

# Compare the impact on user experience of adding making process

## interaction to a existing mural VR system

ACADEMIC PROJECT  
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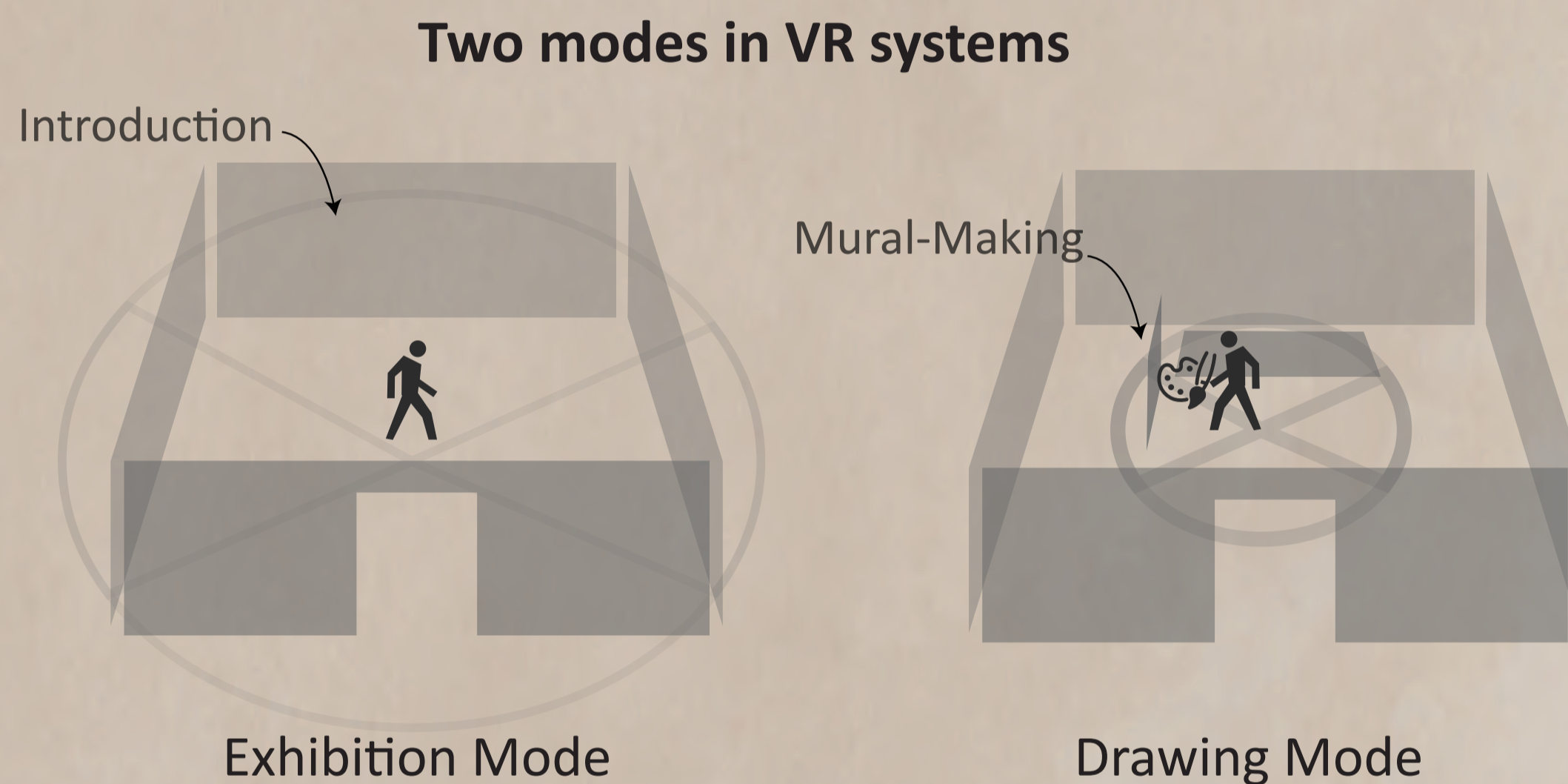
### ABSTRACT

Traditional murals are fading into obscurity. There is currently no effective means of capturing public interest and spreading knowledge. This project proposes a new form of VR based on traditional Chinese murals, incorporating an interactive experience of the mural-making process. The system was compared with traditional methods (VR and graphic displays on the Digital Dunhuang website). The results show that the VR experience of the production process greatly improves the user experience and interest in the traditional murals compared to existing methods.

### Introduction & Background

Many of the world's murals are deteriorating, resulting in many no longer being available to the public, which is causing traditional murals to fade from view. Many countries have made their murals available in digital form. Expert interviews and secondary research suggest that offering a viewing experience may not be the most effective way of communicating murals, nor is it sufficient in terms of experience and engagement. It is much easier to understand and more interesting if the viewer is actively involved in the 'doing' process. Therefore, I have included a situational experience of the mural-making process in my mural VR system. Based on my research, I present the design and implementation of this project, comparing the impact of adding the mural-making process to an existing mural VR system on the user experience through user research.

### Diagram / Design



### Study Methodology

#### A/B Test

20 testers (non-mural painting majors), randomly assigned into two groups.



10 people testing my VR system.



10 people tested the existing systems used for comparison (VR and graphic presentations on the Digital Dunhuang website).



Complete the same feedback questionnaire and open question after experience.

#### Expert assessment

I gave my VR project to two experts to experience it, evaluate it from a professional point of view and conduct interviews to get feedback.



Director of Mural Painting, Sichuan Fine Arts Institute, China



Wallace Collection Chinese Lecture Guide

### Evaluation Research Results

#### A/B Test

My VR system scores higher than traditional methods in terms of the immersion, attraction, fun and interest in the mural after the experience that VR provides. The scores for dissemination of knowledge do not differ significantly from the existing system.

#### Expert assessment



"It is a novel design that gives an immersive view of the cave's murals. It is also an interesting and fascinating attempt to experience the process of making them."



"The experiential process is a way to give the public a better understanding of the murals, in a digitally accessible way that will increase interest in the murals."

### Evaluation Research Results

The aim of this project is to compare and evaluate the impact of adding the production interaction process to an existing mural VR system on the user experience. The results show that my VR system greatly improves the VR and interactive experience of users, as well as their interest in traditional mural, compared to existing VR systems. Furthermore, my system is just as helpful as existing methods when it comes to spreading knowledge. My approach is not specifically tailored to Dunhuang, but can be adopted by any other cultural heritage site that needs to spread expert knowledge to the public. From user feedback, we believe there is still room for improvement in our system in terms of fun, interactive experience and knowledge acquisition. Due to technical and time constraints, some of the operations of my VR system do not match the real-life experience, and these can be redesigned with further consideration, with the expectation of seeing a greater effect of embodied knowledge.