



AGH UNIVERSITY OF SCIENCE
AND TECHNOLOGY

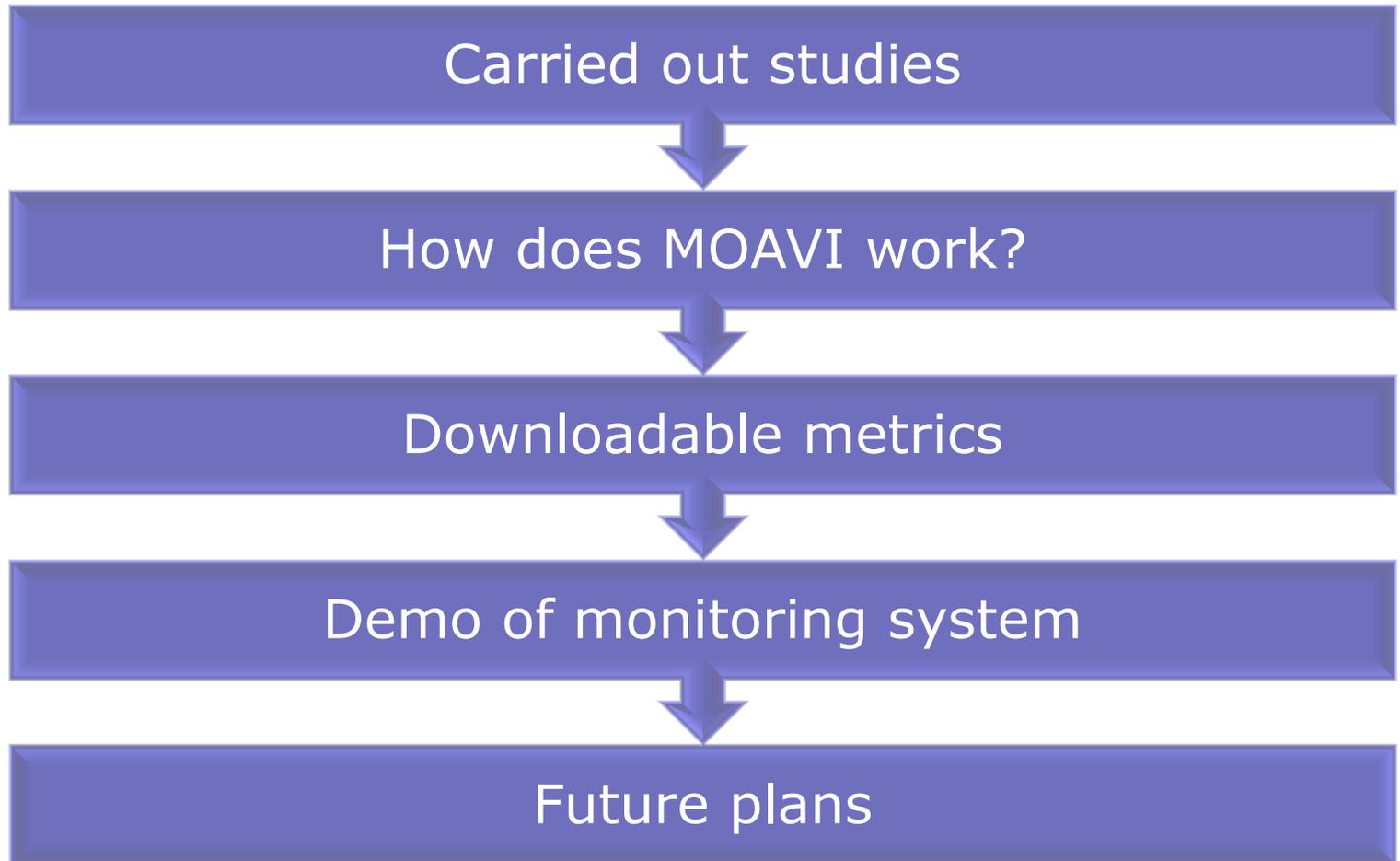
MOAVI at AGH Conducted Studies & Demo

**Mikołaj Leszczuk, Mateusz Hanusiak,
Ignacio Blanco**

Faculty of Computer Science, Electronics and Telecommunications
Department of Telecommunications

