— Supplementary Material —
Comparison of subjective methods, with and without explicit reference, for quality assessment of 3D graphics

Yana Nehmé   Jean-Philippe Farrugia   Florent Dupont

Patrick Le-Callet   Guillaume Lavoué

This supplementary material is organized as follows. Section 1 show snapshots of the experimental environment. Section 2 illustrates the DMOS and MOS for both groups involved in the ACR-HR and DSIS sessions. We also provide the confidence intervals of the computed DMOS/MOS. Section 3 compares confidence intervals (CI) from the ACR-HR and DSIS methodologies between the 2 groups of subjects.

1 Subjective Experiment

In designing our subjective experiment, we opted to ensure a user experience and quality of experience (QoE) in fully immersive virtual environment (VE). Figure 1 and Figure 2 show snapshots of the ACR-HR and DSIS session respectively.
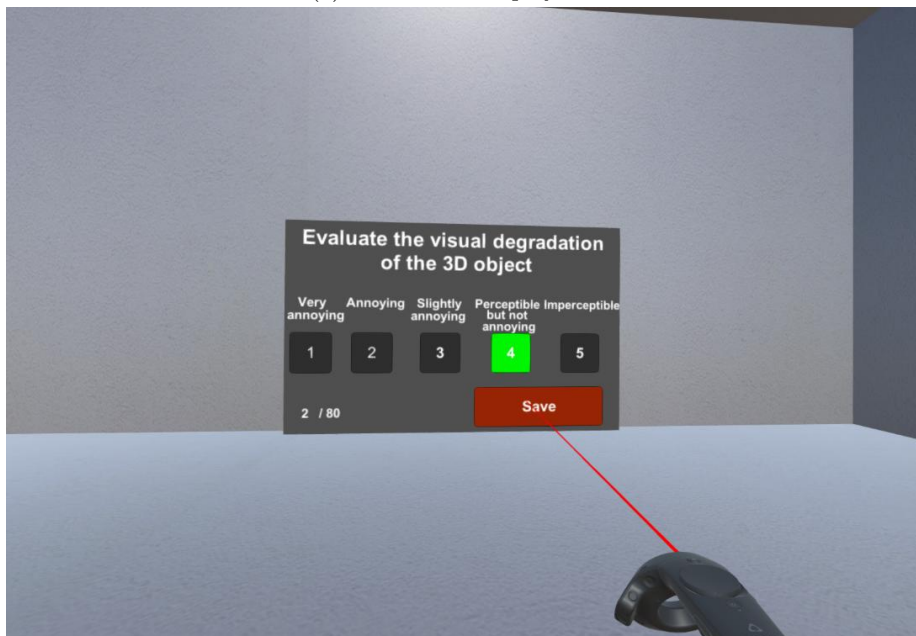
(a) The stimuli display room
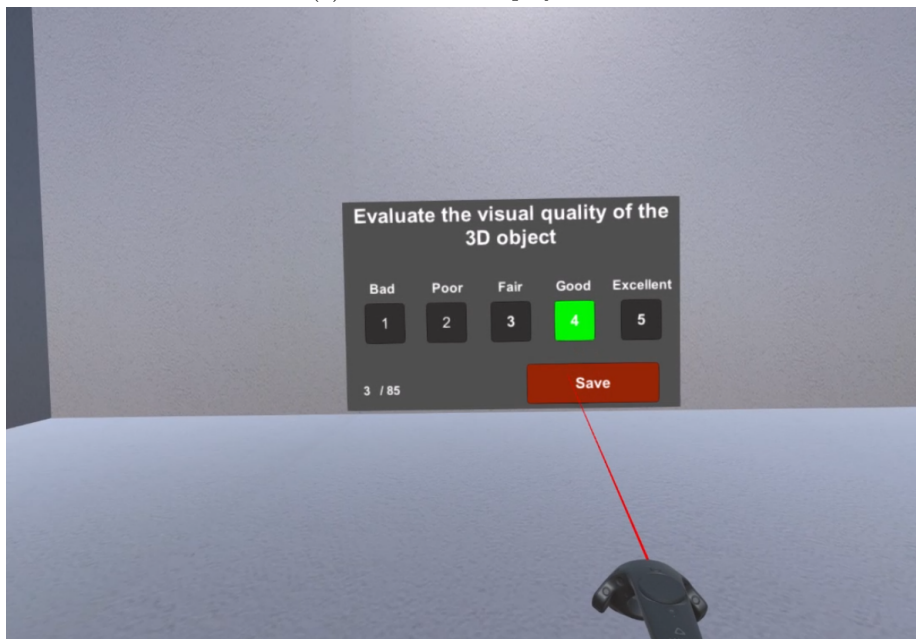
(b) The rating room

