

Progress in Monitoring of Audio-Visual Quality by Key Indicators (MOAVI)

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Presentation Plan

- Reminder on Monitoring of Audio Visual Quality by Key Indicators (MOAVI)
- Current status
- Progress since last VQEG meeting
- Future work

Reminder on Monitoring of Audio Visual Quality by Key Indicators (MOAVI)



Reminder on MOAVI

- Mission
 - *“To collaboratively develop No-Reference models for monitoring individual audio-visual service quality artifacts”*
- Goals
 - To develop set of key indicators describing service quality in general and by removing implementation constraint
 - To select subsets for each potential application
 - To concentrate on models based on key indicators contrary to models predicting overall visual quality



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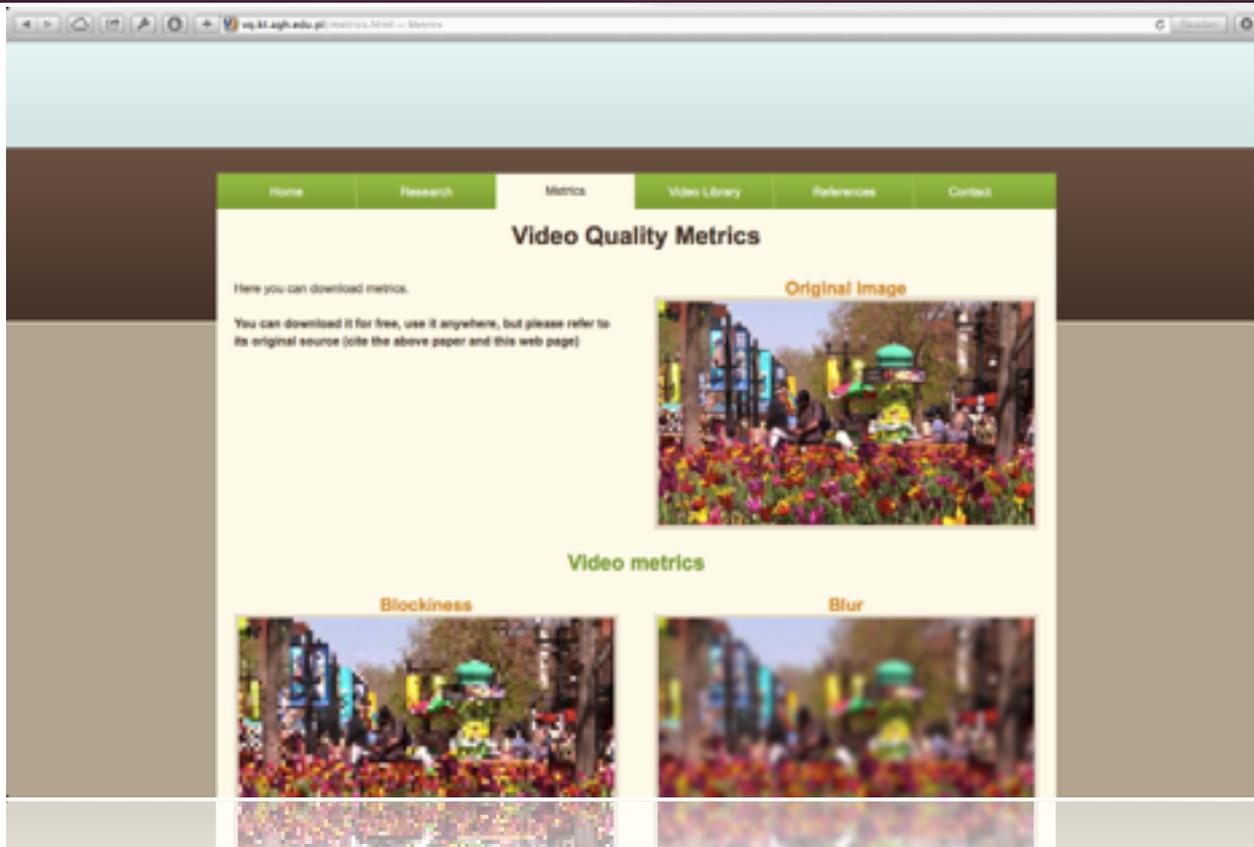


Signal-Based, No-Reference Indicators for Artifacts of Various Origin

- **Capturing Artifacts:** bluriness, exposure, interlace, etc.
- **Processing Artifacts:** blockiness, bluriness, flickering, reduced spatial and temporal resolution, etc.
- **Transmission Artifacts:** blackout, block loss, freezing, slicing, etc.
- **Displaying Artifacts:** blackout, slicing, etc.



