

THE SOCIAL DESIGN OF VIRTUAL WORLDS: CONSTRUCTING THE USER AND COMMUNITY THROUGH CODE

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Introduction

In 1996, I found myself at a unique conference that dealt specifically with graphical virtual worlds and avatars. The Contact Consortium sponsored *Earth To Avatars*, a weekend long event in San Francisco dedicated to bringing together programmers, designers, and a handful of social scientists to seriously consider the future of multiuser online spaces. It was a fairly hopeful time for virtual worlds companies. Money was being filtered to a decent number of developers and talk of inhabiting a “metaverse” à la Neal Stephenson’s *SnowCrash* predominated. I was particularly drawn to the conference track dealing with the design of these worlds where there was a strong ambition to come up with a kind of “universal standard” of avatar design (Ma, 1996). The vision of massively linked worlds in which people could wander across environments, taking along their customized avatars, promoted much debate and discussion. I remember sitting in one session and hearing someone propose the construction of a system in which you might hit a ball with a bat in one world and be able to see it fly across the sky in another. As I listened to programmers and designers talk about and debate how to build such persistent worlds, I began to notice that quite often the conversations were not simply about technical details but about how life in these worlds might be like—what it might mean to live an avatar life. A general question underlay many of the discussions: what kinds of activities were participants expected to engage in and how could avatars be designed to accommodate them? The number of times I heard science fiction writers such as Gibson, Stephenson, and Vinge evoked also caused me pause. These works were not technical manuals or specifications, but imagined futures, for community and bodies.

Digital Materiality

What is the material that makes up our online body? Over the years when I have described the subject of my research, I am often met with quizzical looks. “A body online? What do you mean?” I think this stems, at least in part, from being unclear about the materiality digital space can assume. Our offline bodies are made up of *something*. They have a certain solidity to them, something we can see *is actually there*. But online? Is there anything tangible? And if so, what is it made up of? The digital is often spoken of as simply invisible bits, “ones and zeros,” or as arcane code that only the most technologically savvy can understand. What does it mean then when someone wants to talk about the structure of online life? The all-too-simple framework—one that equates “offline” with embodied experience and “online” with disembodied minds floating in cyberspace—needs to give way to a more complicated understanding and exploration of the actual *material* of our online lives, a significant part of which is made up of software and code.

In the case of virtual environments, the artifacts used for embodiment (be it avatars or text-based forms) exist as code, created by a programmer and/or designer with a particular range of functionality and affordances. This software object then acts as the material upon which an experience of embodiment is built. Woolgar (1991) has spoken of ways technical objects attempt to “configure users” and this is particularly pronounced in virtual worlds where the underlying structure of the system shapes participants bodies and identities in the space. Taking a closer look at software and its producers is thus crucial. Rather than seeing architectures or “toolboxes” as separate from content, we might begin to ask how virtual world designers are always actively engaged in the production of substantive possibilities. As Lessig (2000) has suggested, architecture reflects politics. Although it is important to keep in mind that users are always actively engaged in remaking and resisting structures for their own purposes, I would like to propose a critical intervention that suggests we take seriously the ways system architectures can act as a powerful shaping force for how life gets lived online (see also Taylor, 2003a). At stake in this recognition is the ability to interrogate the assumptions and possibilities we encounter in multiuser environments, as well as the search to find ways to engage producers in dialogue that lends to more progressive design.

Early Virtual World Development

Much of the study devoted to virtual worlds has thus far focused on text-based MUDs (Kendall, 1996; Nakamura, 1995; Reid, 1996; Schaap, 2002; Turkle, 1995). A good portion of this work explored how identity and community were being constructed in these spaces, and some researchers have highlighted how underlying structures were shaping these performances (Danet, 1998; Dibbell, 1998; Kolko, 2000; Sunden, 2002). While MUDs often left the construction of the body, with the use of @describe commands, up to the participants, it is worth remembering

that (especially in the case of MOOs) important programming was devoted to the creation of player classes to facilitate user engagement with the space. Player classes act as a kind of body template by helping the user construct their description and gender, as well as providing the underlying structure to inhabit the world. For example, whereas users might create for themselves a description of a vampire, a system could not only structurally legitimate such an identity but facilitate it through the function of a specific player-class, as in the following example:

This is the Vampires of Venice player class (VoV), offering these powers:

- Guises; four (4) changes of clothing
- Bodies; two (2) forms, unclothed & "secret"
- Transformation; mortal initially, become a vampire at your choosing
- Blood-Drinking; drink & taste the blood of other VoV members
- Sensing; list other vampires, see if another player is a vampire
- Morphing; alternative names & descriptions
- Look Detection; notification when others look at you
- Look Discretion; guise & body are unseen from a distance
- Answering Machine; pages are recorded while you are off-line
- Friends; a personal list to maintain and use
- Resources; mailing list, communications channel, and myriad generics
- And more to come...

You are invited to join the VoV, the Children of the Night specializing in dark, gothic mood and the seductive spell of vampirism. VoV is a revenant group, with no ranks or clans, valuing rich and imaginative roleplaying.