Figure 1: The experimental environment of the ACR-HR test

(a) The stimuli display room

(b) The rating room

Figure 2: The experimental environment of the DSIS test

2 Additional results

In this section, we present, in Figure 3, the computed DMOS of the ACR-HR experiment for all stimulus for both groups G1 and G2. We also present their confidence intervals in Figure 4. Moreover, Figure 5 details the MOS and the CI obtained by the observers of the 2 groups involved in the DSIS tests. We recall that G1's subjects did the ACR-HR session first followed by the DSIS session, while G2's subjects did the DSIS session first and then the ACR-HR session.
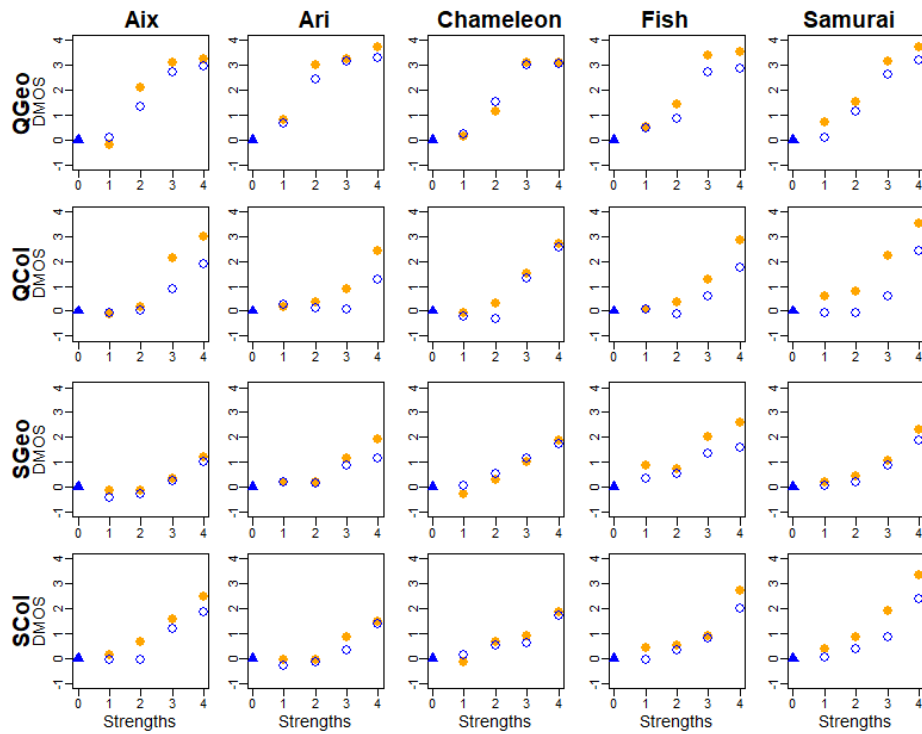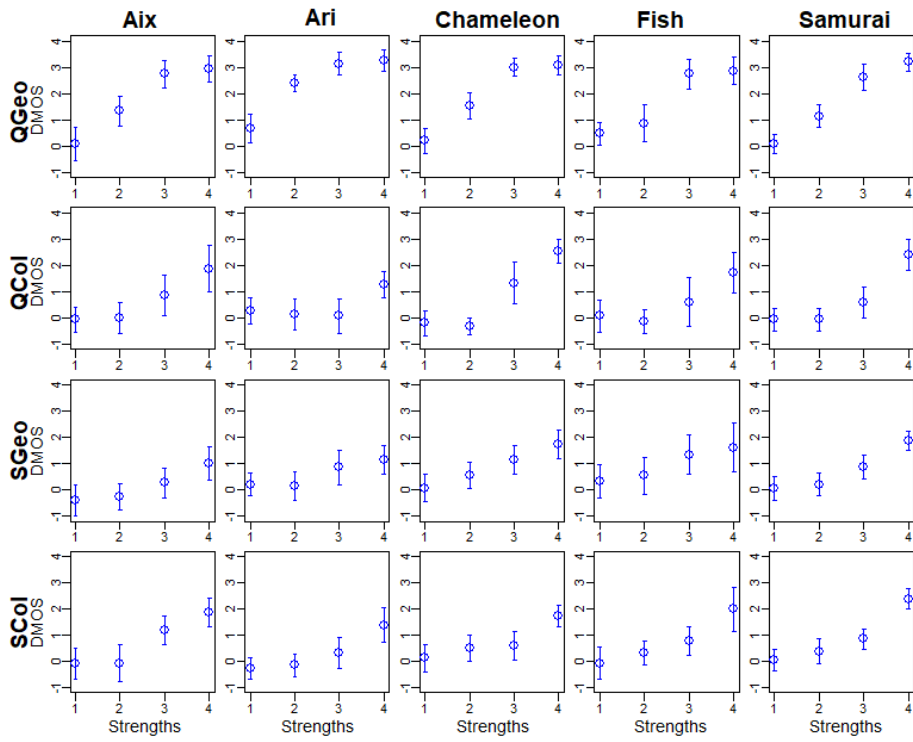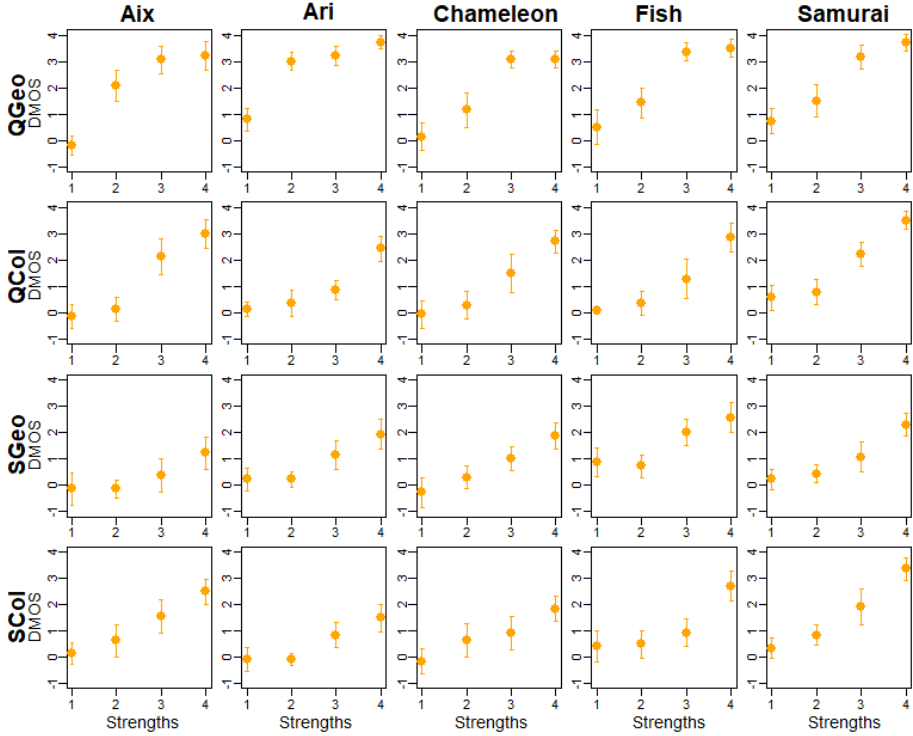

