Interactive Mixed Reality Narrative in the eXperience Induction Machine

M. Inderbitzin[1], W. A. Mansilla[1], S. Wierenga[1], A. Valjamae[1], A. Giovannucci[1] , A. Muria[1], U. Bernardet[1], Paul F. M. J. Verschure[1,2]

[1]SPECS, IUA, Technology Department, Universitat Pompeu Fabra, Tànger 135, E-08018, Barcelona, Spain
[2]ICREA Instituciò Catalana de Recerca i Estudis Avançats, Passeig Lluis Companys 23, E-08010 Barcelona, Spain (paul.verschure@iua.upf.es)

Abstract

We investigate the concept of mixed reality interactive narrative by constructing a mixed reality space called the eXperience Induction Machine (XIM). XIM is implemented and represented as a physical interface to a Persistent Virtual Community (PVC). The goal of this study is to create a self-explanatory demonstration in which an avatar explains the key structures and functions of the space using all modalities of this physical and virtual space**.**
The avatar uses speech and gesture to introduce the variety of technologies, like a tactile floor, an overhead tracking camera, the light fingers, the graphical 3D world, the microphones and a surround sound system. The user is invited to interact with the avatar and influence thereby the development of the narrative. In a intuitive way we show how the boarders between the physical and virtual aspects of the eXperience Induction Machine can be crossed, while switching between a graphical and a physical representation of the avatar. The user gains an understanding of how PVC is implemented in XIM and how it can be used as an interface to delineate the boundaries between the physical and virtual world. In this way the demonstration fosters the interaction between visitors physically in the space, remote visitors and synthetic entities in the PVC.
Here we present the key technological, conceptual and narrative structures we deploy in the XIM auto-demo and describe experimental approaches to assess the impact. We show how multiple technologies such as large-scale neuronal models and non-linear concepts can be used to create an interactive narrative. Next to the exploration into the construction of interactive narrative structures, XIM and the PVC serve as a platform to test Neuronal Models such as DAC in the real world.
We will present an initial empirical validation of this approach using observational and self-report data.

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