

**UNIVERSITI TEKNOLOGI MARA**

**SECURITY PERFORMANCE  
ANALYSIS OF PHOTOGRAPHY  
SERVICE SYSTEM**

**FARAH SHAZWANI BINTI ISMAIL**

**BACHELOR OF COMPUTER SCIENCE (HONS.)  
DATA COMMUNICATION AND NETWORKING**

**DECEMBER 2018**

## **STUDENT'S DECLARATION**

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

.....  
**FARAH SHAZWANI BINTI ISMAIL**  
**2016729951**

DECEMBER, 2018

## **ABSTRACT**

Photography business become more popular and trending among the most of people who likes photography. Photography Service System was developed to help photography companies to deliver photos and videos to their customers. The use of the system have its advantages such as easiness of accessing data and also make users share the data faster. The purpose of the system was developed to ease the daily works and can be used frequently by photography companies as a method to send photos and videos to their customers. Unfortunately, the system that developed by developer, sometimes there is a lack of security performance. A penetration testing was conducted in order to test the security performance by conducting four method of security attacks such as Denial of Service (DoS), SQL injection, Cross Site Scripting, and sniffing password. The purpose of these attacks were conducted is to testing and finding the vulnerabilities of the system because the system deals with the customers' privacy data which is the photos and the videos owned by the customers. This is crucial to secure a system where the first step taken as a prevention to introduce the system to the public, vulnerability assessments was performed to determine the weaknesses of the system. Scanning and vulnerability assessment are done using tools which is Vega Scanning Tool, Wireshark, and Low Orbit Ion Cannon (LOIC). All results are collected and have been analyze. As a summary of the result, it shows that the system are vulnerable to DoS attack, SQL injection attack, cross site scripting and also password sniffing.

## TABLE OF CONTENTS

CONTENT	PAGE
SUPERVISOR APPROVAL	I
STUDENT DECLARATION	II
ACKNOWLEDGEMENT	III
ABSTRACT	IV
TABLE OF CONTENTS	V
LIST OF FIGURES	VIII
LIST OF TABLES	X
CHAPTER 1 .....	1
1.0 Project Background.....	1
1.1 Problem Statement .....	3
1.2 Objectives .....	4
1.3 Scope.....	4
1.4 Significance.....	5
1.5 Conclusion .....	5
CHAPTER 2 .....	6
2.0 Web Application Architecture .....	6
2.1 Photography Service System Architecture .....	7
2.2 Penetration Testing .....	8
2.2.1 Reconnaissance and Footprinting.....	10
2.2.2 Scanning and Vulnerability Assessment .....	11
2.2.3 Exploitation .....	12
2.2.4 Maintaining Access .....	13
2.2.5 Covering Tracks .....	13
2.3 White Hat vs Black Hat .....	14
2.4 Category of Attack.....	15
2.4.1 Intrusion.....	15
2.4.2 Blocking.....	16

2.4.3	Malware .....	16
2.5	Network Security Attacks .....	17
2.5.1	Denial of Service (DoS) .....	18
2.5.2	SQL Injection .....	21
2.5.3	Cross Site Scripting (XSS) .....	22
2.5.4	Password Sniffing.....	24
2.6	Related Work .....	24
2.6.1	Detection of SQL Injection and XSS in web applications .....	24
2.6.2	Vulnerability Assessment and Penetration Testing of Web Application .....	24
2.7	Conclusion .....	25
<b>CHAPTER 3</b>	.....	<b>26</b>
3.0	Introduction.....	26
3.1	Methodology Phases .....	26
3.2	Information Gathering Phase .....	26
3.3	Project Requirement Phase .....	28
3.3.1	Software Requirement .....	29
3.3.1.a)	VMWare Workstation.....	30
3.3.1.b)	LOIC – Low Orbit Ion Cannon.....	30
3.3.1.c)	Wireshark.....	31
3.3.1.d)	Vulnerability Scanner Tool.....	32
3.3.2	Hardware Requirement.....	33
3.4	Design and Development Phase.....	33
3.5	Experimentation Phase.....	34
3.6	Analysis Phase .....	37
3.7	Documentation Phase.....	38
3.8	Conclusion .....	39
<b>CHAPTER 4</b>	.....	<b>40</b>
4.0	Introduction.....	40
4.1	Pilot study .....	40
4.2	Experimental Result.....	41
4.3	Result Analysis and Discussion.....	59
4.4	Conclusion .....	60
<b>CHAPTER 5</b>	.....	<b>61</b>