True color image strganography using palette and minimun spanning tree

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ABSTRACT

Steganography is an application of data hiding which can attain camouflage and increase security by embedding the secret message into digital media for sending to the receiver without leaking to the third party. Several proposed methods which construct stego image by embedding the secret message into the color palette. The person who receives the stego image can extract the secret message from the palette obtained by the received image. This method, however, greatly degrades the quality of the stego image and tends to arouse the intention of the intruders. In this paper, we propose a method for constructing stego images with high quality which greatly eliminate the above problem. The advantage of the proposed method is that the image quality is highly improved by accompanying with improvement of security and camouflage of the secret message. In order to avoid the intruder to attack the generated palette when transmission, the sender does not need to send the palette to the receiver directly, but instead asking the receiver to own a copy of the original secret image or obtain one when needed for extracting the secret message. Fortunately, there are several image pools which contain a lot of images allowing to be accessed by the public. One can only send the stego image to the receiver who can obtain the secret image from the Internet or from his own computer. The experimental results show that our method outperforms EZ stego and the methods proposed by Fridrich and Wu et al.

Keywords : steganography ; Palette ; data hiding

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