# VQEG Meeting Minutes

### Monday, 8 July 2013

### Thanks to Margaret for taking notes.

Attendees were introduced and each project was summarized. See the summary report on the VQEG website. Standards committee updates followed.

### Hybrid

Status update on databases was presented (see meeting files). Some confusion exists on which version of some PVSs should be used.

***Agreement:*** Dropboxes will no longer be used.

***Action Item:*** People creating PVSs must delete obsolete versions of each PVS (i.e., where extra copies exist).

***Agreement:*** Databases will be distributed using Marcus’ FTP site.

***Finished datasets:*** HD 3-5, VGA 1-3, and WVGA 1. Other datasets are partially completed. 4 are still to be completed.

Marcus proposed a solution for rebuffering that involved a simulation. T-Labs and SwissQual proposed fixing their model to accommodate those impairments. The ILG wants to give all labs an identical opportunity to perform similar fixes. This is a delicate situation, since models were submitted and HRCs redistributed.

Interest was expressed in including in the Hybrid Final Report a supplementary analysis that compares model performance before and after bug fixes for the purpose of transparency. That report must neither be so vague as to include no statistics and also not so explicit that the full analysis of models before bug fixes will cause people reading the report to reach contradictory conclusions.

Strong support exists to find a way to include rebuffering in the Hybrid test.

Options followed by a non-binding ranking/preference:

1. Drop rebuffering in WVGA2 and replace with other HRCs.
2. Include rebuffering, include model fix of proponents without any analysis of models pre- and post-fix results.
3. Include rebuffering, include model fix of proponents and analyze models pre- and post-fix results in the Hybrid Final Report.
4. Postpone rebuffering to a 2nd test, with submission of updated models.

DT: 2,4,3,1

SwissQual: 2,4,1,3

Opticom: 3,1,2,4

Yonsei: no strong preference

NTIA: 3,2,1,4

FUB: 4,3,2,1

Acreo: 3,2,4,1

IRCCyN: 3,2,4,1

Ghent: 3,2,1,4

UWS: 2,4,3,1

It was noted that options 2 and 3 were preferred over 1 and 4.

### Tuesday notes (AM only) Ghent meeting July 9, 2013

By A Webster

Decisions marked with yellow highlight.

8:30-9:00 Other business session:

VQEG Ghent 2013 Bin List

VQEG Newsletter? Perhaps combine progress report with newsletter format. Title to be decided. “E-Letter?” around 3 pages. ?

Decision: This idea has strong support. Details to be discussed. Margaret, Marcus, Lucjan, Naeem, Nicolas, Patrick, Vittorio, Phil Corriveau, Kjell, Arthur are all interested in serving as editors.

Decision: Two main ideas: Newsletter, or E-Letter, or both. Related to the idea of having additional presentations and/or poster sessions.

Presentations/Poster Session at VQEG meetings?

Additional presentations and/or summaries of papers of importance by VQEG members in other venues.

Also a small document to be proceedings of each meeting with such material.

Decision: Some support for this idea. Details to be worked out with e-letter/newsletter ideas.

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Decision: Silvio Co-Chair of Hybrid (approved) Jens will remain as a Co-Chair until contacted for his opinion.

Decsion: Jens Berger, VQEG’s SG12 Representative (Approved)

Chulhee Lee or Vittorio Baroncini VQEG’s ITU-R SG6 Representative

Decision: Chulhee will be representative to ITU-R WP6C.

QART 9:00

(Lucjan leading group and discussion this meeting)

Lucjan Janowski of AGH University of Science and Technology (Poland) presented an overview of the QART project including technical results of AGH experiments. Slides are available as: VQEG\_QART\_2013\_016\_QART\_AGH.pptx

Anthony Winterlich of Connaught Automotive Research group, Valeo Vision Systems (Ireland) presented document VQEG\_QART\_2013\_015\_QART\_2.0\_Connaught.pptx. Subject: Image Quality for Recognition tasks in the Automotive Environment . Discussed the needs for quality assessment in automotive video systems (e.g. fish-eye imagery has particular problems with noise and blurring at the edges).

