Abstract

In contemporary years, different watermarking schemes are proposed for image authentication and copyright protection. In images, any tiny change to the content is not acceptable; the embedding distortion has to be compensated for perfectly. In this paper a powerful Image watermarking method using DWT based on integrated normalized content based chaotic (DWT-INCC) system is proposed, to obtain better digital content authentication, originality, higher embedding capacity, quality of the information and better robustness. The objective of the proposed integrated scheme is to examine how content image normalization and discrete wavelet domain based chaotic system procedure are used to enhance robustness of a digital image watermark especially for statistical attacks. The proposed integrated scheme consists of four stages. In the stage two image normalization is performed, to achieve the scaling and rotational invariance. In stage two DWT is applied on the normalized image. In stage three a block based content authentication scheme is adopted on the normalized image of stage one for image authentication and tamper localization. In stage four chaotic models is adopted on the stage three to achieve excellent robustness against any statistical attacks and to increase the security of the digital watermarking system. The experimental result shows that the
proposed DWT-INCC method is more robust and effective even in the presence of various attacks when compared with many existing methods.

References


Index Terms

Computer Science

Image Processing
Keywords

Discrete Wavelet Transformation  Normalization  Content authentication and Chaotic System