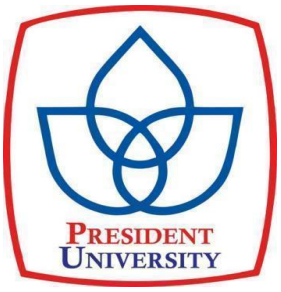


Motorcycle Service Online Booking Using RNN Algorithm

UNDERGRADUATE THESIS

SUBMITTED AS ONE OF THE REQUIREMENTS TO OBTAIN

SARJANA KOMPUTER

By

Ramadhany Muhammad Ananta

001201900097

FACULTY OF COMPUTING

PRESIDENT UNIVERSITY

INFORMATIC STUDY

PROGRAM

Cikarang, Bekasi, Indonesia

September 2023

Copyright by

Ramadhany Muhammad Ananta

2023

PANEL OF EXAMINER APPROVAL

The Panel of Examiners declare that the undergraduate thesis entitled **MOTORCYCLE SERVICE ONLINE BOOKING USING RNN ALGORITHM** that was submitted by **RAMADHANY MUHAMMAD ANANTA** majoring in **Informatics** from the Faculty of Computer Science was assessed and approved to have passed the Oral Examination on Monday September 18, 2023.

Panel of Examiner

ROSALINA

Chair of Panel Examiner

TJONG WAN SEN

Examiner I

Motorcycle Service Online Booking Using RNN Algorithm

By

Ramadhany Muhammad Ananta

001201900097

Approved :

Ronny Juwono, S.Pd.M.T.
Final Project Advisor

Cutifa Safitri, ~~M.Sc.~~, Ph.D.
Program Head of Information Technology

Rila Mandala, Ph.D
Dean of Faculty of Computing

STATEMENT OF ORIGINALITY

In my capacity as an active student of President University and as the author of the thesis/final project/business plan stated below:

Name	: Ramadhany Muhammad Ananta
Student ID number	001201900097
Study Program	: Information Technology
Faculty	: Computing

I hereby declare that my thesis/final project/business plan entitled **"Motorcycle Service Online Booking Using RNN Algorithm"** is to the best of my knowledge and belief, an original piece ofwork 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 willaccept 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 universityto obtain a degree.

Cikarang, September 2023

Ramadhany Muhammad Ananta

Dipindai dengan CamScanner

SCIENTIFIC PUBLICATION APPROVAL FOR ACADEMIC INTEREST

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

undersigned:Name : Ramadhany Muhammad Ananta

Student ID number : 001201900097

Study program : Information Technology

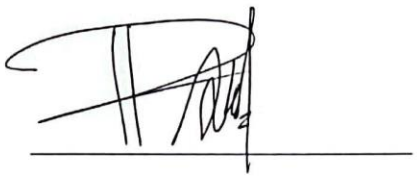
for the purpose of development of science and technology, certify, and approve to give President University a non-exclusive royalty-free right upon my final report with the title:

Motorcycle Service Online Booking Using RNN Algorithm

With this non-exclusive royalty-free right, President University is entitled to converse, convert, 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, September 2023



Ramadhany Muhammad Ananta

Dipindai dengan CamScanner

ADVISOR APPROVAL FOR JOURNAL/INSTITUTION'S REPOSITORY

As an academic community member of the President's University, I, the undersigned:Name : Ronny Juwono, S.Pd.M.T.

ID number :

Study program : Information

TechnologyFaculty : Computing

Declare that following thesis :

