KDDI LABS Offers Highly Precise Automatic Video Quality Assessment SDK for HDTV

KDDI R&D LABS will exhibit highly precise video quality assessment software for high definition videos at NAB Show 2009.

With the widespread of digital broadcasting and next generation digital video disk, consumers have more opportunity to enjoy high definition videos. Consequently, strong demands for evaluating the picture quality after compression and other video processing in the course of content authoring are seen among the content providers. This is because the quality of the picture may vary depending on a video compression scheme as well as nature of the video scene such as complexity of texture and speed of moving objects. Therefore, content providers need a precise video quality metrics in order to minimize such quality variation of the compressed video. However, they could not measure picture quality so often in the authoring process since vast time and costs are required for subjective tests in which they have to gather many subjects and the video quality experts.

This software automatically measures the objective picture quality by analyzing the original and compressed pictures, and no specific knowledge about picture quality assessment is required. The accuracy of the objective score is almost equivalent to the perceived picture quality that can be obtained by the conventional subjective tests. Correlation coefficient between subjective and objective scores for the pictures compressed by MPEG-2 and H.264/AVC is about 0.90 when the subjective scores derived by DSCQS (Double Stimulus Continuous Quality Scale) test which is based on ITU-R Recommendation BT.500-11. This correlation is sufficient for the replacement of evaluation by human eye. Furthermore, this software can contribute to improve the total quality of the videos since it can specify the frame where picture quality degradation is significant and thus the video editor can retake the degraded scene only.

This software is provided as SDK (Software Development Kit) in order to be applied to the various proprietary applications such as the picture quality assessment software and the content authoring tool.

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