

UNIVERSITI TEKNOLOGI MARA

**FSKM e-Exam System (FeES) with DNS Tampering  
To Reduce Cheating Occurrences among Students**

Muhammad Izzul Zaim Bin Izhar

**Bachelor of Computer Science (Hons) Netcentric Computing  
Faculty of Computer and Mathematical Sciences**

JULY 2015



## ACKNOWLEDGEMENT

Alhamdulillah, praises and thanks to Allah SWT because of His Almighty and His utmost blessings, I was able to finish this research within the time duration given.

Firstly, I would like to express my gratitude and thanks to my supervisor, Miss Fadzlin Binti Ahmadon, whose contribution in stimulating suggestions and encouragement during the development of the application. I would also like to express my gratitude to my program coordinator for CSP650, Miss Nor Aimuni Binti Md Rashid for her useful comments and guidance to coordinate my project especially in writing this report.

Special appreciation also goes to my beloved parents for never stop in giving support both spiritual and mental and always there for me whenever in hardship.

Lastly, I would like to say thanks to my fellow friends and my housemate for always giving creative ideas for me during the development of the project.

## ABSTRACT

Nowadays, opportunities emerge in education sector whereby learning process can be done using computers. In higher level of education, e-learning being used to deliver lectures, conducting question and answer session, online classes and even conducting examination online. Even though most universities implementing e-learning system, examinations are still being prepared and conducted via traditional mean which is pencil-paper based. Upon developing this system, suitable design and requirements were gathered and identified. After completing this phase, the system were developed, tested and deploy into live environment. The system were evaluated using User Acceptance Testing (UAT). Methodology used to develop the system was System Development Life Cycle (SDLC). It consist of six stages such as initial, planning, design, development, testing and analysis, deployment and documentation. This method was chosen because the system was created from scratch based on research conducted to suit the user requirement obtained from survey in the early stage. Therefore, this project classified as a successful because it met all the objectives and can function according to requirements. Even though everything works fine, the system can still be improvise in the future. System authentication can be enhance by using biometric identification method such as finger print and face recognition. Moreover, adding new question type such as short essay also one of the enhancement that can be added in future.

## TABLE OF CONTENTS

<b>CONTENTS</b>	<b>PAGE</b>
<b>SUPERVISOR’S APPROVAL</b>	ii
<b>DECLARATION</b>	iii
<b>ACKNOWLEDGEMENT</b>	iv
<b>ABSTRACT</b>	v
<b>TABLE OF CONTENTS</b>	vi
<b>LIST OF FIGURES</b>	ix
<b>LIST OF TABLES</b>	xi
<b>LIST OF ABBREVIATIONS</b>	xii
<b>CHAPTER ONE: INTRODUCTION</b>	
1.1 Project Background	1
1.2 Problem Statement	2
1.2.1 Online learning environment is vulnerable to various unethical conducts.	2
1.2.2 Conducting traditional pencil-paper-based exam are costly, consumes more time and requires more human interaction in all exam stages.	3
1.3 Project Aim	4
1.4 Project Objectives	4
1.5 Project Scope	4
1.6 Project Significance	5
<b>CHAPTER TWO: LITERATURE REVIEW</b>	
2.1 Overview of Traditional In-Class Learning and Online Learning Environment	6
2.1.1 Concept of E-Learning	6
2.1.2 A Model of E-Learning	7

2.2 Overview of Online Examination System	8
2.2.1 Challenges in Implementing Online Exam System	8
2.2.2 Online Exam Properties in Exam Stages	9
2.3 Cheating Problems in Online Exam System	10
2.3.1 How Students Cheat and Thwarting the Issue	11
2.3.2 Online Exam Control Procedures (OECPS)	13
2.4 Overview of Web Censorship	14
2.4.1 Mechanics of Censorship	15
2.4.2 Designing Censoring Module	15
2.4.3 Overview of Domain Name System	18
2.4.4 Filtering Mechanism	19
2.4.5 Comparison of Mechanism	23
2.5 Related Works	24
<b>CHAPTER THREE: METHODOLOGY</b>	
3.1 Research Methodology	26
3.2 Project Methodology Framework	27
3.2.1 Initial Phase	29
3.2.2 Planning Phase	29
3.2.3 Design Phase	30
3.2.4 Development Phase	41
3.2.5 Testing and Analysis Phase	57
3.2.6 Documentation Phase	63
<b>CHAPTER FOUR: ANALYSIS AND DISCUSSION</b>	
4.1 Pre-Analysis	64
4.2 User Acceptance Test	68
<b>CHAPTER 5: CONCLUSION AND RECOMMENDATIONS</b>	
5.1 Conclusion	71
5.2 Future Works	71