Title of thesis : Motorcycle Service Online Booking Using RNN

AlgorithmThesis author : Ramadhany Muhammad Ananta

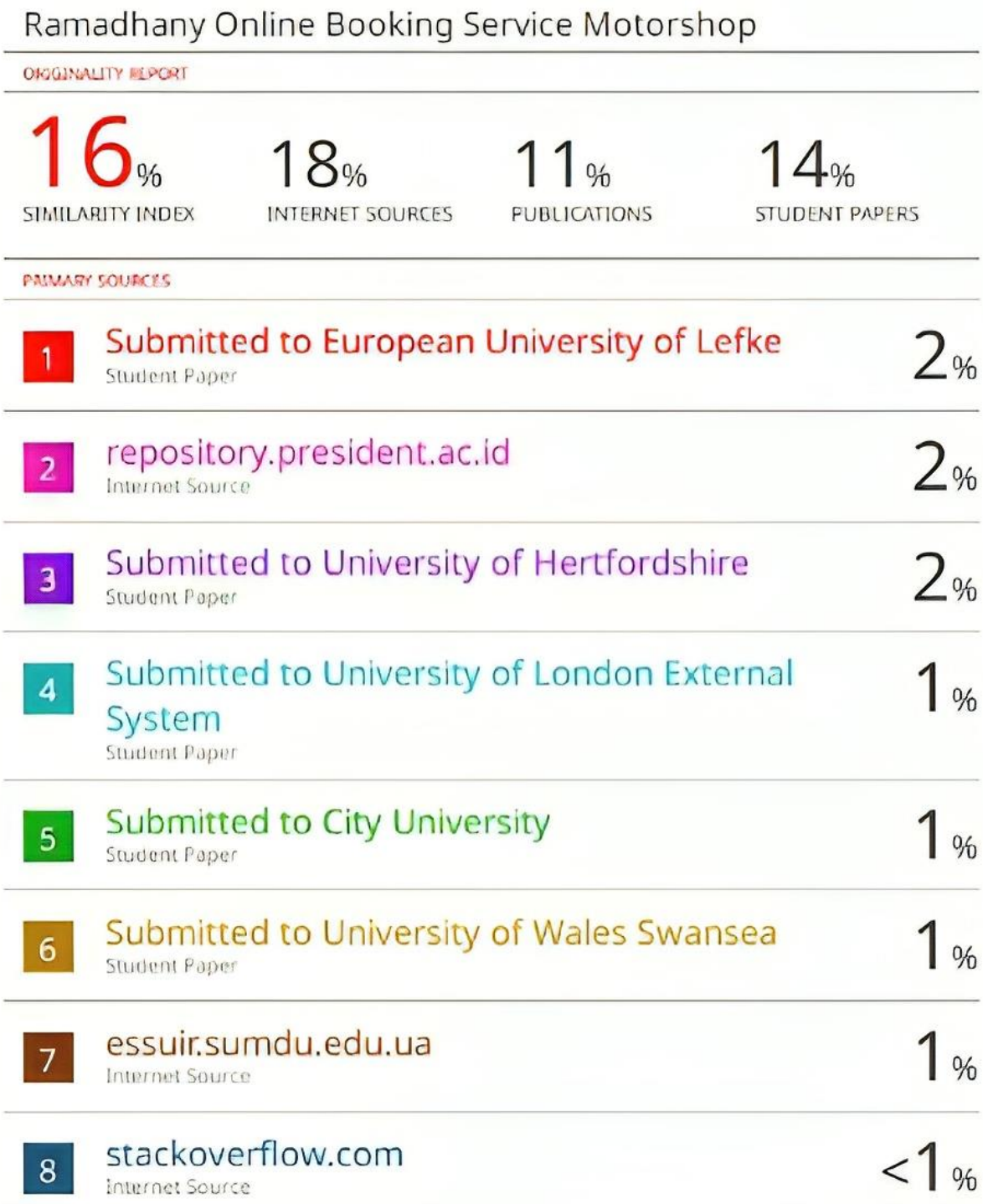
Student ID number 001201900097

will be published in **journal / institution's repository / proceeding / unpublish** /..... (underline that applies)

