms to be printed
= Lecturer evaluation form + Course evaluation form
= 12, 000 + 12, 000
= 24,000
Printing cost per semester
= Printing cost for one form x Number of forms to be printed
= RM 0.10 x 24, 000
= RM 2, 400
Printing cost annually
= Printing cost per semester x number of semester in a year
= RM 2, 400 x 3
= RM 7, 200

Figure 1.2   Printing cost annually

There are about 200 courses offered per semester with roughly 60 students enrolled for each course. However, the number differs according to courses as some courses are minor, major and some are the core subjects. With that number, there are generally a total of 12, 000 forms to be printed only for lecturer evaluation. The number doubles for lecturer evaluation form together with course evaluation form to the total of 24, 000. The total amount for one semester would sum up to roughly RM2, 400 per semester and RM7, 200 annually. However, it is believed that the amount is higher as more students may enrolled in certain subject especially subjects that is the requirement to all engineering students and there is more subject offered per semester than the 200.

The cost is only calculated for printing excluding the cost of staffing for compilation job. With online system, many costs can be saved. Table 1.2 shows another calculation done by UNC Charlotte of cost saving using online method.

Annual Paper-Based Evaluations Costs			
Description	**Qty**	**Cost Per**	**Total**
Cost of Paper Forms (including overprint)	100,000	$ 0.15	$ 15,000.00
Software Licensing Distance Education Web-based Course Evaluation Software	1	$ 5,000.00	$ 5,000.00
Departmental Staff Processing Time (80 Staff Members @ 30 hours each semester, and 10 hours for each Summer session for manual preparation of evals and processing of comments)	6,400	$ 35.00	$ 224,000.00
37% Reduction in OPSCAN Demand	488	$ 12.80	$ 6,246.40
ANNUAL COST OF PAPER -BASED EVALUATIONS:		$	**250,246.40**

Annual Web-Based Evlauation Cost Savings	
Description	**Savings (Costs)**
Paper Forms Savings	$ 15,000.00
Reduction in OPSCAN Staffing	$ 6,246.40
Distance Education Web-Based Evaluations License Savings	$ 5,000.00
Staffing Productivity Savings	$ 224,000.00
Annual Cost of Web-Based Software	$ (24,500.00)
Administration and Management of Evaluations Across Institution	$ (56,500.00)
Net Cost Savings:	**$169,246.40**

Savings Summary	
Description	**Savings (Costs)**
Annual Paper-Based Evaluations Costs	$ 250,246.40
Web-Based Cost Savings	$ 169,246.40
Overall Reduction in Costs in %	68%
Five-Year Savings	$ 846,232.00

Table 1.2   Cost Saving of Web Based vs. Paper Based Evaluation Exercise

Therefore, this study is aimed to improve the semi-automated system currently use in UTP by replacing it with an online-based system bringing it to another level in technology development.

1.3   Objective

The main objective of this study is to come out with a working web-based system capable of handling the course evaluation exercise and storing of data obtained from the evaluation activity. It aims to ease all the process and activities involved related with data collection, manipulation and dissemination. To achieve the main objectives, the study is to satisfy these three objectives first.

The first objective is to analyse the problem in current lecturer and course evaluation system. The analysis is important as to know if an online system is really needed to assists in the course and lecturers' evaluation exercises. The stage includes analysis of tool to be used in system development, project feasibility and the relevancies of the project.

The second objective is to design a system that can be used to improve the current system based on the analysed problem. The design stage will be according to the analysed problems. It will include the design of interface and database that will include features that is user friendly and reducing complicacy. The design of the system is subject to change according to difficulties level faced during development stage.

The third objective is to develop the online evaluation system based on the design using dBase tool. The development stage will commence on the second semester of Final Year Project. Development of the system will be solely based on the design done during the design phase.

1.4   Scope of Study

The scope of this study is limited to only two aspects which are:

- Universiti Teknologi PETRONAS

- Course and Lecturer Evaluation System

The scope is narrowed down to UTP only as the system has not been implemented and developed in UTP yet. From the analysis done, the development of the system can improve delivery of the purpose of evaluation exercise. It is a long awaited system approved by UTP lecturers as it can help improves the current system and reduce the cost incurred by UTP for printing.

The focus of this study is on course and lecturer evaluation system only because the author finds that the current system used in UTP can be improved to be more efficient and convenient.

1.5 Relevancy of Project

The project is relevant to Business Information System academic syllabus as it includes the knowledge on object-oriented programming, system analysis and design, database system, system development, and subject of management and humanities courses that focus on communication. Therefore, it gives chances for the author to practice the knowledge gain while doing the project.

1.6 Feasibility of Project

The project is aimed to be completed within 2 semesters that is from January 2012 to September 2012 provided with suitable methodology that supports rapid development that meet user's requirement.

The first semester will focus on the planning and design phase. The planning phase includes the analysis of problems, methodology formulation, literature review and design conceptualization. The task is considered achievable within the given time frame.

