International J. of Engg. Research & Indu. Appls. (IJERIA).
ISSN 0974-1518, Vol.4, No. IV (November 2011), pp. 279-294

DIGITAL WATERMARKING THROUGH FREQUENCY DOMAIN

RAMESH KUMAR AND TEJESHWARI SAHU

Abstract

This paper presents digital watermarking methods for authorization against copying or piracy of color images. Watermarking is a very important field for copyrights of various electronic documents and media. With images widely available on the Internet, it may sometimes be desirable to use watermarks. Digital watermarking is the processing of combined information into a digital signal. A watermark is a secondary image, which is overlaid on the host image, and provides a means of protecting the image. Copyright abuse is the motivating factor in developing new encryption technologies and the digital watermarking is one of them. This paper introduces the basic idea about digital watermarking technologies. This digital watermarking is generally useful in crime scene images & for security purpose of images. The proposed method of watermarking authentication could potentially prove useful when digital photographs are presented as evidence in the court of law. In spatial domain, Least-Significant Bit (LSB), SSM-Modulation-Based Technique has been developed. For DCT domain, block based approach and for wavelet domain, multi-level wavelet transformation technique and CDMA based approaches has been developed. This paper also presents the various error matrices for analyses the robustness of DCT technique. The spatial domain watermarking method is preferred to frequency domain methods with respect to robustness and perceptibility.

Keywords : Digital watermark, discrete cosine transform, Signal to noise ratio.