WEB-BASED FOR PORTAL ALUMNI INFORMATION

UNDERGRADUATE THESIS

Submitted as one of the requirements to obtain
Sarjana Komputer (S.Kom.)

By:
ROPANDI RITONGA

001202000077

FACULTY OF COMPUTING

INFORMATICS STUDY PROGRAM

CIKARANG

JULY 2023

WEB-BASED FOR PORTAL ALUMNI INFORMATION

By

ROPANDI RITONGA
001202000077

Approved:

Rosalina, S. Kom., M. Kom.
Thesis Advisor

Cutifa Safitri, Ph.D.
Program Head of Informatics Study Program

Ir. Rila Mandala, M.Eng., Ph.D.
Dean of Faculty of Computing

PANEL OF EXAMINER APPROVAL

The Panel of Examiners declare that the undergraduate thesis entitled **WEB-BASED FOR PORTAL ALUMNI INFORMATION** that was submitted by **ROPANDI RITONGA** majoring in **Informatics** from the Faculty of Computer Science was assessed and approved to have passed the Oral Examination on Thursday July 13,2023.

Panel of Examiner

GENTA SAHURI

Chair of Panel Examiner

HASANUL FAHMI

Examiner I

STATEMENT OF ORIGINALITY

In my capacity as an active student at President University and as the author of the final project stated below:

Name	: ROPANDI RITONGA
Student ID number	: 001202000077
Study Program	: Informatics
Faculty	: Computing

I hereby declare that my final project entitled *"WEB-BASED FOR PORTAL ALUMNI INFORMATION"* is to the best of my knowledge and belief, an original piece of work based on sound academic principles. If there is any plagiarism detected in this final project, I am willing to be personally responsible for the consequences of these acts of plagiarism and will accept the sanctions against these acts in accordance with the rules and policies of President University.

I also declare that this work, either in whole or in part, has not been submitted to another university to obtain a degree.

Cikarang, 13 July 2023

ROPANDI RITONGA

SCIENTIFIC PUBLICATION APPROVAL FOR ACADEMIC INTEREST

As an academic community member of the President's University, I, the undersigned:

Name : ROPANDI RITONGA

Student ID number : 001202000077

Study program : Informatics

for the purpose of development of science and technology, certify, and approve to give President University a non-exclusive royalty-free right upon my final report with the title:

"*WEB-BASED FOR PORTAL ALUMNI INFORMATION*"

With this non-exclusive royalty-free right, President University is entitled to converse, to convert, to manage in a database, to maintain, and to publish my final report. There are to be done with the obligation from President University to mention my name as the copyright owner of my final report.

This statement I made in truth.

Cikarang, 13 July 2023

ROPANDI RITONGA

ADVISOR APPROVAL FOR JOURNAL/INSTITUTION'S REPOSITORY

As an academic community member of the President's University, I, the undersigned:

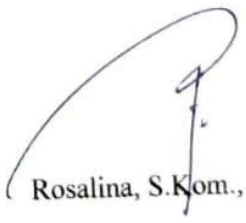
Name	: Rosalina
NIDN	: 0426068404
Study program	: Informatics
Faculty	: Computing

declare that following thesis:

Title of thesis	: *WEB-BASED FOR PORTAL ALUMNI INFORMATION*
Thesis author	: ROPANDI RITONGA
Student ID number	: 001202000077