The second semester on the other hand will focus on development stage of the prototype of the system. Development of the system will be done based on the design conceptualization during the first semester. Development, testing and evaluation of the system are achievable for the time frame given provided the time frame for each project activities is followed accordingly.

CHAPTER 2

LITERATURE REVIEW

2.1 Comparison between traditional and online method

The literatures on course and lecturer evaluation system (Anderson, Cain, & Bird, 2005) discuss the disadvantages and advantages of traditional and online method. For traditional method, the disadvantages of the system are (1) it is costly and (2) does not support green environment as the method is paper-based. The (3) result is also some times is not of quality as students effortlessly fill the evaluation form without really putting their thoughts into the survey. Advantages of it would be it (1) does not depend on other system like an online system which requires internet access. Another advantage is it can (2) sometimes have higher rate of participation from students.

Compared to traditional method, the online method advantage is it (1) provides rapid feedback because of automated data compilation; (2) is less expensive to administer as it eliminates printing costs; (3) requires less class time for conducting evaluation exercise; (4) is less vulnerable to professorial influence as it does not done in class; and (5) allows students as much time as they wish to complete and can submit anytime during the time period specified. Disadvantages to this method are: (1) requires computer access; (2) is considered less accurate by faculty unfamiliar with online methods that prefer the traditional in-class paper version; (3) elicits lower student response rates; (4)requires computer literacy; and (5) requires good system requirement to increase student participation.

Using online system, the data captured is near to real time and reports of submitted data can be immediately generated. However, the participation is based on length of the evaluations. This problem does not happened to UiTM because UiTM have restricted students from viewing the examination results if they have not completed and submitted the evaluation exercise.

Another point in a literature indicates that the online system allows students to complete the evaluation exercise anytime they like during the specified time range (Anderson, Cain, & Bird, 2005). Thus, students will have more time to really think on what they should comment and give the most thoughtful rating and feedback (Donovan, Mader, & Shinsky, 2006).

2.2 Incentives vs. Response Rate

In a study conducted by Layne et al (1999) of how online evaluation affects response rate, it is found that respond rate in traditional method is higher than that of online method. The percentage is 60.6% to 47.8%. However, the study is conducted in 1999 where internet access is limited. In UTP, internet access is provided in room, academic block, information resource centre and cafeterias therefore the accessibility is increased compared to that in the year 1999.

However, the highlighted problems in online system implemented by other universities are students often forgot to complete the online evaluation and the link to the system are sometime accidentally deleted (Laubsch, 2006). Students also usually choose to not respond to lengthy evaluation survey (Sax, Gilmartin, and Bryant, 2003).

The response rate often recorded low in studies conducted by many researchers. However, in a study by Dommeyer (2004) indicates that the response rate is

increased when an incentives plan is offered. In University of California-San Francisco, School of Pharmacy they conduct the online evaluation exercise by offering incentives to motivate more participation from student. The incentives would be paid graduation dinner and party if 90% of students completed the evaluation exercise. The result is only one class did not achieve the target of 90% as they only achieved 87% which is also a high percentage.

In University of Florida, School of Pharmacy, they have nearly 100% of response rate as a result of disincentives (D. Ried, 2003). The university requires student to complete the evaluation exercises for them to be able to view full result and complete grades of the final examination.

The response rate in University of Isfahan is high using the online system as they are obligated to complete the evaluation for them to enrol in new semester and view the examination result (Maryam, Alireza, Ahmad Reza, & Azizollah, 2012). The case is similar to Universiti Teknologi MARA (UiTM). Students will receive a message reminding them to complete the evaluation online if they have not submitted it yet. Once the evaluation is done only they can view their result.

There are four key points identified from the analysis of the case study. These key points are important to be included in the system as in order to replace the current system and avoid problem that have been identified from online system used by other universities. The four key points are:

- easy format for creating and editing evaluations
- student online access to evaluations that maintained their anonymity upon submission yet could be tracked for completion
- a mechanism for sending automatic e-mail reminders
- a mechanism for report generation

The advantages of the proposed system are it provides more time for evaluation thus allow more thoughtful feedbacks from students, a faster capturing and compilation of data, reduction in workloads for compilation, increase students' participation and cost-saving (Kuhtman, 2004).

CHAPTER 3

METHODOLOGY

3.1   Rapid Application Development (RAD)

The methodology used for this project is Rapid Application Development (RAD). The method chosen is a type of prototyping-based methodology that uses minimal planning for the purpose of rapid prototyping. The lack of planning allows the system to be written faster yet it is easier to change the requirement later to meet user's need. The chosen methodology supports the limited timeframe set to develop the system which is in 2 semesters.

