VQEG Meeting Minutes

Hillsboro, OR

Monday, 12/12/2011

(notes taken by Harvey Lieber, Dialogic)

Individual introductions

Quick Team updates

* Independent Lab Group (ILG) group update  
  Kjell reported that their work has been mainly done on behalf of the Hybrid project. Proponents and ILG have agreed on a fee.
* Multmedia2 (MM2)  
  Quan reported the Margaret will make a presentation of their work later in the week.
* HDTV  
  Margaret reported on current status.
* Hybrid  
  Silvio and Chulhee reported the group previously did not have enough test vectors and the group has been working on generation of more. The group hopes to be complete by the end of the year.
* Tools and Subjective Labs setup group  
  Glenn reported that they have been doing a lot of work to add tools.
* Project for Collaborative Development (JEG)  
  Kjell and Patrick reported on Qualinet involvement and status. Over 30 countries (not just EU countries) are involved. Within Qualinet VQEG members are involved such as: Kjell are Patrick are leading some activities within Qualinet.
* 3DTV  
  Marcus gave a summary status.
* Quality Assessment of Recognition Tasks (QART)  
  Mikolaj reported on status and recognized that Joel Dumke (NTIA) has done a lot of work.
* JEG-Hybrid  
  Marcus gave a summary status.

Liasion Reports

* Glenn reported on MPEG/3D work
* Chulhee reported on 3D quality assessment with ITU-R WP6C
* Chulhee reported on ITU-T SG12 and their model submission deadline is this week.
* Quan and Margaret reported on ITU-T SG9 including 3D quality assessment. (2 Liaisons received).
* Phil reported on 3D@Home. One study is focused on “bad” 3DTV and is targeted towards Hollywood. A second study is focused on children that have problems seeing 3D. The goal is to screen children and have them follow up with their eye doctors.
* Kjell reported on Qualinet.
* Liaison from IEEE P.3333 on 3DTV will be handled in 3DTV or on Friday.

QoE Standardization

* Arthur gave his VQEG presentation that he gave to Quality of Multimedia Experience (QoMex) in September.

Proposal

* Emmanuel presented a proposal (to be posted on VQEG website) on some new quality metrics. Arthur questioned Emmanuel if we wanted some new measures on the artifacts and Emmanuel affirmed. Mikolaj commented that MOS is considered a bad measure, however it is accepted worldwide. Arthur clarified that Emmanuel is asking for measures on individual artifacts, as opposed to a single MOS metric. Quan commented that many measurements are not designed as a “root cause analysis” measurement. Pini asked whether these measurements would apply to the end device or to the entire broadcast chain and Emmanuel responded that he had only thought about the end device however it could apply anywhere. There was much interest in this topic.

HDTV2

* Margaret reported on HDTV2 test plan. Margaret requested feedback on any new technology changes that needs further investigation. There was feedback on:

1. transcoding problems from MPEG2 to/from MPEG4.
2. the HEVC standard from MPEG.
3. The WEBM codec (from google?).
4. transcoding with transmission error impairments on both legs.
5. Interlaced SRC with de-interlaced PVS

MM2

* Quan started the talk.
* Margaret made a presentation on: “The influence of Environment on Audiovisual Subjective tests” (presentation on VQEG website). Subjective tests were done by 6 organizations across the world. In summary, the most important variables are the number of subjects and the opinions of the subjects.
* Andrew Catellier made a presentation on “Quality of Subsampled Video on Mobile devices.” This talk concerned when video signals, within the home, were changed from a STB to Mobile device. The same audiovisual signals were sent to all devices, modified to play on each device. The MOS scored were compared against the different mobile devices.
* John Ralston made a presentation (that was previously given at an IEEE meeting) on The Network that won’t stand still: Challenges and Opportunities for real time Mobile Video”. John agreed to be a liaison to IEEE P.1907.1.

**Official VQEG Minutes, Tuesday**

**12/13/2011**

**QART Session**

Thanks to Margaret Pinson (NTIA/ITS) for taking notes.

**Agreement:** VQEG established a liaison relationship with VQiPS, with Joel Dumke (NTIA) as the liaison representative.

**Agreement:** Joel Dumke (NTIA) appointed as the second Co-Chair of the QART session.

Mikolaj and Joel presented the current status of QART and two experiments. See slides:

* VQEG\_QART\_2011\_041R2\_Hillsboro\_R2\_v20111209a.pptx
  + Progress to date
* VQEG\_QART\_2011\_039R2\_tests-hillsboro-2011\_R2.pdf
  + This experiment investigated the impact of motivated subjects (related to their job, or paid) versus non-motivated subjects (volunteers) on a task oriented test. This information may be suitable for modifying ITU-T Recommendation P.912. Motivated subjects had a statistically significantly higher recognition rate.
* VQEG\_QART\_2011\_040R1\_guc-hillsboro-2011\_R1.pdf
  + This experiment investigated the classification of videos by lighting level and object size.

