ONLINE TEACHING AND LEARNING EVALUATION SUPPORT SYSTEM
(TLESS)

SIM CHENG CHONG
(NETWORK COMPUTING)

This project is submitted in partial fulfillment of
the requirements for the degree of Bachelor of Computer Science with Honours

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DECLARATION

No portion of the work referred to in this report has been submitted in support of an application for another degree or qualification of this or any other university or institution of higher learning.

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Sim Cheng Chong                Date
9097
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ABSTRACT

The Online Teaching and Learning Evaluation Support System (TLESS) is a web based system to manage the course, lecturer and tutor evaluation information and result effectively. This thesis discussed about the overview of the Teaching and Evaluation System, the background of the system, the methodology used, the system analysis process, system design process, system implementation process, testing and evaluation process and also the future works.

The main features of this system are enable students to evaluate course, lecturer and tutor through online, manipulation of student, course and clerk record, generate report in text and pie chart format, print course, lecturer and tutor evaluation report. The details of these features will be discussed in this thesis. As a conclusion, TLESS achieved the goals.
ABSTRAK

Sistem Penilaian Pengajaran dan Pembelajaran ialah sistem yang berjenis rangkaian. Ia bertujuan untuk menguruskan maklumat dan keputusan penilaian terhadap matapelajaran yang telah dipelajari, pensyarah dan tutor secara sistematik, berkesan dan cekap. Justerunya, ia juga meningkatkan produktiviti serta memperbaiki kaedah pengurusan. Tesis ini membincangkan latar belakang sistem, penyelidikan yang dijalankan, metodologi yang digunakan, proses rekabentuk sistem, implementasi sistem dan juga pembangunan ciri-ciri sistem pada masa hadapan.

CHAPTER 1: AN OVERVIEW

1.1 Introduction

Various types of latest computer technologies and information system have been introduced to people. The universities have been working toward the network based or web based evaluation system for the benefits of the staffs, students and lecturers. However, based on the study of the existing evaluation processes adopted by the local universities, most of the local universities still conduct the evaluation process manually which is time consuming and costly. Thus, the manual evaluation process or partial system does not produce the evaluation result quickly. Therefore, the comprehensive online Teaching and Learning Evaluation Support System (TLESS) need to be proposed to solve the current manual evaluation process problems. The TLESS is to be implemented at the Faculty of Computer Science and Information Technology (FCSIT).

1.2 Problems Statements

Manual system adopted by the universities in distributing and processing the evaluation form is time consuming and costly. The management board needs to take two days to insert the data from the evaluation forms, which is only for a particular subject into the computer and to generate the result in graph manually. Currently the required time to complete all the core courses, tutorials, lecturers and tutors evaluation for the particular semester is about 3 weeks, where about 100 to 200 pieces of forms need to be processed for each day. The number of student will increase every year, therefore indirectly increases the workload for the clerk and the time to complete the task.
All of the evaluation forms are distributed and recorded manually. This required a lot of paper works. Faculty of Computer Science and Information Technology (FCSIT) need to use four to five rims of A4 papers for printing the evaluation forms for each semester. This is very cost consuming when the number of student increased.

Sistem Maklumat Pelajar (SMP) is one example of the staff work that delayed because of generating the evaluation result. Overall the evaluation result does not represent the actual teaching and learning situation. This is because of not every student will fill the form. Therefore, their opinion will not be obtained. Besides that, the students are distracted when filling the evaluation form during tutorial or lecture time.

1.3 Objectives

The main purpose of the project is to generate more efficient report and graph for the result of Teaching and Learning Evaluation Support System. Besides that, there are several objectives to be achieved in this project. The objectives of the project are:

1. To study the requirement and specification of the Teaching and Learning Evaluation Support System.
2. To design the Teaching and Learning Evaluation Support System.
3. To develop a web based Teaching and Learning Evaluation Support System which will require student and administrator to log in to the system using their ID number and passwords in order to avoid unauthorized access from outsiders.

1.4 Scope of project

The Teaching and Learning Evaluation Support System (TLESS) is only developed for FCSIT. The basis of TLESS consists of filling, structuring, storing, organizing, processing and
manipulating data. The final result of evaluation of the courses, lecturers and tutors can be viewed in the text and graph format. It is a web based prototype system. The TLESS can produce result of the evaluation for the FCSIT core courses, tutorials, lecturers and tutors. The target users consist of three groups, which are students, clerk and administrator.

1.5 Methodology

The methodology used is adopted from Object Oriented System Development Life Cycle (OOSDLC). According to (Bahrami 1999), this methodology is based on the best practices that have been proven successful in system development. Figure 1.1 shows the approach that is used in developing TLESS. The following sub-sections discuss in details each steps of its approach.

![Object-oriented systems development approach for TLESS](image)

*Figure 1.1: Object-oriented systems development approach for TLESS*

1.5.1: Planning

This phase is concerned about identifying problems of current manual evaluation system, and opportunities of developing the manual evaluation system into web based
evaluation system. This stage is extremely important because only the correct problems faced by the student and the clerk can produce a good project plan. Basically, the purpose of identifying the manual system problems is to improve the current manual system to web based system. Identifying the project objectives is important to ensure the goal of developing the Teaching and Learning Evaluation Support System (TLESS) will be achieved at the end. The feasibility study is compulsory in this phase to develop the proposed TLESS which is desired by the users. Therefore, several methods can be used to determine information requirements including the use of interviewing, questionnaires and observation. Besides that, there are also factual information finding involved to obtain information for literature review. Basically, there are a lot of literature reviews being done from existing evaluation system and others universities evaluation system.

