"WEB-BASED DENTAL CLINIC SCHEDULING SYSTEM"

UNDERGRADUATE FINAL PROJECT

SUBMITTED AS ONE OF THE REQUIREMENT TO OBTAIN

SARJANA KOMPUTER

By:

LOMONA GAGASI PASARIBU

001201800080

FACULTY OF COMPUTING

INFORMATICS STUDY PROGRAM

PRESIDENT UNIVERSITY

CIKARANG, BEKASI, INDONESIA

AUGUST 2023

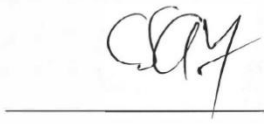
Copyright By
Lomona Gagasi Pasaribu
2023

WEB-BASED DENTAL CLINIC SCHEDULING SYSTEM

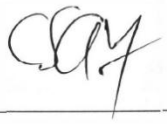
By

Lornona Gagasi Pasaribu
001201800080

Approved:



Cutifa Safitri, B.CS, M.IT, Ph.D.
Thesis Advisor



Cutifa Safitri, B.CS, M.IT, Ph.D.
Program Head of Informatics

Rila Mandala, Ph.D.
Dean of Faculty of Computing

STATEMENT OF ORIGINALITY

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

Name : Lomona Gagasi Pasaribu

Student ID number : 001201800080

Study Program : Informatics

Faculty : Computer Science

I hereby declare that my final project entitled **" WEB-BASED DENTAL CLINIC SCHEDULING SYSTEM "** 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, 2023

Lomona Gagasi Pasaribu

SCIENTIFIC PUBLICATION APPROVAL FOR ACADEMIC INTEREST

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

Name : Lomona Gagasi Pasaribu

Student ID number : 001201800080

Study program : Informatics

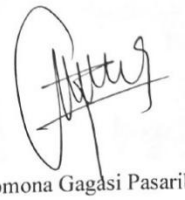
for the purpose of development of science and technology, certify, and approve to give President University a non-exclusive royalty-free right upon my final report with the title:

"WEB-BASED DENTAL CLINIC SCHEDULING SYSTEM"

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, 2023



Lomona Gagasi Pasaribu

ADVISOR APPROVAL FOR JOURNAL/INSTITUTION'S REPOSITORY

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

Name	: Cutifa Safitri, B.CS, M.IT, Ph.D.
ID number	: 20190900815
Study program	: Informatics
Faculty	: Computing

Declare that following thesis:

Title of thesis	: **"WEB-BASED DENTAL CLINIC SCHEDULING SYSTEM"**
Thesis author	: Lomona Gagasi Pasaribu
Student ID number	: 001201800080

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

Cikarang, 2023

Cutifa Safitri, B.CS, M.IT, Ph.D.

PANEL OF EXAMINER APPROVAL

The Panel of Examiners declare that the undergraduate thesis entitled **WEB-BASED DENTAL CLINIC SCHEDULING SYSTEM** that was submitted by **LOMONA GAGASI PASARIBU** majoring in **Informatics** from the Faculty of Computer Science was assessed and approved to have passed the Oral Examination on Friday August 18, 2023.

