EXAMINATION INVIGILATION SCHEDULING SYSTEM IN OPTIMISING LECTURERS' PREFERENCE

\mathbf{BY}

ASSOCIATE PROFESSOR ONG MOOI LIAN LIEW LEE HUNG JACQUELINE SIM PHEK KIM

DECEMBER 2006

TABLE OF CONTENTS

| Acknowledgements | | | | ii |
|-------------------|------------------------------|---------------------------|---|-----|
| Table of Contents | | | | iii |
| List of Tables | | | | |
| List of Figures | | | | |
| Abstra | ct | | | X |
| | | | | |
| СНАР | TER 1 | INTRO | ODUCTION | 1 |
| | 1.1 | Introdu | uction | 1 |
| | 1.2 | Background of the Project | | |
| | 1.3 Statement of the Problem | | | |
| | 1.4 Purpose of the Project | | | |
| | 1.5 | Object | tives of the Project | 6 |
| | 1.6 | Project Questions | | |
| | 1.7 | Signif | 7 | |
| | | 1.7.1 | Significance to the examination invigilation scheduling | |
| | | | committee | 7 |
| | | 1.7.2 | Significance to the management of UiTM Sarawak | 8 |
| | | 1.7.3 | Significance to the lecturers | 8 |
| | | 1.7.4 | Significance to URDC, UiTM Sarawak | 9 |
| | 1.8 | Scope | of the Project | 9 |
| | 1.9 | Definition of Terms | | 10 |
| | 1.10 | Concl | usion | 10 |
| | | | | |
| CHA | PTER | 2 REVI | EW OF LITERATURE | 12 |
| | 2.1 | Introd | luction | 12 |
| | 2.2 | Studie | es and Surveys | 13 |

| 2.3 | Development Software - Dreamweaver | 16 | |
|---------|---|----|--|
| | 2.3.1 The Advantages of Using Dreamweaver | 17 | |
| 2.4 | Database Management System | 17 | |
| 2.5 | Conclusion | 18 | |
| | | | |
| CHAPTER | 3 DESIGN OF INVIGILATION SCHEDULING SYSTEM | | |
| | INCORPORATING LECTURERS' PREFERENCES | 19 | |
| 3.1 | Introduction | 19 | |
| 3.2 | Process of On-line Invigilation Scheduling System | 20 | |
| 3.3 | Preliminary Procedures | | |
| | 3.3.1 Posting of Final Examination Timetable | 22 | |
| | 3.3.2 Creating a Counter for Monitoring Assigned Duties | 22 | |
| 3.4 | Design of ISS | | |
| | 3.4.1 Module 1: Lecturer Identification | 27 | |
| | 3.4.2 Module 2: On-line Preferences Registration | 31 | |
| | 3.4.3 Module 3: Invigilation Schedule Retrieval | 43 | |
| 3.5 | | | |
| | | | |
| СНАРТЕ | R 4 IMPLEMENTATION AND EVALUATION | 49 | |
| 4.1 | Introduction | 49 | |
| 4.2 | ISS Database | | |
| 4.3 | Data Processing | | |
| | 4.3.1 Step 1: Editing and Organising Data | 57 | |
| | 4.3.2 Step 2: Allocating Invigilation Slots | 59 | |
| | 4.3.3 Preparation of Final Invigilation Schedule | 63 | |
| 4.4 | System Evaluation and User Feedback | | |
| | 4.4.1 Effectiveness of Operation Cost and Time | 64 | |
| | 4.4.2 User Satisfaction | 68 | |

ABSTRACT

The Examinations Invigilation Scheduling System aims to reduce manual involvement and amount of time taken by the invigilation scheduling committee in preparing the final examinations invigilation schedule. This is made possible with the creation of a database that collects information pertaining to the examinations invigilation schedule such as lecturers' preferences and constraints of the invigilation designing process. This system is beneficial especially to the Academic Administration Office of institutions of higher learning because it enables them to produce comprehensive examinations invigilation schedule. Besides that, being computer-aided and accessible by lecturers on-line, it allows lecturers to choose their preferences, provide feedback and any other relevant information, and at the same time obtain a summary of their invigilation schedule even while away from the office. This automated way of capturing, optimising and disseminating invigilation information paves the way for the development of a systematic approach in preparing examinations invigilation schedule. With that, suitable problem-solving support system which will aid the process of computerising examinations invigilation scheduling system can be identified. This Examinations Invigilation Scheduling System has been successfully used for the past five semesters in UiTM Sarawak.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The Final Examinations in Universiti Teknologi MARA Negeri Sarawak Samarahan Campus (UiTM Sarawak) are held at the end of every academic semester and every lecturer, part-time or full time alike is directly involved in invigilating students sitting for these examinations. The lecturers' examination invigilation schedule is prepared by a committee comprising of fellow lecturers in the university. The main concern in scheduling lecturers' invigilation duties is to assign them duties without interrupting their marking. This is to ensure that they have sufficient time to focus on marking their students' answer scripts and thereafter process and finalise the students' subject grades. In addition, the lecturers cannot be assigned to invigilate their own subjects.

The task of preparing the examination invigilation schedule is in itself a mammoth project which involves interplay of many factors ranging from avoiding assignment of duties to lecturers on the dates that may disrupt their marking to the time constraint faced by the committee in preparing the schedule. Hence, previous