

Findings of utilizing augmented reality to improve the user experience of learning artefacts in online museums

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ABSTRACT

Various studies and AR projects demonstrate the research gap of less research in objective measurement and study focused on settings outside of the museum. This research, conducted with the Horniman Museum will investigate how AR enhances the online museum user experience of museum artefacts using eye tracking glasses as objective measurement and taking subjective feeling into consideration as well.

INTRODUCTION & BACKGROUND

During Pandemic

Responses from 600 museums located in 48 countries
May and June 2020



93% Museums closed



80% Improved Digital offering



40% Report increase in online visitors

Post-Pandemic



Digital innovations



Regardless of their location or budget

STUDY METHODOLOGY



20 Participants are involved



Lion face mask as an example



Mostly **20** to **25** years old



Tasks with eye gaze glasses



Mostly students who studying in user experience



Questionnaire a week later from user testing



10 in UX lab  **10** remotely



Interview

DIAGRAM / DESIGN



TESTING & EVALUATION

- Only small number of participants were involved, result would need a larger number of participants from different background.
- Eye gaze glasses could vary due to lighting and the size of the screen. Thus, this test might not be reliable.
- Improvement in AR scale illusion.
- There could be further research on free recall and cued recall in long-term memory performance with AR.

RESEARCH RESULTS

- 3D artefact models can provide greater details, however the technology and device employed can affect user experience.
- When showing augmented reality objects online, museums should evaluate the projected surroundings as it may generate illusions.
- Information provide by AR has a positive attraction in image content rather than text content.
- Users are more attracted to augmented reality with images while traditional website still has a positive impact on text-based learning.