Singapore, 12/12/2012

Presentation Plan



Monitoring of Audio Visual Quality by Key Indicators (MOAVI)

- **Mission**

- *“To collaboratively develop No-Reference models for monitoring audio-visual service quality”*

- **Goals**

- To develop set of key indicators describing service quality in general
- To select subsets for each potential application
- To concentrate on models based on key indicators contrary to models predicting overall quality

CARRIED OUT STUDIES

Conducted Studies

*Capturing
Artifacts*

*Processing
Artifacts*

*Transmission
Artifacts*

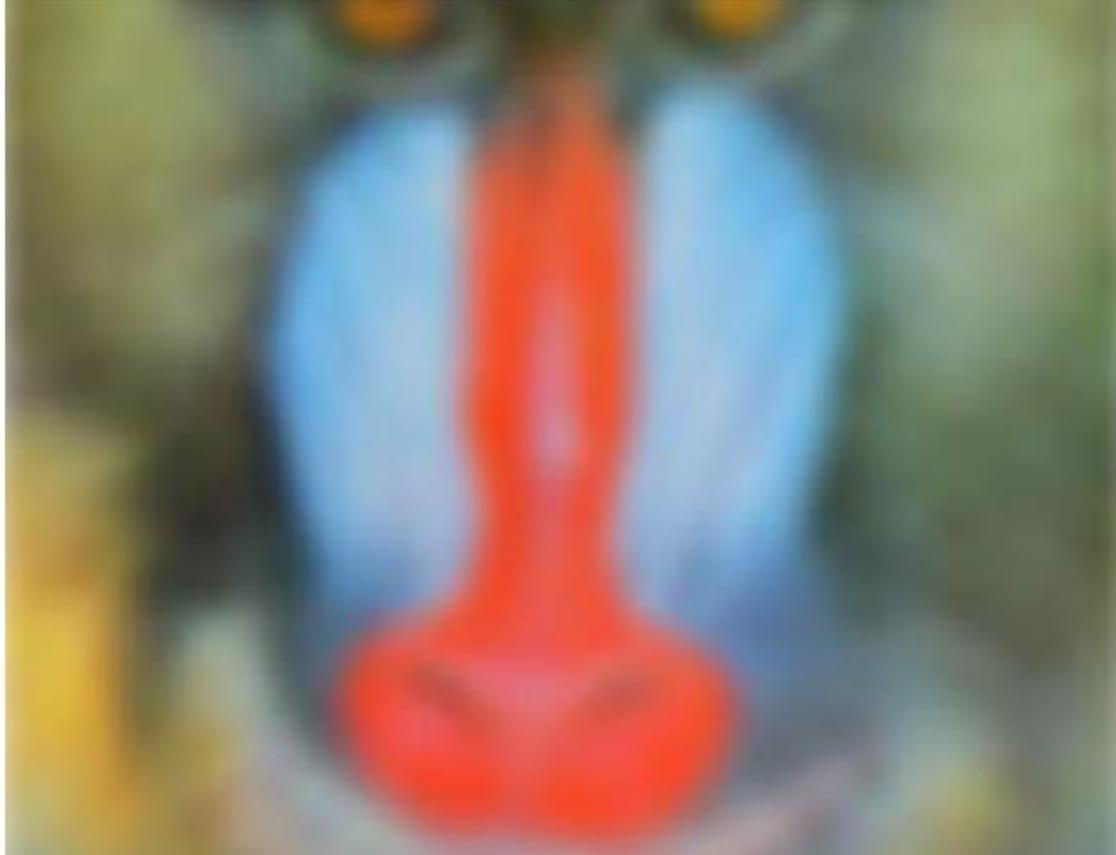
*Displaying
Artifacts*

*Signal-Based, No-
Reference Metrics*



Blocking