Patrick Bergmans of iMinds (Belgium) presented document VQEG\_QART\_2013\_017\_Quality of VS Streams\_iMinds.pptx. Subject: Quality of Videosurveillance Streams with Traditional Encoders and Decoders. Discussed the massive amount of video surveillance data and how to lower the amount of data, in an appropriate way, to keep from overwhelming the data centers. Several methods for accomplishing this were discussed. There are needs for video quality methods for design (e.g. full ref) and also for monitoring to accomplish adaptive methods for throttling data without compromising quality needed for the task.

11:00 HDR Session

Patrick LeCallet and Phil Corriveau presided. Patrick gave a presentation by Thomas Richter of Univ. of Stuttgart titled “HDR Image Quality in the Evolution of JPEG XT” that was given at QoMex last week. Presentation is found in VQEG\_HDR\_2013\_026\_JPEGXT\_Stuttgart\_Richter.pdf.

# VQEG Meeting Minutes

### Tuesday, 9 July 2013, evening minutes

Thanks to Lucjan for taking notes.

After ILG lunch meeting there is no final decision. Another ILG meeting is needed. It will be tomorrow at lunch time.

### 3D

NTT cannot keep going to VQEG meetings. Therefore, activity “Objective video quality metrics for stereoscopic 3D” has to have a new leader if there is enough interest. Right now only Yonsei University and Technische Universität Berlin are interested in providing a model. See: VQEG\_3DTV\_2013\_012\_Future of project for Evaluation of Video Quality Models for use with 3DTV Content\_NTT\_v2.ppt

There was a discussion about possible solutions, three are proposed by Taichi Kawano: 1. Finding new leader, 2. Temporarily suspend, 3. Cancel. The decision will be made later during the last 3DTV session.

Kjell Brunnström presented studies about different labs comparison and crosstalk (please see meeting files for details). Presentation in VQEG\_3DTV\_2013\_019\_VQEG 3DTV pres v1\_Acreo.pdf

Pierre Lebreton presented a study about 3D images database (please see meeting files for details). File: VQEG\_3DTV\_2013\_035\_Slides\_Asilomar\_Characterization of scnes\_TU-DT\_Pierre.pdf

### Other

Vittorio Baroncini presented current work at MPEG. Right now MPEG compares an algorithm proposed by Google with AVC. DASH is of high interest for MPEG.

Patrick Le Callet described progress in IEEE P3333. They prepared a standard with 3D subjective test methodology. They also developed a framework for objective measurement of discomfort for still images. They obtained high reliability.

**Decision:** Patrick Le Callet will write a draft of a liaison to IEEE P3333 group. Invite them to come to the next VQEG meeting to make a presentation or during a webinar before the next meeting.

### VQEG Notes Wed AM July 10, 2013

Thanks to Naeem for taking notes.

Rahul presented the work on video quality assessment in the video gaming scenario.

Decision: Rahul’s work on 3D Gaming Video Quality will be in the QART group and further discussion on video quality assessment in the video gaming scenario will be under QART.

Kjell proposed to start activity on adaptive streaming for video quality assessment. It will be discussed in AVHD.

MOAVI Session @ 10:00 AM

Chaired by Silvio, apologies from Mikolaj and Emmanuel Wyckens

Lucjan presented the work on Lip sync with audio, blockiness and blurriness on behalf of Mikolaj. See file: VQEG\_MOAVI\_2013\_029\_Experimental\_Results\_AGH.pptx

Emanuel has designed the legal agreement to get access of MOAVI shared data.

Action Item: Arthur will send VQEG license agreement to Emmanuel Wyckens.

3DTV session is postponed and replaced by AVHD session.

AVHD Session @11:00 AM

Margaret chaired the AVHD session and presented “Video Quality Subjective Testing Proposed Variant (concept developed by AT&T)”. See File: VQEG\_AVHD\_2013\_004\_2013-6-21\_video quality subjective testing method proposal\_NTIA-ITS.pptx

### Wednesday PM notes Ghent meeting July 10, 2013

By A Webster

Decisions marked with yellow highlight.

