

Robust Multi-View Video Streaming through Adaptive Intra Refresh Video Transcoding

Sagir Lawan^{*}, Abdul Hamid Sadka

Department of Electronic and Computer Engineering, Brunel University, London, UK.

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Abstract

A multi-view video (MVV) transcoder has been designed. The objective is to deliver maximum quality 3D video data from the source to the 2D video destination, through a wireless communication channel using all of its available bandwidth. This design makes use of the spatial and view downscaling algorithm. The method involves the reuse of motion information obtained from both the reference frames and views. Consequently, highly compressed MVV is converted into low bit rate single view video that is compliant with H.264/AVC format. Adaptive intra refresh (AIR) error resilience tool is configured to mitigate the error propagation resulting from channel conditions. Experimental results indicate that error resilience plus transcoding performed better than the cascaded technique. Simulation results demonstrated an efficient 3D video streaming service applied to low power mobile devices.

Keywords: MVV, Video transcoding, AIR, Error-resilient, MVC, H.264/AVC

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^{*} Corresponding author. E-mail address: sagir.lawan@Brunel.ac.uk

Tel.: +44-7778-737614

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