Processing & Transmission Artifact



Blurring

Capturing, Processing & Transmission Artifact



Ghosting

Capturing, Processing & Transmission Artifact



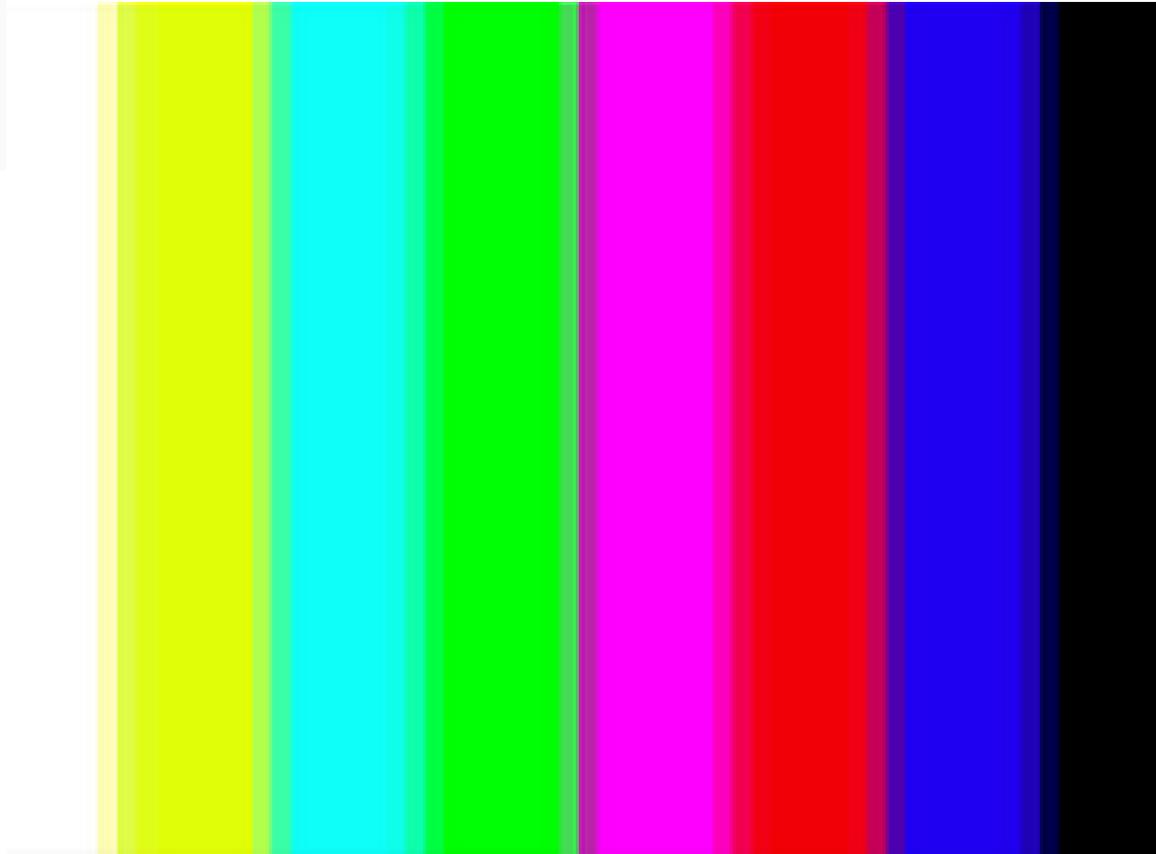
Block Missing

Transmission & Displaying Artifact



Stripe Noise

Transmission & Displaying Artifact



Color Bleeding

Processing & Transmission Artifact



