

Reframing Online Games
*Synthetic Worlds as Media for Organizational
Communication*

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Abstract. Massively-multiplayer online games, or “synthetic worlds,” represent a rapidly-growing industry with far-reaching social, technical, and economic implications. In this position paper, we draw on literature from anthropology, sociology, and film to challenge long-standing misconceptions of “games” and “work” and of “virtuality” and “reality” as dualisms that have obscured synthetic worlds from serious consideration by IS scholars. Building on this work and recent reports of businesses, nonprofits, entrepreneurs, and educational institutions incorporating synthetic worlds into their day-to-day practices, we argue that synthetic worlds represent a legitimate arena for IS research. We begin by offering a framework for characterizing the nature and structure of the social activity occurring in the diverse array of synthetic worlds currently available. Then we illustrate our position by considering synthetic worlds from the perspective of organizational communication, a substantive area with a rich tradition in IS research. Employing a genre lens as an illustrative example, we identify phenomena and raise research questions the IS community is uniquely positioned to explore.

1 Introduction

“Synthetic worlds” [1] are graphically rich, three-dimensional, electronic environments where players assume an embodied persona and engage in socializing, competitive quests, and economic transactions with globally-distributed others. Also known in the gaming industry as “massively multi-player online games” (MMOGs), hundreds and even thousands of people play simultaneously, interacting with one another via their respective personas, called “avatars.” Game themes and complexity range from war games, such as *World of Warcraft*, with pre-designed landscapes and player identities, to relatively unscripted electronic spaces, such as *Second Life*, which provide a platform and tools to support player-to-player communication and player-created content, such as buildings, clothing, videos, and artwork. The number of “virtual worlds” doubles approximately every two years [1] making it difficult to obtain an accurate count of participants, but estimates, of more than 90 million people world-wide, are considered reasonable [2]. In addition, within the past year, dozens of for-profit and not-for-profit organizations have joined in. The most widely reported examples are of corporate (re)presentations in *Second Life*. For instance, Sun Microsystems has created a virtual pavilion where they have hosted press conferences; Reuter’s has established a virtual office with a full-time staff member; and National Public Radio show host John Hockenberry interviewed Kurt Vonnegut, both in avatar form, in front of an avatar audience.

While media and film scholars have long recognized synthetic worlds as a new class of mass media [3, 4], many business scholars have been dismissive of online games as irrelevant to both real life and scholarship [1, 2, 5]. One reason more information systems and communication scholars are not studying synthetic worlds is that the characterization of these social arenas as “games” and as “virtual realities” places them outside the bounds of what we traditionally consider to be legitimate arenas of inquiry, for example, “real” phenomena associated with productive “work”-like activities. However, organizational uses of these “game” environments as a medium for common business communication activities, such as press conferences, meetings, and public events, directly challenge the common notions of games and work and of virtuality and reality as mutually-exclusive social arenas, and scholars in anthropology [5], film [3] and game studies [6] have already shown that the game-work and virtual-real dualisms [7] are better understood as dualities [8].

Addressing the game-work dichotomy, Malaby [5] highlights that in industrialized Western societies, “play” and “work” are typically cast as distinct and incommensurate modes of human activity. In contrast to work, games are typically characterized as *separable* from real life, *safe* (inconsequential for real life) and *fun*. These perspectives that have been encoded into common parlance in such expressions as, “Relax, it’s only a game!” Drawing on his own studies of gambling in Greece and other anthropologists’ work in other societies, Malaby shows that these characterizations of games do not hold empirically. Game participation often plays an integral role in other aspects of social life, affecting identity, reputation, and social connections, in addition to any financial stakes that may be at play [6].

Scholars studying synthetic worlds also challenge the game-work dichotomy. Pearce [9] points out that player-generated content in virtual environments like *Second Life* is reflective of productive, value-generating activity, even though it is not performed for wages. Yee's [10] study goes a step further by showing how games can become indistinguishable from work. In one game, *Star Wars Galaxies*, players choose among "careers" including pharmaceutical manufacturing, bioengineering, and cooking. They then spend, on average, 22 hours per week performing activities, such as supply chain management, that parallel those of real-world professionals. Some players even experience burnout.

