Enhancing Messaging Security Using Image Steganography Technique

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Being a MSc Postfield Presentation Submitted to the Department of Computer Science, Faculty of Natural & Applied Sciences, Lead City University, Ibadan, Oyo State, Nigeria

In Partial Fulfillment of the Requirements for the Award of Master of Science Degree (MSc) in Computer Science

2023

Certification

This is to certify that Kayode Mathias MADEWA with matriculation number LCU/PG/002718 carried out this research work titled "Enhancing End To End Messaging Security Using Image Steganography Technique" in the Department of Computer Science, Faculty of Applied Sciences, Lead City University, Ibadan, Oyo state, for the award of Masters Degree (MSc) and that this has not been previously submitted.

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Dr. Waheed
Supervisor

Date

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Dr. Wilson Sakpere
Head of Department

Date

Dedication

This Thesis is dedicated to the Lord God Almighty for the gift of life and for His Mercies.

Acknowledgment

I want to thank the prestigious institution Lead City University for the opportunity to learn and complete my Msc program and to the University Library for the provision of adequate materials needed.

I am grateful to the Department of computer Science for giving me the privilege and opportunity to study and to learn, my appreciation goes to my supervisor, Dr. A. A. Waheed. I also like to acknowledge my lecturers, Dr. W. Sakpere, Dr. W. Ajayi, Dr. A. M. Ayoade, Dr. R. O Kolapo, Mrs K. Okesola and Mrs Afe for their supports and always ensuring that things are done rightly .

My appreciation goes to Kofo, Tobi and Tayo for their understanding and support. I also thank my colleagues and friends who supported me through this program.

“Even though the above-mentioned institutions and persons have assisted in the process of this research work, I alone stand responsible for the errors, if any, found in the work”

Abstract

The introduction of steganography has brought plenty of improvement to information security, but not really employed in Information banks and this is often as a results of the protection issues that come together with the employment of Information security. Security issues is taken into account a significant concern which is why every individual still opt to follow the normal way of addressing sensitive information. The aim of this study is to enhance end to end messaging security using image steganography technique. End to End SMS has always been dealing with security issues as there are no security measures being put in place to improve the Confidentiality of the context of the SMS. The Methodology used in this study implore the use of mathematical expression as the first step is to convert the secret message into binary and thus obtain a bitstream as the result of this step. then divide the obtained bitstream into a set of groups with three bits in each group. To this end, from the least significant bit, grouping is then done to every three continuous bits in a group. The result of this study is presented as a software solution, as it is implemented and tested for use. This study uses evaluation parameters like Mean square error and Peak Signal to Noise Ratio to measure the performance of the images that are used in the cause of this study, the images that are evaluated is the stego-image with text of different word-lengths embedded in it.

Keywords: Encryption , Algorithm, Red2 algorithm.

Word Count: 249

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