Storyboard

An Era of Change

Philip Corriveau

A new chapter for the Video Quality Experts Group, starts with changes in leadership and increased younger membership. I am Philip Corriveau, one of three remaining founding members of VQEG. It has been over 15 years of research results and excitement since the founding of VQEG. The last meeting in Sweden marked the start of a transition for this group. Arthur Webster announced, and it was ratified that Margaret Pinson would join the senior leadership as a Co-Chair of VQEG. During this transitional period, Arthur will migrate to a new position (yet to be defined) where he will continue to contribute to VQEG success. I would like to congratulate Margaret on this new role in VQEG.

> Changes in leadership and younger membership drives VQEG forward.

Margaret has been a Co-chair with me on ILG since she joined VQEG and has driven results generation in the team for years. She joins Kjell Brunnström, who has been in a Co-chair position for several years, keeping us all focused and productive. I personally have known Margaret for many years and have worked with her on many pieces of research. I am personally very excited about what she brings to the senior leadership table.

I would like to thank Arthur for being a solid fearless leader for all these years, during many of which I was co-chair with him. Without his position and ability to navigate the standards bodies we would not have the strong group of participants from Industry, Government and Academia.

Philip J. Corriveau is a Principal Engineer in Experience Development and Assessment in SMG at Intel. He now directs a team of human factors engineers conducting user experience research across Intel technologies, platforms and product lines. He was a founding member of and still participates in VQEG.

Another great change that has been developing over the last few meetings is the growth of younger membership within VQEG. These new members to the group are unique in the sense that their perspective on the problem spaces we need to tackle are tactically different than the current mind set of those of us who have been here for a while. Another milestone for this meeting was the participation of technical women in the group. I personally find it gratifying see more and more technical woman driving forward these specialized fields in engineering and psychology.

All of this to say: the future of VQEG is bright and I encourage you all to come and join us as we move the needle on Quality of Experience forward.

Issue Overview: Verification and Validation

Kjell Brunnström and Marcus Barkowsky, Editors

Verification and validation of subjective and objective video quality assessment are two very important aspects that strongly interact with the topics of the first issue of the VQEG eLetter which focused on "best practices" for training sessions during a subjective video quality test. Verification and validation is an often neglected part when presenting new or improved methods in scientific methods. VQEG has worked on this topic since its start and would in this issue give an overview of recommended good practices, but also new and interesting ways to further improve the process. We are proud to present a number of excellent contributions on the topic.

"QoE Models' Performance Evaluation" by Dr. Irina Cotanis starts the issue out by presenting state-of-the-art hands-on methods that are already available and standardized in the ITU-T Recommendation P.1401. This is an important milestone for the area to formalize a set of statistical based tools that

should be the basis for every serious evaluation of objective metrics,

"Strategies for testing image and video quality estimators" by Amy R. Reibman introduces a new way of studying, identifying, and isolating the shortcomings of video quality estimators, by introducing a three-stage testing strategy for evaluating the accuracy and effectiveness of them.

"Dreamed about training, verifying and validating your QoE model on a million videos?" by Glenn Van Wallendael, Nicolas Staelens, Enrico Masala, Lucjan Janowski, Kongfeng Berger, Marcus Barkowsky describes a fantastic effort and a valuable resource for further testing objective quality estimators, building up a huge database of processed video sequences consisting of almost 60000 sequences.

"Validation of reliable 3DTV subjective assessment methodology - Establishing a Ground Truth Database" by Jing Li, Marcus Barkowsky and Patrick Le Callet describes another ambitious project in establishing a ground truth database for stereoscopic 3D video. This is of fundamental importance if we are going to understand the multidimensional aspect of quality of experience of 3D video and its reliable subjective and objective assessment.

"Reliably combining quality indicators" by Adriaan Barri, Ann Dooms, and Peter Schelkens discusses an often neglected topic: Selecting and fusing quality indicators for objective video quality estimators in a reproducible and reliable way using Machine Learning. They present the new concept of Locally Adaptive Fusion that put strict regulations on the machine learning behavior.

"T1A1 Validation Test Database" by Margaret Pinson and Arthur Webster documents a subjectively annotated dataset that is freely available on the Consumer Digital Video Library. Thoroughly prepared and conducted in 1993-1994, it offers

today the opportunity to test video quality estimators for their universal applicability.

"Multimedia Quality of Experience for Target Recognition Applications" by Mikołaj Leszczuk and Lucjan Janowski highlights that Quality of Experience is not universally applicable. They describe in detail the ongoing efforts in Target Recognition Video concerning challenges, available databases, standardization, and subjective assessment in this particular context.

"A New Subjective Audiovisual & Video Quality Testing Recommendation" by Margaret H. Pinson and Lucjan Janowski introduces the new ITU-T Rec. P.913 which focuses on the separate and combined subjective assessment of audio and video media in controlled or uncontrolled environments. Special emphasis is given on best practices.

"New ITU-T Rec. P.1302 for Audio and Audio-visual Call Quality Testing" by Sebastian Möller and Benjamin Weiss briefly explains the advantages and use cases of the new ITU-T Rec. P.1302, notably the focus on the content instead of the transmission quality while including time-varying transmission channels.

"Blind Image Quality Assessment: Unanswered Questions and Future Directions in the Light of Consumers Needs" by Michele A. Saad, Patrick Le Callet and Philip Corriveau describes an exciting innovative approach to holistically analyze the quality at the human receiver by considering isolated influence of complex interactions of each prior step such as intent, capture, conversion, transmission, and display in real-world consumer terms, a mission for a new workgroup within VQEG.

Issue Editors

Kjell Brunnström, Ph.D., is a Senior Scientist at Acreo Swedish ICT AB and Adjunct Professor at Mid Sweden University. He is an expert in image processing, computer vision, image and video quality assessment having worked in the area for more than 25 years, including work in Sweden, Japan and UK. He has written a number of articles in international peer-reviewed scientific journals and conference papers, as well as having reviewed a number of scientific articles for international peer-reviewed journals. He has supervised Ph.D. and M.Sc students. Currently, he is leading standardisation activities for video quality measurements as Co-chair of the Video Quality Experts Group (VQEG). His current research interests are in Quality of Experience for visual media in particular video quality assessment both for 2D and 3D, as well as display quality related to the TCO requirements.

Marcus Barkowsky received the Dr.-Ing. degree from the University of Erlangen-Nuremberg in 2009. He joined the Image and Video Communications Group at IRCCyN at the University of Nantes in 2008, and was promoted to associate professor in 2010. He currently co-chairs the VQEG 3DTV and Joint Effort Group Hybrid activities.