Abstract

Communication has to be secure in order to be kept private. The latest developments in the field of digital communication have made secret communication possible. Image hiding is a method in which a secret image is hidden in a cover image thereby forming a hybrid or stego image. In this paper, data hiding is performed by taking difference value of three and two neighbouring pixels by adapting Zig-Zag traversing scheme (ZZTS). This method enhances security and the quality of image in spite of high capacity of concealed information. Error correction mechanism using hamming code is applied to ensure reliable secret communication. The effectiveness of the proposed stego system has been estimated by computing Mean Square Error (MSE), Peak Signal to Noise Ratio (PSNR), Mean Structural Similarity index (MSSIM) and Bits per colour Pixel. This paper also illustrates how security has been enhanced using this algorithm.
Reference


Index Terms

Computer Science  Information Security

Key words

LSB steganography

Information hiding

Pixel value Differencing (PVD)

Zig-Zag traversing scheme (ZZTS)