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

MOAVI Co-Chairs

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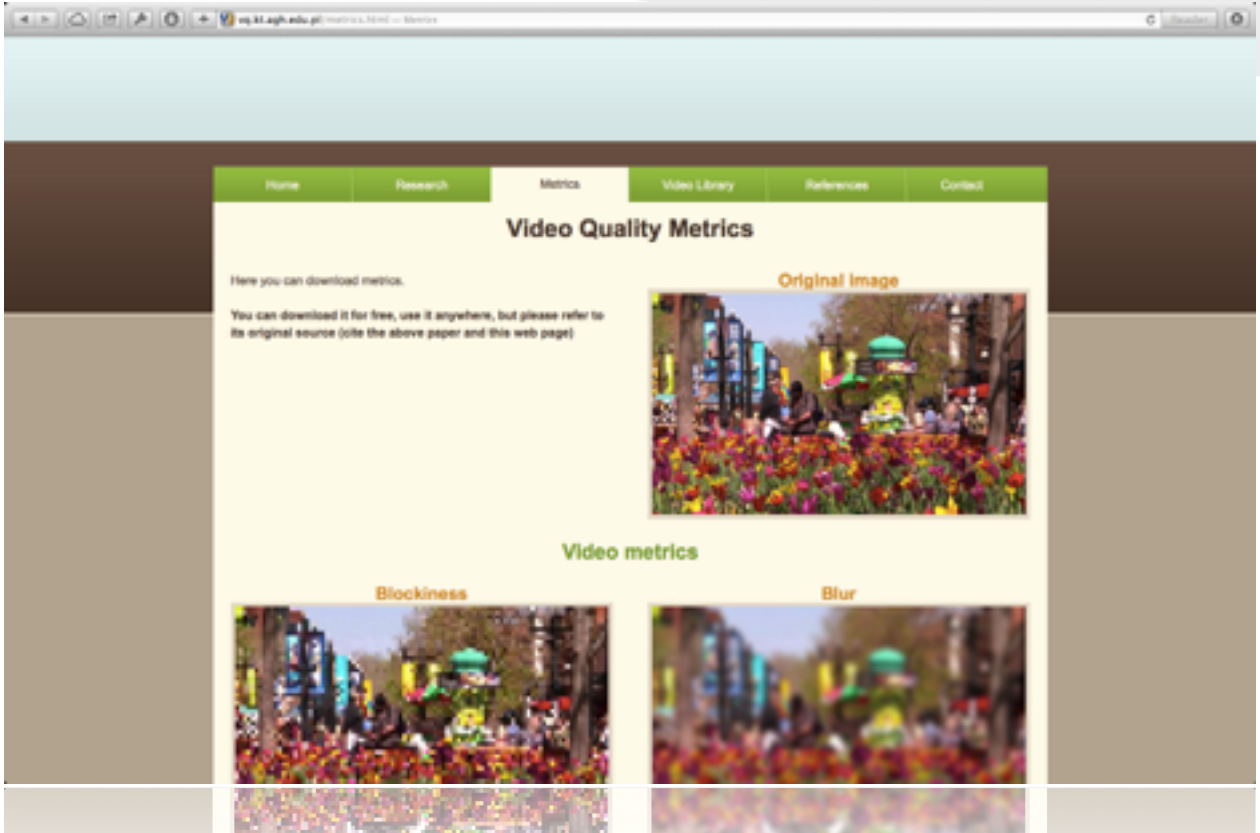
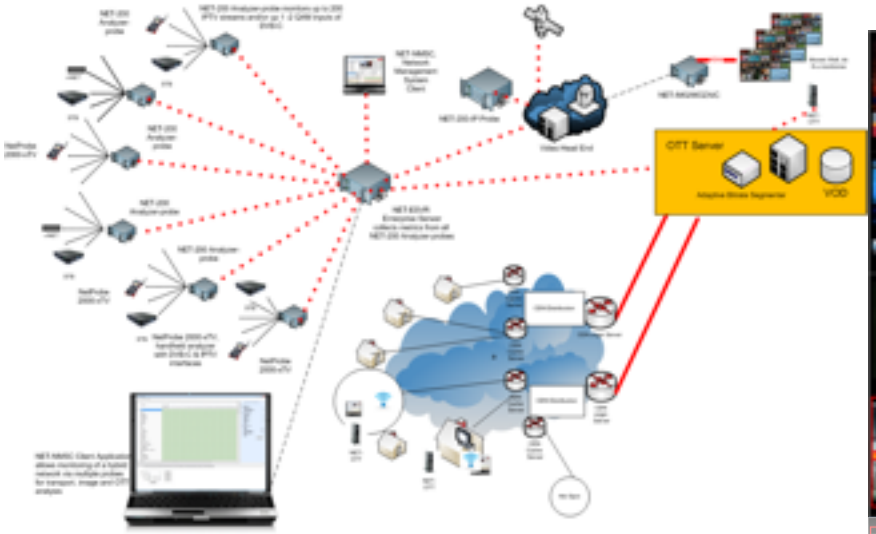
Signal-Based, No-Reference Indicators for Artifacts of Various Origin