Panel of Examiner

HASANUL FAHMI

Chair of Panel Examiner

ANDIKA CANDRA JAYA

Examiner I

PLAGIARISM CHECK RESULT

Gagas_Draft1

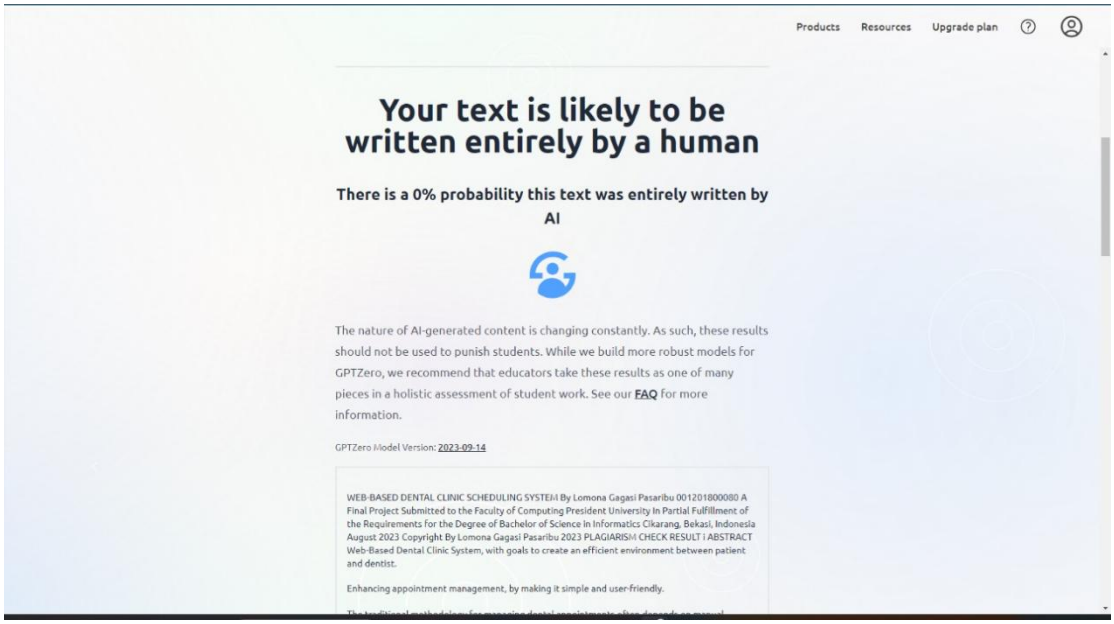
ORIGINALITY REPORT

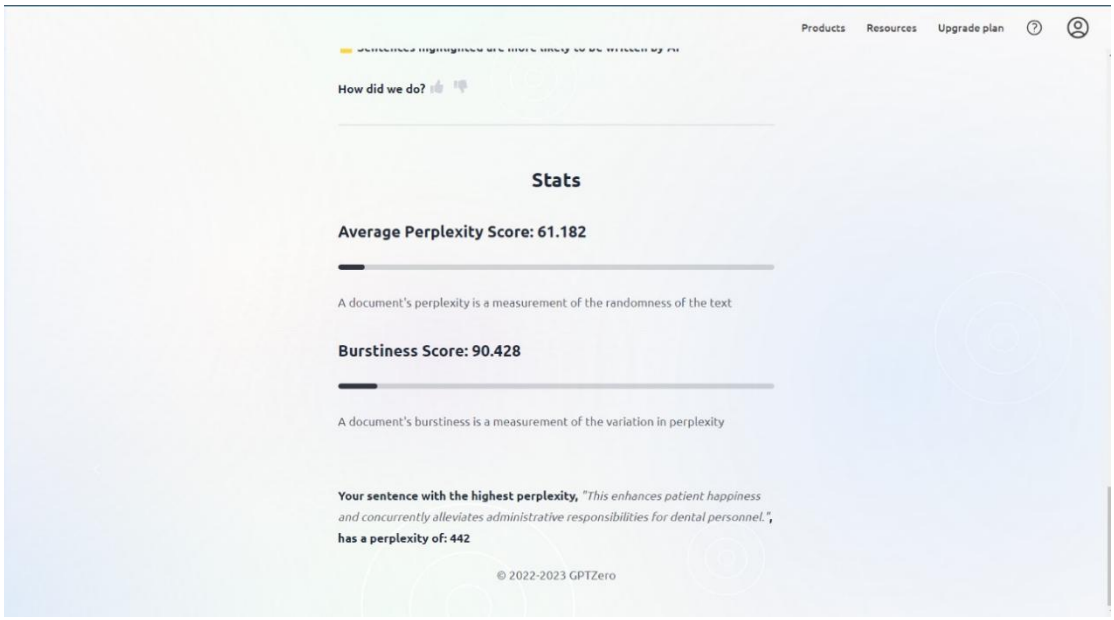
17%	12%	1%	14%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to President University Student Paper	11%
2	repository.president.ac.id Internet Source	2%
3	Submitted to City University of Hong Kong Student Paper	2%
4	Submitted to Softwarica College of IT & E-Commerce Student Paper	<1%
5	kissflow.com Internet Source	<1%
6	Submitted to University of Glamorgan Student Paper	<1%
7	Submitted to Intercollege Student Paper	<1%
8	Submitted to UNITEC Institute of Technology Student Paper	<1%
9	asia.nikkei.com Internet Source	<1%

