

Frictional Realities in Mixed-Reality Performances

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ABSTRACT

Mixed-Reality Performances that employ immersive technology, do not need to rely on its presumed immersive nature to make the performance an engaging or coherent experience. Immersion in such performances emerges from the audience's transition towards a more active role in the performance and by creating different realities through *frictions*.

Keywords

Mixed Reality Performance; Immersive Video; Immersion; Virtual Reality; VR; Interactive Performance.

CCS

• Human-centered computing~Virtual reality • Human-centered computing~HCI theory, concepts and models • Applied computing~Performing arts

CONCEPTS

FRictional REALITIES

Framing it within digital storytelling, Bryan Alexander defines friction as the inherent struggle in a plot in a story [1]. Repurposing the notion of friction to be applicable for Mixed-Reality Performance's is relevant as it provides a key terminology to talk about immersion as emerging from audience's engagement with the whole performance and not merely with the VR. We have studied *Strange Days*, as an example of a Mixed-Reality Performance that uses 360-degree video and HMDs to virtually recreate the experience of past events, allowing audience members to visually experience them from the performers' point of view. The relevance of the contribution in this paper lays at the intersection of MRP and VR, and in the growing discourse on 360-degree storytelling. We also contribute to the design of interactions with VR technologies that try to merge the virtual world with physical one (i.e., commercial systems such as Microsoft HoloLens and Facebook Social VR).

The empirical material was collected during four runs of the.

The purpose of our study was to explore the audience members' subjective experience of participating in the performance. More than 300 people with different professional or amateur interest in performing arts, technology, design, or VR were invited, and heterogeneous group of 15 participants volunteered to take part in the performance. The empirical material was collected during four runs of the performance that took place on the same day. A total of four hours of observations was conducted and it focused on aspects of audience members' interactions with each other, and with the performing artists. All the participants were interviewed individually through semi-structured interviews. Each interview lasted between 15-20 minutes and all recorded and transcribed. The



Figure 1. Embodied dialogue between performer and audience by grasping (left) and turning head

three frictions introduced here, are representative and inclusive of the whole corpus of data. The detailed description of this study can be found in [2].

Temporal Friction

Temporal friction is an invitation to the audience members to move towards a more active role in the performance and to directly participate with their own stories.

Friction between Realities

This friction relates to the tension stemming from the audience projection into the fictional reality of the performance, both when memories and songs are shared, and when performer's memory is replayed in the 360-degree video.

Friction between the Physical and Virtual Presence

This friction is the one between the audience's physical and virtual presence in the performance. The audience experience of the performance was strongly influenced by their sense of presence in the physical room and in the virtual space reproduced by the 360-degree video. When the performer holds the hand of each audience member (Figure 1.) connects the audience's virtual presence in the immersive video to the physical world they inhabit.

REFERENCES

1. Bryan Alexander. 2011. *The New Digital Storytelling: Creating Narratives with New Media*. Praeger, Santa Barbara, Calif.
2. Asreen Rostami, Chiara Rossitto, and Annika Waern. Frictional Realities: Enabling Immersion in Mixed-Reality Performances. In *Proceedings of the 2017 ACM International Conference on Interactive Experiences for TV and Online Video (TVX '18)*. <https://doi.org/10.1145/3210825.3210827>