Abstract

In the period of digital technology, digital information suffers from copyright and integrity violations. In case of any disputes like rights violation and content creator, digital watermark has a vital role to protect the property rights of the original owner of digital information. Numerous of watermarking techniques have been proposed recently but image quality of host image at receiving end is needed to be improved. We proposed Encoded Hybrid Digital Watermarking Scheme (EHDWS) to improve image quality which is based on Discrete Wavelet Transform (DWT), Singular Value Decomposition (SVD) and Bose Chaudhuri-Hocquenghem (BCH) code. DWT is used for decomposing the image into LL, HL, LH, HH sub-bands; SVD is used to decompose the image into orthogonal matrix (U), singular matrix (S), and inverse orthogonal matrix (VT) and BCH code is used for error detection-correction, copyright protection and authentication. The proposed EHDWS has high degree of transparency, robustness, blindness. In EHDWS, watermark embedding scheme is used to encode the original watermark image by using BCH (7, 4) based algorithm for obtaining the encoded watermark image. Then embed this encoded watermark image into host image by using DWT-SVD based algorithm for obtaining the watermarked image. Watermark extracting scheme is used to obtain both extracted watermark image for authentication purpose and extracted host image from watermarked image to obtain original image. PSNR values are also calculated to know the
quality of watermarked image.

References


**Index Terms**

Computer Science  
Security

**Keywords**

BCH Code  
Digital Watermark  
DWT  
Haar Transform  
SVD.