Similar to the habitual contrasting of games and work that has been encoded into our language and thinking, "much of the social commentary around virtual worlds implicitly reinscribes a split" [7] between "virtuality," which is associated with information, the mind, and fantasy, and "reality," which is associated with materiality and the body. Under closer examination, however, this split also implodes. In Taylor's [11] study of the creation and use of avatars in *DreamScape*, for instance, many *DreamScape* players said their avatar became a (re)presentation of their 'real' self. Indeed, some noted that their avatar was a truer reflection of their self [11]. Furthermore, some *DreamScape* players explained that their ability to see themselves (albeit in avatar form) as others do facilitated reflection on and exploration of their real-world personas.

We build on these authors' conceptualizations of game-work and virtuality-reality as dualities, or mutually constitutive experiences, to recast synthetic worlds as an emergent form of organizational communication both worthy and needful of IS research. Our aim is to bridge the mythical divide between technologies of work and technologies of play to show that information and communication technology (ICT) researchers have unique contributions to make to the design and policy discussions surrounding this new medium that is being increasingly integrated into (and consequently transforming) existing institutions.

We begin by presenting a framework for classifying synthetic worlds based on a synthesis of work by anthropologists, sociologists and film scholars. We then consider the diverse social arenas outlined in the framework from the perspective of communication, a social process that occurs in all synthetic worlds and that has been a focus of significant prior IS research. We employ genre analysis [12, 13] as a lens to illustrate how existing IS and organizational communication theory and analytic tools might be employed to generate unique research questions and insights that would not be surfaced by other disciplinary perspectives. We hope this demonstration and the questions we raise will stimulate IS research on synthetic worlds and the intended and unintended consequences of these new media on organizational work and life.

2 Synthetic Worlds

Synthetic worlds include a wide array of online games and virtual environments. In order to make sense of this new media space, we develop a classification scheme

(Figure 1) that characterizes synthetic worlds in terms of two dimensions: the game's rule structure [6] and its correspondence to reality [3]. Whereas the rules dimension sets up the distinction between "games" and "virtual worlds," the dimension dealing with the correspondence to reality sets up the distinction between "reality" and "fantasy." Combining these two dimensions orthogonally creates a space within which we identify four broad classes of synthetic worlds: simulation games, fantasy games, virtual fantasy, and virtual reality. Below, we discuss the two dimensions and then use specific examples to illustrate the four classes of synthetic worlds.

2.1 Rules: Progression to Emergence

The first dimension, represented by the horizontal axis, is the degree of structure built into the game code that the players experience as the game rules. Juul [6] differentiates between two approaches to structuring games and providing challenges to players¹: *progression* and *emergence*. The progression structure is characterized by a highly scripted, typically quest-driven, narrative. The player has to perform a predefined set of actions to progress and succeed in the game. For instance, after successfully accomplishing a particular set of tasks, such as slaying a monster and finding a clue for locating a hidden treasure, a player will automatically advance to the next "level" and face greater challenges, but the player will also be endowed with greater "powers." The objectives, rewards, and outcomes of the game are clearly defined: the player knows the goal (to win), what winning looks like, and what it means with regard to rewards. Since the game designers control the narrative of progression, this structure yields much of the game's control to the designer. The player, in contrast, submits to the designers' narrative and logic of progression through role-play.

In the emergence structure, the game is specified as a small number of rules, which when enacted, yield a large number of game variations. Juul found this structure in sports, board, and strategy games, but it also applies to virtual reality and virtual fantasy environments such as *Second Life*. Virtual worlds with emergent structure are highly dependent on the interplay between the rules of the game, the game objects, and the players' interactions. Thus, while a game built on a progression structure does not *preclude* interaction between multiple players, a synthetic world built on an emergent rule structure *requires* player interaction to co-produce the content and action of the game. In contrast to progression-structured games, the control in emergent-structured games resides primarily with the players. In such "autoludic cultures," the play environments in which players feel empowered to make the game their own [9], the rules of the game increasingly take the form of social norms [14]. Furthermore, players have the choice of role-playing or of being themselves.