PLAGIARISM ARTIFICIAL INTELIGENCE GPTZERO RESULT





ABSTRACT

Web-Based Dental Clinic System, with goals to create an efficient environment between patient and dentist. Enhancing appointment management, by making it simple and user-friendly.

The traditional methodology for managing dental appointments often depends on manual processes and fragmented methods of communication, leading to confusion, inefficiency, and below-average patient experiences. The aforementioned concerns are efficiently addressed by the Web-Based Dental Clinic System, which provides a centralized digital platform accessible to both patients and practitioners. This system enhances the effectiveness of patient appointment management by providing online capabilities for scheduling, rescheduling, and cancellation. As a result, it eliminates the need for telephone contact and reduces the occurrence of scheduling errors.

This interface is built using the Angular front-end framework and smoothly connects with the Spring Boot back-end. Both the front-end and back-end components are developed using Java-related technologies. [2][3]

The system employs Angular, Spring Boot, and Java-related tools to establish a user-friendly and streamlined platform for managing appointments. This enhances patient happiness and concurrently alleviates administrative responsibilities for dental personnel. The utilization of technology in this solution serves as a prime example of how contemporary frameworks and tools may effectively transform healthcare services, hence improving the standard of care and operational effectiveness inside dental clinics

DEDICATION

I dedicate this final project to myself, my beloved parents, my friends who have always supported me until now.

ACKNOWLEDGEMENT

I'd want to convey my heartfelt gratitude to everyone who has always been supportive of me as I worked on this final project:

1. I congratulate myself for working tirelessly on and completing this final project.
2. To my parents, who have always backed me up and prayed for me.
3. Ms. Cutifa Safitri, thank you so much for agreeing to be my final project advisor and guiding me through the final project.
4. All of my lecturers have provided me with information over the last few years, and I am really glad to have been a student of all of them.
5. For my friends and friends who always pray for me and support me in any situation, I express my gratitude.

