

An Improved Image Steganography Technique Based on Least Significant Bit Insertion

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Abstract : In today world, there is a tremendous rise in the usage of internet due to the fact that almost all the communication and information sharing is done over the web. Conversely, there is a continuous growth of unauthorized access to confidential data. This has posed a challenge to information security expertise whose major goal is to curtail the menace. One of the approaches to secure the safety delivery of data/information to the rightful destination without any modification is steganography. Steganography is the art of hiding information inside an embedded information. This research paper aimed at designing a secured algorithm with the use of image steganographic technique that makes use of Least Significant Bit (LSB) algorithm for embedding the data into the bit map image (bmp) in order to enhance security and reliability. In the LSB approach, the basic idea is to replace the LSB of the pixels of the cover image with the Bits of the messages to be hidden without destroying the property of the cover image significantly. The system was implemented using C# programming language of Microsoft.NET framework. The performance evaluation of the proposed system was experimented by conducting a benchmarking test for analyzing the parameters like Mean Squared Error (MSE) and Peak Signal to Noise Ratio (PSNR). The result showed that image steganography performed considerably in securing data hiding and information transmission over the networks.

Keywords : steganography, image steganography, least significant bits, bit map image

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