ACR MUSHRA Test Interface

Subjective Video Quality Testing Solution

Product information

Product

- ☑ Software
- ☐ Hardware [(1)]

Input video files formats

- ☑ MPEG-2
- ☑ H.264
- ☑ Uncompressed [(2)]
- ☑ Other formats

Output

- ☑ MOS, DMOS, logs
- ☑ Rendering card, device

Applications

- ☑ Subjective database creation
- ☑ Video encoders subjective benchmarking
- ☑ Video encoders subjective comparison
- ☐ File-based encoding monitoring [(3)]
- ☐ Live programs monitoring [(4)]
- ☑ Optimal bitrate subjective determination
- ☑ Video processing subjective optimization

[(1)] Hardware (PC) may be supplied as an option

[(2)] Uncompressed should be encapsulated in AVI files. To do so, please see our other products YUV Convert

[(3)] Please see our other products Video Quality Analyzer and Video Quality Monitor

[(4)] Please see our other products Multi Audio Video Monitor and Video Quality Monitor

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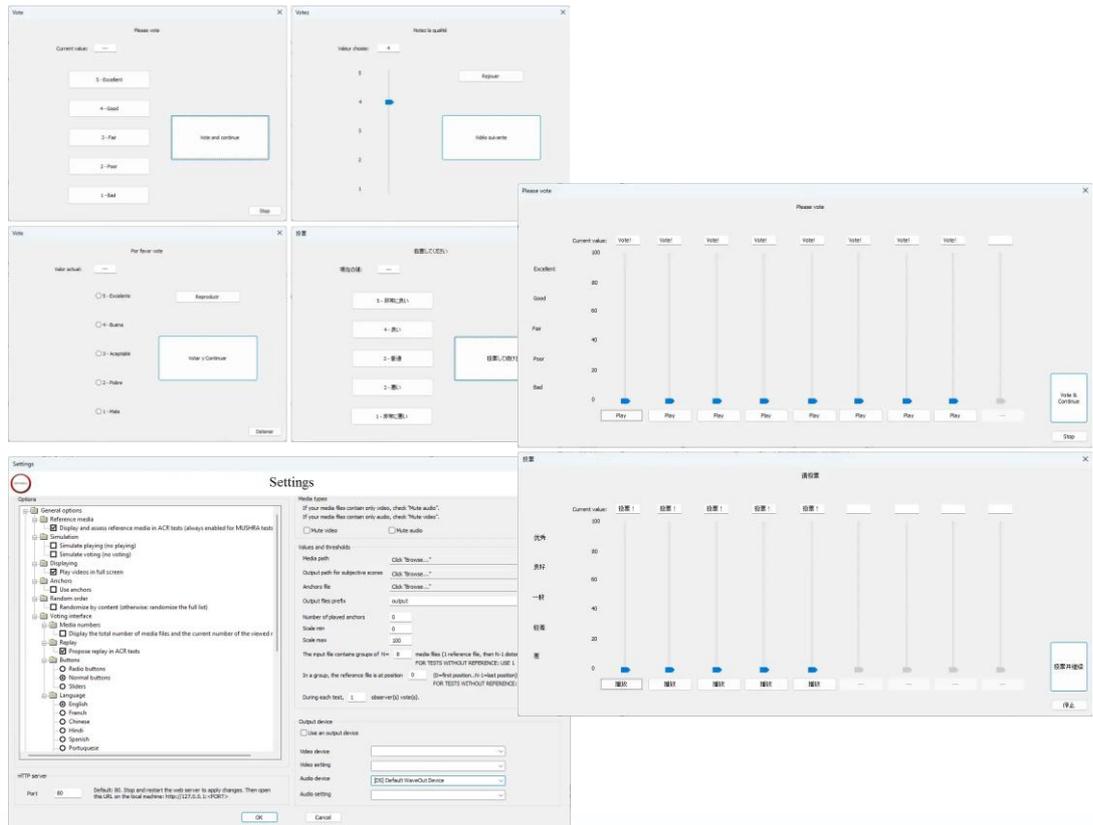
Since quality is a subjective notion, subjective tests with human observers (listeners for audio) are the most precise way to measure quality.

These tests require a special protocol to collect the votes of the observers (or listeners for audio), like ACR (Absolute Category Rating), MUSHRA (MUltiple Stimuli with Hidden Reference and Anchor) or SAMVIQ (Subjective Assessment Methodology for VIdeo Quality).

Therefore, special equipment must be employed to present the video files to the observers (or the audio files to the listeners) and collect their votes.
To do so, ACR MUSHRA SAMVIQ Test Interface is here.

ACR MUSHRA SAMVIQ Test Interface is a software solution enabling to:

- Load and sort lists of video and/or audio files
- Play video files in a window, in full screen mode or on a selectable device (video rendering card)
- Play audio files on a selectable device (audio card)
- Collect observers votes on a scale that you'll define
- Filter subjective results (using methods based on linear correlation or on standard deviation)
- Save observers votes in text and/or data files
- Compute MOS (Mean Opinion Scores) and DMOS (Differential Mean Opinion Scores)

ACR MUSHRA SAMVIQ Test Interface use normal text files as input so that you can use your favorite text editor to create, edit and manage your playlists.

Once loaded, a playlist can be randomly sorted and ACR MUSHRA SAMVIQ Test Interface checks that two consecutive files come from different reference video in order to minimize the contextual effect of subjective tests.

Once sorted, you simply enter the observer's name, age and gender (male/female) and the test can begin.

During the test, the observer votes on a scale that you've defined. And if you've decided to enable this option, the observer can replay the videos in order to produce more precise votes.

