JEG-Hybrid
Joint Effort Group on the development/research of generally applicable hybrid video quality assessment algorithms

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To develop a generally applicable no reference Hybrid Perceptual/Bit-Stream model.

Small set of subjective experiments
- Cause limited training
- Cause limited validation

How can we prove validity of a quality metric when it is only trained and validated on a small set of subjective experiments?
STRATEGY

- What do we have? (Have a look at the state-of-the-art)
  - Existing full-reference metrics
  - Subjective tests

- Try to identify shortcomings
  - If there are none, use full-reference metrics as ground truth
  - If there are, what set needs to be subj. evaluated?
WHY A LARGE SCALE APPROACH?

- **Analyzing** the agreement of objective measurements with respect to various application scopes. When do FR-metric disagree?

- **Identification** of insufficient algorithmic modeling precision OR missing perceptual features.

- Reproducible **verification** is possible, due to fully reproducible testset and standardized performance algorithms.
WHERE TO START?

The intention is that every publication can be rerun easily
- Data, scripts, and virtualbox integration in order to redo all publications

A Virtualbox image is updated weekly at:
- Accessible through TeamViewer
  (ask credentials to Marcus Barkowsky)

- Git repository (software versioning environment)
- Identification of HRCs using a MySQL database
Biweekly meetings will continue

Further statistics on the large scale database:
- Performance estimation of objective measurements
- Determining subset for subjective testing
LAST MEETING: FUTURE WORK

- Extending SRC variety drastically
- Integrate VMAF functionality
- Increased focus on pooling strategies
WHERE CAN I GET MORE INFORMATION?

  (notably section resources, constantly updated, volunteers welcome!)

How may I get involved?

- Subscribe to the VQEG-JEG mailing list
- Join our biweekly conference call
PROGRESS

- Performing temporal registration of the sequences in VQEGHD1
- Calculating the VQMT measures on VQEGHD1
- Performing a sigmoidal mapping targeting MOS values
- Analysis of the behavior of the sigmoidal fitting
OVERVIEW

Database of PVS → Calculate measures (VIF, PSNR, VQM, SSIM, VMAF) → Train mapping on VQEGHD → Map to MOS → measure disagreement → Subj. test