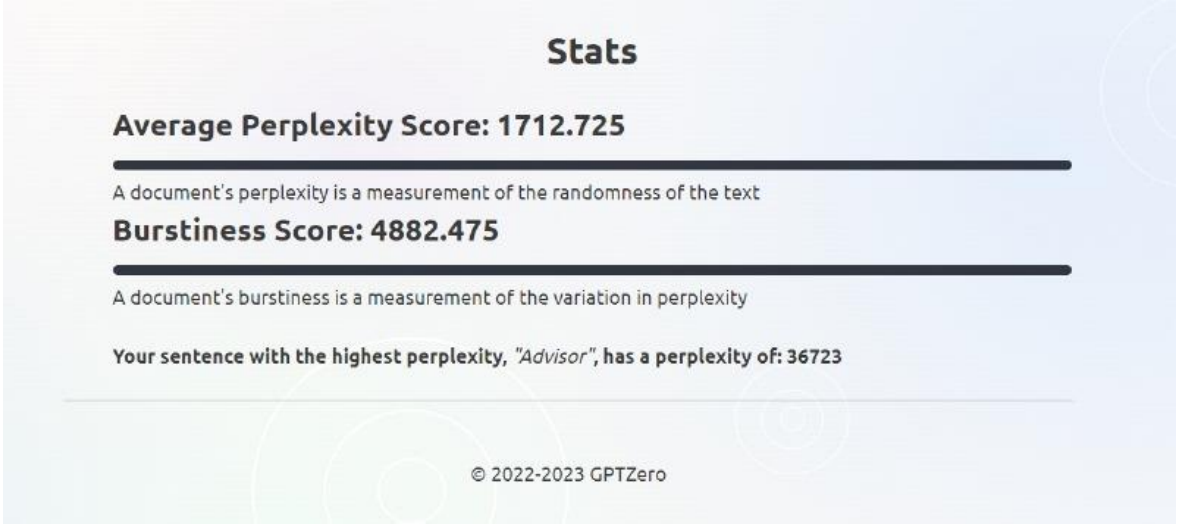
Cikarang, September 2023

Ronny Juwono, S.Pd.M.T.

SIMILARITY INDEX REPORT



GPT ZERO CHECK RESULT



ABSTRACT

The Motorcycle Booking Service Android App is a convenient mobile application that allows users to book motorcycle rentals and services with ease. The app serves as a platform connecting riders with rental providers and service centers, streamlining the process of reserving motorcycles and accessing maintenance and repair services.

Through the app, users can browse a wide selection of motorcycles available for rent from various providers. They can filter by location, type of motorcycle, and desired rental duration to find the perfect match for their needs. The app provides detailed information about each motorcycle, including specifications, availability, and rental prices, enabling users to make informed decisions.

With its user-friendly interface, secure payment options, and comprehensive database of motorcycle rental providers and service centers, the Motorcycle Booking Service Android App aims to simplify the process of renting motorcycles and accessing necessary maintenance services, providing riders with a seamless experience and ensuring they can enjoy their rides without any logistical concerns.

DEDICATION

I dedicated this final project to my mother, my father, my Grand Mother

and the last for all my friend.

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to The One Almighty God for the blessing, health and guidance for me to complete this final project. I would like express my gratitude to people who support me to finish my final project :

1. My beloved parents and families for the endless love and support I received during my university life.
2. My final project advisor, Ronny Juwono, S.Pd.M.T. thank you for guiding me while working on this final project to completion.
3. All computing lecturers who have taught me a lot of knowledge andalso gave advice to me while studying at President University.
4. for all my friends in college. thank you for always supporting me and also the experience.