This player class provides a kind of underlying structure for the user to tap into to assist their identity performance. Multiplicity of identity is, in fact, legitimized through the ability to have multiple bodies and guises. In addition, built into the very body of the character are mechanisms for community via the chat channels, friends lists, and "sensing" mechanisms. The programmer who created this class was clearly invested in providing a particular method of embodiment for its users and explicitly fostered *specific* social interactions and engagements through it.

In another MUD, the creation of a pregnancy player class led to some provocative community debate around digital embodiment (Herdman, undated). A male programmer who had recently had a child offline thought adding the ability to the MUD would provide players a valuable opportunity to explore parenting. In the process of determining which particular functions were key to the experience (i.e., randomized genders for babies "born," having to visit the maternity ward to deliver), larger questions around how this player class should be used arose. For example, the question of whether or not male gendered characters could become

pregnant and how exactly one would become pregnant were debated. Questions about single parenting and artificial insemination were raised. Each of these issues fed into how the software would operate and the resulting form of embodiment the player class would allow. Ultimately a fertility clinic was made, male characters were not allowed to have babies unless they changed their gender, and pregnancies could not be terminated through any official “abortion” mechanism but only through an unpublicized loophole in the system. The structure of the system came to reflect not only a technical opportunity (choosing a new player class) but specific values and ideas about what constituted a legitimate performance of pregnancy and parental identity. Architectures for player classes and verbs often bring with them deep value orientations about what kinds of activities and interactions are considered useful, meaningful, and legitimate. As McDonough has additionally noted, this “image of the user” is not simply a question of what designers may want participants to do in their world, but of who they think their users are *offline* (McDonough, 1999; Woolgar, 1991).

While designer intent in text-based worlds is often easier to “see” and analyze because a series of commands can reveal the underlying mechanisms, graphical worlds represent no less of an explicit attempt to guide and shape the nature of online life. The intentionality that many of the graphical designers I interviewed brought to their world construction process is striking. One of the most provocative examples I encountered of the complicated ways designers embed broader values into systems was how they consciously built in social regulation through avatars. For example, one of the most vexing issues virtual world administrators face is how to deal with people who actively disrupt the environment. Issues of accountability and responsibility are especially tricky concerns online where, at a basic level, “real-world” identities may be masked and consequences difficult to enforce. One well-established world sought to manage issues of personal responsibility and social regulation by, in part, rooting all participants in a traditional binary gender system as well as charging users (via “virtual currency”) for every iteration of body change they undertook. As one of the designers put it,

There is a lot of “gender” wrapped up in identification of others in our society. Since the idea was that others needed to be able to identify an individual to assign a reputation to that person, gender was an easily remembered identifier and we figured that putting a limit on it would assist reputation-as-social-restraint.

What may at first glance seem like simply an administrative decision about which avatars participants can choose, and if they can change them easily, is actually deeply linked to the way the designers wanted to foster user responsibility and accountability in the space and how they understood identity, and specifically gender, choices as linked to that scheme.

Technical and design decisions can thus have powerful implications on the way the world works. In another example, world designers created specific limitations on their avatars such that they were all the same height and construed as “adult.”

In addition, they were all healthy adults who could walk and who did not show age through their avatar bodies. There were no children and no elderly. When I inquired about this, I was told the homogeneity was intentional and that creating an underlying uniformity to objects was much easier on the system. The parameters of interaction with the world were thus fixed and known. For the design team this meant a greater ease in introducing new objects and factors into the environment. In this world, the rules (via the animation engine) had to apply to *all* the bodies similarly. Although there was some diversity in the size of the avatars and the customizations people could make, ultimately their bodies had to, in a fundamental way, interact similarly with the space. The explanation given was,

Doors, handles, have to all be the same height, gestures for the hands needed to reach the same height, seating needed to be done a particular way, there were a lot of standards and it was easier to, in order to get a variety of body types, it was easier to just stick with an adult body.

No children, no physically challenged, no short, no tall—all the bodies you saw in this world were similar in stature and implied age. The system enacted an embodiment norm through standardization and in turn formally structured the kinds of identities and interactions possible in this space. As can be seen in many of these examples, such normative constructions are not simply matters of virtual world design but often bear close resemblances to the offline world, even revealing something about the value systems at work in our culture. Rather than worlds that are somehow set off and “protected from RL,” what we find are ways broader cultural values come to find a place in virtual environments.

The Popularization of Virtual Worlds—Massively Multiplayer Online Games

In the historical trajectory I am laying out here, the emerging genre of massively multiplayer online games (MMOG) is the next important marker in the story. While the intentionality of design in games is certainly more obvious in the sense that goals and achievements are formally built into the space, MMOG’s also construct very specific notions of embodiment and community. Some game designers are quite up front about the ways they have built-in formal models of sociability and interaction. For example, Brad McQuaid, *EverQuest* co-designer, has said that, “Community is relationships between players, whether it be friendly or adversarial, symbiotic or competitive. It’s also a form of persistence, which is key to massively multiplayer games” (Jonric, 2002). To this end, the game supports things like buddy lists, persistent player names, guild structures, and a general reliance on grouping to get experience and to advance in the game. Social life gets fostered via the architecture of the system and the structure of play.