Figure 3.1 describes the four phases in RAD. Generally they are the requirement planning phase, user design phase, construction phase and cutover phase.
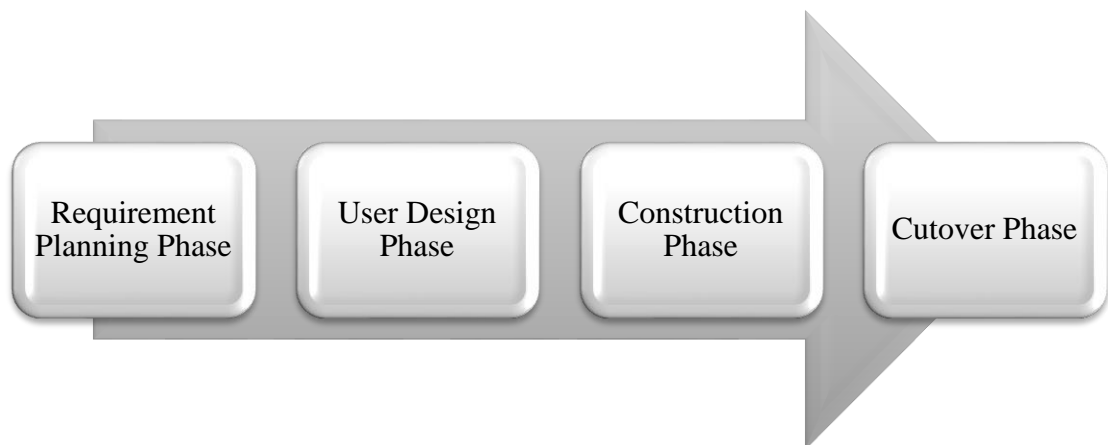

Figure 3.1   Phases in Rapid Application Development

3.1.1 Requirement Planning Phase

The element of planning and analysis is combined during planning phase thus minimize the time spent for each activity. In this phase, the problem is identified and objective of the system is developed. Analysis of the problem is also done using literature review and analysis of previous works related to the study. The phase of analysis work is important as it identifies the important features to be added in the system and key features that can really help in the improvement of current system used by UTP. In planning phase, the methodology is identified clearly so that it allows smooth delivery of the project. The scope also is narrowed down and is defined clearly so that the project is more focused and is suitable for the pre-set time frame.

3.1.2 User Design Phase

In design phase, the prototype is developed in order for user to understand and modify the system to meet their idea. During this phase, the prototyping will include all the system processes, inputs and outputs with close interaction by project champion and system developer. The project champion identified for this project is:

- Dr. Baharum Baharudin as Project Supervisor

The development of the system uses the concept of 'functionalities first, graphical user interface (GUI) later' approach. The concept explains that the focus of the system would be on the working functions, buttons and links first while keeping the GUI design at minimal level. The GUI will be designed later after all the functions working properly and is approved by user to meet the pre-identified system requirements.