Free MATLAB Audio-Video Quality Indicators Rolling Out Online at <http://vq.kt.agh.edu.pl/>



The screenshot shows a web browser window displaying the 'Video Quality Metrics' website. The browser's address bar shows the URL <http://vq.kt.agh.edu.pl/metrics.html>. The website has a navigation menu with links for Home, Research, Metrics, Video Library, References, and Contact. The main content area is titled 'Video Quality Metrics' and includes a sub-header 'Original Image' above a clear photograph of a street scene with many colorful flowers. Below this, a section titled 'Video metrics' displays two columns of images: 'Blockiness' and 'Blur'. The 'Blockiness' image shows the same scene with a grid-like distortion, and the 'Blur' image shows the scene out of focus. A disclaimer text is present on the left side of the page.

Home Research Metrics Video Library References Contact

Video Quality Metrics

Here you can download metrics.

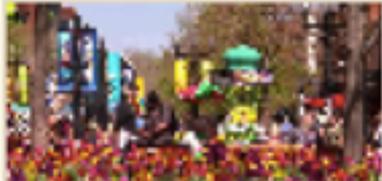
You can download it for free, use it anywhere, but please refer to its original source (cite the above paper and this web page)

Original Image



Video metrics

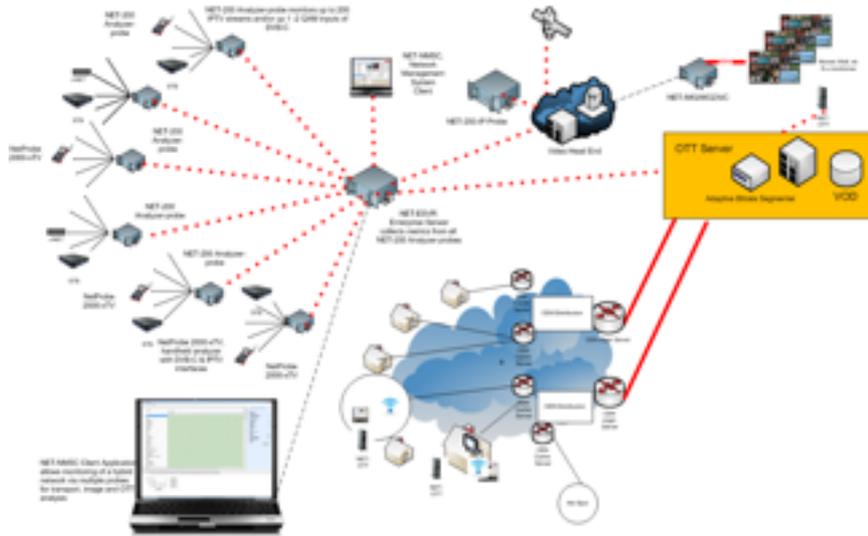
Blockiness



Blur



Commercial Deployment as NET-MOZAIC in NET-xTVMS System by NetResearch



NET-MOZAIC Client Applications allow monitoring of a live network via multiple protocols for transport, storage and processing.



Current Status



Available Video Indicators

<i>Blockiness</i>	<i>Bluriness</i>	<i>Exposure</i>	<i>Interlace</i>	<i>Noisiness</i>
				
<i>Framing</i>	<i>Flickering</i>	<i>Blackout</i>	<i>Spatial Activity</i>	<i>Temporal Activity</i>
				

Available Audio Indicators

Mute



Clipping



Progress since Last VQEG Meeting



New Video Indicators

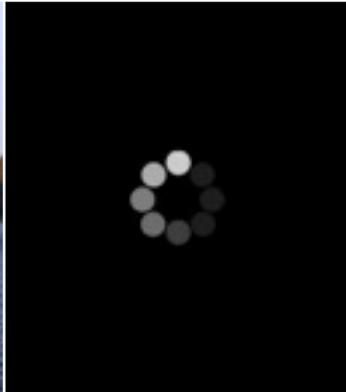
Brightness

Contrast

Freezing

Block Loss

Slicing



Contribution to JEG-Hybrid

All indicators have been already contributed to **JEG-Hybrid** as all-in-one, easy-to-run binary executable



