

Virtual Reality Architecture Exhibitions: Means for Experimenting with Future Objects in Anticipation Studies

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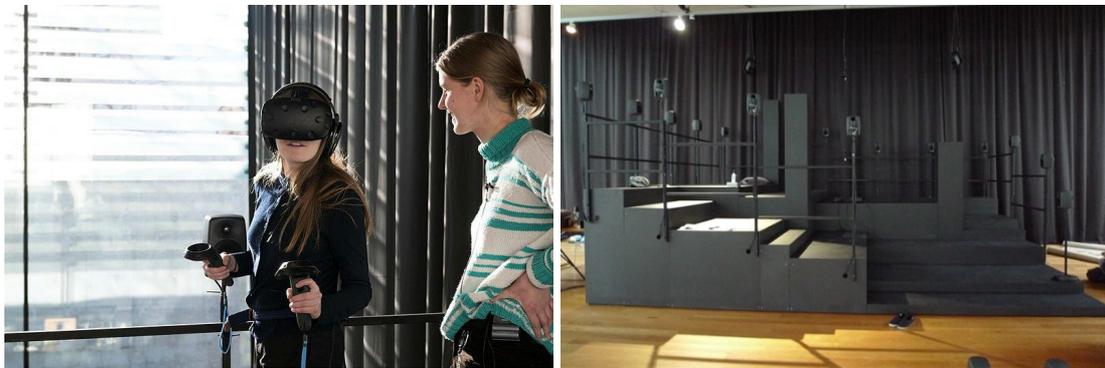
Background

Virtual reality may be viewed as a socio-material infrastructure that facilitates ‘future objects,’ providing experimental settings for political work by creating “a future that is yet unthinkable or that exists only as potential” (Esguerra, 2019, p. 6). Architects and urban planners, for example, use virtual and augmented reality to simulate *in situ* future impacts of climate change in an urban landscape (Liestøl, Morrison, & Stenarson, 2014), to model environmentally friendly neighborhoods (Esguerra, 2019), and to make new connections between body, nature and architecture (Pierroux, Steier, & Sauge, 2019). Also, *virtual immersive environments* provide opportunities to ‘feel the future’ by drawing on architectural expertise and representations that persuade through affect, aesthetics and sensory engagement.

In this symposium, we present a co-design research project involving multiple stakeholders with expertise and knowledge in architecture, soundscapes and acoustics, virtual reality, exhibition design, and the learning sciences, and we consider how such design collaborations may be lifted into Anticipation Studies (Miller, Poli, & Rossel, 2018). The co-design process culminated in an architecture museum installation titled *The Forest in the House*. The installation combined virtual and physical elements with a soundscape to inspire museum visitors to ‘feel’ and ‘hear’ how spaces formed in nature may be similarly experienced in architecture. Soundscapes first emerged as a concept for understanding man-made and natural landscapes in a holistic manner (Schafer, 1977), and is broadly used in studies of noise pollution (Licitra, Cobianchi, & Brusci, 2010).

Methods

The installation was experienced by visitors in pairs or alone (Figure 1a, b), and museum facilitators were on hand to assist with donning equipment (headset, earphones and sensors on hands, waist, and feet). Visitor data was collected over a 3-week period, using semi-structured interviews, questionnaires, observations, and video recordings. 287 responses to questionnaires were collected, and 82 visitors also consented to exit interviews regarding the soundscape experience. In addition, 19 pairs of visitors of different ages, gender, and architectural expertise were recruited to visit the exhibition while their interactions were video recorded and to participate in pre-post interviews. Visitors' movements and embodied sensory experiences of fundamental architectural qualities were studied, with a particular focus on 'co-presence.' The symposium presentation will be based on findings from analyses of the data corpus.



Figures 1a, b. Equipment and installation for 'Forest in the House' exhibition experiment

Thematic Lens

In keeping with the interdisciplinary organization of the project, findings from three distinct but nested thematic lens will be presented and discussed.

Digital media in architecture exhibitions

Birgitte Sauge, National Museum

Thomas Liu, Atelier Oslo

VR technology is used in architectural practice during design processes to communicate within the design team and with clients. In this project, the use of VR technology in *museum practice* was foregrounded, inviting visitors to the unique physical experience of a born digital building and its site (Lynn, 2013). This lens focuses on the aesthetic, persuasive and practical aspects of the installation design, and on the collaboration between architects and museum curators to provide new understandings and time-space experiences of architecture/nature in an exhibition setting.

Multisensory designs for virtual architectural space

Ole Petter Larsen, Atelier Oslo

Jøran Rudi, Notam

This lens focuses on designing architecture experiences in virtual environments with sound, sensors, representations and tangible objects. To enhance a sense of immersion, two distinct soundscapes were created for the architectural space and its natural biotope, respectively. Structured investigations of modeling techniques and methods for delivering sound and images yielded useful knowledge about both technological execution and aesthetics in the design of complexity in sound and representational material. Drawing on psychoacoustics, the study also allowed us to learn more about what people pay attention to and do not pay attention to in a virtual soundscape environment.

Embodiment and meaning making

Rolf Steier, University of Oslo

Anne Qvale, National Museum

This lens brings ideas of anticipatory learning into focus, and explores visitors embodied experiences in blended virtual/physical architectural environments. By analyzing video of visitors' movements, conversations, and social interactions in the installation, we identified processes through which visitors feel, interpret, and communicate complex architectural experiences that transcend the virtual and the real. We also discuss how pairs of visitors constructed co-presence while having different experiences inside and outside of virtual reality.

Lifting design into Anticipation Studies

Investigating and analyzing visitors' interactions and experiences yielded information on virtual environments that are relevant for topics in Anticipation Studies. The session will conclude with a discussion facilitated by the organizer, focusing on the role of future objects and on working with multiple stakeholders in research-practice partnerships.

References

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