

Presentation and Communication of Visual Artworks in an Interactive Virtual Environment

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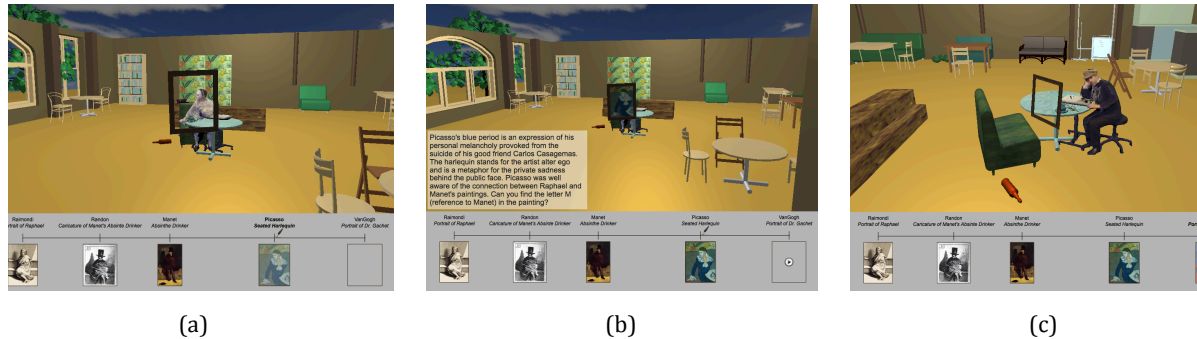


Figure 1: WebGL-based virtual gallery - (a) top: the virtual environment showing the empty frame metaphor; bottom: the painting storyline; (b): the correct view angle is found and the actual painting is shown in the frame alongside some text information about the painting; (c): actor taking the pose of the portrait in the painting.

1 Introduction and Motivation

New forms of art have developed because of the possibilities that modern technology provides for artists. However, innovative technology can not only be used in the creation of new media art but also sets a range of new opportunities for the presentation and communication of visual art. In this paper, we want to introduce an approach for the presentation of visual artworks in interactive virtual environments. In this work, we showcase a project that focuses on the problem of exploring and implementing innovative approaches and technologies for displaying art in a 3D virtual environment. We wish to excite people about art by offering them an entertaining and educational virtual experience. Furthermore, we want to contribute towards escaping from the common exhibition space by creating a virtual application that augments the presented artwork by offering an interactive audience experience.

Modern technology has changed art praxis through the last decades. New media art presents the opportunity for a complete rethink of curatorial practice, from how art is legitimated and how museum departments are founded to how curators engage with the production of artwork and how they set about the many tasks within the process of showing that art to an audience [Graham 2010]. As a result, the innovation potential in the context of media presentation and exhibition spaces design is very high. Artworks should be displayed in a way that engages the viewer and gives him/her impulses to reflect on a certain topic. This can be achieved by leaving behind the usual 'white cube' exhibition room and its plain white walls and ceilings, and designing a space where the user feels as a participant and not only as an observer.

2 Our Approach

Our approach integrates several advanced technologies for graphics, video and image processing and creates a common place where masterpieces of famous artists and real actors act together in a virtual environment as players in a storytelling presentation. The project has demonstrated the possibility to combine creative skills from design and curatorial praxis with advanced technical tools such as Virtual Reality, multi-view video capturing, image segmentation and 3D model reconstruction. Furthermore the intention here is to focus on the advantages that 3D technology offers for viewing and exploring paintings in a virtual space, rather than recreating a completely realistic environment as we know it from common exhibition spaces. We want to enable the user to navigate through a 3D scene, to explore various observation angles and to be able to look from the artists perspective. The interactive application is built around five images of classical paintings that are all inspired by each other and are pieces of a story that the user is about to discover. An expert user test with participants from the BBC Research Lab and an online survey showed interest and potential for the presentation of artworks in interactive applications.

3 Future Work

A study, which compares the described approach with the functionality of a conventional virtual gallery, aims to explore in depth the benefits that an engaging narrative presentation of artworks have in interactive environments.

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References

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