AVrate Voyager: an open source online testing platform

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Motivation

- subjective testing required for quality assessment and research [16]

- usual tool: lab-based tests
  - controlled environment, e.g. ITU-R BT.500-13 [10], ITU-T Rec. P.913/910 [9, 23]
  - ensuring highly reliable results
  - not always possible
    - non-accessibility of lab rooms or rooms not usable, e.g. disallowed (e.g. COVID-19)

- crowdsourcing or online tests as alternative:
  - audio [14, 13], video [20, 2, 6, 18, 25, 28] or image quality assessment [8, 7, 3, 24].

→ How to implement such an online/crowd test?
AVRate Voyager: Our Framework

- Based on AVRateNG
  - Usable for video, audio and other lab tests [21, 17, 5, 19, 4, 22, 11, 15, 1, 26, 27, 12]
  - Similar tests possible for AVrate Voyager
- Online/crowd nature requires adaption of test design
- Scalable web technology (HTML5, CSS, bootstrap, docker)
- Usable for: audio, image, and video tests or surveys
AVRate Voyager: Procedure

- configuration similar to AVRateNG (json file)
- adaption of templates required
Test instances – images

image quality test

▶ proof of concept; comparison to lab tests

▶ 1484 full-hd sized square image patches (195 MB)

▶ each participant rated 150 images (20 MB)

▶ ACR rating scheme; 15 minutes

▶ 238 participants: 35700 ratings

→ 720-1080p max resolution for participants
Test instances – video

video quality, see Rao, Göring, and Raake [20] (QoMEX ’21)

- 540p center crop, comparison to lab test
- 30 videos per user (70 MB), 180 in total (433 MB)
- ACR rating scheme; 15 minutes
- 175 participants: 4390 ratings

→ requirement for pre-caching
Test instances – audio mixed

spaciousness of music, see Stirnat and Göring [29]

▷ replacement for a lab tests, small scale

▷ 41 stimuli (97 MB): 6 audio-only, 5 video-only, and 30 mixed

▷ multiple sliders for rating; 60 minutes

→ window size per stimuli, play stimuli several times
Conclusion, Summary and Future Work

- overview of AVRate Voyager
  - typical instantiation
  - included procedure

- example tests briefly shown

- open and next steps:
  - include other multimedia formats
  - extend the framework

- Demonstration
References


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Thank you for your attention

...... are there any questions?
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