PRESENTATION OF DISSERTATION/THESIS SHEDULING SYSTEM (PDTSS)

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To my beloved family

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ABSTRACT

In this study we will concentrate on the presentation of scheduling problems in an attempt to develop a web-based, automatic presentation scheduling system which can be employed by Advanced Informatics School, Universiti teknologi Malaysia (UTM AIS). So far this matter has been carried out manually until UTM AIS. This occurs on the event that the presentation scheduling process that was being managed turns out to be rather difficult for administration. The presentation scheduling problem is related to the scheduling of number of presentations to the venues and the limited available timeslots and also allocating some examiners for every presentation while taking the need to satisfy a group of defined constraints into consideration. Furthermore, the aforementioned system enables the staff and personnel to email or print the scheduling timetable of presentation. Implementing this system in UTM AIS is influenced by a group of presentations, the overlapping of examiners has to be avoided and the presentations have to be distributed among the examiners equally and fairly also the examiners must have the minimum possible gap between the presentations which they attend in. Greedy algorithm has been employed in this report. The software development model employed for the structuring and controlling of the developmental procedure of dissertation/thesis scheduling system's presentation is incremental development model. The system will be implemented by C# programming language. The software documentations which were conducted in accordance with DoD-2167A standards in this study consist of Software Development Plan (SDP), Interface Requirements Specification (IRS), Software Requirements Specification (SRS) and system Design Description (SDD).

ABSTRAK

Dalam kajian ini, kita akan menumpukan kepada pembentangan masalah penjadualan dalam usaha untuk membangunkan berasaskan web, persembahan automatik sistem penjadualan yang boleh digunakan oleh Advanced Informatics School, Universiti Teknologi Malaysia (UTM AIS). Perkara ini telah dilakukan secara manual pada masa lalu sehingga UTM AIS telah merancang untuk mendaftar lebih ramai pelajar kerana mereka akan menyediakan program-program baru dalam masa terdekat. Ini berlaku pada keadaan di mana proses penjadualan persembahan yang diuruskan ternyata menjadi agak sukar untuk pentadbiran. Masalah penjadualan pembentangan adalah berkaitan dengan penjadualan beberapa pembentangan kepada tempat-tempat dan timeslots terhad dan juga memperuntukkan beberapa pemeriksa bagi setiap persembahan semasa mengambil keperluan untuk memenuhi sekumpulan kekangan ditakrifkan kira. Tambahan pula, sistem yang dinyatakan di atas membolehkan kakitangan dan kakitangan untuk e-mel atau mencetak jadual jadual persembahan. Melaksanakan sistem ini di UTM AIS dipengaruhi oleh sekumpulan persembahan, bertindih pemeriksa perlu dielakkan dan persembahan perlu diagihkan di kalangan pemeriksa sama dan adil juga pemeriksa mesti mempunyai jurang mungkin minimum antara persembahan yang mereka menghadiri masuk algoritma tamak telah digunakan dalam laporan ini. Model pembangunan perisian digunakan untuk penstrukturan dan mengawal prosedur pembangunan persembahan disertasi / tesis sistem penjadualan adalah model pembangunan tambahan. Sistem ini akan dilaksanakan oleh C # bahasa pengaturcaraan. Dokumentasi perisian yang telah dijalankan selaras dengan piawaian DOD-2167A dalam kajian ini terdiri daripada Rancangan Pembangunan Perisian (SDP), Muka Keperluan Spesifikasi (IRS), Software Keperluan Spesifikasi (SRS) dan sistem Design Penerangan (SDD).

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CHAPTER 1

PROJECT OVERVIEW

1.1. Introduction

The purpose of this chapter is providing general explanation about the Presentation of Dissertation/Thesis Scheduling System (PDTSS). Being in UTM AIS, international campus, the reader with an overview of report in an industrial attachment will be provided in this chapter. What will be discussed in this chapter is a background of UTM AIS' scope and objectives of the working projects.

1.2. Company Background

Advanced Informatics School (AIS) has been known as only center of excellence in Universiti Teknologi Malaysia (UTM) to focus on the Computer Science especially in Software Engineering and Information Security.

