STEGANOGRAPHY IMPLEMENTATION ON ANDROID REACT NATIVE USING LSB ALGORITHM

UNDERGRADUATE THESIS

Submitted as one of the requirements to obtain

Sarjana Komputer (S.Kom.)

By:

KARLA CAHAYA ISMY TRIRANI

001202000124

FACULTY OF COMPUTER SCIENCE

INFORMATICS STUDY PROGRAM

CIKARANG

September. 2023

PANEL OF EXAMINER APPROVAL

The Panel of Examiners declare that the undergraduate thesis entitled **STEGANOGRAPHY IMPLEMENTATION ON ANDROID REACT NATIVE USING LSB ALGORITHM** that was submitted by **KARLA CAHAYA ISMY TRIRANI** majoring in **Informatics** from the Faculty of Computer Science was assessed and approved to have passed the Oral Examination on Friday September 8, 2023.

Panel of Examiner

Dr. HASANUL FAHMI M.Kom.

Chair of Panel Examiner

ANDIKA CANDRA JAYA

Examiner I

STEGANOGRAPHY IMPLEMENTATION ON ANDROID REACT NATIVE USING LSB ALGORITHM

By

KARLA CAHAYA ISMY TRIRANI

00120200014

Approved:

Cutifa Safitri, Ph.D.	Cutifa Safitri, Ph.D.
Thesis Advisor	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 : KARLA CAHAYA ISMY TRIRANI

Student ID number : 001202000124

Study Program : Informatics

Faculty : Computer Science

I hereby declare that my final project entitled "**Steganography Implementation on Android React Native Using LSB Algorithm**" 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, August 2023

Karla Cahaya Ismy Trirani

SCIENTIFIC PUBLICATION APPROVAL FOR ACADEMIC INTEREST

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

Name : KARLA CAHAYA ISMY TRIRANI

Student ID number : 001202000124

Study program : Informatics

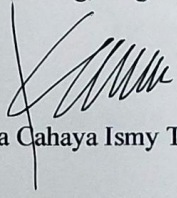
for the purpose of development of science and technology, certify, and approve to give President University a non-exclusive royalty-free right upon my final report with the title:

"Steganography Implementation on Android React Native using LSB Algorithm"

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, August 2023



Karla Cahaya Ismy Trirani

ADVISOR APPROVAL FOR JOURNAL/INSTITUTION'S REPOSITORY

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

Name : Cutifa Safitri, Ph.D.

ID number : 20190900815

Study program : Informatics

Faculty : Computing

declare that following thesis:

Title of thesis : **Steganography Implementation on Android React Native using LSB Algorithm**

Thesis author : Karla Cahaya Ismy Trirani

Student ID number : 001202000124

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

Cikarang, August 2023

Cutifa Safitri, Ph.D.

PLAGIARISM CHECK RESULT

Final Project

ORIGINALITY REPORT

9%	8%	2%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to President University Student Paper	3%
2	repository.president.ac.id Internet Source	1%
3	senior.ceng.metu.edu.tr Internet Source	<1%
4	www.duo.uio.no Internet Source	<1%
5	doczz.net Internet Source	<1%
6	ntrs.nasa.gov Internet Source	<1%
7	www.aiaa.org Internet Source	<1%
8	link.springer.com Internet Source	<1%
9	He Zhu, Dianbo Liu. "FakeSafe: Human Level Steganography Techniques by Disinformation	<1%