1:30-2:00 ILG report on Hybrid issues

ILG Decision: ILG decided, after 2 lunch meetings, that there were not sufficient resources to accommodate any bug fixes from this point forward. Proponents can withdraw from buffering if they wish. (see slides*VQEG\_HYBRID\_2013\_039\_VQEG- ILG Decision on Hybrid project bugfix issues - 7102013\_ILG.pptx*) Accommodations can be made in the data analysis for models that crash.

VQEG will discuss this tomorrow after proponents have a chance to discuss the situation.

2:00 JEG-Hybrid

Marcus (IRRCyN) presented the JEGHybrid project results. Notably a database of PVSs are available.

See slides: VQEG\_JEG-Hybrid\_2013\_030\_jeg\_discussion\_ghent2013\_v1\_IRRCyN\_Marcus.pptx

Lucjan (AGH) presented (VQEG\_JEG-Hybrid\_2013\_032\_JEG-Hybrid\_Database\_AGH\_Lucjan.pdf) with many details on the data base of JEG-Hybrid PVSs. His presentation showed objective model results for this dataset provided by Marcus (IRRCyN). Models shown: SSIM, PSNR, VIF, VQM. The models were correlated against each other and plots were presented.

Glenn Van Wallendael presented (VQEG\_JEG-Hybrid\_2013\_031\_JEG-Hybrid - HEVC\_iMinds\_Glenn\_Nicolas.pptx) iMinds work on producing another large database (60, 000) of PVSs using the HEVC codec including PCAP files and elementary files. This will be completed by the next meeting of VQEG. These will be used to further the work on a Hybrid model that is developed collaboratively. These have used the HEVC codec.

Anthony presented VQEG\_JEG-Hybrid\_2013\_016\_JEG-Hybrid\_Connaught.pptx on JEG-Hybrid: Automotive image quality. Four cameras on autos to produce a 360 degree image to help with parking, etc. Also presented were rear view single camera examples. This type of video has particular problems with quality assessment. Subjective is still the best at this time but Rec 500 subjective testing is not particularly appropriate for this kind of video and applications. Looking for a standard way to do subjective (maybe objective) testing on this type of automotive video using 4 cameras (or single camera view) in varying light conditions.

JRG/MMQA (soon to be IRG) Official ITU-T Rapporteur meeting

Decision: Quan is approved as VQEG representative to ITU-T SG9.

Margaret (Ass. Rapp. Q12/9) presented VQEG\_JRG\_2013\_008\_Jav-dist\_editorial\_revisions\_NTIA-ITS.doc which is an editorially revised version of J.avdist. J.avdist is to be proposed for consent at the Dec. meeting of SG9. She then presented VQEG\_JRG\_2013\_009\_VQEG\_subject\_screening\_technique\_NTIA-ITS.doc. She received many useful comments that will be included in the final draft of J.avdist.

Decision: The group agreed to send the revised text to SG9 to begin the approval process.

VQEG Minutes Thursday

Thanks to M Pinson for taking notes.

**UltraHD Project**

Presentation from Naeem. See slides in meeting files. VQEG\_UltraHD\_2013\_34\_ProjectOverview\_UltraHD (4K)\_UWScot\_Naeem.pdf

4K video is of interest to IRCCyN, TP-Vision, BSkyB, Swissqual, Intel, iMinds, Acreo, NTIA/ITS, Opticom, Yonsei University, FUB, and UWS.

Availability of 4K source sequences was discussed.

**RICE**

First target is to look into subjective testing methodologies.

Presentation by Kjell. See slides in meeting files. VQEG\_RICE\_2013\_037\_pres v1\_Acreo.pdf

Discussion on RICE work direction.

Interested in developing improved subjective methods for interactive subjective testing: Acreo, AGH, IRCCyN, and NTIA/ITS.

**Hybrid**

Chulhee presented his email to the Hybrid reflector. VQEG\_HYBRID\_2013\_044\_Chulhee\_email\_to\_hybrid\_7-11-13.txt

Proponents were asked propose a plan on how to prove that a code change is only a bug fix and not a model change (i.e., an exact technique that can be applied to all proponents) and commit any needed extra funds.

HD1 decoding problems are under investigation.

**Decision: Agreement was reached** that AVI headers will be fixed.

Questions were raised about tandem coding in VGA3. This will be discussed tomorrow.