2012｜Dissertation

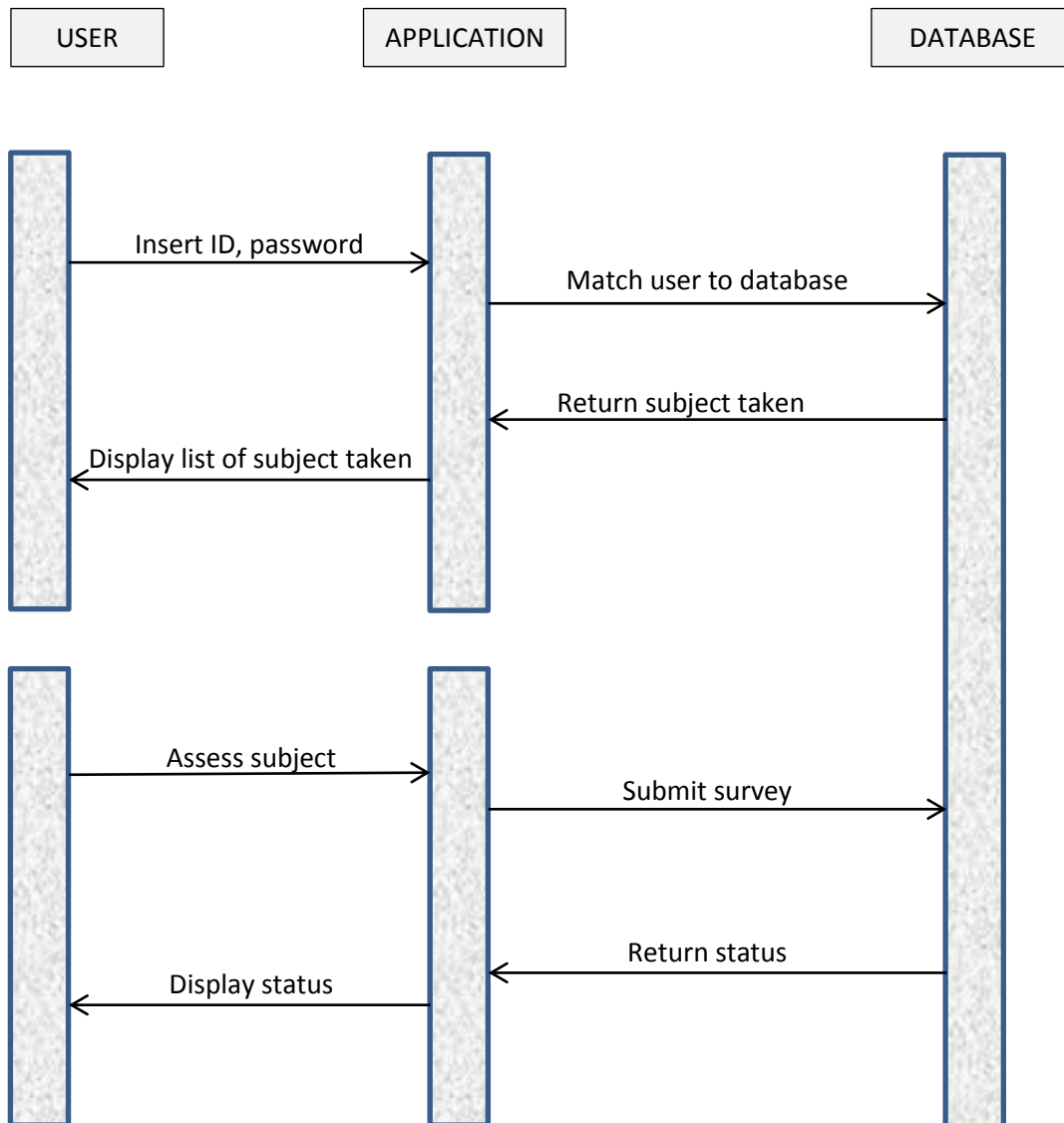Design of the system is done based on these diagrams.
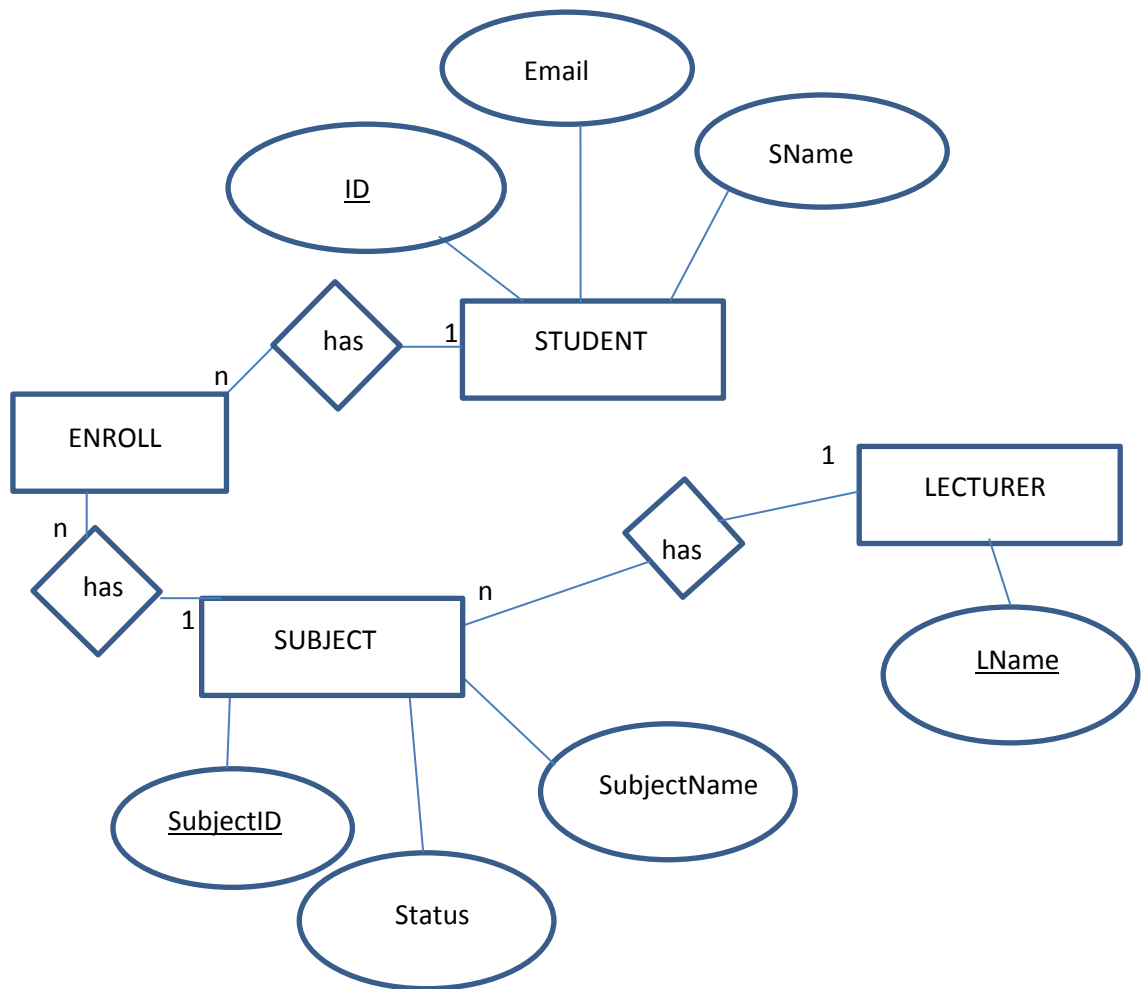

Figure 3.1.2a System Sequence

Figure3.1.2b   ER Diagram

3.1.3 Construction Phase

Changes and improvement is made in construction phase and the tasks involved are programming and application development, coding and system testing. With the developed prototype, user will tests the system and identify what need to be improved and suggests other key features that they think should be included in the system to enhance its functionalities. With the rapid prototyping, user will have more time to understand the working functionalities of the system and can give more idea to boost system performance to meet their need while testing the prototype.