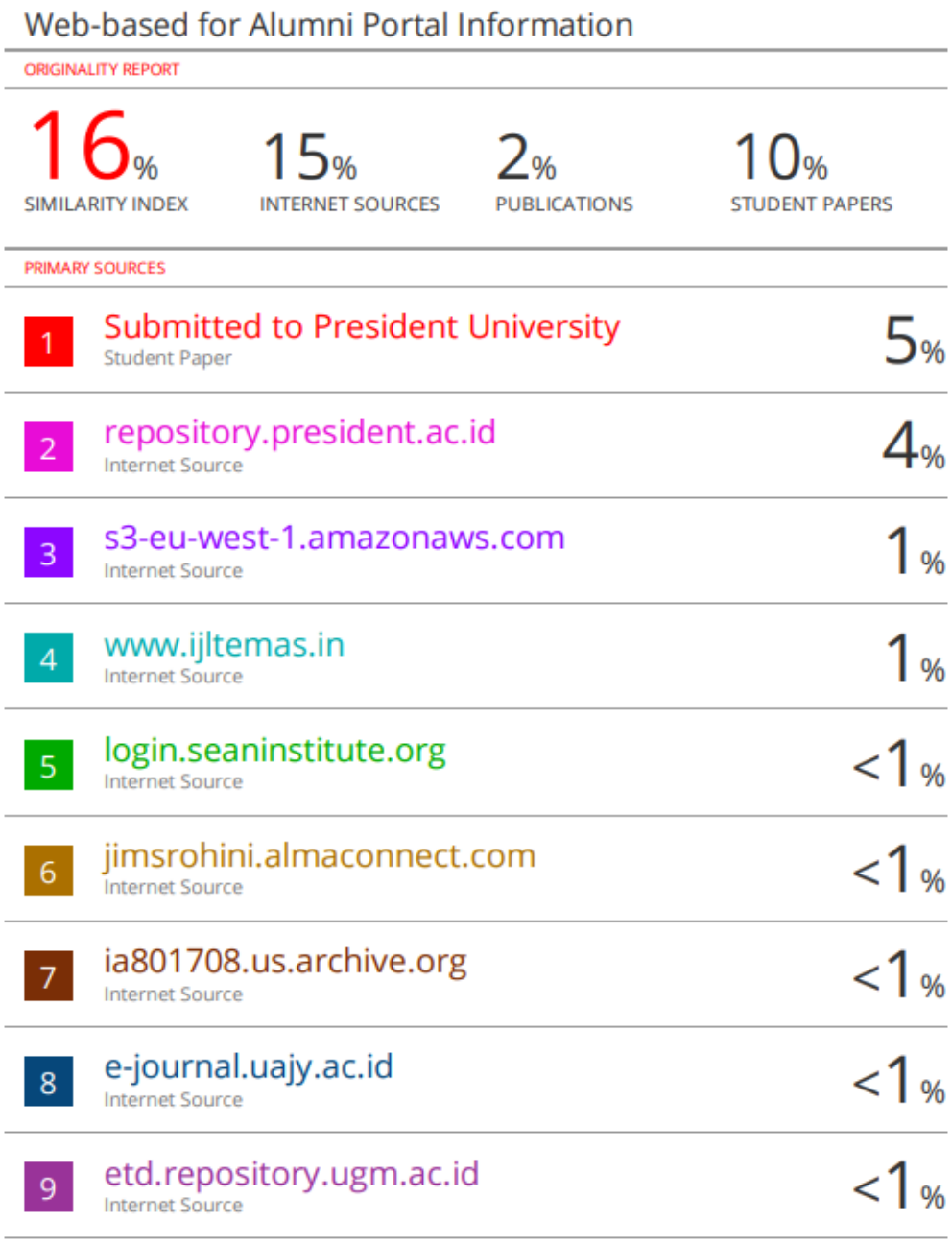
will be published in **journal / <u>institution's repository</u> / proceeding / unpublished.**

Cikarang, 13 July 2023



Rosalina, S.Kom., M.Kom.