**Decision: Agreement was reached** to adjust the HD3 test design to reflect that HRC13 contains slicing instead of freezing.

A proposal was made to check the admissibility of bit-stream data. See VQEG\_HYBRID\_2013\_045\_Chulhee\_email\_to\_hybrid\_reflector\_re\_admissibility\_of\_bit-stream\_data.docx

**Thursday PM July 11, 2013**

**VQEG Minutes from Thursday afternoon**

 (Notes taken by Florence Agboma, British Sky Broadcasting)

**Testing the new subjective test method (AT&T) Presented by NTIA/ITS**

* Decsion: Margaret will send out a formal procedure on the new subjective test method (Alternate Video Quality Subjective Testing Methodology, Jessica Hooker, NTIA/ITS) to the AVHD reflector to test the technique. The idea is to challenge and compare the results to see what differences there are with the traditional methods.
	+ Comments on how to test the new subjective test method?

Re-run a simple experiment that was done in the past using this new methodology and compare results.

**Margaret**: to run speech quality subjective tests

**Phil**: to extend the new test methodology on video

Other suggestions on scene selections, 30-60 scenes, randomization of questions on a per user basis, content analysis

Work on distraction questions: crowdsourcing, writing up the technique and randomization of questions on a per user basis

**Margaret**: to write up a description of the technique and maybe during the next meeting people can discuss some proposals to add.

* Margaret shared a Microsoft Word template intended for test plans creation and related documents [VQEG\_AVHD\_2013\_007\_VQEG\_document\_template\_NTIA-ITS.dotx]. Everyone is encouraged this template for their projects.

**AVHD Project**

* Model options: audio-visual model or video only model
* Audio-visual model

Margaret’s question: is there any interest to validate a true audio-visual model, i.e., a model that understands both the audio and video and synchronization problems and can predict a score. Time frame is 2 years. Interested proponents:

* Matthias Obermann(Opticom) wouldn't rule out the idea
* Argyropoulos Savvas(Technische Universität Berlin) needs to consider the resources
* Silvio Borer(SwissQual) is interested
* Video only model

Margaret’s question: is there any interest to validate a video only model? Interested proponents:

* Chulhee Lee(Yonsei University), only if UHDTV is included.
* Margaret’s question: is there any interest in collaborating and developing an audio-visual model using existing objective quality models (e.g. standardized audio and video quality models).
* Comments: a pre-step on content analysis is needed to understand content dependency

Details still to be decided

**Outcome**: The focus is on audio-visual model.

Edit the AVHD test plan documents

**AVHD Questions on AVHD objective model validation**

1. What guidelines shall we have on choosing audio?

* Unanswered.

Comments:

From the [link??] shared by Patrick, take as-is on taxonomy for audio conditions and how they relate to video Dr. Guan Ghan Song.

It should be related to video, we would like contents in other languages in speech other that English.

1. Unanswered.
2. Audiovisual sync problems as part of an HRC?

Comments: Dubbed audio is of interest.

1. Are audiovisual sync everyone looking at.
2. We need guidance on combining audio HRCs and video HRCs. What is the goal?

Comments: we want realistic impairments.

1. No objections to a non-matrix approach
2. Audio-only and video-only stimuli as an impairment (e.g., video is entirely lost). Interface should ideally indicate that the other information was lost in an appropriate way
3. Need consideration J.avdist and AT&T
	1. IF AT&T, Note: randomization of questions on a per user basis. Ask psychologists for opinion.
4. Open questions: Speakers in a sound isolation room, headphones or ear buds in a potentially a
5. A common set should be used.

Adaptive Streaming

Kjell expressed the need to start an activity on adaptive streaming within VQEG, looking at the subjective testing and objective models.

Decision: Maybe a sub-group under AVHD or a project under AVHD

Interested proponents:

Matthias (Opticom)

Savvas (Technische Universität Berlin)

Kjell (Acreo Swedish ICT)

Florence (BSkyB)

Naeem (UWS)

Glenn (Ghent University – iMinds)

Patrick (IRCCyN, Université de Nantes)

Lucjan (AGH University of Science and Technology)

Phil (Intel)

Jari (Technical University of Denmark)

Silvio (SwissQual)

**3DTV Presentation**

Presentation on preference of experience by Patrick (See meeting files)-Not available pending permission of author.

