

CONCLUSION AND FUTURE ENHANCEMENT

The block classification scheme based on histogram method is very simple and effective, reducing the computational complexity. The histogram based block classification scheme was 92% efficient for compound images [1]. Considering the fact that sensitivity for human eyes can mismatch 3% of block classification, though the proposed scheme failed to make the same consistency for other type of images as such can be negotiated. The classified text blocks, background blocks, picture blocks and hybrid blocks are compressed using wavelet coding, run-length encoding, JPEG coding and H.264 /MPEG-4 AVC respectively. The PSNR and Compression ratio were found to be comparatively better but the proposed scheme is very heavy and complicated because of various algorithms associated with it. In future, a single compression scheme might reduce the coding complexity to greater extent by implementing methods such as genetic algorithm, neural network, sub-band coding.

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REFERENCES

- [1] PS Jagadeesh Kumar, Dr.Gagan Singh, "Performance evaluation of H.264 AVC using CABAC entropy coding for image compression" ICACCS, Jan'2013, Atlantis press, Dubai, pp: 320-326.
- [2] S Kumar, "Histogram based block classification scheme of compound images: A Hybrid Extension" IJARCET, Vol.3, Issue 9, September'2014, pp: 3166-3120.
- [3] S Kumar, "Wavelet sub-band block coding based lossless high speed compression of compound image", IJARCST, Vol.2, Issue 3, July-Sep'2014, pp: 263-268.
- [4] Dr.PSJ Kumar, Mr.Indranil Sarkar "Speckle reduction of ultrasound image using wavelet transforms", IJCEA, Vol.8, Issue 3, Part 1, December'2014, pp: 122-129.
- [5] Cuiling lan, Guangming Shi and Feng wu, "Compress Compound Images in H.264/MPEG-4 AVC by exploiting Spatial Correlation" IEEE Transactions on Image Processing, vol.19 no.4, pp. 946-957, April 2010.
- [6] Wenpeng ding, Yan lu and Feng wu, "Enable Efficient Compound Image Compression in H.264/AVC Intra Coding" IEEE Transactions on Image Processing, Vol.10 no.3, pp. 337-340, Sep.2009.
- [7] B.-f Wu, C.-C Chiu and Y. -L Chen "Algorithms for compressing compound document images with large text/background overlap", IEEE Proc.Vis. Image signal Process, Vol. 151 No. 6, pp.453-459 December 2008. Brown, L. D., Hua, H., and Gao, C. 2003. A widget framework for augmented interaction in SCAPE.
- [8] D. Mukherjee, N. Memon, and A. Said, "JPEG-matched MRC compression of compound documents," Proc. IEEE Int. Conf. Image Processing, vol. 3, pp. 434-437, Oct. 2001.

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