PLAGIARISM CHECK RESULT



Web-based for Alumni Portal Information

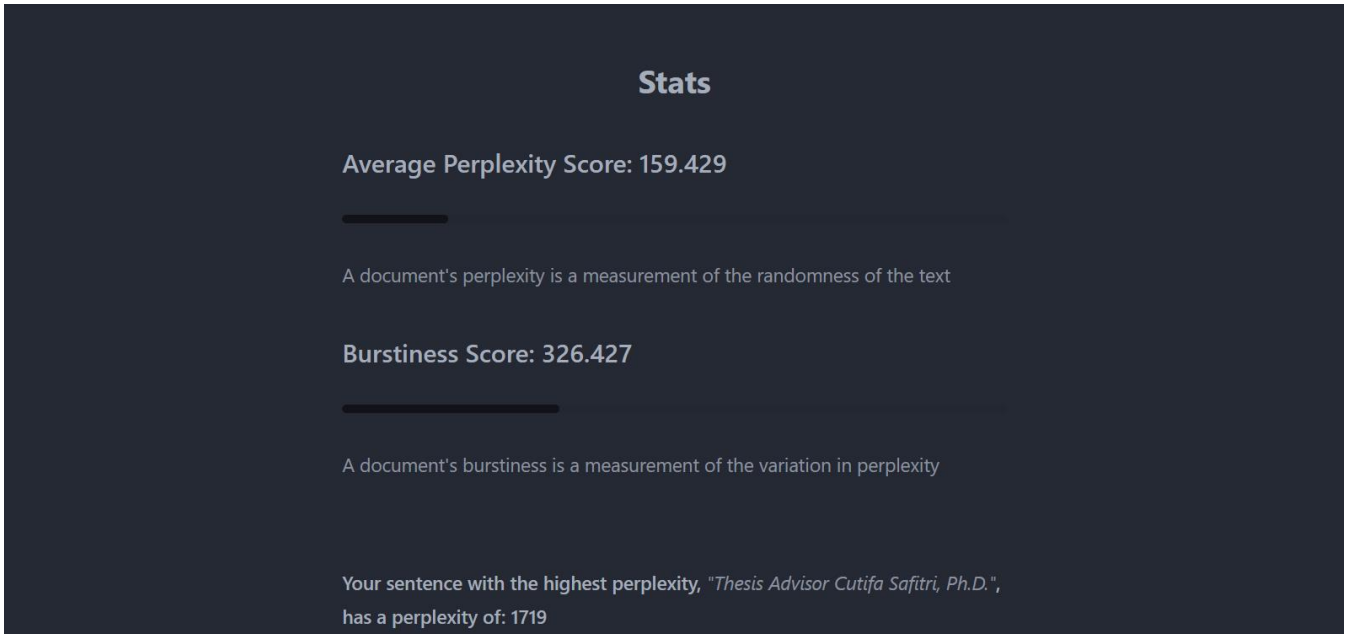
ORIGINALITY REPORT

16%	15%	2%	10%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to President University Student Paper	5%
2	repository.president.ac.id Internet Source	4%
3	s3-eu-west-1.amazonaws.com Internet Source	1%
4	www.ijltemas.in Internet Source	1%
5	login.seaninstitute.org Internet Source	<1%
6	jimsrohini.almaconnect.com Internet Source	<1%
7	ia801708.us.archive.org Internet Source	<1%
8	e-journal.uajy.ac.id Internet Source	<1%
9	etd.repository.ugm.ac.id Internet Source	<1%

GPT ZERO CHECK RESULT



ABSTRACT

The development of information technology and the need to build a strong network between alumni and educational institutions or organizations. In the increasingly digital age, there are challenges in maintaining relationships with alumni and providing them with sustainable benefits. In the ever-evolving information age, easy and quick access to information is a key necessity. A web-based alumni information portal provides alumni with easy access to share and search information, interact with other alumni, and build strong professional relationships. In addition, in an increasingly competitive world of work, a strong professional network is essential. Alumni often look for ways to connect with other alumni who share similar interests and experiences so that they can support each other in their career or personal development. In its development, the author uses the Laravel framework to make maximum use of PHP and RC4 Algorithm for security file in the web development process. RC4 is a stream encryption algorithm, which means that data is encrypted and decrypted independently bit by bit or byte by byte. This algorithm uses the key stream generated from the secret key entered as input. The development of a web-based alumni information portal explores the potential of web technology and the need for connectivity between the alumni of each institution/organization and is the right step to support a sustainable and mutually beneficial relationship between all connected parties.

