Abstract

This paper focuses on image security based on compressing the image with encryption and pixel integration. This process involves applying Joint Photographic Experts Group compression for RGB layers, encrypting the images with Elliptic Curve Encryption Algorithm and block-based interleaving followed by pixel-based integration technique. With the key specifically generated for the image, the original image is decrypted from multiple images. This method is useful when access permissions need to be restricted to certain viewers. The proposed method provides a high-level security in the fields of aerospace, national security, military, financial and economic, and so on. Performance is evaluated by calculating the correlation coefficient and entropy values.

References
Analysis of Pixel Merging for Multi Image Integration for Security Enhancement

20. NIST (National Institute of Standards and Technology) Special Publication 800-57, May 2006

Index Terms

Computer Science
Image Processing

Keywords

Encryption; Pixel Integration; Elliptic Curve Encryption Algorithm; Digital Communication; Image Interleaving; Image Processing