JEG-Hybrid
Joint Effort Group

Updates on JEG-Hybrid Activities
Inclusion of IGVQM

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Original Mission and Current Focus

- Originally: develop a no reference Hybrid Perceptual/Bit-Stream model
- Over the last few years, the activities gradually evolved over time to include several areas of Video Quality Assessment (VQA)
  - Tackling new research questions with hopefully long term impact on the video quality research community
  - Currently, not directly seeking the development of new metrics or tools readily available for VQA
- At last VQEG meeting (Dec 2022), agreed to move the activities of IGVQM (Implementer’s Guide to Video Quality Metrics) into JEG-Hybrid
Implementer’s Guide to Video Quality Metrics: scope

• Originally, IGVQM had a quite broad scope (see working doc [1]), e.g.
  • Priority to full-reference (pixel) metrics, but also applicability of no-ref
    • Use at least all metrics in VMAF library, focus on open-source solutions
  • Offer temporal aggregation methods of image quality metrics into video ones
  • Statistical analysis of existing subjective datasets (limited to compression and scaling)
  • Offer standard logistic mappings of objective metrics to normalized linear scale

[1] https://docs.google.com/document/d/1w3rgGxDHFehtvXENtngAPsMhGnPlASiU2v0Tu6nU/edit?usp=sharing
IGVQM within JEG-Hybrid

- Original IGVQM group had many manifestations of interest [1]
  - Decide who is still interested?
  - How / how much effort they can contribute
    - Running the measures
    - Making them available in standardized forms
    - Performing statistical analysis
    - Drafting reports/documents/publications
  - In which form (e.g., direct collaboration, thesis proposals, etc.)

[1] https://docs.google.com/document/d/1w3rgGxDHFehwdwtaVXENtngAPsMhGnPIAsiU2v0Tu6nU/edit?usp=sharing
JEG-Hybrid Initial Contribution

- To start with limited resources, JEG-Hybrid proposes to
  - Restrict the scope (at least initially) by focusing on some specific aspects (e.g., temporal pooling)
  - Start with the already available objective measures (e.g., HDTV, ITS4S)
  - Try to create synergies between the current JEG-Hybrid activities and the IGVQM ones
    - Include the existing JEG-Hybrid experimentations on AI observers while carrying out some of the activities envisaged by IGVMQ, e.g., objective metrics computation and analysis
Proposed Roadmap

• Make already computed objective measures available in some **easy-to-process standard format**, do the same for subjective assessment data

• **Run objective measures** for all the datasets (hopefully making the procedure as much reproducible as possible)
  • Using libvmaf or other open source tools
  • Potential datasets already listed by IGVQM here

• Tackle some other points listed in the scope of the original document [1] and start addressing them
  • E.g., temporal pooling
Comments / Proposals / Ideas

• Feel free to do it now!

• Join our biweekly conference call (next: Jul 10, 2023, 4pm CEST)

• Other references:
  • JEG-Hybrid website https://vqegjeg.github.io/jeg-hybrid/
    • Including a new up-to-date publication section with immediate download link for each one
  • Subscribe to the VQEG-JEG mailing list: jeg@vqeg.org
  • http://www.its.blrdoc.gov/vqeg/email-reflectors.aspx