

UnB-AVQ-2018 Database

DIGITAL SIGNAL PROCESSING GROUP (Grupo de Processamento Digital de Sinais, GPDS)

University of Brasília (UnB)

Citation

The UnB-AVQ-2018 database is available to the research community free of charge. If you use it in your research, we kindly ask that you to cite our paper listed below:

Martinez, H. B., & Farias, M. C. (2018). Using The Immersive Methodology to Assess The Quality of Videos Transmitted in UDP and TCP-Based Scenarios. *Electronic Imaging*, 2018(12), 233-1.

Martinez, H., Farias, M. C., & Hines, A. (2018, September). Perceived quality of audio-visual stimuli containing streaming audio degradations. In *2018 26th European Signal Processing Conference (EUSIPCO)* (pp. 2529-2533). IEEE.

Martinez, Helard, and Mylène CQ Farias. Analyzing the influence of cross-modal IP-based degradations on the perceived audio-visual quality. *Electronic Imaging 2019.01* (2019).

Contact Information

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Details about the database:

The UnB-AVQ database is composed by three subsets of audio-visual databases, each one used in a particular subjective experiment. For all three experiments, groups of human observers rated the audio-visual quality of a set of video sequences. All three experiments applied the immersive method for subjective experiments. For the first experiment, visual artifacts degraded the video component (video coding, packet loss, and frame freezing), meanwhile, the audio component didn't suffer any type of degradation. In the second experiment, the audio component was subject to signal artifacts (background noise, clipping, echo, and chop) while the video component remained untouched. Finally, in the last subjective experiment, both audio and video components were subject to the same types of degradation used for the previous two experiments. For all three experiments, subjects were asked to rate the overall audio-visual quality.

To generate the test stimuli pool, we introduced audio and video distortions in the audio and video components, respectively, of the original sequences. The video distortions were Bitrate

compression, Packet-Loss, and Frame-Freezing. The video stimuli was compressed using H.264 and H.265 video codecs, with varying bitrates. With respect to Packet Loss and Frame-Freezing distortions, since these types of distortions do not occur simultaneously, the videos either contained one or another type of distortion. The Packet-loss distortions were generated by dropping packets from the bitstream at different rates (PLR), while the Frame freezing distortions were generated by inserting pauses with different lengths. The test conditions were organized to produce a set of Hypothetical Reference Circuits (HRCs). With respect to the audio component of the test stimuli, four (4) common streaming audio degradation types were introduced: Background noise, Chop, Clip, and Echo. These audio degradations are considered as “platform-independent” as they are not influenced by the codec, hardware, or network in use. For each type of distortion (noise, chop, clip, and echo), a number of test conditions were selected and distributed along the HRC arrangements. Additionally, test conditions (ANC) were included as anchors.

File List:

- Exp1\ Test Sequences for UnB-AVQ-2018 Experiment 1 (ref\ contains the source stimuli sequences)
- Exp2\ Test Sequences for UnB-AVQ-2018 Experiment 2 (ref\ contains the source stimuli sequences)
- Exp3\ Test Sequences for UnB-AVQ-2018 Experiment 3 (ref\ contains the source stimuli sequences)
- UnB-AVQ-2018.pdf Brief description of the UnB-AVQ-2018 database
- UnB-AVQ-2018-Experiment1.csv MOS values for UnB-AVQ-2018 Experiment 1
- UnB-AVQ-2018-Experiment2.csv MOS values for UnB-AVQ-2018 Experiment 2
- UnB-AVQ-2018-Experiment3.csv MOS values for UnB-AVQ-2018 Experiment 3
- Readme.pdf This file

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