

TABLE OF CONTENTS

ABSTRAK	ii
ABSTRACT	iii
ORIGINALITY STATEMENT SHEET.....	iv
PREFACE	vi
TABLE OF CONTENTS	viii
List of Pictures	xi
List of Tables.....	xii
Glossary of Terms	xiii
List of Attachments	xv
CHAPTER I INTRODUCTION	1
I.1 Background	1
I.2 Problem Statement	2
I.3 Research Objectives	2
I.4 Research Scopes	2
I.5 Research Benefit.....	3
CHAPTER II Literature review	4
II.1 Information System Security	4
II.2 Reasons for the Selection of Theory, Framework, or Mechanism	4
II.3 Vulnerability Assessment and Penetration Testing (VAPT).....	4
II.4 Comparison of VAPT with Similar Methods.....	5
II.5 Rationale for Using VAPT in This Study	5
II.6 Previous Studies	6
CHAPTER III RESEARCH METHODOLOGY	8
III.1 Framework of Thinking	8

III.2	Systematic Problem-Solving Approach.....	9
III.2.1	Initial Phase	11
III.2.2	Testing Phase	12
III.2.3	Final Phase	13
CHAPTER IV	TEST DESIGN	14
IV.1	Scope.....	14
IV.1.1	Test Design	14
IV.1.2	Hardware Specifications	14
IV.1.3	Software Specifications.....	15
IV.2	Information Gathering	15
IV.2.1	Testing Using Nmap	16
IV.3	Vulnerability Detection.....	16
IV.3.1	Results of Scanning Using Nessus.....	16
IV.3.2	Results of Scanning Using Wpscan	19
IV.3.3	Scanning Results Using OWASP ZAP	21
IV.3.4	List Vulnerability	24
CHAPTER V	Test results	25
V.1	Vulnerability Validation.....	25
V.1.1	Analysis of Results from Scanning.....	25
V.2	Remediation.....	36
V.2.1	Mitigation Design	36
V.2.2	Post-Mitigation Retesting	40
CHAPTER VI	CONCLUSIONS AND SUGGESTIONS	43
VI.1	Conclusion	43
VI.2	Suggestions	43
BIBLIOGRAPHY		45

ATTACHMENT	49
------------------	----