



Poor Quality Watermark Barcodes Image Enhancement

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Abstract:

Abstract. The one dimensional (1D) barcode was developed as a package label that could be swiftly and accurately read by a laser scanner. It has become ubiquitous, with symbologies such as UPC used to label approximately 99% of all packaged goods in the US [1]. The two-dimensional (2D) barcode has improved the information encoded capacity, and it also has enriched the applications of barcode technique. Recently, there are researches dealing with watermark technique on barcode to prevent it from counterfeited or prepensely tampered. The existent methods still have to limit the size of embedded watermark in a relatively small portion. Furthermore, it also needs to utilize original watermark or other auxiliary verification mechanism to achieve the barcode verification. In this paper, we propose a novel watermarking barcode reading enhancement method. The proposed method can fight most of reading challenges of watermarking barcode. Experiments with challenging barcode images show substantial improvement over other state-of-the-art algorithms.

Keywords:

Barcode, digital watermark, barcode verification.

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