

A Post-processing for the reduction of blocking artifact in mobile devices

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Summary

In this paper, we propose a post-processing visual enhancement technique to reduce the blocking artifacts in block based DCT decoded image for mobile devices that has allocation of the restricted resource. This algorithm uses the adaptive deblocking filter to remove grid noise and ringing noise in monotone areas. To decide whether monotone region or not, we introduce a notion of Flatness. Also, a new directional filter is utilized to get rid of staircase noise and preserve the original edge component. The directional filter is applied according to the direction of edge, which is corrected in the process of directional vector smoothing. That is, the image is enhanced through the process of two passes. Experimental results show that the proposed post-processing algorithm produced better results than those of the conventional algorithms both subjective and objective qualities. The proposed technique is fabricated and verified as a realtime image processing chip in mobile devices.

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