

The Interactive Virtual Showcase: A Four User Display for Museums

Hendrik Wendler Bernd Fröhlich

Bauhaus University Weimar, 99423 Weimar, Germany
bernd.froehlich@uni-weimar.de

Abstract

We describe the Interactive Virtual Showcase, which was developed for the interactive presentation of mixed reality scenarios in museums. We suggest a rugged design and an intuitive interaction metaphor, which is based on a tangible interface. The system was installed at a museum and is running for more than one year without major problems. The reaction of the numerous museum visitors has been very positive, which is partially due to the fact that the technology is mostly hidden from the users.

Key words: 3D Interaction, Virtual Showcase

1. Overview

The presentation of interactive stereoscopic displays in public areas is a challenging task. The throughput of such systems is often an issue and the robustness of the whole setup. Most systems do not provide individual tracked views nor do they provide interaction for individual users.

We developed an interactive version of the Virtual Showcase display[1], which allows four tracked users to explore a stereoscopic mixed reality scenario (see Figure 1). The system was designed for being shown in a museum environment, which requires an intuitive and rugged interface. The round design of our system suggests the use of a mechanical ring-shaped handle for navigation. This ring surrounds the showcase and it is accessible from all four sides. By rotating the ring, the virtual and real content inside the showcase are rotated. This approach provides a tangible interface, which allows multiple users to participate in an interaction.

The showcase contains a real turntable with real artifacts on top. Stereoscopic graphics is overlaid displaying a story, which revolves around the Nobel price awarded discovery of the spatial structure of the photosynthetic reaction center (RC).

Our interactive Virtual Showcase was installed at the Deutsches Museum Bonn in spring 2004 and it is working since without major problems. The overall response of the museum visitors to the interactive installation has been very positive. The complex technology is very well hidden. No computers or



Fig. 1 The Interactive Virtual Showcase

keyboards are visible. The users just need to pick up the stereo glasses and the presentation starts. They focus on the stereoscopically displayed mixed reality scenario and on the interaction through the ring-shaped handle. Our interactive Virtual Showcase is well integrated in between the other traditional showcases, but it serves also as a technology highlight among the other more low tech presentations.

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References

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