TABLE OF CONTENTS

ABSTRACT i

DEDICATION ii

ACKNOWLEDGEMENT iii

TABLE OF CONTENTS iv

LIST OF TABLES vii

LIST OF FIGURES ix

1 CHAPTER I INTRODUCTION ..... **Error! Bookmark not defined.**

1.1 Background ..... **Error! Bookmark not defined.**

1.2 Problem Statement ..... **Error! Bookmark not defined.**

1.3 Objectives ..... **Error! Bookmark not defined.**

1.4 Scope and Limitations ..... **Error! Bookmark not defined.**

1.4.1 Scope ..... **Error! Bookmark not defined.**

1.4.2 Limitations ..... **Error! Bookmark not defined.**

1.5 Project Methodology ..... **Error! Bookmark not defined.**

1.5.1 Requirement Planning ..... **Error! Bookmark not defined.**

1.5.2 Prototype ..... **Error! Bookmark not defined.**

1.5.3 Construction ..... **Error! Bookmark not defined.**

1.5.4 Deployment ..... **Error! Bookmark not defined.**

1.6 Final Project Outline ..... **Error! Bookmark not defined.**

1.6.1 Chapter I – Introduction ..... **Error! Bookmark not defined.**

1.6.2 Chapter II – Literature Study ..... **Error! Bookmark not defined.**

1.6.3 Chapter III – System Analysis ..... **Error! Bookmark not defined.**

1.6.4 Chapter IV – System Design ..... **Error! Bookmark not defined.**

1.6.5 Chapter V – Conclusion and Future Works **Error! Bookmark not defined.**

2 CHAPTER II LITERATURE REVIEW .....**Error! Bookmark not defined.**
2.1 Feature Utilization .....**Error! Bookmark not defined.**
2.1.1 Angular (Front-end) ..... **Error! Bookmark not defined.**
2.1.2 Springboot (Back-end) ..... **Error! Bookmark not defined.**
2.1.3 Database ..... **Error! Bookmark not defined.**
2.1.4 First-In First-Out Algorithm (FIFO)**Error! Bookmark not defined.**
2.2 Related Works .....**Error! Bookmark not defined.**
2.2.1 Halodoc ..... **Error! Bookmark not defined.**
3 CHAPTER III SYSTEM ANALYSIS .....**Error! Bookmark not defined.**
3.1 System Overview ..... **Error! Bookmark not defined.**
3.2 Function Analysis ..... **Error! Bookmark not defined.**
3.3 Use Case Diagram .....**Error! Bookmark not defined.**
3.4 Use Case Narrative .....**Error! Bookmark not defined.**
3.4.1 Patient-Type of Use Case narratives**Error! Bookmark not defined.**
3.4.2 Admin-Type of Use Case narratives**Error! Bookmark not defined.**
3.5 Swim Lane Diagram ..... **Error! Bookmark not defined.**
3.5.1 Swim Lane Diagram for Users Sign-in as Patient/Admin**Error! Bookmark not def**
3.5.2 Swim Lane Diagram for Users as Patient Make Appointment**Error! Bookmark no**
3.5.3 Swim Lane Diagram for Users as Admin Manage Shift**Error! Bookmark not defi**
3.6 Hardware and Software Requirement .... **Error! Bookmark not defined.**
3.6.1 Hardware Requirement ..... **Error! Bookmark not defined.**
3.6.2 Software Requirement .....**Error! Bookmark not defined.**
4 CHAPTER IV SYSTEM DESIGN .....**Error! Bookmark not defined.**
4.1 User Design .....**Error! Bookmark not defined.**
4.1.1 Landing Page .....**Error! Bookmark not defined.**
4.1.2 Get to Know our Dentist ..... **Error! Bookmark not defined.**
4.1.3 Sign-in Option Page ..... **Error! Bookmark not defined.**