When a sufficient number of tests have been performed, you can easily compute MOS and DMOS values. During these computations, incoherent votes can be rejected using thresholds that you define.

Finally, you get precise subjective quality scores. Just as expected.

ACR MUSHRA SAMVIQ Test Interface cuts cost of subjective testing: instead of using a dedicated hardware & software solution which is often expensive, ACR MUSHRA SAMVIQ Test Interface is a software-only solution that enables you to use normal PCs.

Take the lead in the race for quality

AccepTV
172 route de Saint Joseph
44300 NANTES
FRANCE

AccepTV
Perceived Video Quality

www.acceptv.com

info@acceptv.com

Key features

ACR Protocol

ACR MUSHRA SAMVIQ Test Interface implements the ACR protocol.

A protocol defines how videos are presented to observers and how observers must score its quality.

ACR (Absolute category Rating) is based on the way consumers watch and judge television quality. With ACR, the videos to be tested are presented to the observers in a random order. Once an observer has watched a video, he must give its quality judgment (using a voting scale) and then the next video is played. Some of the tested videos may be reference videos (not distorted) but the observer doesn't know which ones are distorted and which ones are not. So he has to judge all of them. The presence of reference videos enables to compute DMOS quality scores.

ACR is a fast protocol: it enables to collect an important number of votes in a short time. However, some tests have proven that ACR provides MOS and DMOS quality scores which are as precise as those collected by other slower protocols being based on multiple stimuli presentation (like the SAMVIQ protocol).
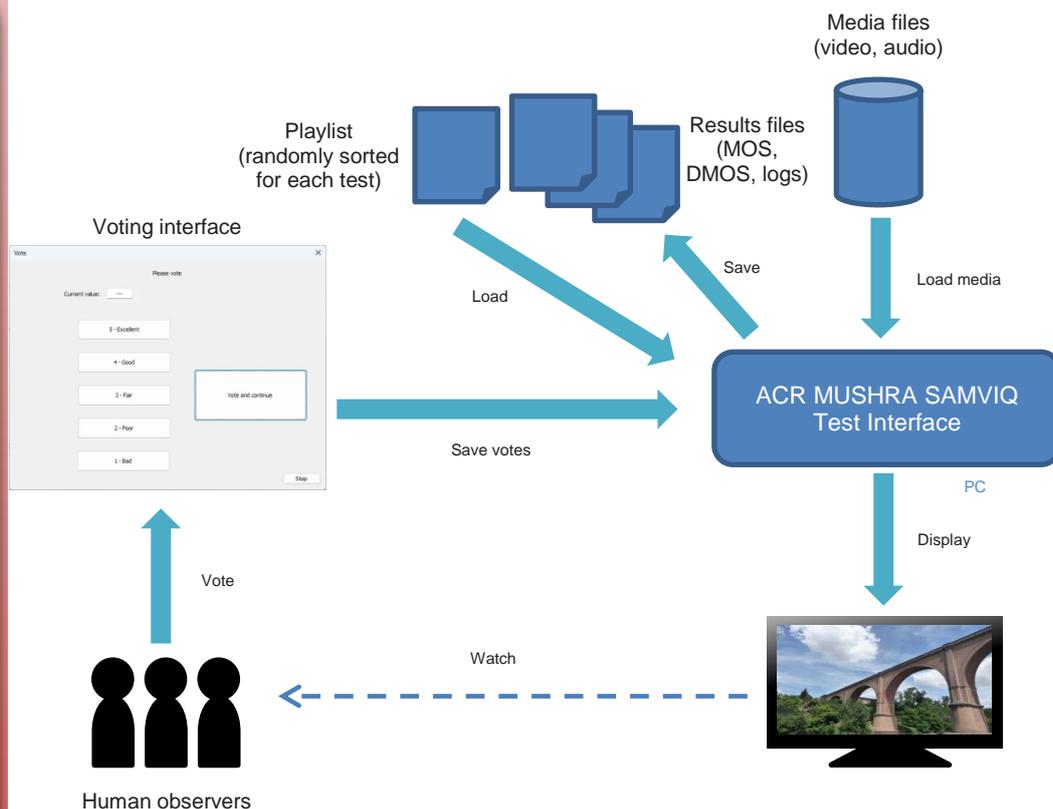
Observers rejection

ACR MUSHRA SAMVIQ Test Interface can perform observers rejection. Indeed, if some observers have answered in an incoherent manner, ACR MUSHRA SAMVIQ Test Interface can detect it and remove their votes.

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Media files
(video, audio)

Playlist
(randomly sorted
for each test)

Results files
(MOS,
DMOS, logs)

Voting interface

Load

Save

Load media

Save votes

ACR MUSHRA SAMVIQ
Test Interface

PC

Display

Vote

Watch

Human observers

Features

Audio video playing
Use of normal hardware devices (DirectShow compatible video cards, DirectShow compatible audio cards)
Compatible with all formats supported by the hardware (SD, HD, UHD/4K, …)
Optional replay button

List of files
Easy creation of playlists: use your favorite text editor
Can consider and play reference files
Can display anchors files (high and low quality files to begin the test)

Voting
User-defined voting scale range
Available in English, French, Chinese, Hindi, Spanish, Portuguese, Italian, German, Arabic, Korean, Japanese and Dutch
+ 1 language to customize
Additional language available upon request
Files order random sorting

Output results
MOS computation
DMOS computation
Recording of observers' names, ages and genders (male/female)
Observers rejection to remove incoherent votes using methods based on linear correlation or on standard deviation

Extra
Web interface to remotely check the test progress (number of voted videos, remaining time)
Password protected test interruption

Take the lead in the race for quality