

Embedded Scenography in Interactive Public Art

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Abstract

This research investigates the intrinsic role of scenography as an integral part of large-scale multi-user and multi-touch environments.

Introduction

While Tangible Media started to break the grounds for the role of proprioception and affordance in interactive environments, large-scale interactive works and participative public art bring additional requirements towards the design of such interfaces.

The authors have developed a series of related artworks that integrates the scenographical and architectural setting in the definition, comprehension and operation of the interface. By further analyzing these works, the aim is to address the following questions:

- How can the scenographical and architectural settings provide affordances, i.e., from their impact on the body in space to their cultural icon?
- Can the proprioception (hand-eye) be extended beyond the body scale in a large (or distant) environment?
- What are the roles of the human visual field in understanding an interactive system especially in larger than body environments?

This research has derived works that shift the visual perception in different architectural settings and body-eye coordination's:

- an interactive floor (looking down, foot-eye)
- a multi-touch table (looking near, hand-eye)
- an interactive wall (looking horizontal, body-eye)
- an interactive building façade (looking far, disembodied).

The Prayer Drums

The visitors are invited to spin a large-scale array of virtual drums (as an analogy of Prayer's Drums in temples). The array is laid out on a wall. Each spinning of the drums triggers a soundscape that reacts accordingly to its velocity. The visual representations of the drums are abstract and act as a visualization of the soundscape.

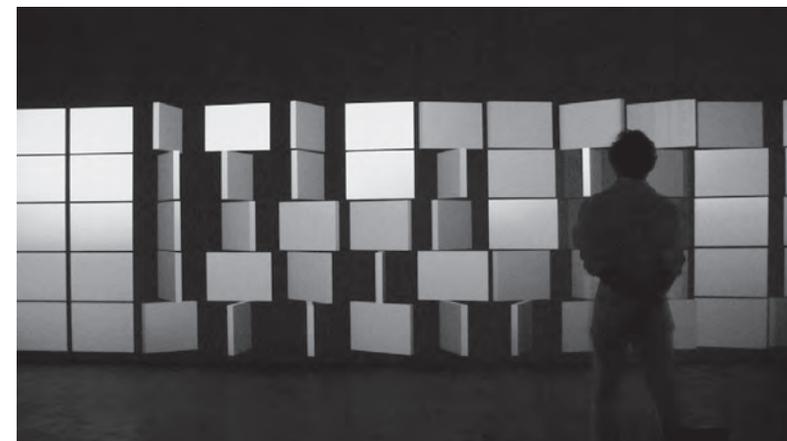


Fig. 1: The Prayer Drums

The Wind Tunnel

The Tunnel is a long corridor where airport passengers in transit can experience the simulated turbulences of aeronautical test chambers. The corridor length is of an arbitrary dimension where the longest span would give the outmost vanishing point. The Tunnel could namely be deployed in parallel to



Fig. 2: The Wind Tunnel

moving escalators and in long transit spaces. The sensing surface is retrofitted into the floor (using proprietary multi-touch ruggedized capacitive matrix) while the visuals are displayed from the top via an array of video projectors.

The Beat Table

This multi-touch surface incarnates the archetype of the electronic beat box sequencers. Rendering 3D volumes on the table depicts the beat steps and sound volumes of each sample triggers. The system provides multiple presets in order to create coherent musical arrangements.

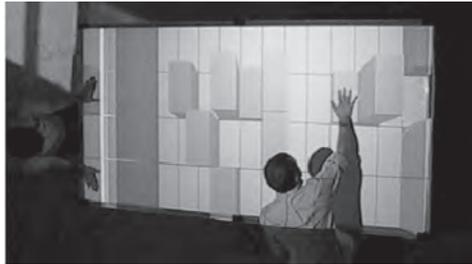


Fig. 3: The Beat Table



Fig. 4: Building Media Façade Prototype

Interactive Media Façade

As a proposal for an interactive video building façade, a tangible small-scale reproduction (model) was constructed to engage interaction from the people on the street. The audience could manipulate and morph real-time video feeds by “touching” the building and by witnessing their “influence” on a distant large-scale screen.

Future works

The different works were developed independently empowering the scenographical setting for each artwork context. The next step in the evaluation is to shift the works from one scenographical scheme to the other. By doing this, the research will further investigate the impact of the proprioception versus the scenographical environments.

Acknowledgements

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