Future Work

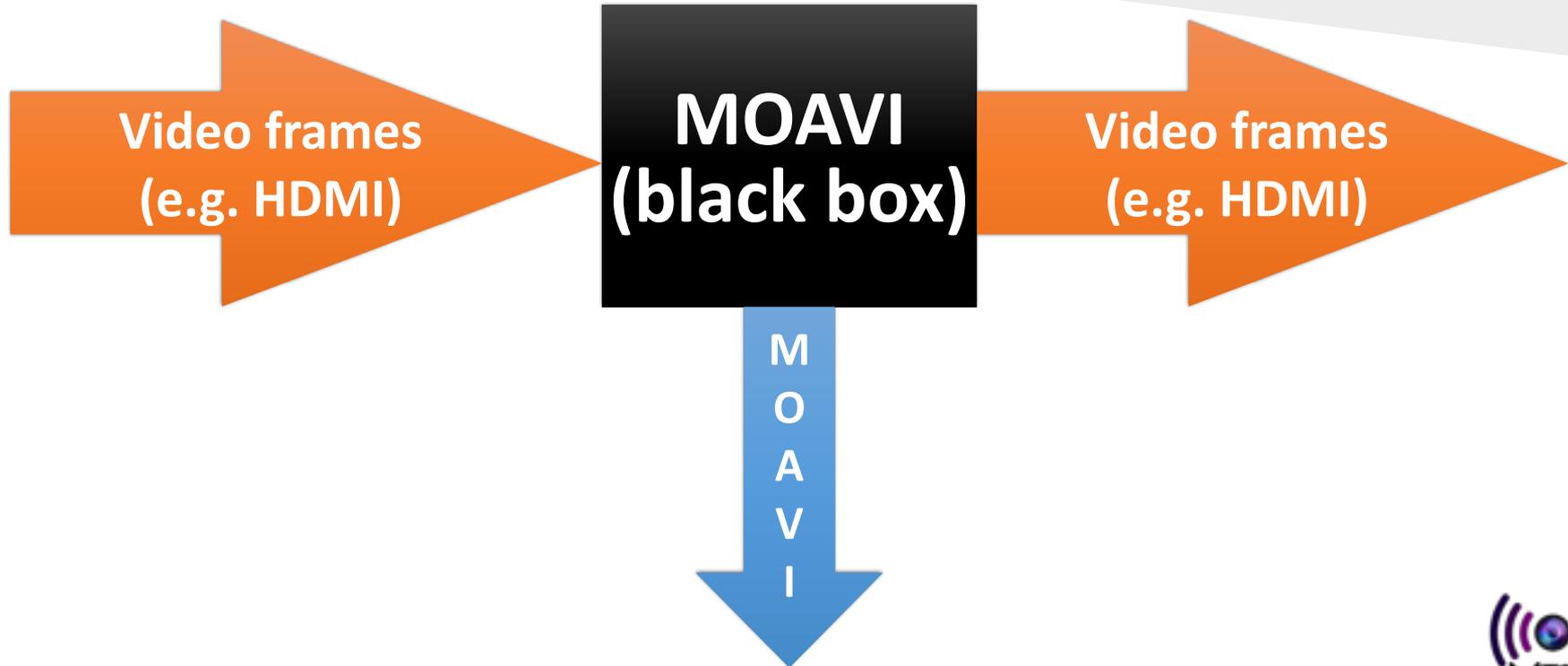


More Experimental Setups for Verification of Indicators

<i>Experimental Setup</i>	<i>Indicators</i>
<i>Threshold</i>	<i>Blockiness, Bluriness</i>
<i>MOS (ACR\approxDCR)</i>	<i>Exposure, Noisiness, Block Loss, Freezing, Slicing</i>
<i><u>None but planned</u></i>	<i><u>Contrast, Brightness, Flickering</u></i>
<i>None and not planned</i>	<i>Interlace, Framing, Blackout, Mute, Clipping</i>



Black Box



Lip Sync Indicator Implementataion

- Algorithm correlating detection of:
 - Lip movement
 - Voice signal
- Results:
 - Accuracy = 95.8%
 - F1 metric = 96.4%
 - Specifity = 72.3%
- First implementation planned by Autumn 2014

