

Chapter 8

Art and the Avatar in Virtual and Mixed-Reality Exhibition Space

Lisa Dethridge
RMIT University, Australia

ABSTRACT

This chapter discusses “real” and virtual objects in 3D virtual worlds. Our focus is on the case study “Dark Luminance,” an exhibition of virtual artworks inside the 3D graphic, multi-user, virtual environment of Second life. “Real” models of the virtual artworks were also installed in multiple art galleries in New York City and Melbourne in 2008-2009.

We begin by defining Second life in general terms. Using the taxonomy of Milgram and Kishino this paper makes a specific case study of the Dark Luminance art exhibition as a mixed-reality environment.

We observe how gallery visitors and the viewer-as-avatar may experience artwork that includes both real and virtual elements. The use of a mixed-reality environment takes the exhibition beyond its traditional function of passive “display” into a zone where the observer is an active participant, even a co-creator of the work. We observe how the virtual art may “augment” reality while the real art objects may demonstrate Milgram and Kishino’s theory of “augmented virtuality.”

INTRODUCTION

“Dark Luminance” is a complex media system. It consists of multiple exhibition or gallery spaces, both real and virtual, situated across cities, across the globe and across the internet. The project team

at RMIT University School of Media and Communication consisted of Dr. Lisa Dethridge and PhD. candidates, John Derrick and James Hullick with assistance from Daniel Mounsey, also known as his Second life avatar, Pyewacket Kazyanenko.

The team curated a show of paintings, prints and sculpture in galleries across New York City

DOI: 10.4018/978-1-60960-762-3.ch008

and Melbourne. We also constructed several iterations of a virtual gallery on the RMIT island in Second life. Let's examine the nature of the real and virtual objects in this complex exhibition.

Our focus here is on the variety of perspectives allowed by a mixed reality environment that combines "live" and virtual experience. In 1994, Paul Milgram and Fumio Kishino developed a taxonomy of display systems which focus on the distinctions between virtual, augmented and mixed-reality displays. Milgram and Kishino point out that "real objects...have an actual objective existence. Virtual objects ...exist in essence or effect, but not formally or actually." (Milgram and Kishino, 1994, p.8)

The criteria provided by these theorists allow media analysts to make careful distinctions about the way information is put on display and to discern the various illusions that are created around user presence. We will discuss the Dark Luminance exhibition as a mixed-reality virtual media system using this framework.

Milgram and Kishino are central to this study as they focus on various criteria useful for researching, assessing and constructing mixed-reality displays. The authors suggest their work is a starting point for discussion. They are aware of a gap in their theory concerning the experiential and immersive categories of virtual environments. "Whereas technologically mediated experience is indeed an important component of our taxonomy, we are not focusing on...how to classify different varieties of such interactions." (Milgram and Kishino, 1994, p. 7)

This research may help fill the gap in Milgram and Kishino's theory by helping us understand the experiential nature of interactive artwork in mixed-reality environments. It may be of relevance to a variety of designers and creators in virtual worlds. Virtual 3D environments like Second life are becoming as instrumental to twenty-first century art and culture as film and television were to those of the twentieth century. According to media theorists, we may see persistent virtual worlds like

Second life as the leisure and work places of the future. (Manovich 2001; Bolter and Grusin 2000; Everett and Caldwell 2003.)

THE VIRTUAL WORLD

In the Dark Luminance case study, I'll examine how designers create a virtual world art gallery by combining objects and activity that reflect real qualities inside a virtual space. So how are we to understand and define virtual worlds? We may define virtual reality as that which is not real but which may display qualities of the real. (Milgram and Kishino, 1994; Sherman and Craig, 2003)

Let's examine the nature of the media images and texts that are used to structure virtual 3D worlds. Firstly we need to comprehend the technical dimensions of a virtual world like Second life.

Second life is an interactive, 3D graphic application, one of the latest generation of "virtual environments" available globally to internet users. Such complex multi-layered information platforms accommodate applications across a number of media including text, photography, movies, animations and chat.

We call such worlds "persistent" as they exist on the web in real-time and are not "switched on" or off like movies or TV but continue online as communication platforms, accessible twenty-four hours a day. (Rymaszewski, 2007)

Second life provides a clear example of what Milgram and Kishino class as the conventionally held view of a Virtual reality (VR) environment. According to their theory, a virtual reality environment "is one in which the participant-observer is totally immersed in, and able to interact with, a completely synthetic world. Such a world may mimic the properties of some real-world environments, either existing or fictional; however, it can also exceed the bounds of physical reality by creating a world in which the physical laws ordinarily governing space, time, mechanics, material properties...no longer hold." (Milgram

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