Table of Content

Contents

ABSTRACT i

DEDICATION ii

ACKNOWLEDGEMENTS iii

Table of Content iv

List of Tables viii

List of Figure ix

CHAPTER I 11

1.1 Introduction 1

1.2 Problem Statement 2

1.3 Scope And Limitation 3

1.4 Final Project Methodology 4

1.5 Final Project Outline 8

1.5.1 Chapter I: Introduction 8

1.5.2 Chapter II : Literature Study 8

1.5.3 Chapter III : System Analysis 8

1.5.4 Chapter IV : System Design 8

1.5.5 Chapter V : System Implementation 8

1.5.6 Chapter VI : System Testing 8

1.5.7 Chapter VI I : Conclution and Future Work 9

CHAPTER II Literature Review 10

2.1 Algorithm 10

2.2 Android Studio 11

2.3 Firebase 11

2.4 Java Programming 12

2.5 Coordinate Point 12

2.6 Android 13

2.7 Related Work 13

2.8 RNN Algorithm 13

2.9 Why Choose RNN? 15

CHAPTER III 18

3.1 System Overview 18

3.2 Function Analysis 18

3.3 Use Case Diagram 19
3.4 Use Case Narative 20
3.5 System Diagram 24
3.5.1. Sign Up 24
3.5.2. Login Customer 25
3.5.3. Profile Customer 27
3.5.4. Motorshop List 28
3.5.5. Motorshop Information (Detail bengkel) 29
3.5.6. Booking Service 30
3.5.7. Chat 31
3.5.8. Payment 33
3.5.9. Rate Motorshop 34
3.6 Swimelane Diagram Motorshop 39
3.6.1 Sign up 39
3.6.2 Login 40
3.6.3 Check Booking Customer 41
3.6.4 Add mechanic 42
3.6.5 Add Product (Spareparts, and service package) 43
3.7 Hardware and Software Requirements 44
CHAPTER IV SYSTEM DESIGN 45
4.1 User Interface Design 45
4.1.1 Sign up 45
4.1.2 Login 46
4.1.3 Menu 46
4.1.4 Forgot Password 47
4.1.5 Chat 48
4.1.6 Motorshop List 49
4.1.7 Detail Motorshop Information 50
4.1.8 Booking Service (Sparepart add to cart) 51
4.1.9 History Booking 52
4.1.10 Fill Motorcycle Data 53
4.1.11 Payment History 54
4.1.12 Review Motorshop 55
4.1.13 Add Mechanic 56
4.1.14 Add Prodcut 57

4.1.15 List Booking (From customer) 58
4.1.16 Detail Booking (Motorshop) 59
4.1.17 Detail Booking (Customer) 60
4.2 Physical Design 61
4.2.1 Software 61
4.2.2 Hardware 61
CHAPTER V 62
5.1 User Interface 62
5.1.1 Sign in 62
5.1.2 Sign up 63
5.1.3 Dashboard 64
5.1.4 Chat 65
5.1.5 List Motorhsop 66
5.1.6 Detail Information Motorshop 67
5.1.7 Booking Service (add to cart) 68
5.1.8 History Booking 69
5.1.9 Fill Data Motor 70
5.1.10 History Payment 71
5.1.11 Detail Booking Customer 72
5.1.12 Review Motorshop 73
5.1.13 Upload Proof Payment 74
5.1.14 List Review 75
5.1.15 Add Mechanic 76
5.1.16 List Mechanic 77
5.1.17 Add Product 78
5.1.18 List Product 79
5.1.19 List Booking Customer 80
5.1.20 Detail Booking Customer 81
5.1.21 Profile 82
5.1.22 Edit Profile Customer 83
5.1.23 Edit Profile Motorshop 84
5.1.24 List Proof Payment Motorshop 85
5.1.25 Detail Proof Payment Motorshop 86
5.2 Application Details 87
5.2.1 Database Configuration 87

5.2.2 Sign up Code (Customer) 87
5.2.3 Login Code (Customer) 91
5.2.4 Edit Profile Code (Motorshop) 96
5.2.5 Booking Service Code (Motorshop) 106
5.2.6 Sign up Code (Motorshop) 160
5.2.7 Login Code (Motorshop) 167
5.2.8 Edit Profile Code (Motorshop) 170
5.2.9 Add Mechanic Code (Motorshop) 181
5.2.10 Add Product Code (Motorshop) 188
5.2.11 List Booking From Customer Code (Motorshop) 200
5.2.12 Proof of Payment Code (Motorshop) 204
Chapter VI System Testing 209
6.1 Testing Environment 209
6.2 Testing Scenario 210
6.2.1 Login 210
6.2.2 Dashboard 212
6.2.3 Choice Motorshop 213
6.2.4 Chat 216
6.2.5 Booking Service 219
6.2.6 Sign up 227
6.2.7 Profile 229
6.2.8 Add Mechanic 230
6.2.9 List Product 232
6.2.10 Add Product 233
6.2.11 List Booking Customer 234
6.2.12 Edit Profile 236
CHAPTER VII CONCLUSION AND FUTURE WORKS 239
7.1 Conclusion 239
7.2 Future Works 240
REFERENCES 241