Presentation on content selection by , Pierre Lebreton VQEG\_3DTV\_2013\_035\_Slides\_Asilomar\_Characterization of scnes\_TU-DT\_Pierre.pdf

Presentation on content selection by , Pierre Lebreton VQEG\_3DTV\_2013\_036\_Paper\_IVMSP\_2013\_Relation between quality and preference of 3D\_TU-DT\_Pierre.pdf

Arthur: look at SG9 liaison draft tomorrow

Arthur: Re-visit the logistics on the next VQEG meeting

The Hybrid bug-fix issue was briefly discussed with no decisions made.

Minutes Friday Jul12, 2013

By Arthur

Decision: New email reflector with Qualinet: qualinet-vqeg@vqeg.org

Change hdtvtest to ultrahd

Change mmtest to avhd

New email reflectors for RICE and HDR

Decision: Margaret and Naeem are editors of a new VQEG E-Letter. The full editing team as noted in the Tuesday (?) Minutes . Margaret, Marcus, Lucjan, Naeem, Nicolas, Patrick, Vittorio, Phil Corriveau, Kjell, Arthur are all interested in serving as editors.

It is possible that the progress report may begin to include additional information and even photos. Kjell will continue to do the progress report with input from Group Co-Chairs.

Liaisons:

SG9: Chulhee and Margaret (2 input)

Decsion: Chulhee will send to 3DTV email list request for comments on SG9 Liaisons: Due Sept1

SG12: Savvas and Silvio (3 input)

LS 1 Arthur and Kjell will reply (Re: IRG) Send draft to board first

LS 20 Savvas will draft and Arthur and Kjell will reply

LS 23 Arthur and Kjell will reply

ICDM: Kjell will draft and Arthur and Kjell will reply

Qualinet: Kjell, Vittorio, Marcus, Patrick, Jari (1 input liaison):

 Decsion:Kjell and Arthur will reply after setting up the reflector.

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Hybrid issues regarding bug fixes were discussed briefly before the break. Documents (private) were sent to the VQEG Co-Chairs who forwarded to Marcus (acting ILG Chair in the absence of Margaret and Phil).

All proponents agreed to a procedure to fix bugs in model code. They also agreed to a particular list of fixes (sent to the ILG for consideration) that all proponents agreed were not changes to the algorithms.

If there are bugs in the future, when remaining data PVSs are available, then it is proposed (by the proponents) to utilize the procedure for those as well.

Break

Hybrid:

4 databases are not ready.

Regarding the rebuffering issue in WVGA2 there were 4 proposals/options presented by the proponents. These were put to a vote after lunch.

After lunch vote:

1. (0) Replace rebuffering in WVGA2 with other HRCs. Determined to be impossible if we are to keep within schedule
2. (5) Give the option to the models to skip WVGA2-rebuffering PVSs ( IRRCyN, NTIA, Acreo, AGH, iMinds)
3. (4) Skip the WVGA2 database (SwissQual, Yonsei, TU-DT, Opticom)
4. (0) Keep WVGA2, but do not evaluate models on rebuffering HRCs

DECISION: WVGA2 will go forward. Proponents will be allowed to withdraw from the WVGA2 rebuffering HRCs.

3DTV Session

Presentation by Marcus (see VQEG\_3DTV\_2013\_041\_3dtv\_discussion\_ghent2013\_v1\_Marcus.pptx)

Decision: for 3DTV Ground truth test use Optimized (OSD-PC method) in GROTRUQ3D.

Subjective Experiment Design and Environment (Test Plan in VQEG\_3DTV\_2013\_043\_grotruqoe3d1\_IRRCyN\_draft\_101.docx)

Several items in the test plan were proposed and agreed (see test plan) VQEG\_3DTV\_2013\_043\_grotruqoe3d1\_IRRCyN\_draft\_101.docx

Finished to before Section 4.2 in the test plan.

End of 3DTV due to running out of time.

Notes were reviewed and approved.