- **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/

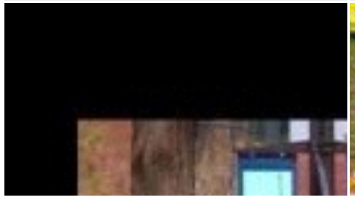
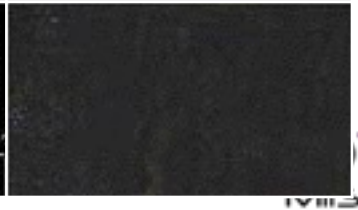


Commercial Deployment as NET-MOZAIC in NET-xTVMS System by NetResearch

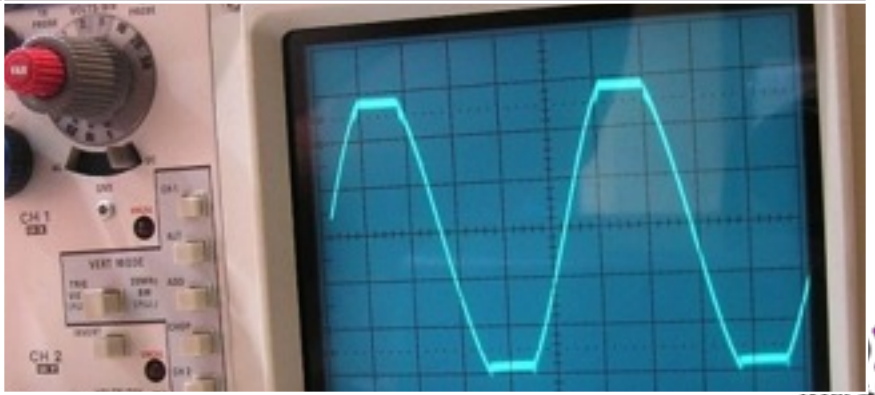


Current Status

Available Video Indicators

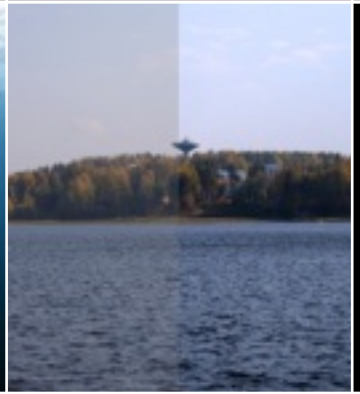
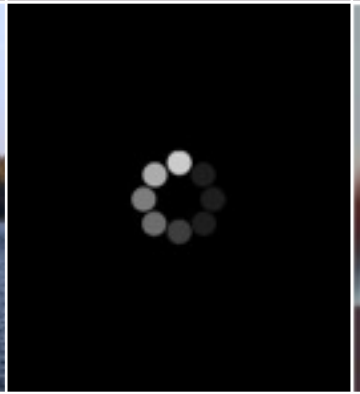
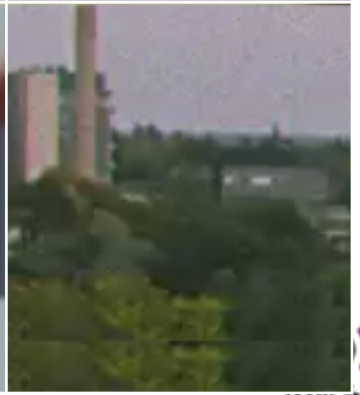
Blockiness	***Bluriness***	***Exposure***	***Interlace***	***Noisiness***
Framing	***Flickering***	***Blackout***	***Spatial Activity***	***Temporal Activity***
				

