

DRAFT PROTOCOL 01:
TU DELFT LAB EXPERIMENT

VARIUM: Visual Artifacts Interference Understanding and Modeling

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I. RESEARCH QUESTION

This study aims to understand the influence of a set of artifacts and their relationship with content of a video. It is expected, from a series of psychophysical experiments, to determine the impact of them on visual quality perception. The set of artifacts used in this study were chosen among those perceptually most relevant for digital video applications (e.g. blockiness, blurriness, packet-loss etc). These experiments will determine the impact on quality first of a set of spatial and temporal artifacts by themselves and later of their combinations, taking into account different content with varying spatial and temporal characteristics. Later, it is expected to design an objective metric for overall video quality considering visual attention and specific spatial and temporal artifacts, their reciprocal impact and their mutual importance for a wide range of video content.

II. EXPERIMENTAL SETUP

For the experimental session, subjects will be requested to score some videos with different combinations of artifacts. Thus, all subjects will assess all experimental stimuli. During quality scoring, the eye-movements of the subjects will be recorded. This experiment will require the resources indicated below:

A. Video Database and features

The sample size for this experiment has been limited to about 80 videos, characterized by seven high-definition video (1280x720, 50 fps) of ten seconds that correspond to a diverse content (Basketball, Romeo and Juliet, Park Run, Cactus, Park Joy, Barbecue and Into Trees), as depicted in Figure 1. These videos are called "Original videos".



FIG. 1: Screenshots of the first frame of the sequences included in Experiment.

B. Artifacts

New versions of each one of seven high-definition video were generated with different combination of artifacts. Below, a briefly comment about the artifacts and the videos versions used:

- The artifacts chosen were Blockiness, Blurriness and Packet-loss (these artifacts have been used in the previous experiments from this project);

- 7 original videos have been distorted with different combinations of the parameters regulating the amount of Packet-loss, Blurriness and Blockiness.
- 17 different videos were created using blockiness, blurriness and their combinations;
- It was used 3 different packet loss ratio, 0.7%, 2.6% and 8.1% (these packet loss ratio have been used in the previous experiments from this project). Later, they were applied in 2, 3, 8, 10, 11, 12, 14 e 15 degraded video version, resulting in 24 combinations;
- Thus, 41 combinations \times 7 (videos) + 7 (original videos) = 294 test sequences. It is a large amount to be judged in a single experiment. Some choices have to be made to reduce the amount of video:
 1. Total time consuming to execute overall experiment;
 2. The videos very similar to the original video were avoided;
 3. The videos where blockiness and blurriness are in the same amount were avoided;
 4. Just the packet-loss 1 and 3 artifacts were considered;
 5. The videos where the artifacts combination are extremely strong were avoided;

The choices resulted in a total of 80 videos (considering original and degraded versions) to be used in the experiment. The combination of artifacts used can be seen in Table I. A list of all the videos used during the experiment can be seen in Appendix A.

Combination	Packed-Loss	Blocky	Blurry
1	0.0	0.0	0.2
2	0.0	0.0	0.4
3	0.0	0.0	0.6
4	0.0	0.2	0.0
5	0.0	0.2	0.2
6	0.0	0.2	0.4
7	0.0	0.2	0.6
8	0.0	0.4	0.0
9	0.0	0.4	0.2
10	0.0	0.4	0.4
11	0.0	0.4	0.6
12	0.0	0.6	0.0
13	0.0	0.6	0.2
14	0.0	0.6	0.4
15	0.0	0.6	0.6
16	0.0	0.0	0.8
17	0.0	0.8	0.0
<i>PckErr_1</i>	0.7	0.0	0.0
<i>PckErr_2</i>	2.6	0.0	0.0
<i>PckErr_3</i>	8.1	0.0	0.0

TABLE I: Strength of each artifacts (blockiness, blurriness and packet-loss) used to generate the degraded videos.

Figure 2 illustrates how many videos will be used in each sessions.