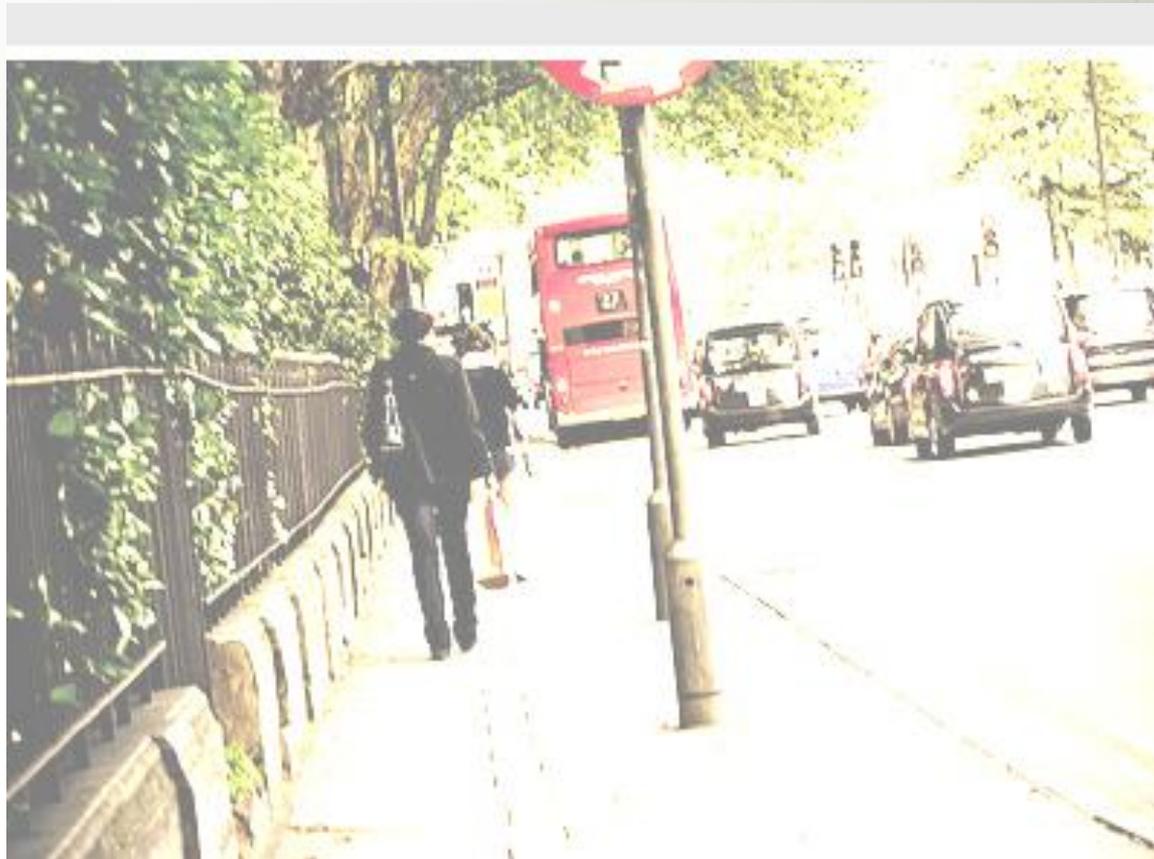
Rainbow Effect

Capturing Artifact



Vignetting

Capturing Artifact



Exposure time distortions

Capturing and Displaying Artifact



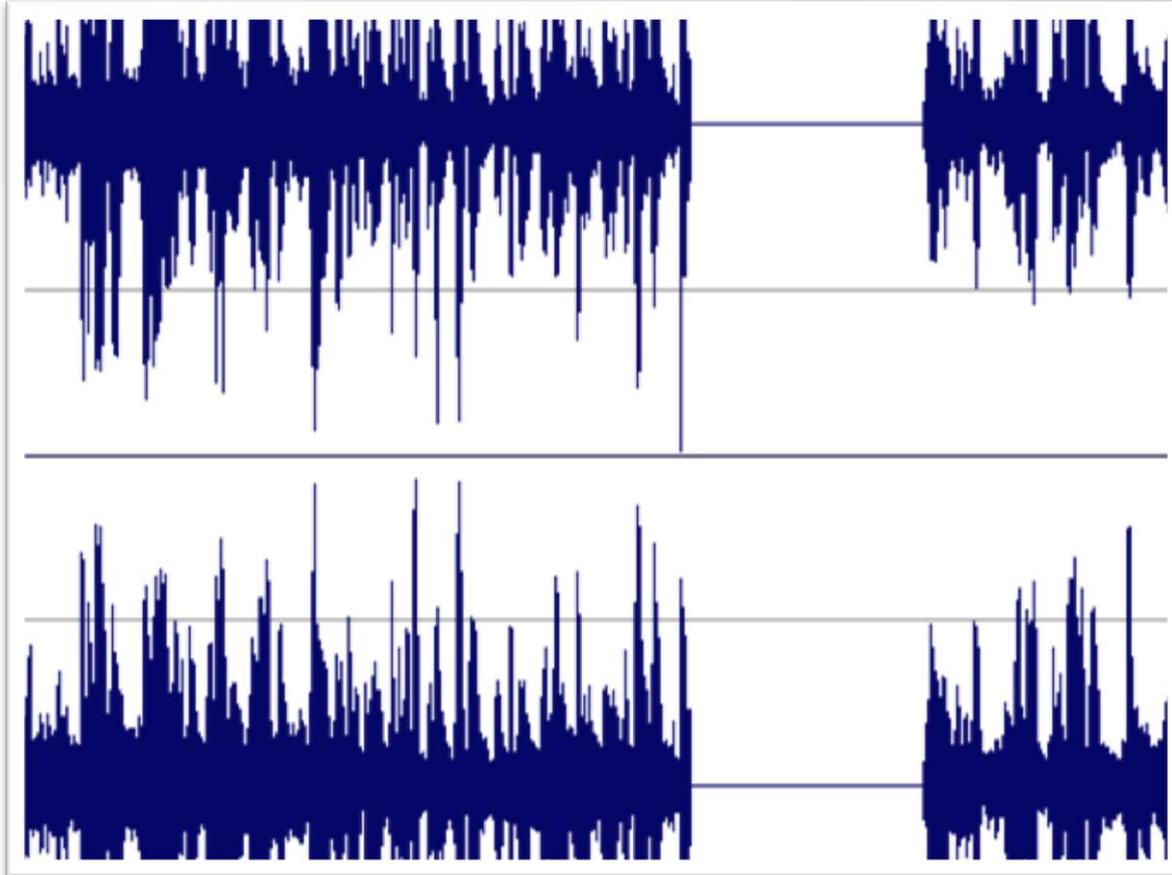
Interlace

Processing Artifact



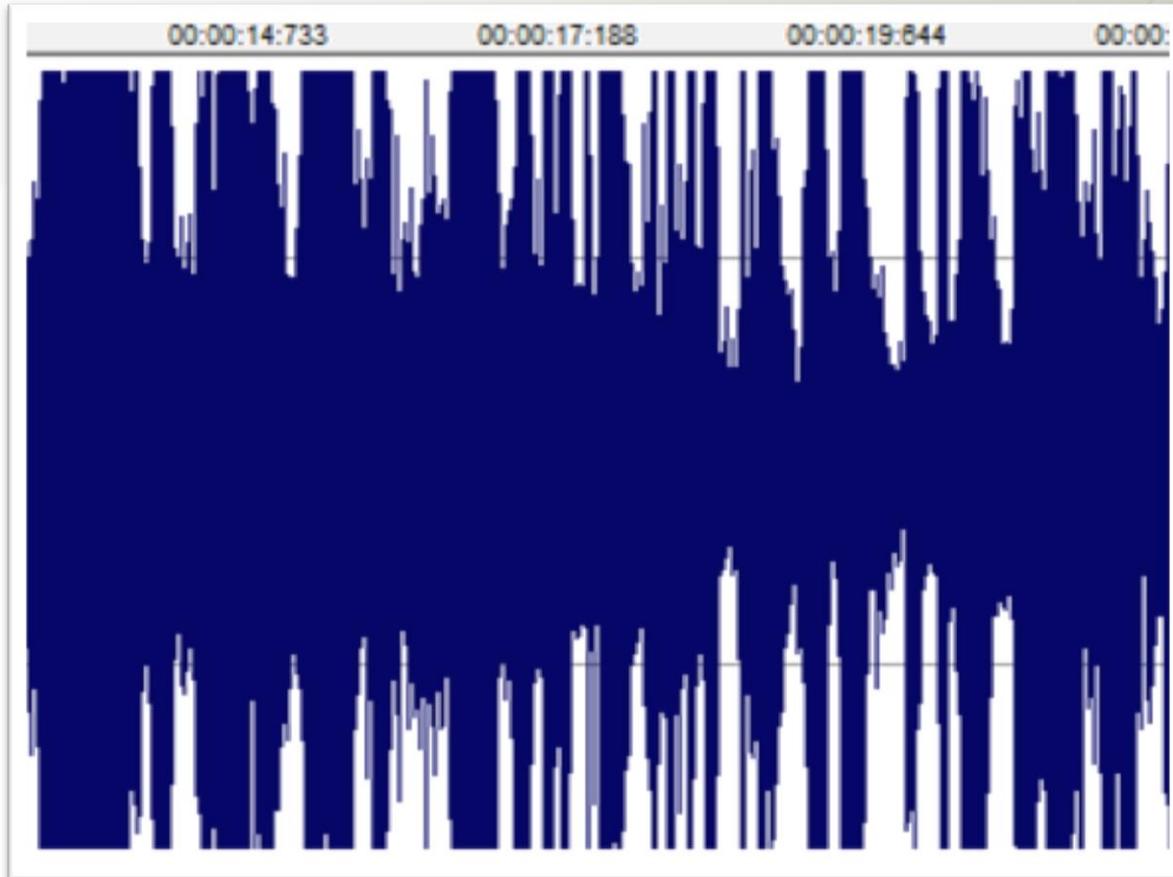
Pillar-boxing / Letter-boxing

Processing and Displaying Artifact