Furthermore, AIS offers full time and part time postgraduate programs to local and international students. Programs which offered by AIS are as follows:

- PHD of Computer Science
- Doctor of Software Engineering
- Doctor of Philosophy
- Master of Computer Science
- Master of Software Engineering
- Master of Computer Science (Information Security)
- Master of Science (Information Assurance)
- Master of Science (Computer Systems Engineering)
- Master of Science (IT-Management)
- Master of Philosophy

AIS, has vision to become a global referred center in informatics solutions and the services and is committed to improve the development of human capital in informatics. (www.ais.utm.my)

1.3. Background of Problem

Creating a presentation of thesis or dissertations that is timetable for every program that was mentioned before is without a doubt a demanding and challenging process. Therefore, this document will study the presentation of dissertation/thesis scheduling problems occurred in AIS.

It is important to mention and to note that no presentation of dissertation/thesis scheduling systems has been developed in AIS up to now. Before, all were done manually and it was possible because of small number of students in AIS. The schedule of some examiners might be overloaded while there may be examiners whose schedule is less loaded and are assigned fewer presentations

because there is a chance that the dispatch of presentations has not been fair. Furthermore, the time and venue of the presentations may conflict. Nonetheless, introducing more programs, AIS has decided to admit more and more students.

1.4. Project Objectives

The main objectives of this project are:

- To study the existing presentation of dissertation/thesis scheduling systems and also the algorithms of similar to presentation of dissertation/thesis scheduling system in other universities
- To develop a presentation of dissertation/thesis scheduling system, which using incremental software development model; this system suits UTM AIS presentation of dissertation/thesis scheduling requirements.
- To deliver the related software engineering document, which are the SDP, SRS, IRS and SDD.

1.5. Project Scope

UTM AIS needs a timetable for presentation of dissertation/thesis for every semester, considering all programs. Henceforth, a study was obliged to take place in order to question the upcoming related problems for preparing this timetable manually and also the requirements in the procedure of automatic presentation of dissertation/thesis scheduling system and developing this system that can alleviate the staff of AIS, who are in charge of preparing the schedule for presentation of

dissertation/thesis. The aim of this study is providing solutions to solve the occurring problems during the preparation of presentation of dissertation/thesis schedule manually; some such as any probable conflict and mistakes in examiners, time, venue for each per session.

The scope of this study is to implement a web-based Presentation of Dissertation/thesis Scheduling System (PDTSS) application for UTM AIS.

1.6. Importance of the project

To maximize the efficiency of this presentation of dissertation/thesis management process and to minimize the time of creating the presentation of dissertation/thesis schedule depended on AIS' need of having a reliable and effective presentation of dissertation/thesis scheduling system.

The result of this study is a system which can provide a solution in accelerating the process of generating the presentation of dissertation/thesis schedule.

The main assistance of this system is in helping to ignore any possible mistake or conflict like the attributing of venue or scheduling of an examiner to more than one session simultaneously. Furthermore the presentations will be distributed between examiners fairly and also examiners will have the minimum possible time gap between their presentations. Moreover, it is helpful in integrating the data related to presentation of dissertation/thesis schedule, circulating the presentation's information rapidly and efficiently.