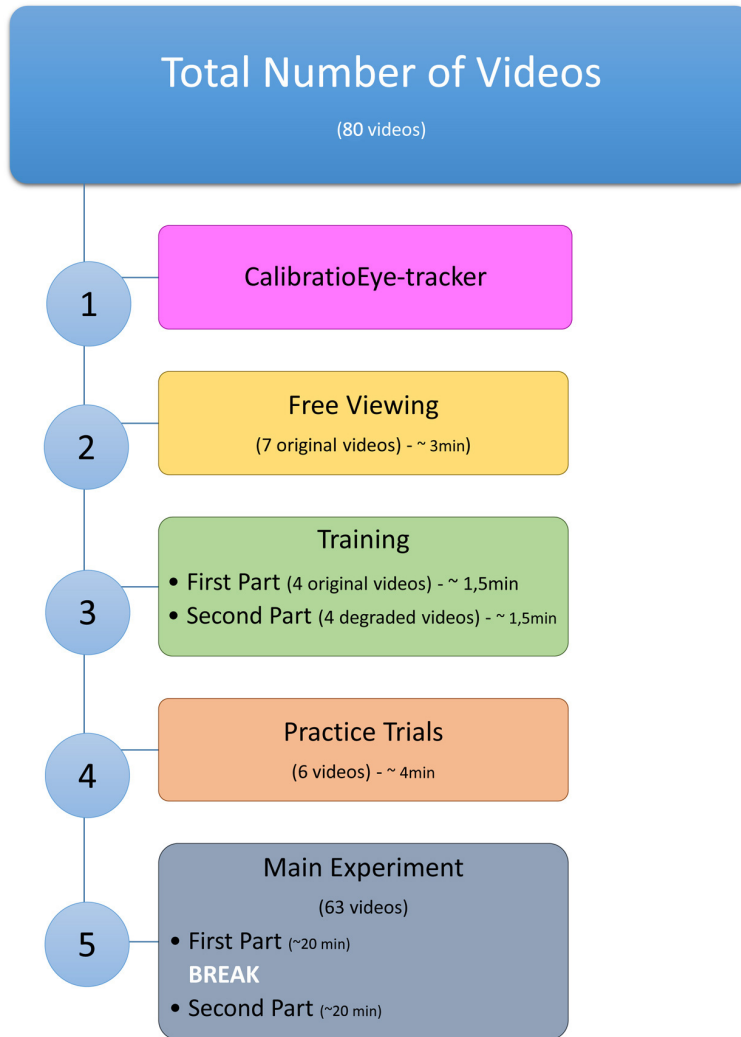


FIG. 2: Experiment overview.

C. Apparatus

In a room with constant illumination at approximately 70 lux, each subject will access the stimuli on a 23" LED backlight monitor having a resolution of 1360x768 pixels. The subject will be seated straight ahead of the monitor, centered at or slightly below eye height for most subjects and a chinrest will be used to guarantee a constant distance between the subject's eyes and the monitor. The room has a table, 2 chairs, a chinrest, 2 CPUs, mouses and keyboards, 2 displays and a *SensoMotoric Instruments GmbH* Eye Tracker.

A *SensoMotoric Instruments GmbH* Eye-Tracker will be used for tracking the pupil and gaze position during the experiment. The distance between the subject's eyes and the video monitor was 3 times the monitor screen's height. The user interface for the experiment was implemented using the *Neurobehavioral Systems* software Presentation.

The experiment will take place at the Faculty of Electrical Engineering, Mathematics and Computer Science of TU Delft, in a designated laboratory space - room HB 12.150.

III. SUBJECTS AND RECRUITMENT

It is expected to recruit about 20 subjects from the student and staff population at the TU Delft, from naive to experts observers. In this context, *expert observers* mean those with some knowledge to most kinds of digital video defects and the associated terminology than a normal observer (naive).

A. Subjects

Subjects can be excluded for:

- Vision problems that are not corrected such as colour-blindness;
- Visible abnormality of the eyes like strabismus;
- Wearing glasses or contact lenses;
- Lighter-coloured eyes.