Mute

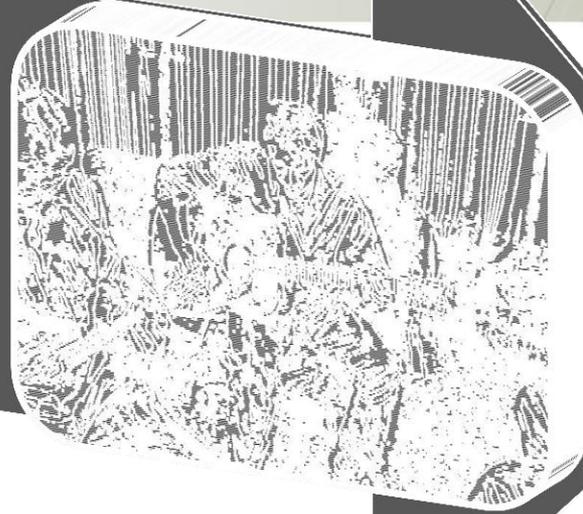
Capturing and Transmission Artifact



Clipping

Capturing, Processing and Displaying Artifact

HOW DOES MOAVI WORK?



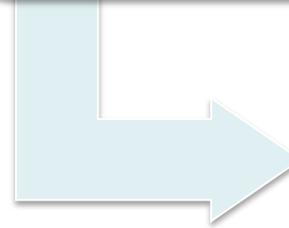
Example 1 – Interlace Metric



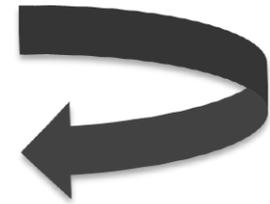
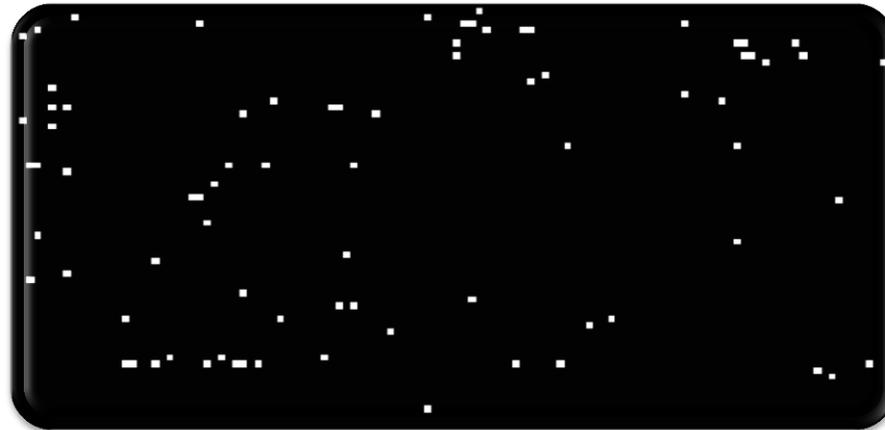
MEAN &
GREYSCALE



