

From Avatars to Humans: A Hybrid World Theory and Human Computer Interaction Experimentations with Virtual Reality Technologies

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Abstract : Employing a communication studies perspective and a socio-technological approach, this paper introduces a theoretical framework for understanding the concept of hybrid world; the avatarization phenomena; and the communicational archetype of co-hybridization. This analysis intends to make a contribution to future design of virtual reality experimental applications. Ultimately, this paper presents an ongoing research project that proposes the study of human-avatar interactions in digital educational environments, as well as an innovative reflection on inner digital communication. The aforementioned project presents the analysis of human-avatar interactions, through the development of an interactive experience in virtual reality. The goal is to generate an innovative communicational dimension that could reinforce the hypotheses presented throughout this paper. Being thought for its initial application in educational environments, the analysis and results of this research are dependent and have been prepared in regard of a meticulous planning of: the conception of a 3D digital platform; the interactive game objects; the AI or computer avatars; the human representation as hybrid avatars; and lastly, the potential of immersion, ergonomics and control diversity that can provide the virtual reality system and the game engine that were chosen. The project is divided in two main axes: The first part is the structural one, as it is mandatory for the construction of an original prototype. The 3D model is inspired by the physical space that belongs to an academic institution. The incorporation of smart objects, avatars, game mechanics, game objects, and a dialogue system will be part of the prototype. These elements have all the objective of gamifying the educational environment. To generate a continuous participation and a large amount of interactions, the digital world will be navigable both, in a conventional device and in a virtual reality system. This decision is made, practically, to facilitate the communication between students and teachers; and strategically, because it will help to a faster population of the digital environment. The second part is concentrated to content production and further data analysis. The challenge is to offer a scenario's diversity that compels users to interact and to question their digital embodiment. The multipath narrative content that is being applied is focused on the subjects covered in this paper. Furthermore, the experience with virtual reality devices proposes users to experiment in a mixture of a seemingly infinite digital world and a small physical area of movement. This combination will lead the narrative content and it will be crucial in order to restrict user's interactions. The main point is to stimulate and to grow in the user the need of his hybrid avatar's help. By building an inner communication between user's physicality and user's digital extension, the interactions will serve as a self-guide through the gameworld. This is the first attempt to make explicit the avatarization phenomena and to further analyze the communicational archetype of co-hybridization. The challenge of the upcoming years will be to take advantage from these forms of generalized avatarization, in order to create awareness and establish innovative forms of hybridization.

Keywords : avatar, hybrid worlds, socio-technology, virtual reality

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