

Improved Processing Speed for Text Watermarking Algorithm in Color Images

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Abstract : Copyright protection and ownership proof of digital multimedia are achieved nowadays by digital watermarking techniques. A text watermarking algorithm for protecting the property rights and ownership judgment of color images is proposed in this paper. Embedding is achieved by inserting texts elements randomly into the color image as noise. The YIQ image processing model is found to be faster than other image processing methods, and hence, it is adopted for the embedding process. An optional choice of encrypting the text watermark before embedding is also suggested (in case required by some applications), where, the text can be encrypted using any enciphering technique adding more difficulty to hackers. Experiments resulted in embedding speed improvement of more than double the speed of other considered systems (such as least significant bit method, and separate color code methods), and a fairly acceptable level of peak signal to noise ratio (PSNR) with low mean square error values for watermarking purposes.

Keywords : steganography, watermarking, time complexity measurements, private keys

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