Abstract

This paper presents two methods for encryption and decryption of images using XOR operation. In the first method the original image is encrypted by the key image using XOR operation and decryption process also uses the same key image with XOR operation. In the second method one of the bit planes of the key image is used for encrypting the bit planes of the original image and shuffling is done for getting the encrypted image. This method also uses XOR operation. Both the methods use a binary image of the same size as key for encrypting the original image. Experiments have shown that both algorithms are suitable for 2D as well as 3D images. These algorithms are implemented in MATLAB environment and tested on various medical images which have shown good results. These methods can be used for encrypting other images also.

References


Index Terms
Computer Science
Security
Keywords

Image Encryption  Image Decryption  Bit Plane  XOR operation  Key image.