Figure 3: Overview of difference mean scores of the ACR-HR experiment for all stimulus for both groups (the blue and orange dots refer to the DMOS of G1 and G2 respectively).
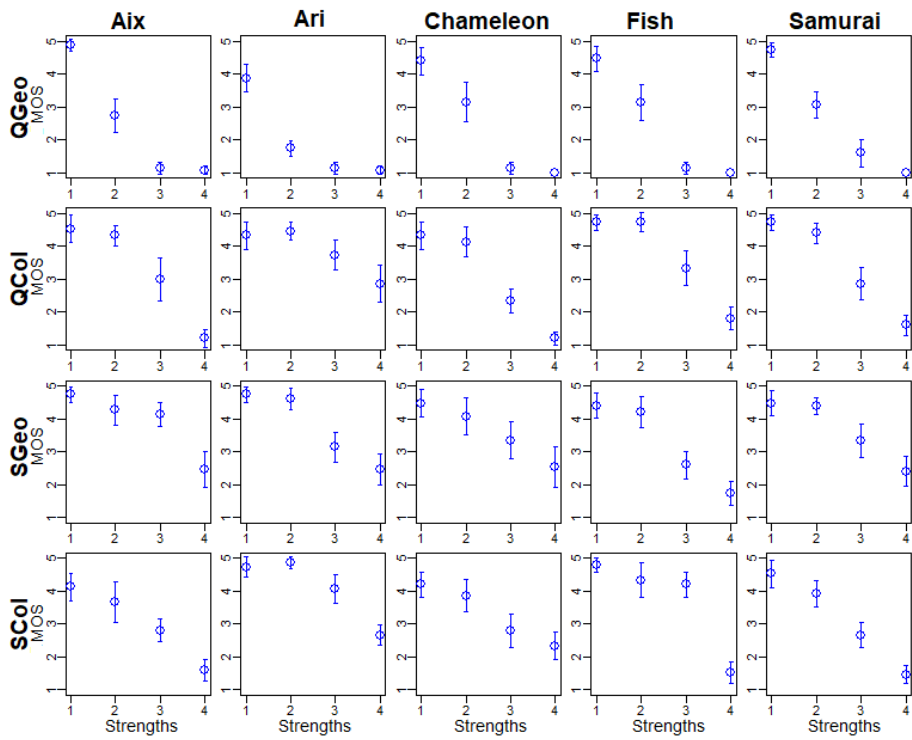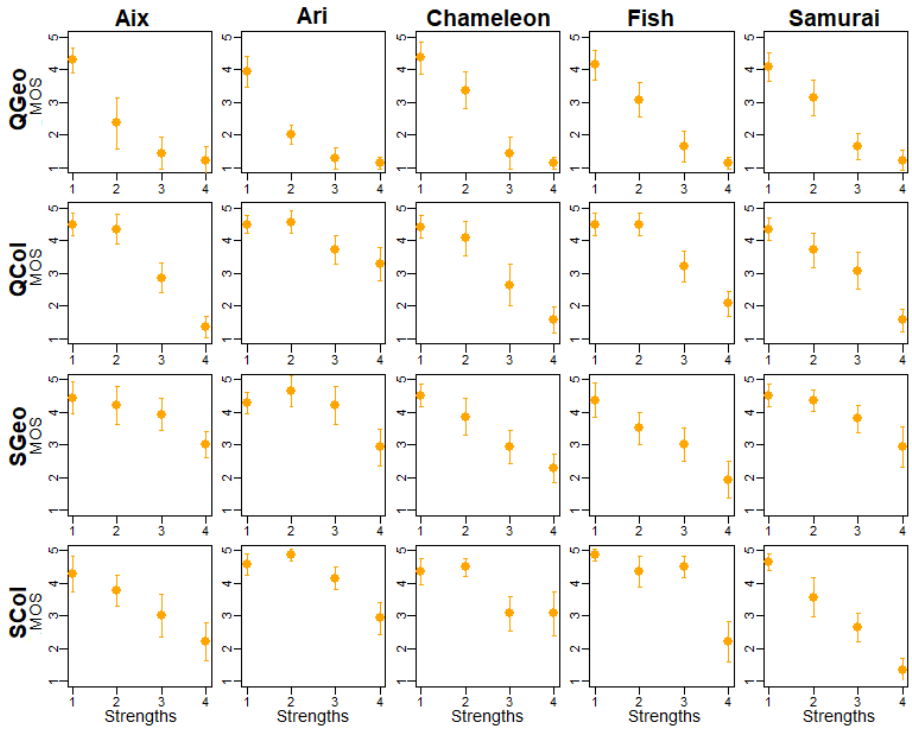
(a) G1