**3DTV Session**

The following presentations were made:

* VQEG\_3DTV\_2011\_031\_Technicolor\_studies\_subjective\_testing\_methodologies\_3DTV.pdf
  + 3D subjective testing techniques / variables to be investigated
  + Industry needs to find the best 3D compression settings. The ability to separate the impact of picture quality, viewing comfort and depth quality in a 3D subjective test is important.
  + Guidance on instructions may be particularly important.
  + The process of “how to design the best subjective test” is not by performing multiple subjective tests; but rather using focus groups. The test should be meaningful and easy to answer.
* VQEG\_3DTV\_2011\_037\_Performance Evaluation of 3D Assessment Methods(NTT).doc
  + Compare 3D subjective testing using ACR, DCR and DSCQS, when asking for overall quality. Propose using ACR with 28+ subjects, as best compromise between time taken per subject and confidence intervals (e.g., comparative to 24 subjects in a 2D ACR test).
  + Lesson learned—subsequent 3D studies need to use more people, due to the extra variability between subjects.
  + There was more variability among 3D viewers than 2D viewers.
* VQEG\_3DTV\_2011\_038\_Test Plan for Investigation of 3D Assessment Methods(NTT).doc
  + Proposed plan for collaboration on 3D subjective test method studies. Goal is to quickly figure out how to do 3D subjective tests quickly, with a group of labs.
  + All labs do some portion identically; each lab also explores one or more unique topics.
* << VQEG\_3DTV\_2011\_054\_IRCCyN\_presentation\_of\_3D\_source\_content\_and\_unique\_database.ppt >>
  + Collaborate to create a variety of 3D source and 3D PVSs. Choose a subset. Cooperate to perform related subjective tests.
* VQEG\_3DTV\_2011\_043\_JRG-MMQA display crosstalk.doc
  + What is the maximum allowable crosstalk? Proposed experiment to add crosstalk to a still video and whether or not a subject can see a 3D effect.
  + Interest in collaboration with Yonsei on this from IRCCyN, AGH, NTIA

**Notes on 3D Methodology Collaboration:**

An interesting discussion ensued. Some key points raised follow:

* Labs can use 3D Bluray discs for some of these 3D subjective tests. This will let more people become involved. Other 3D playback options are also acceptable.
* Marcus/IRCCyN will create HRCs. Other people will look into 3D HRC creation options (e.g., Emmanuel, Mikolaj, Pierre, Filippo).
* Time shifting is impairment of interest (e.g., international distribution causes 1-2 frame shift when converting between formats). That is, left and right views become unsynchronized by 1 or 2 frames).
* Problems using paper forms reported.
* Scene selection and PVS creation will occur in the next few months. The next steps will be coordinates during audio calls.

**Other Issues:**

* IRCCyN (Marcus) has a crosstalk study underway and are interested in having other labs repeat their study.

**Requirements:** Light sensor fast enough to capture changes in shutter glasses display, around 1 ms; and a osciliscope or other device fast enough; and a shutter glass 3D display

* The IEEE P.3333 liaison was discussed. See VQEG’s reply liaison (forthcoming).
* The agenda for Wednesday, Thursday and/or Friday may change. If another group ends early, the remaining time will be given to 3DTV.

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Wednesday 12/14/2011

(notes taken by Harvey Lieber, Dialogic)

Hybrid

Chulhee and Silvio reported status. The model submission deadline was 11/30/2011, however there were various problems.

* There were problems with the generation of the test vectors, however the issues have been resolved.   
  **It was decided that the new schedule is that: the test vectors will be generated by 1/15/2012 and will be validated by 1/31/2012.**
* There is a problem with the working system tool chain (H264BitstreamExtractor 🡪 JM) as it cannot handle duplicate or re-ordered packets.  
  **It was decided that the solution will be to modify the tool to clean-up the packets. Yonsei offered their tools for optional use. If some complex cases remain then they will be discarded.**
* There are currently no test vectors for MPEG2.   
  **Chulhee will verify with Opticom however tentatively the recommendation is to drop MPEG2.**
* To date, 4 proponents (Opticom, Yonsei, DT, SwissQual) have announced that they will submit models.  
  **Decision: The new schedule for final Model submission date is April 30, 2012**
* **Decision: Given the schedule delay, the submission deadline was extended.  
  The invitation is extended to NTT (one of potential proponents, decision by Dec. 31, 2011). Any other proponent who showed interest in the past may participate. But, they can not cause any additional delay and must declare their intention by Dec. 31, 2011. The new proponents need to pay the fee and provide at least one data set in a timely manner. The new proponents can also donate test vectors until Jan. 15, 2012.**

ILG

* Kjell reported Vladimir (RT-RK) will be the contact point for receiving models and rough validation. For example, Vladimir will verify that the models don't crash in some critical cases. Kjell also reported that proponents may submit their testing designs to him.

