JEG-Hybrid

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

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MISSION

- 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?

- http://vqegjeg.intec.ugent.be/wiki/

ORGANIZATION OF REPRODUCIBLE RESEARCH

- The intention is that every publication can be rerun easily
  - http://vqegjeg.intec.ugent.be/wiki/
  - Data, scripts, and virtualbox integration in order to redo all publications

- A Virtualbox image is updated weekly at:
  - ftp://ftp.ivc.polytech.univ-nantes.fr/
  - Accessible through TeamViewer
    (ask credentials to Marcus Barkowsky)

- Git repository (software versioning environment)
- Identification of HRCs using a MySQL database

ONGOING WORK

- 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?

- http://vqegjeg.intec.ugent.be/wiki/

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

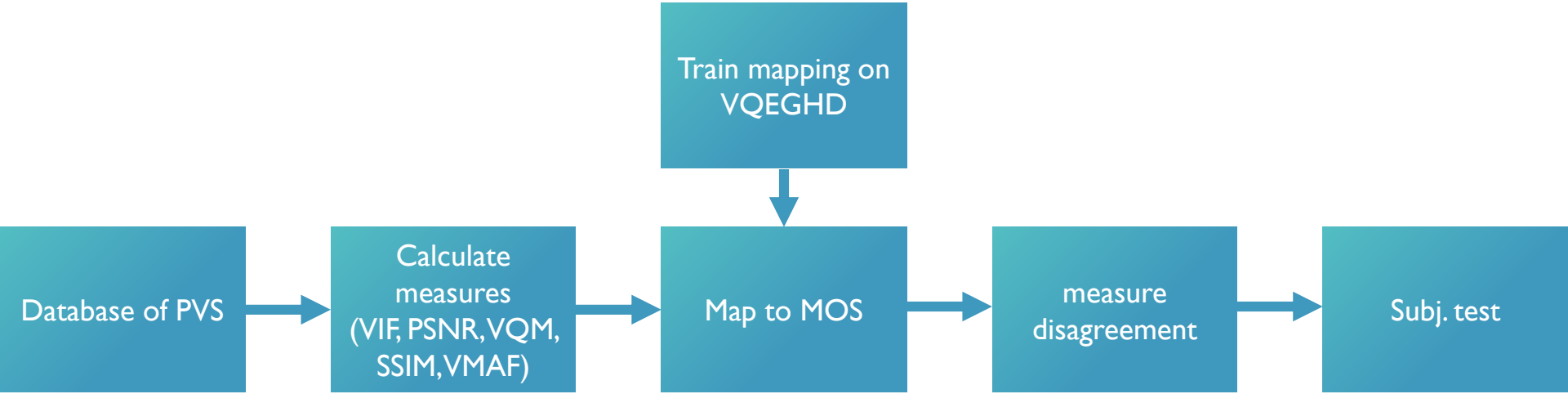
How may I get involved?

- Subscribe to the VQEG-JEG mailing list
  http://www.its.bldrdoc.gov/vqeg/email-reflectors.aspx
- Join our biweekly conference call

PROGRESS

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

OVERVIEW


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