4.1.4 Sign-In Page ..... **Error! Bookmark not defined.**

4.1.5 Sign-Up Page ..... **Error! Bookmark not defined.**

4.1.6 Patient Home Page ..... **Error! Bookmark not defined.**

4.1.7 Choose Month Page ..... **Error! Bookmark not defined.**

4.1.8 Choose Date Page ..... **Error! Bookmark not defined.**

4.1.9 Choose Time Page ..... **Error! Bookmark not defined.**

4.1.10 Making appointment Pop-up menu **Error! Bookmark not defined.**

4.1.11 My Appointment ..... **Error! Bookmark not defined.**

4.1.12 Appointment Detail Pop-up menu **Error! Bookmark not defined.**

4.1.13 Contact Online Consultation Patient page **Error! Bookmark not defined.**

4.1.14 Admin Home Page ..... **Error! Bookmark not defined.**

4.1.15 Shift Choose Month Page ..... **Error! Bookmark not defined.**

4.1.16 Shift Choose Date Page ..... **Error! Bookmark not defined.**

4.1.17 My Shift Detail Pop-up Menu ..... **Error! Bookmark not defined.**

4.1.18 Upcoming and Previous Appointment Page **Error! Bookmark not defined.**

4.1.19 Appointment Detail ..... **Error! Bookmark not defined.**

4.1.20 Contact Online Consultation Admin Page **Error! Bookmark not defined.**

4.1.21 Manage Shift Choose Month Page **Error! Bookmark not defined.**

4.1.22 Manage Shift Choose Date Page ... **Error! Bookmark not defined.**

4.1.23 Manage Shift Choose Session Page **Error! Bookmark not defined.**

4.1.24 Making Shift Pop-up menu ..... **Error! Bookmark not defined.**

4.2 Class Diagram ..... **Error! Bookmark not defined.**

5 CHAPTER V CONCLUSION AND FUTURE WORKS **Error! Bookmark not defined.**

5.1 Conclusion ..... **Error! Bookmark not defined.**

5.2 Future Works ..... **Error! Bookmark not defined.**

REFERENCES ..... **Error! Bookmark not defined.**

LIST OF TABLES

Table 2.1. Remarks Table ..... **Error! Bookmark not defined.**

Table 3.1. Table of Patient-type User Function Description**Error! Bookmark not defined.**

Table 3. 2 Table of Admin-type User Function Description**Error! Bookmark not defined.**

Table 3. 3 Table of Patient-type User "Sign-In" Description**Error! Bookmark not defined.**

Table 3.4 Table of Patient-type User "Sign-Up" Description**Error! Bookmark not defined.**

Table 3.5. Table of Patient-type User "Chat Admin for Consultation" Description ..... **Error! Bookmark not defined.**

Table 3.6. Table of Patient-type User "Amend upcoming appointment" Description ..... **Error! Bookmark not defined.**

Table 3.7. Table of Patient-type User "Delete Appointment"Description**Error! Bookmark no**

Table 3.8. Table of Patient-type User "Check Upcoming and Previous Appointment" Description ..... **Error! Bookmark not defined.**

Table 3.9.Table of Patient-type User "Check Dentist's Biography" Description ..... **Error! Bookmark not defined.**

Table 3.10. Table of Patient-type User "Make Appointment"Description**Error! Bookmark no**

Table 3.11. Table of Admin-type User "Sign-In" Description**Error! Bookmark not defined.**

Table 3.12. Table of Admin-type User "Sign-Up" Description**Error! Bookmark not defined.**

Table 3.13. Table of Admin-type User "Chat Patient for Consultation" Description ..... **Error! Bookmark not defined.**

Table 3.14. Table of Admin-type User "Amend upcoming appointment" Description ..... **Error! Bookmark not defined.**

Table 3.15. Table of Admin-type User "Delete Appointment"Description**Error! Bookmark n**

Table 3.16. Table of Admin-type User "Check Upcoming and Previous Appointment" Description ..... **Error! Bookmark not defined.**

Table 3.17. Table of Admin-type User "Check Shift" Description**Error! Bookmark not defin**

Table 3.18. Table of Admin-type User "Manage Shift"Description**Error! Bookmark not defi**

Table 4.1. Label Description of Figure 4.1. ..... **Error! Bookmark not defined.**

Table 4.2. Label Description of Figure 4.2. ..... **Error! Bookmark not defined.**

Table 4.3. Label Description of Figure 4.3. ..... **Error! Bookmark not defined.**

Table 4.4. Label Description of Figure 4.4. ..... **Error! Bookmark not defined.**

Table 4.5. Label Description of Figure 4.5. ..... **Error! Bookmark not defined.**

Table 4.6. Label Description of Figure 4.6. ..... **Error! Bookmark not defined.**

Table 4.7. Label Description of Figure 4.7. ..... **Error! Bookmark not defined.**

Table 4.8. Label Description of Figure 4.8. ..... **Error! Bookmark not defined.**

Table 4.9. Label Description of Figure 4.9. ..... **Error! Bookmark not defined.**

