Chapter 2

3D3C Identity: Towards a Systematic Framework

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ABSTRACT

This chapter presents the concept of “3D3C Identity” as a linchpin to harnessing the value of virtual worlds. It is assumed that virtual worlds as a new communication medium is destined to influence our lives as much as the Internet medium, and even more. To start, virtual worlds are defined as the integration of four factors: a 3D world, Community, Creation and Commerce (aka 3D3C). 3D3C Identity is defined as the unifying concept encompassing terms like privacy, authentication, trust, rights, tracking, security, and other associated terms. Specific sample challenges related to 3D3C Identity are presented: Security of Audience, Anonymity, Virtual Goods, Scams, Adult Content, Enterprise Take, and Virtual Money. The conclusion section lists some of the critique on 3D3C Identity. It also covers the impact of 3D3C Identity under the perspectives of future designers of virtual worlds, present implementers, and infrastructure developers. Lastly some tentative insights about the properties of a systematic framework for 3D3C Identity are presented.

You have to be able to risk your identity for a bigger future than the present you are living. -- Fernando Flores (Brainyquote, 2009).

INTRODUCTION

A Call for 3D3C Identity

Virtual worlds are an emerging medium that is constantly creeping into our lives. Following the success of such gaming worlds as World of Warcraft, The Sims and others, terms like 3D, avatars, chat and real money are rising. For individuals, new forms of interactive entertainment, mostly social, are also pushing virtual worlds. For the enterprise, the drive to save travel costs and the need to gain new customers and retain current ones push this trend even further (Murugensan, 2008).

The promise of Identity is simpler: better, safer, adaptable, and cheaper services for customers and users, as well as for suppliers and manufacturers. I
3D3C Identity

I want to share my own excitement over the societal value of well-governed identity.

I maintain that Real Virtual Worlds will, eventually, offer a paradigm shift. What we see now with Second Life, World of Warcraft, Club Penguin and more then 100 other worlds, is just the beginning. In comparison to the Internet age, we are at the “Gopher” stage (Gopher was a pre-browser method to view hyperlinked data).

This budding arena of Real Virtual Worlds has its roots in two fields: Virtual Reality (Burda & Coiffet, 2003) including Augmented Reality (Bimber & Raskar, 2005) and Gaming worlds (Bartle, 2004; Alexander, 2003; Alexander, 2005; Taylor, 2006). Other related fields, also affecting virtual worlds, range from economy (for example, of virtual goods), sociology (nature of communities) and law (copyrights and ownership), to biology (new brain based human-computer interfaces), computer science (performance, reliability and scalability) and mathematics (algorithms for 3D rendering and animation).

I use the adjective “real” to distinguish between virtual worlds and gaming worlds. “Real” implies a potential reaching further than imagined today. While today’s virtual worlds are clearly used mostly for fun and games – Real Virtual Worlds have the capacity to alter our lives. (Note: for the sake of brevity, I will use Virtual Worlds or simply Worlds).

In the following section, I will briefly present 3D3C virtual worlds as a necessarily needed background. Then, using concrete examples, I shall share some of the challenges that call for a systemic approach to 3D3C Identity. My goal is to expose and highlight some of the challenges for 3D3C Identity and, hopefully to drive people to action. I do not claim to present a complete or even a balanced approach to 3D3C Identity. However, I do claim – emphatically – that we need to think about identity and build it into the next set of virtual worlds standards. Future virtual worlds, when they arrive, and current real worlds that are based on current Internet and IT technologies, will benefit from such a systemic approach to identity.

A Formal Definition of 3D3C Virtual Worlds

I define Real Virtual Worlds as an aggregate of four factors: (Sivan, 2008a)

1. **A 3D World:** A three dimensional representation, that is viewable from various perspectives, it is active, and reactive. In a virtual world, users see objects like avatars, houses, and cars. The world has land, a sky, a sun (maybe more than one), wind, gravity, water, and fire. Avatars move around freely, and the user can examine the world from different points of view. Further, the world is active (moving objects), and reactive (objects can act in a similar way to the physical world).

2. **Community:** Set of tools that facilitate communities to operate (including groups, sub groups, permissions, leadership, friends, etc). Virtual worlds allow users (via their avatars) to meet, chat, shop, watch performances, hang out with friends, team up to fight bad guys, go clubbing... in other words, to interact in countless ways. Within “community,” I include related concepts such as groups, permissions, rights, and roles.

3. **Creation:** Set of tools that allow users to create in-world, or by importing content. Creation includes actions such as arranging, creating, re-purposing, and performing. Creation refers to both objects and services. Second Life’s (SL – a leading virtual world) greatest technological achievement was giving users the capability to develop their own objects in world interactively. Users can simply move preconstructed objects from one place to another (say, to furnish a home or set up a nightclub), or they may assemble an object (e.g., a house)