B. Recruitment

(DEVELOPING)

IV. EXPERIMENTAL METHODOLOGY

The overall experiment will be run one subject at a time and it is split into five tasks. Below there are a short comment about each task.

1. **Equipment Calibration:** in this session the Eye-tracker will be calibrate. This step is essential for tracking the pupil and gaze position during the experiment;
2. **Free Viewing:** in this session will be showed seven high quality videos (original movies);
3. **Training task:** this session will give an idea of the range of quality that the subjects will be seeing. It is split in two parts: first part has four high quality videos and, second part has strongly four degraded videos;
4. **Practice Trials:** In the fourth session will be showed six videos sequences to be sure that subjects understand the task. Subjects will be asked to perform the exact same tasks like in the main experiment;
5. **Main Experimental Session:** in this is session will be presented some videos (test sequences) in random order. After each test sequence played, the subject will be asked "Did you perceive any impairments or defects in the video?", prompting for a "yes" or "no" answer (detection task). Then participants will be asked to perform the annoyance task consisting of giving a numerical judgment of how annoying the detected impairment is.

V. PROCEDURE

Videos will be shown in a randomized order, different for each participant. The observation time will not be constrained. Each video will be scored through a slider with a scale from 0 (lower bound) to 10 (upper bound), with 5 being the mid value. Each scoring scale has 2 semantic labels for the lower ("Imperceptible")

and upper bound (“Very Annoying”), at the beginning and end, respectively. During the experiment, one video at a time will be showed and, after examination, the slider will appear in a separate scoring screen. Participants enter their judgment by simply positioning the slider on the appropriate score number through the computer mouse. After scoring (regarding defects), another video will be displayed, and the process will be repeated until the training or the experiment is completed for the participant. Figure 3 show an example of the slider.

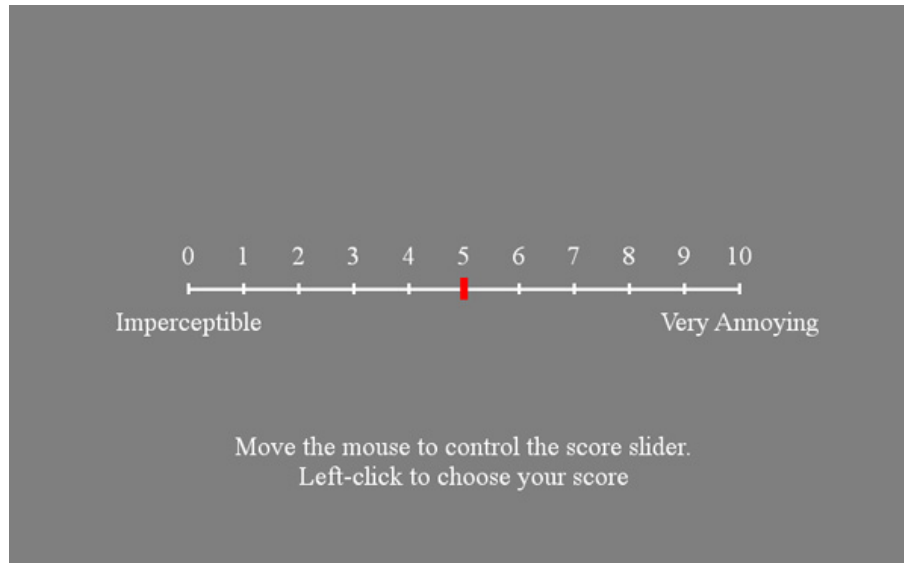


FIG. 3: Scoring screen (slider).

A. Experiment - Details

During the experiment, the experimenter will be guiding the subject through all sessions of the experiment, so that everything can be understood clearly. The following basic steps for the experiment will be:

1. Inform the participant

- **Goal:** The goal of this experiment is to unveil the annoyance brought about by combinations of three different artifacts (Packet Loss, Blockiness and Blurriness).
- **Scoring screen:** Each video will be scored through a slider from 0 (“Imperceptible”) to 10 (“Very Annoying”), with 5 being the mid value. An example of the scoring screen will be shown to the participant so that he/she can get familiar with it.
- **Questions or doubts:** The participant can ask at any given time any question or doubt that he/she might have.