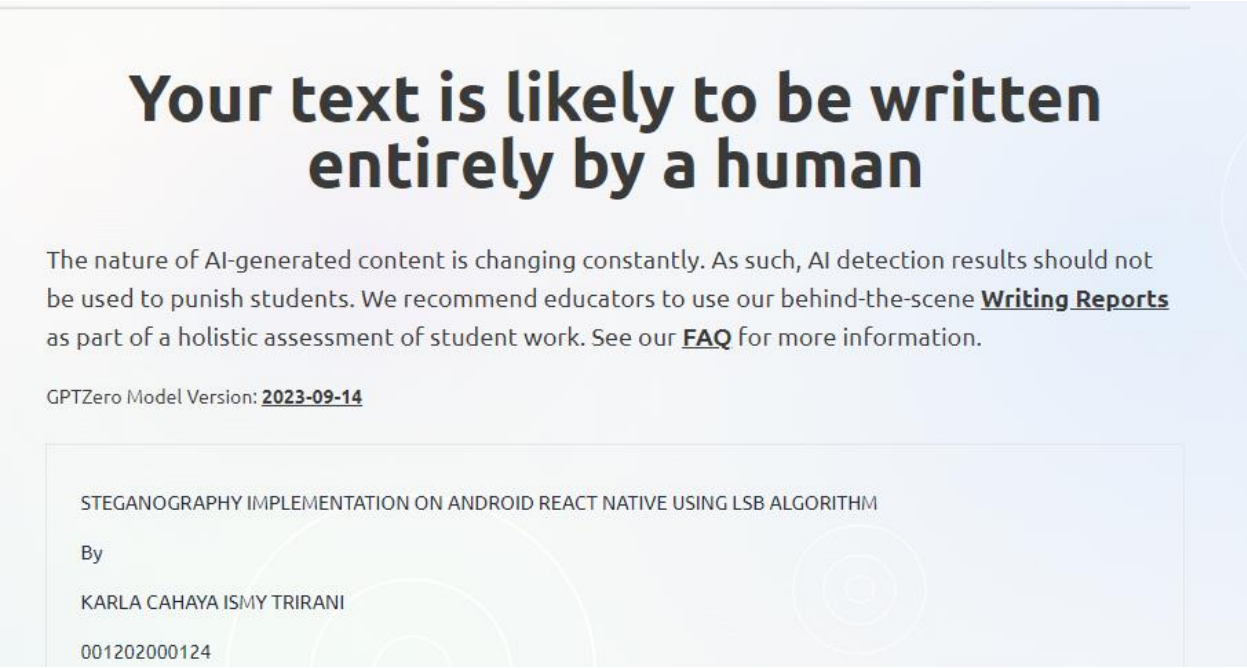
Karla Cahaya Ismy Trirani

001202000124

Informatics 2020

“Steganography Implementation on Android React Native using LSB Algorithm”

GPTZero Result



Stats

Average Perplexity Score: 1342.500

A document's perplexity is a measurement of the randomness of the text

Burstiness Score: 6612.628

A document's burstiness is a measurement of the variation in perplexity

Your sentence with the highest perplexity, *"Thesis Advisor"*, **has a perplexity of: 58744**

ABSTRACT

The security and authenticity of data are very critical in the current digital era. This final project explores the field of image steganography, focusing on how the Least Significant Bit (LSB) methods are used in an Android application. The main goal was to create a simple yet secure mobile software that would enable users to covertly insert messages into images, improving data security and integrity.

The cross-platform features of React Native were intentionally utilized throughout the development stage. This decision made sure that users of different Android devices will have a similar experience. The selected LSB technique is notable for its capacity to increase data security while preserving the original quality of the host picture, making the embedded message almost unnoticeable. Evaluation results from the application confirm its ability to maintain picture quality while safely obscuring data.

In a larger sense, this project highlights the importance of steganography in the linked digital world of today. This project gives a peek into the potential of steganography as a crucial instrument for modern data security and communication strategies by demonstrating its usefulness as a deterrent against cyber vulnerabilities and as a medium for secret communication.

Keywords: Steganography, Least Significant Bit (LSB), Android application, Data Authenticity, Security.

DEDICATION

I dedicate this final project to almighty god, my family, and for my own self.

ACKNOWLEDGEMENT

First and foremost, I would like to express my profound thanks to my thesis adviser, Cutifa Safitri, Ph.D., for their unwavering support during this project. This work has been greatly shaped by their knowledge, tolerance, and advice, and I am incredibly grateful to have had the chance to study under them.

I would especially like to thank Yoga, Ayub, Padidi fellows, Wika, Jenny, & Shabira, who has always been an inspiration and source of motivation. The concepts provided in this paper were much improved through our brainstorming sessions, conversations, and disputes. as it did without the team's resources, instruments, and technical support.

My strength has come from my friends and family's belief in my skills, their understanding throughout the many hours I was gone, and their everlasting support. I appreciate that you have been my compass during this trip.

Lastly, I would like to express my gratitude to everyone who helped this thesis come to be, whether directly or indirectly. This work has been shaped by every conversation, criticism, and encouraging remark I have received. I am incredibly appreciative of everyone's knowledge and assistance.

TABLE OF CONTENTS

LIST OF FIGURE

LIST OF TABLE