Available Audio Indicators

Mute	***Clipping***
	

Progress since Last VQEG Meeting

New Video Indicators

Brightness	*Contrast*	*Freezing*	*Block Loss*	*Slicing*
				

Contribution to JEG-Hybrid

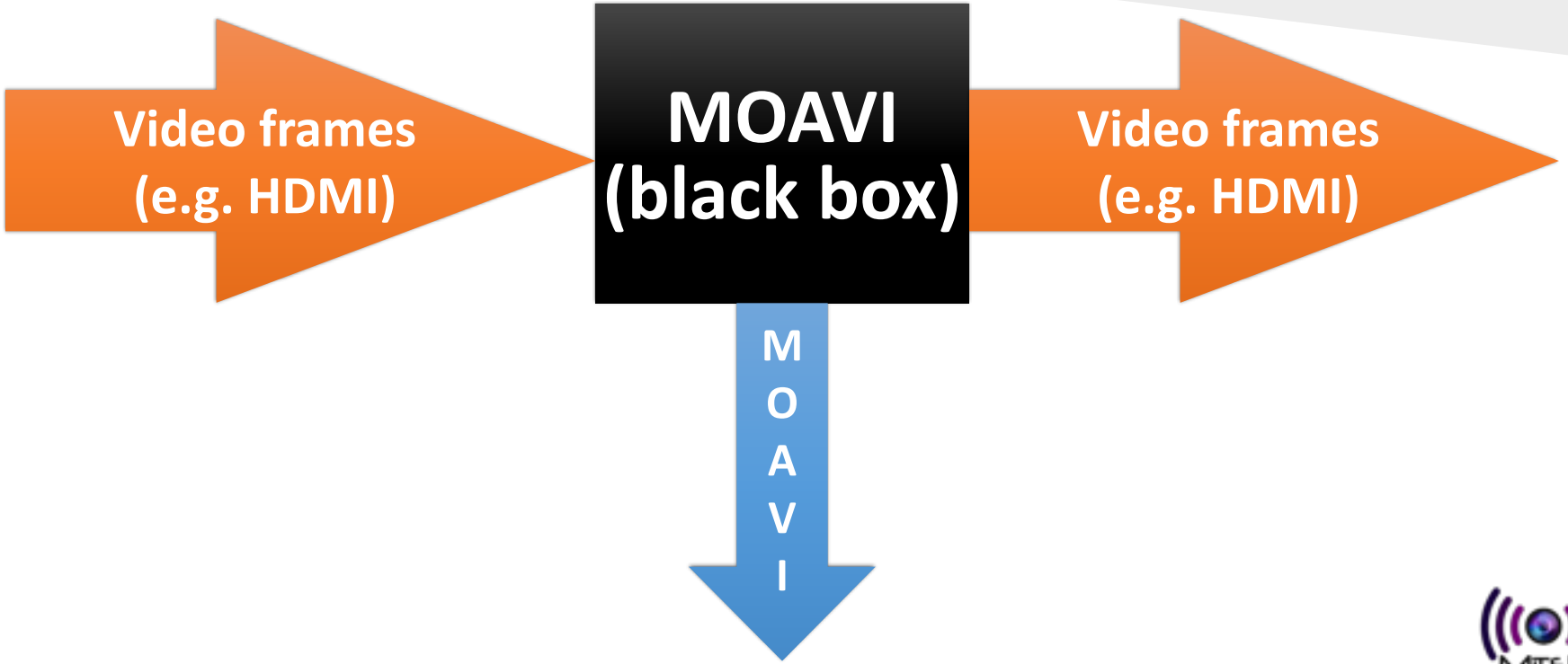
All indicators have been already contributed to **JEG-Hybrid** as all-in-one, easy-to-run binary executable

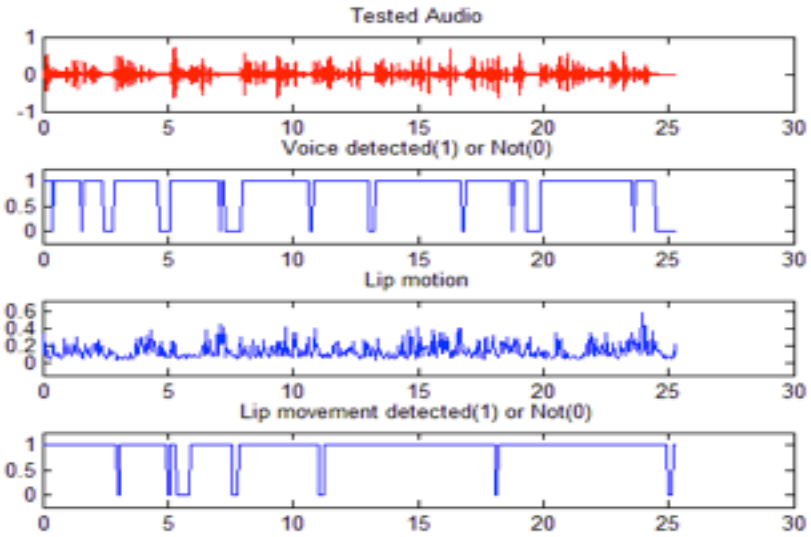
Future Work

More Experimental Setups for Verification of Indicators

Experimental Setup	*Indicators*
Threshold	***Blockiness, Bluriness***
MOS (ACR≈DCR)	***Exposure, Noisiness, Block Loss, Freezing, Slicing***
None but planned	***Contrast, Brightness, Flickering***
None and not planned	***Interlace, Framing, Blackout, Mute, Clipping***

Black Box


Video frames
(e.g. HDMI)
MOAVI
(black box)
Video frames
(e.g. HDMI)
M
O
A
V
I

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