

Asymmetric Virtual Environments: Influencing Performance Through Avatar Colors

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Abstract

As our means of communication evolve and expand to include computer-mediated interaction, an understanding of how the unique elements and affordances of virtual environments (VEs) affect social behavior becomes increasingly valuable. This knowledge can be used to purposely change virtual social interaction according to desirable goals. Much work in the literature has focused on how VEs can be constructed or dynamically adapted in order to promote aesthetic or educational experiences that are desirable to designers. However, what is known to be a significant influencing factor on people's engagement and participation in virtual environments is the social experience, yet little has been done to explore the different ways to leverage this knowledge.

While in the great majority of virtual environments the representation of the "world" that is available to every interactant is congruent, this does not have to always be the case. It is this affordance for asymmetry what we are studying. We are calling VEs that take advantage of this affordance Asymmetric Virtual Environments (AVEs). There is already asymmetry in the way we access virtual environments. In the case of online games, people play together using computers with different configurations and capacities. While these differences in how people access VEs can affect how they behave online, we propose that a more meaningful and directed effect can be achieved by customizing the content experienced during the interaction for each participant. In this work we present preliminary results on how avatar colors can be presented differently to different players to affect performance in VEs.