Keywords: Web, Alumni, Laravel, PHP, RC4 Algorithm

ACKNOWLEDGEMENT

Praise be to God Almighty for giving grace for the completion of this final report. Implementation up to preparation of this final project report is inseparable from all parties who have provide meaningful guidance, direction, support, and advice. Through these pages the author would like to express his gratitude to:

1. God Jesus Christ, for all blessings and love so report this task can be completed.

2. Mrs. Rosalina, S. Kom., M. Kom. as Thesis Advisor who has given direction and input during the process until the completion of this thesis.

3. Mr. Ir. Rila Mandala, M.Eng., Ph.D. as Dean of the Faculty of Computing, President's University.

4. Mrs. Cutifa Safitri, Ph.D. as Head of Informatics Study Program

5. Mr. Rikip Ginanjar, M.Sc. as an Academic Advisor

6. My parents, Mr. Darman Ritonga and Mrs. Tabita Pangaribuan, my only sister, Friska Fricilia Ritonga, who always prays, supports and encourages me.

7. Friends of Informatics batch 2020 who always provide support

Not forgetting also to all parties who cannot be mentioned one by one the author would like to thank. Good luck to all form of assistance will get a reward from God. The author hopes I hope this final project report can be useful especially for writers and generally for the reader as well as acceptable.

TABLE OF CONTENTS

ABSTRACT viii

DEDICATION ix

ACKNOWLEDGEMENT x

TABLE OF CONTENTS xi

LIST OF TABLES xv

LIST OF FIGURES xvii

CHAPTER I INTRODUCTION 1

1.1 Background 1

1.2 Problem Statement 2

1.3 Objectives 2

1.4 Scope and Limitations 2

1.4.1 Scope 2

1.4.2 Limitations 3

1.5 Project Methodology 3

1.6 Final Project Outline 5

CHAPTER II LITERATURE REVIEW 6

2.1 PHP 6

2.2 Framework Laravel 6

2.3 Alumni 9

2.3.1 Portal Alumni 10

2.4 Support System 11

2.4.1 HTTP 11

2.4.2 Web Browser 11
2.4.3 Database MySQL 11
2.4.4 Apache 11
2.5 XAMPP 12
2.6 Cryptography 14
2.7 Rivest Cipher 4 (RC4) 14
2.7.1 Encryption RC4 Algorithm 15
2.7.2 Description RC4 Algorithm 15
CHAPTER III SYSTEM ANALYSIS 17
3.1 System Overview 17
3.2 Function Analysis 18
3.3 Use Case Diagram 19
3.4 Use Case Narrative 19
3.5 Hardware and Software Requirement 31
3.5.1 Hardware Requirement 32
3.5.2 Software and Program Language Requirement 32
CHAPTER IV SYSTEM DESIGN 33
4.1 User Interface Design 33
4.1.1 User UI 33
4.1.2 Admin UI 45
4.2 Class Diagram 49
CHAPTER V SYSTEM IMPLEMENTATION 51
5.1 User Interface 51
5.1.1 Login Page 51
5.1.2 Sign Up Page 52
5.1.3 Home Page 52

5.1.4 Jobs Menu 53
5.1.5 Events Menu 53
5.1.6 Universitas Menu 54
5.1.7 Alumni Menu 55
5.1.8 Memory Menu 55
5.1.9 Encrypt Menu 56
5.1.10 Descript Menu 56
5.1.11 Admin Login Page 57
5.1.12 Admin Home Page 58
5.1.13 Admin Posts Menu 58
5.1.14 Admin Universitas Menu 59
5.2 Application Details 59
5.2.1 Login, Password, and Register 60
5.2.2 Controller 66
5.2.3 Home 67
5.2.4 Jobs 68
5.2.5 Events 69
5.2.6 University 72
5.2.7 Alumni 73
5.2.8 Memory 75
5.2.9 Encrypt 76
5.2.10 Descript 80
5.2.11 Admin Post 82
5.2.12 Admin Universitas 85
CHAPTER VI SYSTEM TESTING 88
6.1 Testing Environment 88
6.1.1 Register and Login Testing Scenario 89