1.5.2: Object-Oriented Analysis (OOA)

The Figure 1.2 shows the OOA diagram, OOA is based on the use-case driven to determine the Teaching and Learning Evaluation Support System (TLESS) requirements and identify classes and their relationship to other classes. Iteration approach is used to do analysis. In the first stage, actors will be identified to know who and how they are going to use TLESS. Use case is created because the typical interaction between users and TLESS needs to be identified. The use-case model represents the user’s view of the system. The next step is to classify the object classes that are going to be used in developing TLESS. Next, identify object relationship, attributes and methods of TLESS. Lastly, refine and iterate the OOA in order to develop a better OOA.
1.5.3: Object Oriented Design (OOD)

All the relationships and the classes defined in the OOA will be designed at this phase by applying the design axioms and corollaries as listed in Figure 1.3. UML class diagram will
be created after all the relationship between all classes has been laid out. After that, access layer and view layer will be designed. Actually, the access layer is more on how the TLESS system communicates with the database while the view layer is concerned with the user interface. Usability testing will be employed to gather feedbacks from the users regarding the system. Changes might be carried out if the users are dissatisfied with TLESS.

1.5.4: Object Oriented Implementation (OOI)

![Diagram](image)

*Figure 1.4: Object Oriented Implementation diagram*

Figure 1.4 shows the Object Oriented Implementation diagram, TLESS will be implemented using object oriented programming language. Lastly, users are required to test the system and if there are any dissatisfaction about the TLESS, then refine process will be taken.

1.6 Expected Outcome

The expected outcome will be the prototype of Teaching and Learning Evaluation Support System. The system is focused on providing online evaluation to the courses, tutorials, lecturer and tutor. Besides that, it’s also helping the clerk in structuring, storing, organizing, processing and manipulating the evaluation data. It can also reduce the lecturer’s burden in carrying, distributing and collecting the evaluation form. Therefore, the clerk, lecturer and student shall all benefit from the outcome.
1.7 Proposed System Features

Table 1.1 lists out the features for TLESS. The following features will be implemented in the TLESS.

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<th><strong>System Features</strong></th>
<th><strong>Description</strong></th>
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<td>This is a security features which enable different users to access the system with their own username and password. There are three main users involved, the student, clerk and administrator.</td>
</tr>
<tr>
<td>Manipulate the student records</td>
<td>This feature allows clerk and administrator to add, edit and delete the student records. Besides that, clerk and administrator also can view the entire student taking particular course during that semester.</td>
</tr>
<tr>
<td>View courses taken</td>
<td>Student can view the courses taken during that semester.</td>
</tr>
<tr>
<td>Fill up the evaluation form</td>
<td>Student must fill up all the forms. Client side error handling can detect unfilled question and prompt student to fill again.</td>
</tr>
<tr>
<td>Generate Report</td>
<td>This feature will automatically generate pie chart and text report once the clerk or administrator clicks on report link.</td>
</tr>
<tr>
<td>Report</td>
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</tr>
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<td>Print report</td>
<td>Clerk and administrator can print reports through this feature.</td>
</tr>
</tbody>
</table>

*Table 1.1 Proposed System Features*

1.8 Significant of Research

The project will benefit the FCSIT student in the aspect of filling in the evaluation form. Normally, the evaluation process will be conducted during the lecture, but now they can concentrate on the lesson at the lecture hall because the TLESS enables the student to evaluate the courses, tutorials, lecturers and tutors anytime when there is an internet connection. It also benefits the FCSIT clerk in generating the report and graph from the evaluation data obtained from the entire student. In addition, the clerk will require less time for the overall process of daily operations.
1.9 Outline of project and Conclusion

This thesis is divided into five chapters. Chapter 1 gives the overview of the project. The purpose of selecting this project will first describe and followed by its objectives. After that, the methodology used is explained. The project scope, expected outcome and significance of this project will be concluded.

Chapter 2 outlines the literature reviews. This chapter is categorized into literature review and technical review. Literature review is based on similar system features and functionality. On the other hand, technical review is based on the programming tools, database and the technical aspects on how those similar system be implemented and why the proposed system intent to use those particular programming tools and database server. Thus, comparisons are made between reviewed systems as well as the implementation tools. In addition, improvement on the proposed system is stated after the review is done.

Chapter 3 describes the analysis and design. The details of requirements and specifications are discussed and emphasized. The users’ points of view will be the resources for identifying the system needs. System design will use diagram and Unified Markup Language. Besides that, database design, data normalization and data dictionary will be discussed in details.

Chapter 4 focuses on the implementation and testing of the system. Basically, implementation procedures include installation, deployment and fixed the system into operation. The system is testing by a group of student, and clerk to determine the usability, functionality of the system. If necessary the dissatisfaction from the users will be redefined and redesign.

Lastly, chapter 5 of this thesis discusses the achievements of the project. The future enhancements of the system are included for future reference.