Potential New Projects

* Arthur discussed a new project, originally proposed by Emmanuel, called Monitoring of Audio Visual Quality by Key Indicators (MOAVI)  
  **Decision: It was agreed to start this project and the following parties volunteered: SwissQual, FT, DT, BT, AGH, RT-RK, NTIA   
  The co-chairs are: Emmanuel, Silvio and Mikolaj.  
  This group will start as a sub group of JEG.**
* Dave Hands proposed a VideoConferencing (VC) Project. . This area was somewhat looked at in the past by VQEG, however given the explosive use of VC (e.g. Skype) it needs to be updated and improved.   
  **Decision: It was agreed to start this project and the following parties volunteered: FT, Droplet, NTIA, DT, FT, Acreo, Yonsei.  
  Dave Hands agreed to be a co-chair.  
  This group will start as a sub group of JEG.**

JEG Hybrid

* Marcus, Lucjan and Nicolas presented their Evaluation Project Plan. Marcus talked about their idea about having quality “indicators” (e.g. blockiness). The main resolution focus will be on HD and VGA/WVGA for multimedia and mobile applications. Marcus reviewed the entire project plan. This was a working meeting and based on the discussion, Marcus updated the plan.
* Vladimir presented a talk on “Feature-cluster VQA Framework”
* Pierre presented the video library (from DT and NTT). Pierre will confirm if the video sequences are available for VQEG usage.
* Patrik presented his videos that are available for VQEG usage.
* Arthur recommended that this effort be disseminated to various groups (e.g. IEEE) via the liaisons. Marcus agreed to prepare a paragraph for the liaison letters.
* Marcus requested volunteers to help with this effort.

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Thursday 12/15/2011

(notes taken by Harvey Lieber, Dialogic)

New Project Proposal

* Patrick proposed a project to examine the high dynamic range (HDR) of video. This impacts both the capture as well as display.  
    
  **Decision: This project was accepted and started.  
  The co-chairs are: Patrick Le Callet and Phil Corriveau  
  Arthur requested the co-chairs to document the scope.**
* **Arthur requested the co-chairs of the other new projects to document their scope as well.**

JEG Hybrid

* Marcus presented the Projected Timeline, reviewed the plan and based on comments updated the plan. Marcus solicited volunteers for working on various group efforts.
* The team divided in break-out sessions.
* The SRC preparation group discussed what videos they wanted to select, however there were no volunteers at this time.
* The HRC preparation group (Mikolaj) reported on all the parameters that are needed. The group counted more than 25k HRCs. This number may need to reduce this number.
* The Objective Quality Metric group (Margaret) reported that the sources and PVS should be the same length.

Liaison Discussion

* Quan/Margaret/Chulhee reviewed the liaison with ITU-T SG9 on Draft P.3D-Sam; Subjective Assessment Methods for 3D Video Quality.
* Quan/Margaret/Chulhee reviewed the liaison with ITU-T SG9 on J.av-dist (Methods for subjectively assessing audiovisual quality of internet video and distribution…). Feedback was requested.

3D

* Quan/Marcus/Patrick led the interactive discussion. All detailed comments were captured by Marcus.
  + Decided to start processing PVSs for the 3D testing
  + Pair comparison will be used
  + Lucjan will do focus groups for finding out about subjective dimensions
  + 8 labs agreed to participate in Pair Comp. INTEL, CRC, Acreo, NTIA/ITS, AGH, IRCCyN, NTT, Yonsei, (Maybe Technicolor and BT as well)
  + Decisions will be made later on lab setup, design, distribution, etc.
* The topic of the 3D MPEG testing activity (being led by Vittorio) was discussed. Filippo mentioned that Vittorio did a good job. Kjell (Acreo) and Chulhee (Yonsei) also reported on the test. First results were discussed in detail.
* Jun presented some preliminary data from his 3D NTT experiments. This study compared different subjective methods applied to 3DTV (DSCQS, ACR, ACR-HRR, DCR) In the near future, Jun will prepare and distribute a paper with more analysis.

Arthur discussed the possibilities for the next VQEG meeting. The meeting is targeted for France (Paris or Rennes) and optimally targeted for the second week of June (11-15 ).

**Official VQEG Minutes, Friday**

**Liaisons**

(Notes take by Margaret Pinson of NTIA/ITS)

Incoming liaisons were reviewed and commented on. An action for each was decided, and authors were assigned.

Most of the outgoing liaisons were approved. One outgoing ITU-T Study Group 12 liaisons was tabled for further discussion within the Hybrid project.

END