3.1.4 Cutover Phase

The last phase, cutover involves full scale testing, system changeover and user training tasks. This is the phase where fully functional prototype has been developed and a full scale testing of the system will be conducted. The phase also involves data conversion from manual storage to online storage, changeover to the new system from using the semi-auto system conducted in class to using the new system which is online-based. Lecturers do not need to conduct the lecturer and course evaluation activities in class anymore and they can fully test the functionality of the system by giving the links to the system to students. These minimize lecturers' responsibility and do not take up their class time to complete the course outline.

3.2 Project Activity

The first key activity for the project is literature review. The purpose of doing the literature review is to see the current development of similar project implemented by other educational institution. The activity provides more understanding on the project, key features to be included in the system to ensure the project is ready for implementation and to compare the features developed in other systems by other institution. Next is analysis of the system requirement to determine components needed in designing and developing the system. This is to ensure the project is feasible to the time frame and relevant to the scope of courses taken. Further activity is design of the system followed by the development, testing and evaluation.

3.3 Key Milestone

There are three milestones identified in the project development. They are as follow:

- Analyse and compare system developed by other educational institution to find the best features
- Completion of system design
- Completion of system development

There are few important dates to be highlighted and give high attention to for second semester of Final Year Project. Below are the timeline for each:
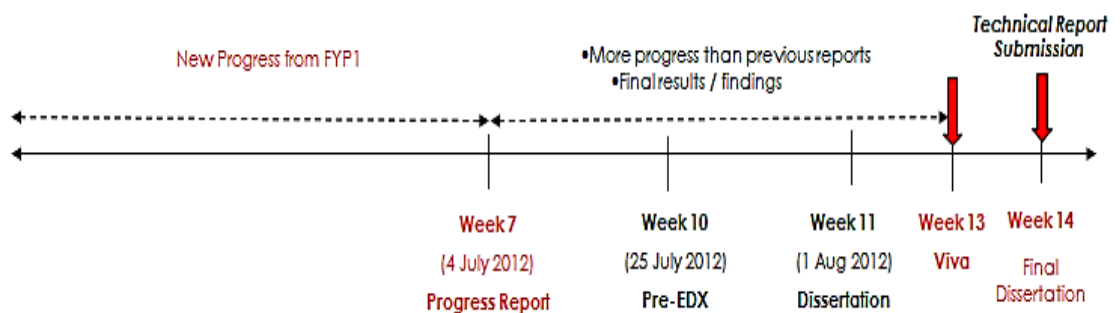

Figure 3.3 Project Timeline

3.4 System Requirement

Based on analysis done for system requirement, it can be divided into two areas which are the hardware and software. The hardware includes the use of personal computer. Software includes the use of dBase software as programming tools and for database management.

3.5   Gantt Chart

Below are the Gantt Chart to be followed throughout the period of the project. The Gantt Chart includes the timeframe in the first and second semester together with the key milestone to be achieved according to phases.

Course: Final Year Project I
Project Title: Developing Online Course and Lecturer Evaluation System using dBase
Project By: Izyan izzati Baharuddin
Start/ End Date : 26th January 2012 - 27th April 2012

Task	Jan		Feb				Mar				Apr			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Selection of Supervisor	▩													
Submission of Proposal		*												
Proposal Approval by Research Cluster			▩											
Research Class			▩	▩	▩	▩								
Preliminary Research Work			▩	▩	▩									
System Overview			▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
Gathering User Requirement						▩	▩	▩	▩	▩	▩	▩	▩	▩
Design							▩	▩	▩	▩	▩	▩	▩	▩
Submission of Extended Proposal						*								
Proposal Defense									*					
Submission of Interim Report												*		

Figure 3.5a Gantt chart FYP I

Course: Final Year Project II															
Project Title: Developing Online Course and Lecturer Evaluation System using dBase															
Project By: Izyan izzati Baharuddin															
Start/ End Date : 21st May 2012 - 24th August 2012															
	Week														
	May		Jun				Jul				Aug				
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Project Research and Work Proceed	▓	▓	▓	▓	▓	▓									
Application Development	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓					
Submission of Progress report							*								
Testing application								▓	▓						
Pre-EDX										*					
Submission of Dissertation											*				
Viva													*		
Submission of Technical Report														*	
Implementation														▓	
System Delivery														▓	