1.7. Deliverables of the Project

The figure 1.1 shows all deliverables (documents and source code) which must be delivered for this project.
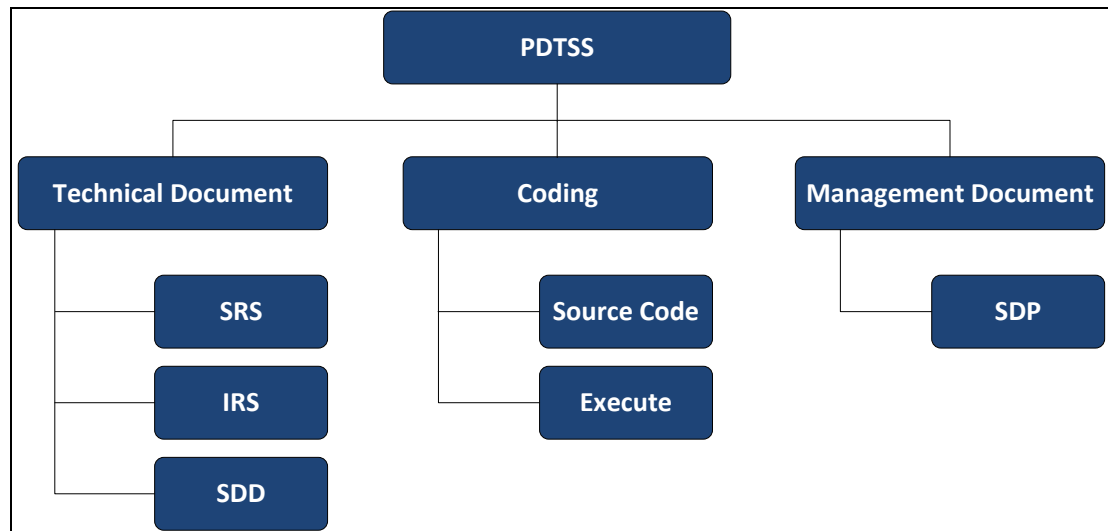
Figure 1.1: Software Development Files

- Software development plan (SDP):

The software development approach, procedures, methodologies as well as the tools that are going to be used during the software's analysis, design, development, integration and maintenance are going to be established in this document. In this document, the overall plan that is going to be employed and applied in the development of the project is going to be described. Every project management activity is going to be executed in accordance with the Software Development Plan.

- Software Requirements Specification (SRS):

This document is a thorough description of the behavior of the system that is being developed. A group of use cases are included in the SRS document that

provides an explanation about the interactions every user is going to have with the system. It is employed in determining the basis of agreement between the developers and customers in regards with the system functionality.

- Interface Requirements Specification (IRS):

  The Interface Requirements Specification (IRS) identifies and clearly describes the requirements forced on the system. IRS document can be employed as the basis for the system's qualification testing as well as the design of SRS document.

- Software Development Design (SDD):

  This document can be described as a software product's written description; providing an explanation or a description of the way the requirements and demands specified within the specification document is executed.

- Source Code:

  Source code is the text that the programmer writes employing the syntax and format of the programming language. The listing of the source code employed in generating automatic presentation scheduling should be burned into a CD by the author and pasted at the hard cover at the back of the thesis.

- Execute:

  Execute file refers to a file with a format that allows the computer to directly accomplish the stated tasks in accordance with the encoded instruction. In C# language, executable files have .exe extension and called EXE files.

1.8. Project schedule

Software development activities and the time it is assigned to, is under the magnifier of this chapter. We employ project scheduling plan so as to accomplish per activity in the project in a specific time.

What project scheduling plan does, is to work as a guideline for estimating the management of the project development in time. Every single phase has to be completed in its own specific time as mentioned in the schedule. The following table 1.1 demonstrates the "Presentation of Dissertation/Thesis Schedule System" project's activities:

Table 1.1: Project Schedule

Activity No.	Activity	Duration
1	Software Development Plan	14 Days
2	The Specification Phases	22 Days
3	The Preliminary Design Phase	14 Days
4	Coding and Unit Testing Phase	14 Days
5	Integration and testing Phase	7 Days
6	The Research Methodology	29 Days

1.9. Chapter summary

This chapter provides general explanation about the Presentation of Dissertation/Thesis Scheduling System (PDTSS). Being in UTM AIS, international campus, the reader with an overview of report in an industrial attachment will be provided in this chapter as well.

This study discusses about the scheduling algorithms and systems in different areas, but the main focus of this study will be on the presentation scheduling algorithms and systems. This study bearing five chapters; Chapter 1 presents a short description of the presentation of dissertation/thesis scheduling system was given.

Chapter 2 encompasses the literature review which focuses on previous studies as well as the existing gap in the studied area. Chapter 3 discuss about confront the project's methodology and the demanding instruments applied in this report. Chapter 4 presents the developed system and some other variables like software engineering documents. And chapter 5 will be the conclusion.

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