2. General procedure

The experiment is split in 5 sessions:

- (a) an equipment calibration task;
- (b) a free view task;
- (c) a training session (split in two parts);
- (d) a practice trials;

(e) main experiment (split in two parts with a break and another equipment calibration in between).

During the experiment, a brief explanation regarding of what is required to do will be provided.

3. **Calibration task:** Participants' eye movements will be tracked to investigate how an observer scan videos. The distance from the monitor to the participant's eyes is very important, and so, the participant will need:

- (a) to place his/her chin in the chinrest;
- (b) to avoid leaning backwards;
- (c) to look at different places in the screen in order for the experimenter to adjust the system according to the iris and pupil of the participant.

Once the system is ready, the experimenter will ask the participant to continue. The eye-tracker tool will need to be calibrated with a simple task:

- (a) **Task:** The observer will have to concentrate on a black square in the screen, and follow it with his/hers eyes every time the square changes its position.
 - During this task, the experimenter is only allowed to finish it if there is a problem, i.e., the experimenter should not interfere with the elapsing procedure.
 - One might be that the calibration task does conclude or that was not successful. In those cases, the calibration task can be repeated up to 3 times. If the problem persists, the experiment will have to come to an end and the participant will be dismissed.
- (b) **After task:** Once the calibration is complete, the experimenter will ask the observer to look at different places in the screen to confirm that the calibration was successful.
 - If at any moment the participant moves his/hers face and the eye-tracker loses the participant's pupil or/and iris, the experimenter is allowed to correct the eye-tracker tool position, so that it can continue tracking the participant's eye movements. Moreover, the experimenter can try to correct some Eye-Tracker parameters when the subject is looking at one of the videos.

4. **Training task:** The participants will be performing 2 short training sessions with 4 videos each. This task is concerned with defects or impairments in video and their effect on human viewers. Thus, in the first session will be showed four original videos and next session four degraded videos. This task is so important to give them an idea of the range of quality that them will be seeing. The data from the training sessions will not be used for the study.

5. **Practice Trials:** The participants will have 6 practice trials to be sure that them understand the task. It will be presented one video clip on each trial with 10 seconds each one and will be played twice. The most important is to know the initial impressions from the subjects after the video is played. Thus, they will be asked to estimate the annoyance of defects or impairments in the video. The defects can be found in any region of video and at any time during the clip. After the clip is played, the participants will be asked: "Did you see any defect or impairment?". Here, there are two possibilities:

- (a) **Answer NO:** if the participant did not see a defect (and, the experiment continues);
- (b) **Answer YES:** if the participant detected a defect or impairment. Thus, they will be asked to indicate the annoyance of the defect their have seen using a scale with values ranging from 0 and 10. It is to assign an annoyance value of 10 to the most annoying video. If the annoyance value of a defect in the experiment is half of the worst sample clip, give it a 5; if it is 1/10th as bad, give it a 1. If the defect did not annoy you at all, call it 0. The participant should enter the scores using the slider on the desired value (Figure 3).

The same questions will be asked after every trial. The data from the practice trials will not be used for the study, so don't be concerned if the participant makes a mistake.

6. **Experiment:** Before the experiment starts, important advices will be provided to the participant:

- *If he/she entered data incorrectly:* The participant should let the experimenter know. The experimenter will make note of it and fix it later.
- *If he/she needs to take a small break:* The participant should enter the scores for the most recent video, and rest before submitting the last score, avoiding proceeding to the next video.
- *If he/she feels confused about what to do:* The participant should stop and let the experimenter know if he/she has a question or doubt.

The participant will score 63 degraded videos (blockiness, blurriness and packet-loss combinations). The experiment is split in 2 sessions. Each one should last approximately 20 minutes.