Broader considerations about how to induce equitable play, immersion, and community even get linked to how player accounts will be handled. One of the more fascinating (and often

heated) debates to turn up in the MMOG design community has been around the number of characters allowed per account and whether or not people should be allowed to have multiple avatars. Debates around the question of multiplicity often become an issue of fostering community and responsibility. It is sometimes argued that if people are forced into persistent identities, if they have limits on the number of characters they can have, they may identify more deeply with, and invest in, the ones they do use. As an administrative post on why the upcoming *Star Wars Galaxies* MMOG would only allow one character per server explained:

The reasons why we intend to do single-characters per account are:

- In order to encourage interdependence.
- In order to reduce the impact of “dabblers” on certain professions.
- In order to reduce storage requirements.
- In order to reduce misbehavior and improve customer service.
- In order to block certain kinds of misbehavior more easily.

It is worth mentioning that there is certainly debate not only on this method of regulating behavior, but even what constitutes “misbehavior” or improper gameplay. Nonetheless, the character creation screen, which may often seem a simple matter to the user, is actually one of the most important social and psychological design decisions developers make. It contains within it explicit imaginations about how participants not only will, but *should*, be constructing identities and inhabiting that space.

Once in the game, design decisions shape the possibilities for the environment through the choice of avatars they provide, how communication can occur, and more generally how the “world” gets modeled. As one programmer put it, “Well, we like to say we are gods. Gods of the worlds that we create.” In many instances, what gets created can be quite problematic and at odds with participants’ ideas of how they want to be in the game. *EverQuest*, for example, has been often criticized for its use of hyperstereotypical female avatars. The look of the avatars seems to have some real effect not only on how other players interact with and perceive female characters, but the degree to which women are able to identify with them (Taylor, 2003).

At a deep level the game engine, which makes the world run, also profoundly structures what can occur during play. There are some early strong indications that, much like the way core MUD architectures or animation sequences in social graphic worlds shaped avatar interaction, game engines are acting as the central organizing force determining the possibilities, and limitations, for bodies, behavior, and communication in game worlds. The programmer who likened himself to a god went on to say, “The engine determines everything. It’s like the paint,

the canvas, and the brushes.” Engines, of course, are built by programmers (often in conjunction with designers) who have broad visions about how objects in a space should interact, what kinds of physics will be modeled, even how light and shadow will be incorporated. Although we have little data thus far on the practical social and psychological effects game engines produce, they certainly have the power to structure, at a deep level, how one can move, interact, create, and communicate in that space. Past lessons would suggest that keen attention should be paid to the possibilities and limitations embedded in this code. Given that more developers are relying on a handful of proprietary engines on which to build their games, the issue of the consolidation of normative architectures will be one of the more important we face as MMOGs develop. In a moment when commercialized virtual world ventures predominate, whose visions of how bodies, identities, and communities should be stands as a central critical concern.

Conclusion

While much has been written on how Internet users are creating rich communities, the story of virtual worlds must contain some accounting for those who actually implement their vision of an imagined lifeworld via the software that makes the environment work. Though simply painting the question of how people inhabit these worlds as an issue of technological determinism is inappropriate, we cannot overlook the role software and design plays in shaping online life. As Raph Koster, a prominent game developer, has said of his work on MMOGs, “I really enjoy the fact that I have a job where I have to think about politics and economics and architecture and visual design and group psychology and reward feedback and social networks and user interface design and creative writing so on” (Stratics, 2003). Callon suggests that this is precisely what technologists are engaged in, writing, “Indeed engineers transform themselves into sociologists, moralists or political scientists at precisely those moments when they are the most caught up in technical questions” (Callon, 1991, p.136. See also Kling, 1996). Making clear the ways programmers and designers “do politics” is thus a crucial component of not only literacy in a digital age, but beginning paths into more participatory design practices.

Whereas the history of virtual worlds can be told from a perspective that looks at the move from text-based to massive graphical systems, there is a companion story around ownership and commercialization. We have progressively moved from more open/flexible systems to increasingly closed/rigid ones and this detail should in no way be underestimated. If structure is important, then who can create, modify, and extend that system is also crucial. Lessig has written about the power inherent in such abilities, writing, “As the world is now, codewriters are increasingly lawmakers. [...] Their decisions, now made in the interstices of how the Net is coded, define what the Net is” (Lessig, 1999, p.60).

Despite the growth of the open source movement in many areas of software development, virtual worlds production appears to be a space in which increased “blackboxing” is occurring.

The distance between designers and programmers from users of their systems is greater than ever. Save a handful of exceptions, it is no longer the era of the hundred-person MUD but rather a time where spaces like *EverQuest*, which has upward of 430,000 subscribers, predominate. Values are inevitable in systems and to strive for neutral architectures is both naive and misguided. It undersells the power and potential systems have to not only act as constraining structures but as progressive ones. It is only through reflexive development practice that the question of *which* values, *whose* idea of what constitutes legitimacy, and *what* range of possible bodies, identities, behaviors, and communities can be critically addressed.

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