Chapter 2.13
Object Design in Virtual Immersive Environments

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ABSTRACT

The ubiquity of digital technology and the pervasiveness of the Web have led to a paradigm shift in life and work. Never before have so many tools for communication, contribution, and collaboration been so globally interconnected. The Object Design program at Towson University engages the network effect of emergent technologies developing pedagogy to keep pace with global developments. Students learn 21st century skills as they engage virtual immersive environments as a digital design tool, for iterative prototyping, as a virtual presence augmenting traditional studio practice, to engage new economic platforms, and as a virtual learning environment for global dialogue and collaboration. Steady growth in virtual immersive environments support a burgeoning virtual goods market and further exploration for learning, training, and innovation across social sectors: enterprise, education, and government in the evolution of society.

INTRODUCTION

The objectives for this chapter are to illustrate the investigation into the emergent field of virtual immersive environments (VIEs) and 3D learning environments (3DLEs) within the Interdisciplinary Object Design (IOD) program at Towson University. The two terms, VIEs and 3DLEs are used interchangeably here, are distinct from

MMORPGs, and emphasize an educational intention rather than a gaming intention. The VIE used by Towson University is Second Life, (SL) so all references to our work in VIEs is accurate for SL but may not hold true for other VIEs.

From the outset, there are several unique factors of SL that make it a compelling technology for investigation: it is a highly engaging simulated 3-dimensional environment, it is accessible worldwide, it relies on user-generated content and is dependent on an open culture, and it is free. The

IOD program uses SL as a digital design tool, to augment our tangible, real world studio practice with a virtual presence in a virtual world, and as a collaborative workspace. The IOD program is infused with an entrepreneurial spirit and continually explores and adapts new technologies, tools, methodologies, and pedagogies keeping pace with global developments. The majority of courses engage a hybrid methodology of blended learning formats and traditional design studio instructional formats, as well as emergent formats such as just-in-time teaching and peer-to-peer learning.

Future Directions explores object design within VIEs as a component to the sustainable design movement and examines the growing interest by venture capital firms in the rapidly rising virtual goods market. Additionally, Future Directions examines the ways in which VIEs are poised to change learning in the 21st century and ways they can be further utilized to develop business models and marketing strategies for creative entrepreneurship by preparing leaders of the future workforce.

BACKGROUND

The Pervasiveness of Digital Technology

Digital technology has changed our lives and how we work: it is accessible, pervasive, easy to use, and lowers barriers. Digital design technology has also significantly become more accessible and easy to use and has contributed to the dissolution of discipline specific boundaries traditionally drawn along material and dimensional lines and erode individual-centric making. We are in a new era with new tools and new ways of working. There has been a paradigm shift. For most of us, we have been holding the tiger by the tail. First we began to use the web as a primary information source albeit in a static read-only form. Moving to a decentralized dynamic flat web where users generated content through peer production meth-

ods, with information flowing in all directions, we began participating in email listservs, blogs, Flickr, and Facebook, contributing information and looking for the most current information in these places. We started aggregating information socially through wikis and sites like Del.ici.ous and networking socially online through Facebook, LinkedIn, Ning, and Twitter; and all the while discovering new ways of working, knowing, collaborating, and co-creating, through an ever increasing variety of Web 2.0 tools. These tools come together exponentially with the emergent and dynamic immersive web. Through VIEs we have highly engaging, cost-effective, post-geographic, collaborative ways of working that afford synchronous and asynchronous learning opportunities. The ubiquity of digital technology have ushered in an era in which social production is king and collaboration is key.

The Immersive Environment

VIEs are fully engaging *because* they simulate 3-dimensional space and host hundreds of users simultaneously who engage non-static objects, activities and multiple channel conversations. Time flies by as users are engrossed. SL mimics the real world as users sense the person behind the avatar and shared experiences form emotional social bonds (Figure 1). People are fascinated by this aspect of VIEs. "The paradox of a virtual world is that it adds human interaction to the online experience (Clendaniel, 2007, 79). Virtual world expert Edward Castronova said recently, "People still act like people even when they are wearing a bunny suit" (2010). Although SL is still graphically simple, users find themselves engaged and grasp the essence of the VIE and the potential it offers. Educational institutions, private enterprise and government agencies are exploring VIEs for this potential. The scalable, 360 degree 3-dimensional environment is applicable to myriad scenarios. SL's accessibility to a global audience is an especially appealing

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