Abstract

Recently, a massive amount of cartoons or “manga” comics are distributed in digital format. Although raster format is a current mainstream format, it will be likely to use vector format from the viewpoint of data capacity and image quality. In such a situation, copyright protection technology for vector format is strongly required. In this paper, we propose a novel digital watermarking scheme for vector drawings based on discrete Haar wavelet transform. By utilizing Haar wavelet transform, the proposed method has robustness against geometric transformations such as translation, rotation, and scaling. Experimental results show that the proposed method can successfully embed watermarks without causing significant degradation to the original drawings and it also has robustness against geometric transformations.

References


Index Terms

Computer Science

Image Processing
Keywords

Digital watermarking, vector drawing, discrete Haar wavelet transform