6.1.2 Create Post and Job Vacancy Testing Scenario 90
6.1.3 Event and Memory Testing Scenario 91
6.1.4 University and Alumni Testing Scenario 91
6.1.5 Encrypt and Descript Testing Scenario 92
6.1.6 Profile and Logout Testing Scenario 93
6.1.7 Admin Login and Logout Testing Scenario 93
6.1.8 Admin Posts Testing Scenario 94
6.1.9 Admin Universitas Testing Scenario 94
6.2 Testing Summary 95
CHAPTER VII CONCLUSION AND FUTURE WORKS 96
7.1 Conclusion 96
7.2 Future Works 96
REFERENCES 98

LIST OF TABLES

Table 1. Table of User Function 18
Table 2. Table of Admin Function 18
Table 3. Create Post 20
Table 4. Job Vacancy 21
Table 5. Add Photo 22
Table 6. Add Event 24
Table 7. Search University 25
Table 8. Search Alumni 26
Table 9. Edit Profile 27
Table 10. Encrypt File 28
Table 11, Descript File 28
Table 12. Login 29
Table 13. Publish Post 30
Table 14. Add University 31
Table 15. Login Page User Design Description 34
Table 16. Home Page User Design Description 35
Table 17. Job Menu Design Description 37
Table 18. Event Menu Design Description 38
Table 19. Universitas Menu User Design Description 40
Table 20. Alumni Menu Design Description 41
Table 21. Memory Menu Design Description 42
Table 22. Encrypt Menu Design Description 43
Table 23. Descript Menu Design Description 45
Table 24. Login Page Admin Design Description 46
Table 25. Home Page Admin Design Description 46
Table 26. Posts Menu Design Description 47
Table 27. Universitas Admin Menu Design Description 48
Table 28. Register and Login Testing 89
Table 29. Create Post and Job Vacancy Testing 90
Table 30. Event and Memory Testing 91
Table 31. University and Alumni Testing 91
Table 32. Encrypt and Descript Testing 92

Table 33. Profile and Logout Testing 93
Table 34. Admin Login and Logout Testing 93
Table 35. Admin Posts Testing 94
Table 36. Admin Universitas Testing 94

LIST OF FIGURES

Figure 1. Methodology....4
Figure 2. Laravel Concepts....8
Figure 3. Alma Connect....10
Figure 4. XAMPP....12
Figure 5. Encrypt Process....15
Figure 6. Descript Process....16
Figure 7. Use Case Diagram....19
Figure 8. Login Page User Design....33
Figure 9. Home Page User Design....34
Figure 10. Jobs Menu Design....36
Figure 11. Events Menu Design....37
Figure 12. University Menu User Design....39
Figure 13. Alumni Menu Design....40
Figure 14. Memory Menu Design....41
Figure 15. Encrypt Menu Design....42
Figure 16. Descript Menu Design....44
Figure 17. Login Page Admin Design....45
Figure 18. Home Page Admin Design....46
Figure 19. Posts Menu Design....47
Figure 20. Universitas Menu Admin Design....48
Figure 21. Class Diagram of The Application....49
Figure 22. Login Page Interface....51
Figure 23. Sign Up Page Interface....52
Figure 24. Home Page Interface....52
Figure 25. Jobs Menu Interface....53
Figure 26. Events Menu Interface....53
Figure 27. Universitas Menu Interface....54
Figure 28. Alumni Menu Interface....55
Figure 29. Memory Menu Interface....55
Figure 30. Encrypt Menu Interface....56
Figure 31. Descript Menu Interface....56
Figure 32. Admin Login Interface....57

Figure 33. Admin Home Page Interface 58
Figure 34. Admin Posts Interface 58
Figure 35. Admin Universitas Interface 59
Figure 36. Login Controller 60
Figure 37. Password Controller 62
Figure 38. Register Controller 64
Figure 39. Controller 66
Figure 40. Home Controller 67
Figure 41. Job Controller 68
Figure 42. Event Controller 70
Figure 43. Universitas Controller 72
Figure 44. Alumni Controller 73
Figure 45. Memory Controller 75
Figure 46. Encrypt Controller 77
Figure 47. Description Controller 80
Figure 48. Admin Post Resources 82
Figure 49. Admin Universitas Resources 85