Title: PICTOCRYPT: REVERSE APPROACH IN IMPROVING SECURITY THROUGH STEGANOGRAPHY AND CRYPTOGRAPHY

Authors: Roland James D. Labus, Kristian Allen B. Ang, Eulo Denz Garry T. Batawan

ABSTRACT

Cryptography distorts a message or a text into a cipher text. Stenography covers and hides the message to be unseen. The result of the process is in a ciphered text that cannot be easily understood that takes a lot of computation to decrypt the message depending on the round used. To make the information more secured, the researchers combined Least Significant Bit Algorithm that has the capability to hide the existence of the information. The aim of this study is to test and provide a much-secured output since it achieves two (2) levels of security if both methods are combined to a single system. The result of the algorithm is used to prove that if PSNR is higher, the less the stego image distorts and difficult to detect; and the lower the PSNR, the more the image distorts and becomes detectable. In this research, another method of security is created to hide secret message inside an image using AES 256-bit cryptography and least significant 2-bit steganography. Both algorithms if combined, can provide a much-secured output. As per result, an average PSNR of 90dB with the intensity of almost exact as the original image that is being produced by the algorithm.

Keywords: Pictocrypt, Cryptography, Steganography, Encode, Decode, Encrypt, Decrypt, Cover Image