Figure 3.5b Gantt Chart FYP II

Phase	Activity	J	F	M	A	M	J	J	A
Requirement Planning	Literature Review	▓	▓	▓	▓	▓			
	Proposal Writing	▓	▓						
	Result Analysis			▓	▓	▓	▓		
	Proposal Defence and Progress Evaluation				▓				
	Interim report writing			▓	▓				
User Design	Application Development			▓	▓	▓	▓		
Construction	Technical Paper Writing					▓	▓	▓	
Cutover	Pre-EDX							▓	
	Presentation and submission of technical paper							▓	▓

Figure 3.5c Project Activities According to Phases

3.6   Tools Required

No.	Element	Software/Platform
1	System development	dBase Plus Programming Software
2	Programming language	dBL
3	Database	dBase Plus

Table 3.6   Tools for System Development

The tools required for developing the system is dBase Plus Version 2.61.4 as programming tool. DBase Plus is chosen as it is a close source system. Nowadays, we are inundated with systems built on open source. An advantage of close source system is it is proprietary thus the system is more secured and the property and function is validated for use. Although it would be costly and does not allow customization, however it employs expert usability testing thus the usability ranking is high.

According to data from Forrester Research, 58% of IT executives and technology decision maker of large companies are concerned about the security in open source system. The study shows that most corporations still prefers system developed on close source for proprietary operation and activities. Apart from that, dBase Plus is chosen over the previous version because it allows access to data respected to object-oriented programming. Therefore, the system developer has more control over the data environment.

The language used for system development is dBL. The language is used by the dBase software where it will start with grafting of interface then the writing of the code behind each function in the interface. The database is managed by dBase itself as asides of being a programming tool dBase is also a tool for database management system.

CHAPTER 4

RESULT/ DISCUSSION

4.1   SYSTEM OVERVIEW

At the end of Final Year Project Period, a working model of the system is expected to be fully developed. The working system should be able to ease the course and lecturer evaluation process. Students should be able to test the system to do the evaluation exercise and user can test the system to see the report generated using the system that put it at different level than the current system. The system should be able to record data automatically after each submission and generate updated report.

From user perspectives, it creates hassle free system. UTP does not have to print a bulk of evaluation forms anymore and reduce their time in gathering all the data. It reduces UTP printing cost and responsibility of the staff in data compilation. Manual compilation in recording all comments is eliminated and done by the system automatically by automatic recording after student submits their evaluation exercise.

Of how the system works, user as in students will login to the system using the similar profile as in UTP student portal. The system will be linked to UTP student database therefore the log in activity will trigger the application to check for student record. From the matching of student record, this system can retrieve the list of subjects that student have enrolled for the current semester. The list of subject will be displayed in a summary where student can just simply click buttons in the system to assess those subjects. Assessed subject will be marked as completed after each assessment. Data from the exercise will be automatically recorded in database.

4.2   Data Gathering and Analysis

Data gathering for this project is obtained mostly based on literature reading. From the literature study, many features from other course evaluation system developed by other universities is analysed on its effectiveness towards increasing students' participation, minimizing hassle of manual evaluation and the cost saving purposes.

From the data, some local universities like International Islamic University Malaysia and Universiti Teknologi MARA block viewing of examination result if students do not complete the evaluation exercise. This in the author's perspective is a good alternative of increasing participation in the evaluation. However, to enforce that, the system must be able to remind user of the evaluation period and keep user notified if they have not completed the survey. These give the author idea of including a key feature that enables the system to send email or messages to user. However, the feature is to be included subjected to the difficulty level and the time frame and can be brought upon for future expansion.

Also from the data gathered, it turns out it is costly for universities to print out paper-based evaluation survey. Therefore, from the analysed data, to reduce the cost, the author came up with this project of having the survey to be online-based which reduces much cost and eventually minimizes time taken for survey evaluation.

Other data gathered for the project is that many applications nowadays is developed on open source like HTML ana Android. To make the project has different value from other, the author chooses to develop this project on a more proprietary software which is using dBase. The reason for this is that, for confidential information involving the university, it is much safer to have system built in closed source because the source code is not shared and can only be viewed by the developer only.

4.3   Prototyping

The system is currently still in development stage. The stage includes the building of interface and source code according to previous design conceptualization. Presently, the design of interface has been done. The author is currently working on the background coding to provide functionality to the system.

