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A Color Image Copyright Protection Scheme Based on Visual Cryptography and Discrete Cosine Transform

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Abstract

In this paper, a copyright protection scheme based on visual cryptography and discrete cosine transform for colour images is proposed. Note that the watermark emphasized here is a colour watermark. Instead of hiding a watermark in a colour image for identifying the ownership of the image, all that is required is to construct an ownership share according to a master share created from the colour image by applying discrete cosine transform plus a watermark used for copyright certification. By stacking the master share and the ownership share together, the watermark for ownership identification can be revealed through the utilization of visual cryptography plus a little additional computation. Additionally, the present scheme is also extremely suitable for multiple watermarking. The security of this scheme can be guaranteed via a pseudo random mechanism and the feature of visual cryptography. With substantial experimental results, the robustness of this scheme can be demonstrated against various image processing attacks.

Key words : Discrete cosine transform;Intellectual property right;Visual cryptography