IMPLEMENTASI IMAGE WATERMARKING UNTUK CITRA BERWARNA DENGAN METODE DCT-2D (DISCRETE COSINE TRANSFORM)

KHAIRUL ULA
Program Studi Teknik Informatika - S1, Fakultas Ilmu Komputer, Universitas Dian Nuswantoro Semarang
URL : http://dinus.ac.id/
Email : khairulula@ymail.com

ABSTRAK

Perkembangan teknologi dan internet telah membawa perubahan besar terhadap distribusi produk digital antara lain citra digital. Pencurian hak kepemilikan karya digital dan pendistribusian secara illegal terhadap produk digital.memberi dampak negatiF bagi proses bisnis baik organisasi maupun individu. Oleh karena itu, perlu adanya cara untuk melidungi hak ciptaan kepemilikan sebuah karya citra digital. Watermarking merupakan salah satu cara untuk melindungi hak cipta kepemilikan karya citra digital. Watermarking pada citra digital bekerja dengan menyisipkan informasi yang menunjukkan identitas kepemilikan. Dalam tugas akhir ini, akan dirancang suatu aplikasi watermark citra digital untuk penyisipan maupun pengekstrakan. Watermark ini menggunakan metode DCT-2D (Discrete Kosinus Transform). Hasil penyisipan watermark menggunakan metode DCT-2D diharapkan lebih tahan terhadap manipulasi citra digital. Teknik manipulasi citra hasil penyisipan watermark yang akan digunakan adalah penambahan noise Gaussian, resizing, cropping dan compresi JPEG. Sebagai pembanding ketahanan digunakan NC (normalized cross correlation) antara watermark terekstrak dengan watermark asli dan kualitas citra di ukur dengan nilai Peak Signal-To-Noise Ratio (PSNR).

Kata Kunci   :   watermarking, citra digital, DCT-2D (Discrete Kosinus Transform),   PSNR,NC.

IMPLEMENTATION of IMAGE WATERMARKING FOR COLORED IMAGE USING DCT-2D (Discrete Cosine Transform)METHOD

KHAIRUL ULA

Program Studi Teknik Informatika - S1, Fakultas Ilmu Komputer, Universitas Dian Nuswantoro Semarang
URL : http://dinus.ac.id/
Email : khairulula@ymail.com

ABSTRACT

The development of technology and the Internet has brought a great changes to the distribution of digital products including digital image. Theft of property rights and distribution of digital works is illegal for this digital product.provide a negative impact for business processes both for organization or individuals. Therefore, they need a method for protecting the rights of ownership of a work's creation of digital imagery. Watermarking is a great way to protect a copyright ownership of works of digital imagery. watermarking in Digital image works by inserting an information that indicating the identity of ownership. In this thesis, will designing an application of watermarking digital image for insertion and extraction. This watermark using the 2D-DCT (Discrete Cosine Transform) method. The results of embedding watermark using DCT-2D method is expected to be more resistant toward digital image manipulation. Images manipulation techniques of watermark insertion that to be used is the addition of Gaussian noise, resizing, cropping and JPEG compressing. As a comparison of resistance are using NC (normalized cross correlation) between extracted watermark with the original watermark and the image quality are measured by the Peak Signal-To-Noise Ratio (PSNR).

Keyword   :   watermarking, citra digital, DCT-2D (Discrete Kosinus Transform),   PSNR,NC.