Several forms were designed to ensure the users enjoy a simple and user-friendly graphical user interface and hence providing them with easy navigation while using the database. There were three altogether for this project.
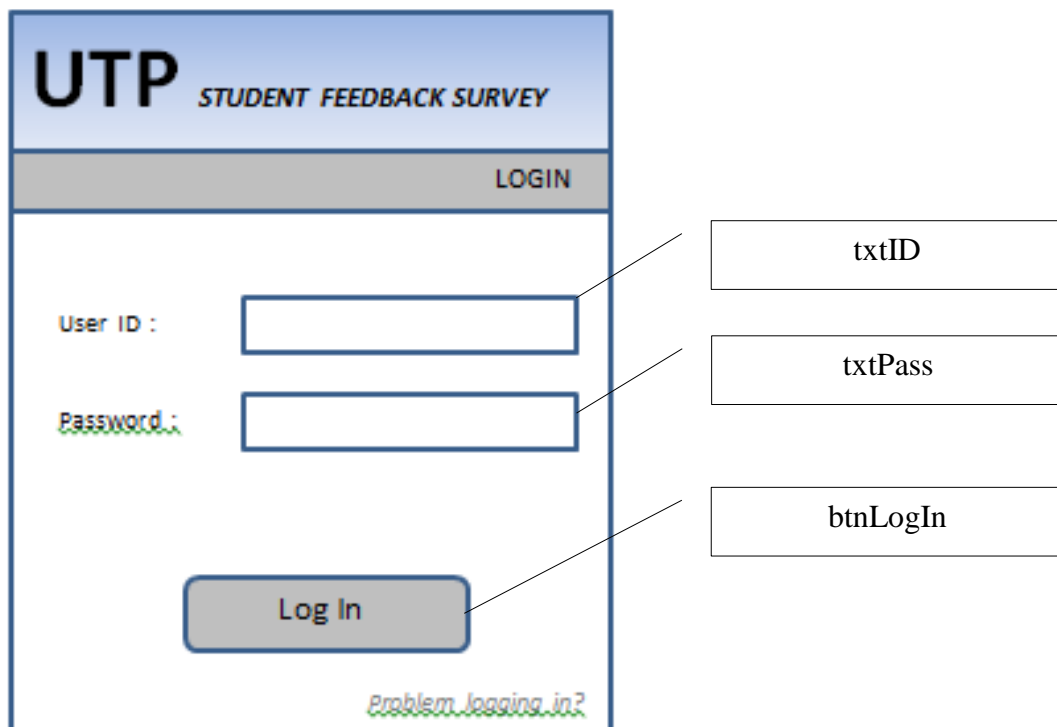
4.3.1   Interface

Figure 4.3.1a Login Interface

As being shown on figure above, the first interface is the login interface. From this interface, user will key in their student ID together with password similar to their student portal profile. When user clicks the 'Log In' button, the function will check and matching the entered data to record in database.

Name	Type	Event	Action/Notes/Coding
txtID	Text Box	None	1. For user to enter their student ID to be matched to record in database. This field should not be left blank otherwise it will trigger an error message and user cannot log in to the system.
txtPass	Text Box	None	1. The textbox contain data of user password. The field should not be left blank. If left blank, an error message will pop-up and user cannot log in to the system. 2. If the entered password does not match to user ID's password in database, user cannot log in.
btnLogIn	Push Button	On Click	1. Clicking this button will trigger the function to check student record from database. 2. If there is no matching record, error message will pop-up. 3. If there is matching record, user will be navigated to other interface which is the summary.

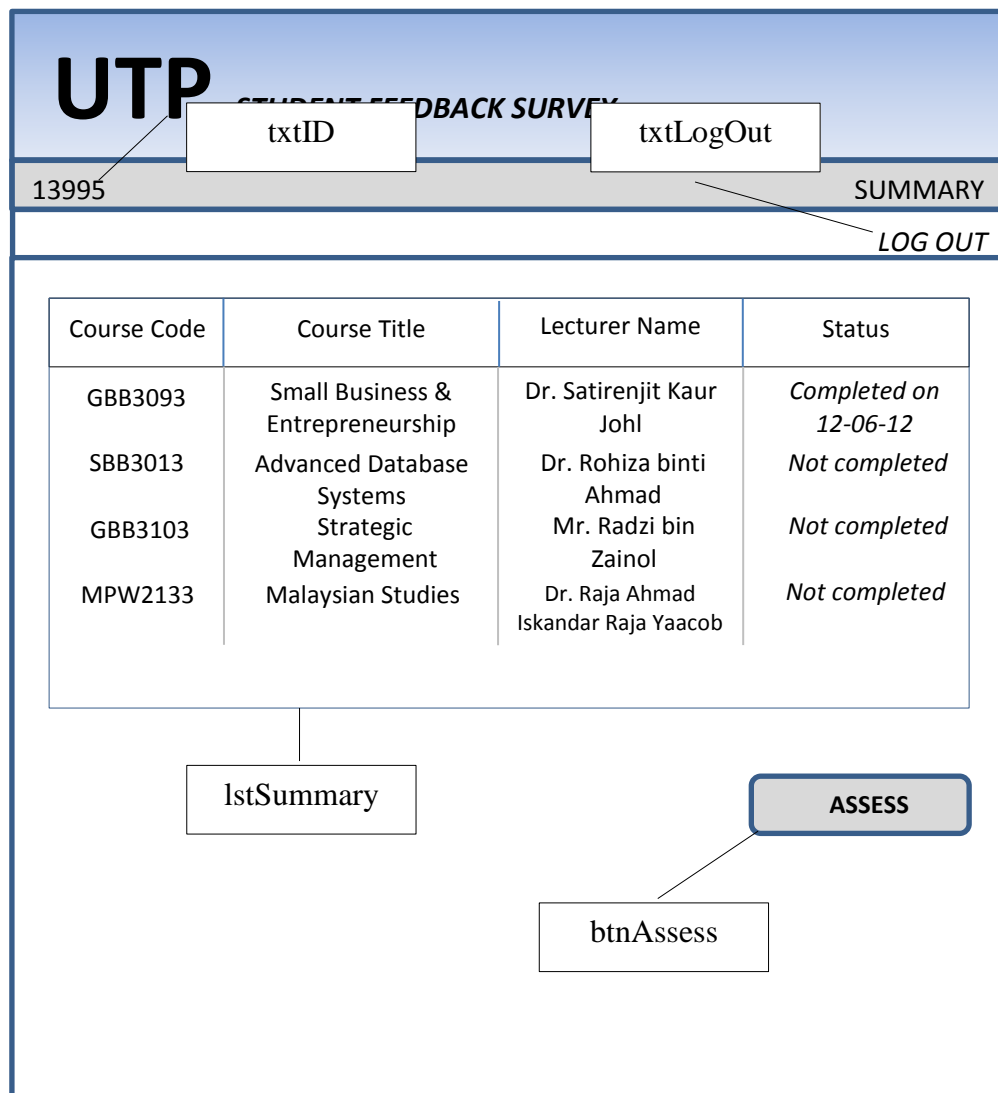Table 4.3.1a Log In Task, Object, Event (TOE) Chart