- (a) **Session 1:** Once the participant has scored 32 videos, this session will be over and a break will be given to the participant. Once the participant is ready to continue, he/she is going to perform the calibration task again. Again, the participant will have to wait for a few seconds while the experimenter adjusts the system. When the system is ready, the experimenter will ask you to proceed to the task. After the task, the experimenter will again ask the observer to look at different places in the screen to confirm that the calibration was successful.
- (b) **Session 2:** When the participant has scored 31 videos, the experiment will be completed and he/she may leave the room. A more detailed explanation about the experiment itself can be given to the participant, if asked.

B. Experimental Instructions

1. **Before the subject arrives:**

- (a) Log in to the server
- (b) Initiate application

2. **After the subject arrives:**

- (a) Sit the subject in the chair, centered in front of the video monitor. The subject should be adjusted backward or forward to get a distance of 3 times the height of the picture in the video monitor screen. The most comfortable position for the subject tends to be leaning forward slightly with forearms or elbows on the table. The distance from the monitor to your eyes is important during the presentation. The subject should be instructed not to lean backward;
- (b) "The experiment is split in five sessions: equipment calibration, free viewing, training, practice trials, and main experimental session. At the beginning of each session, I will briefly explain what you are required to do at each stage.";
- (c) Eye-Tracking calibration: A screen will appear asking the subject to wait while you adjust the camera and try to capture the pupil. Adjust the system to the more stable settings. When you are finished, instruct the subject to advance. Then instruct him/her to follow the black squares in the screen. Press the *space bar* to start the calibration;
- (d) Free viewing: "At this stage, you will be asked to watch seven high quality videos (original videos). All videos have ten seconds.";

- (e) [Play seven original videos];
- (f) "This study is concerned with defects or impairments in video images and their effect on human viewers. We are not concerned with the content of the videos. We are interested in whether or not you see any defects or impairments in the videos that we will show, and if so, how annoying (strong) the defect is.";
- (g) Training session: "Here is how you will determine the annoyance/strength value. I am about to show you a set of sample clips. The sample clips include two sets of videos. The first set has four high quality videos and the second set has four degraded quality videos. There may be some impairment in the high quality clips. This will give you an idea of the range of image quality that you will be seeing. You are to assign an annoyance value of 10 to the most annoying video among the sample clips.";
- (h) Practice Trials: "Before we start the experiment, you will have 6 practice trials to be sure that you understand the task. You will be asked to perform the exact same tasks you will perform in the main experiment. You will respond in these trials just like you will in the main experiment. We will not use the data from the practice trials, so do not be concerned if you make a mistake here. If you have any questions or concerns, ask the experimenter at any time.";
- (i) You will be presented with one video clip on each trial. Each clip will last 10 seconds and will be played twice. After the clip is played, questions will appear on the monitor. The same questions will be asked after every trial. Do not spend a lot of time thinking about your responses. We want to know your initial impressions;
- (j) You will be asked to estimate the annoyance of defects or impairments in the video. The defects can be found in any region of video and at any time during the clip. After the clip is played, you will be asked "Did you see any defect or impairment?" "If you did not see a defect, answer NO. Then, Left-click to see the next the video." "For those clips in which you do detect a defect or impairment, answer YES. You will be then asked to indicate the annoyance of the defect you saw using a scale with values ranging from 0 and 10 will appear. You are to assign an annoyance value of 10 to the most annoying video. If the annoyance value of a defect in the experiment is half of the worst sample clip, give it a 5; if it is $\frac{1}{10}$ th as bad, give it a 1. If the defect did not annoy you at all, call it 0. You should enter the scores using the mouse to click on the desired value. After you finished entering your choice of number, Left-click to see the next the video.";
- (k) [Start the main Experiment];
- (l) The experiment is divided in two parts. Each part should last approximately 20 minutes. A break will be given after the first part of the experiment is finished.
- (m) "Do you have any questions?"
- (n) "You can take a break at any time by entering your answers for the most recent video, but waiting to *Left-click* until you are ready to go on. You should stop if you are confused about what to do, if you realize you have entered data incorrectly, or if you need a break. You can't stop the video from playing or go back and fix the data from a previous clip afterwards. So if something goes wrong, watch the video and then tell the experimenter. We will go back and fix it later. The questions will come up on the computer screen, but you should not need to look over at it every time. The questions will not change.";
- (o) First part will be showed 32 video sequence. When the first part is finished, a break will be given.
- (p) After break, it will be asked if the participant is ready to continue. It will be necessary to perform the calibration task again. When the system is ready, the experimenter will ask he/she to proceed to the task.
- (q) Second part will be showed 31 video sequence. When this part is finished, the experiment will be completed.

