

ITU-T Workshop on "From Speech to Audio: bandwidth extension, binaural perception"

Lannion, France, 10-12 September 2008

Session 5: Test methodologies: extensions, new parameters, test signals, calibration

Objectives:

- (1) To identify methods for assessment of mixed audio content (speech and music).**
- (2) To identify the way of adaptation of traditional methods to accommodate bandwidth extension.**

Session Coordinator:

Slawek Zielinski

University of Surrey

Presentations:

- **Alexander Raake** – Conversational speech quality of spatialized audio conferences
- **Thierry Etamé et al.** – Characterization of the multidimensional perceptive space for current speech and sound codecs
- **Yu Jiao et al.** – Towards consistent assessment of audio quality of systems with different available bandwidth

P1: Highlights from Presentation on “Conversational speech quality of spatialized audio conferences” (cont.)

- Current results show little quality benefit from using spatial audio rendering in teleconferences. However, **performance efficiency improves.**
- The test method needs to be refined:
 - Better manage listeners' attention between the conference task and quality assessment
 - The number of talkers could be investigated (*suggestion during the discussion*)

P2 Highlights from Presentation on “Characterization of the multidimensional perceptive space for current speech and sound codecs”

- Modern speech and audio codecs generate four major types of perceptual effects
- The information about the type of these effects can be utilized in the design of new calibration signals for subjective tests (anchors), which are perceptually more “coherent” with codecs under test

P3 Highlights from Presentation on “Towards consistent assessment of audio quality of systems with different available bandwidth”

- Need for a more universal standard for quality assessment of systems with mixed audio content.
 - Calibrate assessment scales to maintain fixed frame of reference across bandwidths
 - Use direct anchors
 - Create a “pool” of recommended high- and low-level perceptual attributes for quality assessment

Conclusions / Recommendations (1)

- More work needs to be done in order to develop a more generic standard for a mixed audio content quality assessment
- In order to avoid duplication of standardization work, it is advised that activities of the ITU-T and ITU-R are undertaken jointly (*conclusion from the discussion – the 1st day of workshop*)
- There is a need for a better calibration of assessment scales – definition of direct and indirect anchors

Conclusions / Recommendations (2)

- The need to go beyond audio quality. However, how to select new attributes?
- A “pool” of well defined assessment attributes – could be helpful
- There might be the need for standardizing the elicitation procedures for attributes identification (*conclusion during the discussion*)