SORT

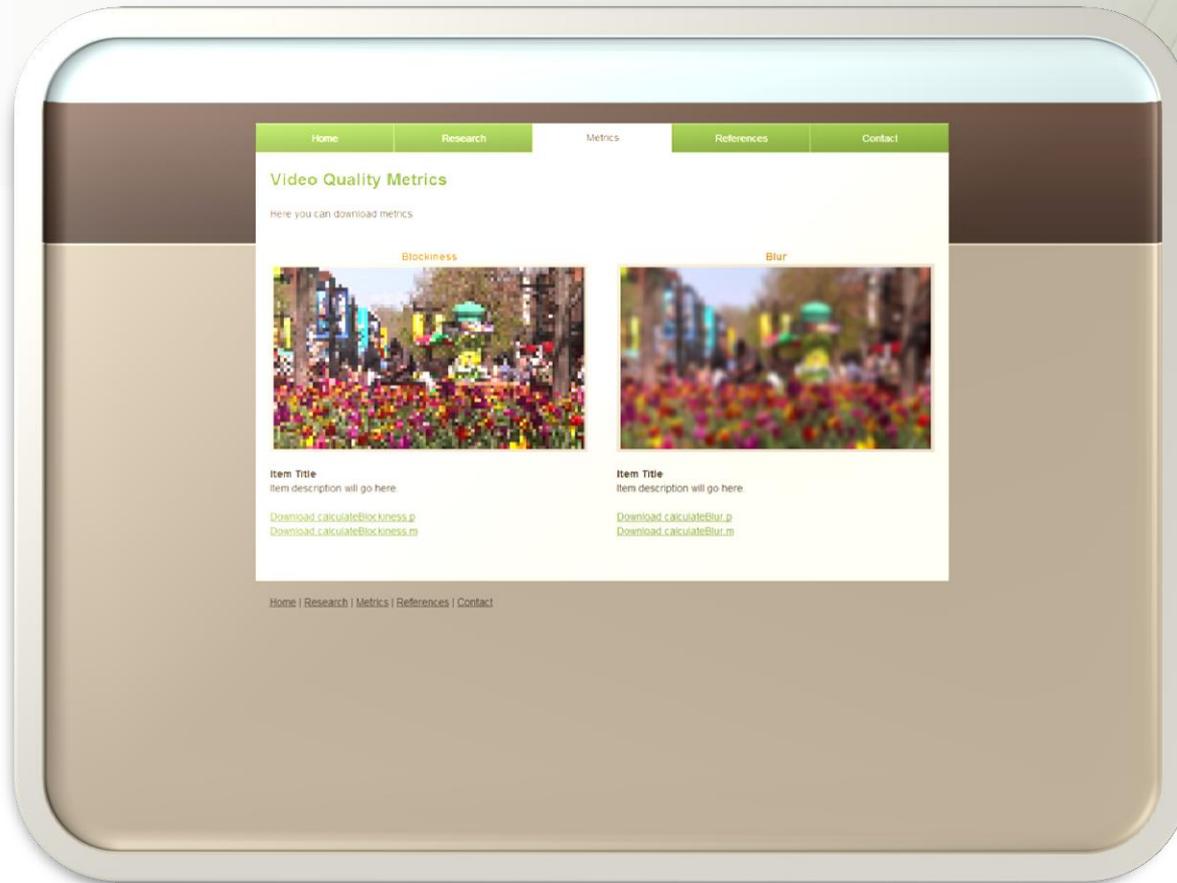


Example 2 – Exposure Time Distortion Metric



Example 3 – Block Missing Metric

DOWNLOADABLE METRICS



Downloadable MATLAB Functions

<http://vq.kt.agh.edu.pl/> (under construction)

DEMO OF MONITORING SYSTEM



Video: Example of Performance

Blackout

FUTURE PLANS

FUTURE PLANS

- Work on new metrics:
 - Epilepsy Flash Effects
 - Lip sync
 - Any other?
- Study the dependence between artifacts
- Develop Subjective Tests to obtain:
 - Thresholds
 - Feedback



VQEG

Any comments???

**THANK YOU – QUESTIONS
AND DISCUSSION**

LESZCZUK@AGH.EDU.PL