(b) G2

Figure 4: Confidence intervals of the DMOS from the ACR-HR tests for both groups.

(a) G1

(b) G2

Figure 5: Confidence intervals of the MOS from the DSIS tests for both groups.

3   Confidence intervals

In section 4.4 from the paper, we evaluated the evolution of the width of the confidence intervals (CI) of the two methodologies according to the number of subjects. We provide in Figure 6 a comparison of CI obtained by the observers of the G1 and G2 involved in ACR-HR and DSIS tests.
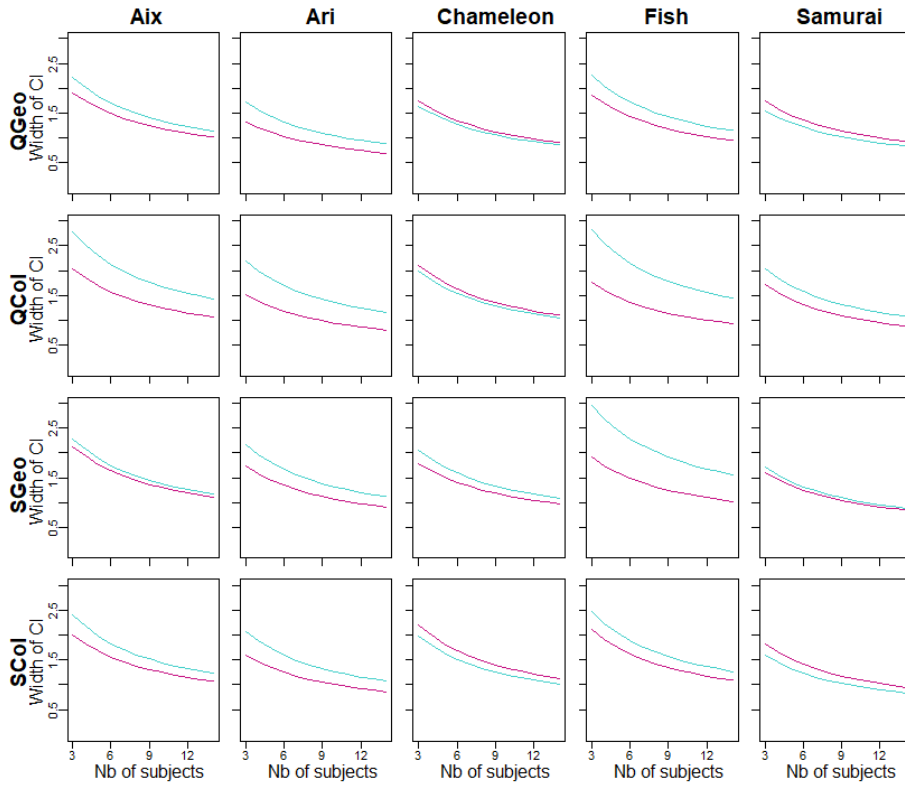
(a) ACR-HR
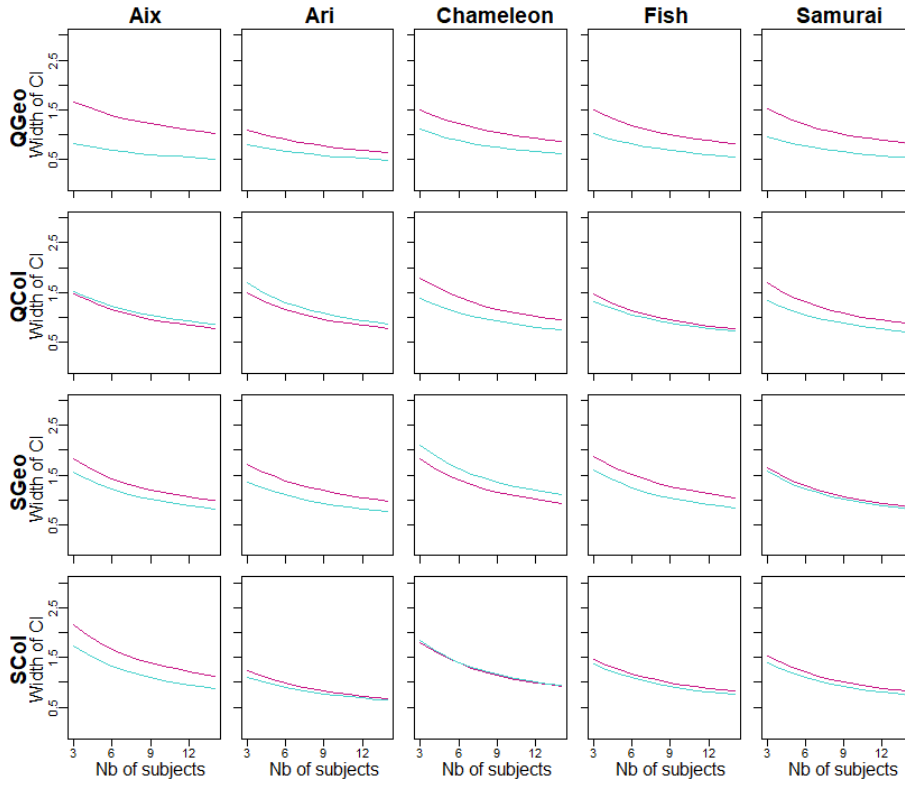
(b) DSIS

Figure 6: Mean confidence intervals for both methodologies as a function of the number of observers involved in G1 (turquoise curves) and G2 (violet curves) (G1's subjects did the ACR-HR session 1st followed by the DSIS session, while G2's subjects did the DSIS session 1st and then the ACR-HR session).