List of Tables

Tabel 3. 1 - Function Analysis – Motorcycle Booking Online User Application..... 18
Tabel 3. 2 - Use Case Narrative Sign-Up 20
Tabel 3. 3 - Use Case Narrative: Login 20
Tabel 3. 4 - Use Case Narrative: Profile 21
Tabel 3. 5 - Use Case Narrative: Bengkel Information 22
Tabel 3. 6 - Use Case Narrative: Booking Service 22
Tabel 3. 7 - Use Case Narrative: Booking Service 23
Tabel 3. 8 - Use Case Narrative: Sign-Up Motorshop (Bengkel) 34
Tabel 3. 9 - Use Case Narrative: Login Motorshop (Bengkel) 35
Tabel 3. 10 - Use Case Narrative: Profile Motorshop (Bengkel) 36
Tabel 3. 11 - Use Case Narrative: Add Mechanic Motorshop (Bengkel) 36
Tabel 3. 12 - Use Case Narrative: Add, Product Spareparts (Bengkel) 37
Tabel 3. 13 - Use Case Narrative: Check Booking Customer (Bengkel) 38
Table 4. 1 - Physical Design - Software Development Tools……..……..61
Table 4. 2 - Physical Design – Hardware Development Tools..... 61
Table 6. 1 - Login - Testing Scenario ……211
Table 6. 2 - Dashboard - Testing Scenario 212
Table 6. 3 - Choose specialish - Testing Scenario 215
Table 6. 4 - Chat - Testing Scenario..... 218
Table 6. 5 - Booking Service – Testing Scenario..... 225
Table 6. 6 - Sign Up - Testing Scenario 228
Table 6. 7 - Profile - Testing Scenario..... 229
Table 6. 8 - Add Mechanic – Testing Scenario..... 231
Table 6. 9 - List Product - Testing Scenario 233
Table 6. 10 - Add Product - Testing Scenario..... 234
Table 6. 11 - List Booking Customer - Testing Scenario 235
Table 6. 12 - Edit Profile - Testing Scenario 237

List of Picture

Picture 1. 1 - Rapid Application Development methodology 4
Picture 3. 1 - Customer Use Case Diagram 19
Picture 3. 2 - Sign up Diagram 25
Picture 3. 3 - Login Customer Diagram 26
Picture 3. 4 - Show profile customer diagram 27
Picture 3. 5 - Motorshop List Diagram 28
Picture 3. 6 - Motorshop information (Detail Bengkel) Diagram 29
Picture 3. 7 - Booking Service Diagram 30
Picture 3. 8 - Chat first way Diagram 31
Picture 3. 9 - Chat second way Diagram 32
Picture 3. 10 - Payment Diagram 33
Picture 3. 11 - Rate motorshop diagram 34
Picture 3. 12 - Sign up Motorshop Diagram 39
Picture 3. 13 - Login motorshop diagram. 40
Picture 3. 14 - Check booking diagram 41
Picture 3. 15 - Add mechanic diagram 42
Picture 3. 16 - Add product diagram 43
Picture 4. 1 - Sign up page interface design 45
Picture 4. 2 - login page interface design 46
Picture 4. 3 - Dashboard Design 46
Picture 4. 4 - Forgot Password Design 47
Picture 4. 5 - Chat Design 48
Picture 4. 6 - Motorshop List 49
Picture 4. 7 - Detail Motorshop 50
Picture 4. 8 - Add to cart Design 51
Picture 4. 9 - History Booking 52
Picture 4. 10 - Fill Motorshop Design 53
Picture 4. 11 - Payment Histori Design 54
Picture 4. 12 - Review Motorshop design 55
Picture 4. 13 - Add mechanic design 56
Picture 4. 14 - Add product design 57
Picture 4. 15 - List booking detail 58
Picture 4. 16 - Detail booking customer in motorshop design 59
Picture 4. 17 - Detail booking customer in customer page 60
Picture 5. 1 - Sign up user interface 62
Picture 5. 2 - Sign up user interface 63
Picture 5. 3 - Dashboard customer and motorshop user interface 64
Picture 5. 4 - Chat user interface 65
Picture 5. 5 - List Motorshop user interface 66
Picture 5. 6 - Detail information motorshop 67
Picture 5. 7 - Booking Service (add to cart) 68
Picture 5. 8 - Histori Booking user interface 69
Picture 5. 9 - Fill data motor user interface 70
Picture 5. 10 - History Payment user interface 71
Picture 5. 11 - Detail Booking user interface 72
Picture 5. 12 - Review user interface 73
Picture 5. 13 - Upload Proof Payment 74
Picture 5. 14 - List review user interface 75

Picture 5. 15 - Add mechanic user interface 76
Picture 5. 16 - List mechanic user interface 77
Picture 5. 17 - Add product user interface 78
Picture 5. 18 - List Product user interface 79
Picture 5. 19 - List booking user interface 80
Picture 5. 20 - Detail booking user interface 81
Picture 5. 21 - Profile user interface 82
Picture 5. 22 - Edit Profile Customer user interface 83
Picture 5. 23 - Edit profile motorshop user interface 84
Picture 5. 24 - List of proof of payment motorshop 85
Picture 5. 25 - Detail of proof of payment motorshop 86
Picture 5. 26 - Database Configuration 87