Table 4.10. Label Description of Figure 4.10. . **Error! Bookmark not defined.**

Table 4.11. Label Description of Figure 4.11. . **Error! Bookmark not defined.**

Table 4.12. Label Description of Figure 4.12. . **Error! Bookmark not defined.**

Table 4.13. Label Description of Figure 4.13. . **Error! Bookmark not defined.**

Table 4.14. Label Description of Figure 4.14. . **Error! Bookmark not defined.**

Table 4.15. Label Description of Figure 4.15. . **Error! Bookmark not defined.**

Table 4.16. Label Description of Figure 4.16. . **Error! Bookmark not defined.**

Table 4.17. Label Description of Figure 4.17. . **Error! Bookmark not defined.**

Table 4.18. Label Description of Figure 4.18. . **Error! Bookmark not defined.**

Table 4.19. Label Description of Figure 4.19. . **Error! Bookmark not defined.**

Table 4.20. Label Description of Figure 4.20. . **Error! Bookmark not defined.**

Table 4.21. Label Description of Figure 4.21. . **Error! Bookmark not defined.**

Table 4.22. Label Description of Figure 4.22. . **Error! Bookmark not defined.**

Table 4.23. Label Description of Figure 4.23. . **Error! Bookmark not defined.**

Table 4.24. Label Description of Figure 4.24. . **Error! Bookmark not defined.**

LIST OF FIGURES

Figure 1.1 Rapid Application Development (RAD) Methodology diagram**Error! Bookmark**

Figure 2.1 First-In First-Out Algorithm Diagram**Error! Bookmark not defined.**

Figure 3.1 Use Case diagram for the user Admin-Type**Error! Bookmark not defined.**

Figure 3.2 Use Case diagram for the user Patient-Type**Error! Bookmark not defined.**

Figure 3.3 Swim Lane Diagram of Users Sign-In as Patient/Admin**Error! Bookmark not def**

Figure 3.4 Swim Lane Diagram of Users Sign-In as Patient/Admin**Error! Bookmark not def**

Figure 3.5 Swim Lane Diagram for Users as Admin Manage Shift**Error! Bookmark not defi**

Figure 4.1. Landing Page ..... **Error! Bookmark not defined.**

Figure 4.2. Get to Know Our Dentist Page ..... **Error! Bookmark not defined.**

Figure 4.3. Sign-In Option Page ..... **Error! Bookmark not defined.**

Figure 4.4. Sign-In Page ..... **Error! Bookmark not defined.**

Figure 4.5. Sign-Up Page ..... **Error! Bookmark not defined.**

Figure 4.6. Patient Home Page ..... **Error! Bookmark not defined.**

Figure 4.7. Choose Month Page ..... **Error! Bookmark not defined.**

Figure 4.8. Choose Date Page ..... **Error! Bookmark not defined.**

Figure 4.9. Choose Time Page ..... **Error! Bookmark not defined.**

Figure 4.10. Making Appointment Pop-up Menu**Error! Bookmark not defined.**

Figure 4.11. My Appointment Page ..... **Error! Bookmark not defined.**

Figure 4.12. Appointment Detail Pop-up Menu**Error! Bookmark not defined.**

Figure 4.13. Contact Online Consultation Patient Page**Error! Bookmark not defined.**

Figure 4.14. Admin Home Page ..... **Error! Bookmark not defined.**

Figure 4.15. Shift Choose Month Page ..... **Error! Bookmark not defined.**

Figure 4.16. Shift Choose Date Page ..... **Error! Bookmark not defined.**

Figure 4.17. My Shift Detail Pop-up Menu ..... **Error! Bookmark not defined.**

Figure 4.18. Upcoming and Previous Appointment Page**Error! Bookmark not defined.**

Figure 4.19. Appointment Detail ..... **Error! Bookmark not defined.**

Figure 4.20. Contact Online Consultation Admin Page**Error! Bookmark not defined.**

Figure 4.21. Manage Shift Choose Month Page**Error! Bookmark not defined.**

Figure 4.22. Manage Shift Choose Date Page . **Error! Bookmark not defined.**

Figure 4.23. Manage Shift Choose Session Page**Error! Bookmark not defined.**

Figure 4.24. Making Shift Pop-up menu .....**Error! Bookmark not defined.**

Figure 4.25. Class Diagram of The Application**Error! Bookmark not defined.**