3. A complete list of the *Instructions* used in this experiment is showed in Appendix B.

VI. DATA RECORDED

The experiment collected the bellow mentioned data:

- Viewing time per stimulus;
- Scores for each attribute, video and observer;
- Eye-tracking data.

APPENDIX A: ALL VIDEO LIST USED IN OVERALL EXPERIMENT

ORIGINAL VIDEO LIST

Video	Packed-Loss	Blocky	Blurry
blkblr_v1_1280x720_0	0.0	0.0	0.0
blkblr_v7_1280x720_0	0.0	0.0	0.0
blkblr_v8_1280x720_0	0.0	0.0	0.0
blkblr_v9_1280x720_0	0.0	0.0	0.0
blkblr_v10_1280x720_0	0.0	0.0	0.0
blkblr_v11_1280x720_0	0.0	0.0	0.0
blkblr_v12_1280x720_0	0.0	0.0	0.0

TABLE II: Original video list used during Free-viewing session.

TRAINING VIDEO LIST

Video	Packed-Loss	Blocky	Blurry
blkblr_v1_1280x720_0	0.0	0.0	0.0
blkblr_v8_1280x720_0	0.0	0.0	0.0
blkblr_v10_1280x720_0	0.0	0.0	0.0
blkblr_v11_1280x720_0	0.0	0.0	0.0

TABLE III: Original video list used during Training session.

Video	Packed-Loss	Blocky	Blurry
blkblr_v1_1280x720_17	0.0	0.0	0.0
blkblr_v8_1280x720_16	0.0	0.0	0.0
blkblr_v10_1280x720_17	0.0	0.0	0.0
blkblr_v11_1280x720_17	0.0	0.0	0.0

TABLE IV: Degraded video list used during Training session.

PRACTICE TRIAL LIST

Video	Packed-Loss	Blocky	Blurry
blkblr_v1_1280x720_1	0.0	0.0	0.0
blkblr_v1_I12_3_PckErr2	0.0	0.0	0.0
blkblr_v7_1280x720_2	0.0	0.0	0.0
blkblr_v7_1280x720_11	0.0	0.0	0.0
blkblr_v12_1280x720_2	0.0	0.0	0.0
blkblr_v12_I12_15_PckErr1	0.0	0.0	0.0

TABLE V: Video list used during Practice Trial session.

VIDEO LIST OF MAIN EXPERIMENT

Combination	Packed-Loss	Blocky	Blurry
blkblr_v1_1280x720_3	0.0	0.0	0.6
blkblr_v1_1280x720_4	0.0	0.2	0.0
blkblr_v1_1280x720_7	0.0	0.2	0.6
blkblr_v1_1280x720_8	0.0	0.4	0.0
blkblr_v1_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v1_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v1_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v1_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v1_I12_10_PckErr1	0.7	0.4	0.4
blkblr_v7_1280x720_3	0.0	0.0	0.6
blkblr_v7_1280x720_4	0.0	0.2	0.0
blkblr_v7_1280x720_7	0.0	0.2	0.6
blkblr_v7_1280x720_8	0.0	0.4	0.0
blkblr_v7_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v7_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v7_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v7_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v7_I12_10_PckErr1	0.7	0.4	0.4
blkblr_v8_1280x720_3	0.0	0.0	0.6
blkblr_v8_1280x720_4	0.0	0.2	0.0
blkblr_v8_1280x720_7	0.0	0.2	0.6
blkblr_v8_1280x720_8	0.0	0.4	0.0
blkblr_v8_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v8_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v8_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v8_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v8_I12_10_PckErr1	0.7	0.4	0.4