Figure 4.3.1b Summary Interface

Figure 4.4.1c shows the interface of student summary. The summary will list down all subjects taken by students on the current semester. The list of subjects is retrieved from student database which can track students' enrolled subjects.

Name	Type	Event	Action/Notes/Coding
txtID	Text Box	None	1. Display ID of user
txtLogOut	Text Box	None	1. Hyperlink to Log In interface. 2. Once clicked, user will be automatically log out and navigated to Log In Interface
lstSummary	List Box	None	1. List the subjects enrolled by student of the particular semester. 2. List retrieved from database.
btnAssess	Push Button	On Click	1. Clicking this button will navigate user to Survey Form. 2. User needs to select subject from the list box first in order to assess the subject. 3. Assess button will be disable until user have selected subject that they want to assess.

Table 4.3.1b Summary TOE Chart

UTP

FEDBACK

txtID

txtCourseT

txtCourseN

| 13995 | SMALL BUSINESS & ENTREPRENEURSHIP | GBB 3093 | SURVEY FORM |

txtLogOut

LOG OUT

Please read the following question and mark your response according to the following scale

① Excellent
② Good
③ Fair
④ Poor
⑤ Very poor

QUESTION	grp1	RATING	COMMENT
The course conte	grp2	①②③④⑤	cmt1
The lecturer's effectiveness in teaching the sub	grp3	①②③④⑤	cmt2
Students' confidence in lecturer's knowledge was:	grp4	①②③④⑤	cmt3
Encouragement given to students to express themsel	Grp5	①②③④⑤	cmt4
Relevance of course content was:		①②③④⑤	cmt5

btnSubmit

SUBMIT

Figure 4.3.1c Survey Form

Name	Type	Event	Action/Notes/Coding
txtID	Text Box	None	1. Display user ID
txtCourseT	Text Box	None	1. Display title of subject being assessed.
txtCourseN	Text Box	None	1. Display course code of subject being assessed.
txtLogOut	Text Box	None	1. Hyperlink to Log In interface. 2. Once clicked, user will be automatically log out and navigated to Log In Interface
grp1-grp5	Group Box/Radio buttons	None	1. Group radio buttons together. 2. Mark the ratings for each question.
cmt1-cmt5	Text Box	None	1. Contain comment for each question.
btnSubmit	Push Button	On Click	1. Clicking this button will trigger the function that will store the rating and comment for each question in database. 2. Stored data will automatically be calculated for the result. 3. The lower the score shows the best performance. 4. Button is disable if there is any blank field.

Table 4.3.1c Survey TOE Chart

CHAPTER 5

5.0   CONCLUSION

The aim of the project is to improve the current system in a way of increasing student participation, encouraging thoughtful feedbacks in evaluation exercise, an immediate data capture and report generation as well as saving the cost for printing the evaluation forms. For now, the project is under development stage. Prototype of the system is currently being developed and added with suitable features according to design done while minimizing the complicacy.

5.1   Relevancy to the Objectives

The objective of this project is to develop a web-based system capable of handling an evaluation exercises on courses and lecturers. The system is capable of checking student database and returns the list of subject taken to be assessed and able to record the status of assessment. With such function, it is proven that the project is relevant to its objective.

5.2   Suggestion of Future Work and Expansion

It is hoped that the system provides a whole new experience and would ease the life of students, lecturers and the staffs in UTP. The benefit of the system is it is hoped that the implementation of the system can reduce time and provide more quality in the evaluation exercise thus provide students and lecturers with improved education as actions to useful feedbacks that could bring UTP to reach its vision in producing well-rounded students.

For future expansion, a function that allow the system to send reminder through email or short-messaging system (SMS) should be developed and the system should be linked to university database, PRISM for it to be implemented in UTP.

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