**VQEG meeting minutes**

**Santa Clara, February 23-27, 2015**

Including Minutes from each day’s sessions.

Note: the ITU Intersector Rapporteur Group on Audiovisual Quality Assessment (IRG-AVQA) meeting is held coincident with VQEG. A special session is devoted to ITU matters on Thursday morning.

# Tuesday 24th Feb

Meeting minutes of Monday reviewed and approved.

## QART

Mikolaj gives a brief overview of QART goals and status.

One goal is to investigate and propose subjective testing methodology for recognition tasks (e.g. scenarios of fire safety, surveillance camera). This feeds in work of ITU-T SG9.

ITU-T SG9 published initial Rec. P.912 in 2008 but needs improvements. Based on results from QART, proposals for amendments to P.912 have been submitted to ITU-T SG9 for the following sections of the P.912:

* Section 5 (source signal): proposed to explicitly limit the scope of applications
* Section 6.1 (Multiple choice method): “Unsure” option response is problematic, as subjects tend to abuse its use. Proposed to amend text to put a warning against its use.
* Section 6.2 (Single answer method): problem to exclude results based on single error. Proposed to expand the method to correlate with other answers/information.
* Section 7.3 (Subjects): current text recommends using expert subjects. Recent experimental results, non-expert subjects produced similar results as long as they were motivated to participate in the experiments. However, for some areas, e.g. medical imaging, only experts should be used.

Mikolaj and Lucjan present the plans/ideas to update P.912 in H1 2015. See presentation slides.

QART ends.

Presentation by Intel (Mark Buxton, software tools and codec components group)

Title: HEVC commentary and call for local temporal distortion

Presentation’s main points:

* Pixel-based metrics for quality evaluation are less useful on HEVC than H.264/AVC: PSNR is even worse predictor of quality for HEVC, especially at low bit rates
* Local temporal (flickering) artifacts due to changing block size partitions: HEVC large block partitions bring the benefit in coding efficiency but cause local effects affecting perceived quality (spatially localized defects varying temporally)

Presentation by Netflix (Anne Aaron, video algorithm team)

Title: Video encoding and quality assessment

Overview of Netflix activities, including encoding technologies (server-side processing to client)

Netflix use software encoders.

Video algorithm team focuses on the inspection and encoding steps of the media pipeline (3rd step is packaging): parallel inspections and parallel encoding of video segments (thus real-time encoding is not a constraint/requirement).

Presentation provides information about the following points:

* Content inspection
* Content encoding
* Interests/needs:
  + Quality monitoring using perceptual quality assessment (not just signal fidelity)
  + Quality assurance
  + Perceptually optimized encoding parameters
  + Codec and processing technology evaluation
  + Possibly, optimize client adaptive streaming algorithm
* Use cases:
  + High-end content (UHD, HFR, CCG)
  + Low bitrate VOD (around 200kbps) for markets with developing network infrastructure
* Roadmap:
  + Developing research on video coding, open collaboration with academia and research institutes
  + Starting standardization involvement (next-gen video codec)

## MOAVI

Mikolaj provides an overview of the goals and current status.

MOAVI aims at developing no-reference metrics/indicators addressing different types of artifacts:

* Capture
* Processing
* Transmission
* Display

AGH hosts the webpage where some metrics are available to download. Metrics are pixel-based.

All available indicators have been contributed to the JEG-Hybrid project as one binary executable. Indicators can also be inputs to the VIME project.

Since the last meeting, 8 more indicators are available. Some indicators have been tested but not all of them so the plan is to continue with experimental setups to extend the testing/validation of the MOAVI indicators.

New application area (investigated in DEEP collaboration project): second screen where visual quality of the content being pulled from the web to the second screen needs to be assessed.