Combination	Packed-Loss	Blocky	Blurry
blkblr_v9_1280x720_3	0.0	0.0	0.6
blkblr_v9_1280x720_4	0.0	0.2	0.0
blkblr_v9_1280x720_7	0.0	0.2	0.6
blkblr_v9_1280x720_8	0.0	0.4	0.0
blkblr_v9_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v9_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v9_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v9_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v9_I12_10_PckErr1	0.7	0.4	0.4
blkblr_v10_1280x720_3	0.0	0.0	0.6
blkblr_v10_1280x720_4	0.0	0.2	0.0
blkblr_v10_1280x720_7	0.0	0.2	0.6
blkblr_v10_1280x720_8	0.0	0.4	0.0
blkblr_v10_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v10_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v10_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v10_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v10_I12_10_PckErr1	0.7	0.4	0.4
blkblr_v11_1280x720_3	0.0	0.0	0.6
blkblr_v11_1280x720_4	0.0	0.2	0.0
blkblr_v11_1280x720_7	0.0	0.2	0.6
blkblr_v11_1280x720_8	0.0	0.4	0.0
blkblr_v11_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v11_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v11_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v11_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v11_I12_10_PckErr1	0.7	0.4	0.4
blkblr_v12_1280x720_3	0.0	0.0	0.6
blkblr_v12_1280x720_4	0.0	0.2	0.0
blkblr_v12_1280x720_7	0.0	0.2	0.6
blkblr_v12_1280x720_8	0.0	0.4	0.0
blkblr_v12_I12_3_PckErr1	0.7	0.0	0.6
blkblr_v12_I12_3_PckErr3	8.1	0.0	0.6
blkblr_v12_I12_8_PckErr1	0.7	0.4	0.0
blkblr_v12_I12_8_PckErr3	8.1	0.4	0.0
blkblr_v12_I12_10_PckErr1	0.7	0.4	0.4

TABLE VI: Degraded videos used in the Main Experiment.

APPENDIX B: INSTRUCTIONS SHOWN DURING THE EXPERIMENT

1st Instruction:

Please type in your name and press return

2nd Instruction:

Welcome! Thank you for participating in this experiment. The experiment is divided in 5 sessions:

- (1) Equipment Calibration,*
- (2) Free Viewing,*
- (3) Training,*
- (4) Practice Trials,*
- (5) Main Experimental Session.*

At the beginning of each session, I will briefly explain what you are required to do at each stage. Left-click to continue.

3rd Instruction:

The distance from the monitor to your eyes is very important during the presentation.

Please put your head on the CHIN-REST in front of you. Try not to lean backward.

Left-click to continue

4th Instruction:

- (1) CALIBRATION SESSION*

Please, wait for a few seconds while I adjust the system.

When the system is ready, I will ask you to continue.

Left-click to continue

5th Instruction:

- (1) CALIBRATION SESSION*

You're now going to see a series of small black SQUARES on the screen.

At each screen, one black square will appear at a different position.

Please, keep your eyes fixated on each of these squares.

Left-click to continue

6th Instruction:

- (1) CALIBRATION SESSION Thank you! The calibration is now complete.*

Left-click to continue

7th Instruction:

- (2) FREE VIEWING SESSION You are now going to watch a series of 7 videos.*

Please, watch them as if you were at home watching TV.

Whenever you are ready to start, please left-click to continue.

8th Instruction:

- (3) TRAINING SESSION*

This study is concerned with defects or impairments in video images and their effect on human viewers.

We are not concerned with the content of the videos.

We are interested in whether or not you see any defects or impairments in the videos that we will show, and if so, how annoying defect is.

Left-click to continue

9th Instruction:

- (3) TRAINING SESSION*

Here is how you will determine the annoyance value. I am about to show you a set of sample clips.
The sample clips include two sets of videos. The first set has 4 high quality videos.
Left-click to play the set of high quality videos.

10th Instruction:

(3) TRAINING SESSION

The second set has degraded videos. They will give you an idea of the range of quality that you will be seeing.
You are to assign an ANNOYANCE value of 10 to the most annoying video among the sample clips.
Left-click to play the set of impaired videos

11th Instruction:

(3) TRAINING SESSION

Did you see any defects?

Remember that the most annoying defect that you have seen is to have a value of 10.

If the annoyance value of a defect in the experiment is half of the worst sample clip, give it a 5;
if it is 1/10th as bad, give it a 1.

If the defect did not annoy you at all, call it zero.

Left-click to continue

12th Instruction:

(4) PRACTICE TRIAL SESSION

Before we start the experiment, you will have 6 practice trials to be sure that you understand the task.

You will be asked to perform the exact same tasks you will perform in the main experiment.

You will respond in these trials just like you will in the main experiment.

We will not use the data from the practice trials, so don't be concerned if you make a mistake here.

If you have any questions or concerns, feel free to ask me.

Left-click to continue

13th Instruction:

(4) PRACTICE TRIAL SESSION

You will be presented with one video clip on each trial.

Each clip will last 10 seconds and will be played twice.

After the clip is played, questions will appear on the monitor.

The same questions will be asked after every trial. Do not spend a lot of time thinking about your responses.

We want to know your initial impressions.

Left-click to continue

14th Instruction:

(4) PRACTICE TRIAL SESSION

You will be asked to estimate the annoyance of defects or impairments in the video.

The defects can be found in any region of video and at any time during the clip.

After the clip is played, you will be asked: Did you see any defect or impairment?

If you did not see a defect, answer NO. Then, Left-click to play the next clip.

Left-click to continue

15th Instruction:

(4) PRACTICE TRIAL SESSION

For those clips in which you do detect a defect or impairment, answer YES.

You will be then asked to indicate the annoyance of the defect you saw using a scale with values ranging from 0 and 10.

You are to assign an annoyance value of 10 to the most annoying video.

If the annoyance value of a defect in the experiment is half of the worst sample clip, give it a 5; if it is 1/10th as bad, give it a 1.

If the defect did not annoy you at all, call it zero.

You should enter the scores using the mouse to LEFT-click on the desired value.

Left-click to continue

16th Instruction:

(4) PRACTICE TRIAL SESSION

After you finished entering your choice of number, Left-click to play the next video.

Do you have any questions?

Left-click to start PRACTICE TRIALS.

17th Instruction:

Did you perceive any impairments or defects in the video?

18th Instruction:

(5) MAIN EXPERIMENT SESSION

The experiment is divided in 2 parts. Each part should last approximately 20 minutes.

A break will be given after the first part of the experiment is finished.

If you need to take a small break at any time, enter your answers for the most recent video, but wait to Left-click until you are ready to go on.

You should stop if you are confused about what to do.

If you realize you have entered data incorrectly, tell me and I will go back and fix it later.

Left-click to continue

19th Instruction:

(5) MAIN EXPERIMENT SESSION – PART I

Do you have any questions?

Left-click to start PART I

20th Instruction:

Did you perceive any impairments or defects in the video?

21st Instruction:

This is the end of the first part of the experiment.

Please Left-click whenever you are ready to resume the experiment.

22nd Instruction:

(1) CALIBRATION SESSION – PART II

You are now going to perform the calibration session again.

Please, wait for a few seconds while the experimenter adjusts the system.

When the system is ready, the experimenter will ask you to continue.

Left-click to continue

23rd Instruction:

(1) CALIBRATION SESSION – PART II

You're now going to see a series of small black SQUARES on the screen.

At each screen, one black square will appear at a different position.

Please, keep your eyes fixated on each of these squares.

Left-click to continue

24th Instruction:

*Thank you! The calibration is now complete.
Left-click to start the Part II of the experiment.
Left-click to continue*

25th Instruction:

Did you perceive any impairments or defects in the video?

26th Instruction:

This is the end of the experiment. Thank you for participating!