¹ Even though Juul focuses exclusively on games, i.e., the left hand side of our framework, the poles he identified can be applied to synthetic worlds in general. We therefore adopt, but also expand on, Juul's conceptualization.

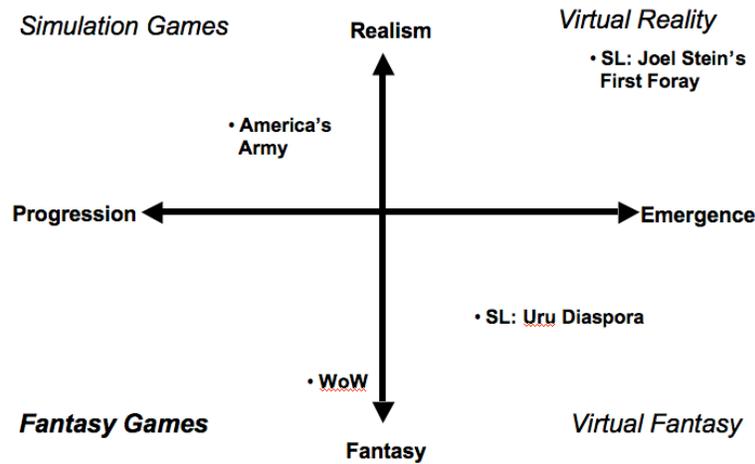


Figure 1. A Framework of Synthetic Worlds

Even though we have discussed only the opposing poles on the rules dimension, it is important to recognize that most synthetic worlds are located on the continuum between these two extremes. The multi-player nature of these gaming environments implies that the enactment of the game is a social accomplishment involving the material aspects of the game, its rules, the persistent player-constructed norms, and the actions and interactions between players [15]. Nevertheless, while the more game-like synthetic worlds are more conducive to players interested in “acting”—taking action or doing things—the more emergent worlds are more conducive to “interacting”—developing relationships with and in the synthetic world [16].

2.2 Realisticness: Realism to Fantasy

Another way of classifying synthetic worlds is based on the degree to which these worlds correspond with reality [3]. Whereas some games rely on representations and narrative structures that are obviously fantastical (*WoW*, *EverQuest*), others seek a close correspondence to reality (*America's Army*, *SOCOM*, *Madden NFL*). For instance, *SOCOM* supposedly represents life as a real Navy Seal, and *Madden NFL* is about the real National Football League.

In our framework, we call this dimension *realisticness*, which refers to the verisimilitude of the synthetic world's representation to real life. Given that games are enacted environments, and, therefore rely on players taking action, it is not enough to rate the realisticness of a game on the fidelity of its graphics and the correspondence of its landscapes and characters with real places and people. Instead, the credibility of the synthetic world's narrative structure and rules also form part of a game's realisticness. However, since believability is highly dependent on culture,

another aspect of realisticness is the degree to which the game components (landscapes, characters, and narrative) correspond with a player's particular social reality. For instance, while social realism might be achieved by an American youth playing *America's Army*, the same would not be true for a Muslim youth in the Middle East. For the latter, the game *Special Forces*, published by Hizbullah, is likely to be more realistic.

Galloway stresses that a synthetic world's realisticness is a matter of degree:

For instance, listening to music, ordering, pizza and so on in *The Sims* is most probably closer to the narrative of normal life than is storming an enemy base in *SOCOM*, despite the fact that the actual visual imagery in *SOCOM* is more realistically rendered than . . . *The Sims*. [3]

Realism, the highest degree of realisticness, is reached when the representation of the physical setting (the social context and the characters, as well as its narrative logic of the game) corresponds to the player's everyday social reality. It is only then, when "congruence" [3] between the in-world representation of life and the player's real-world experience is reached, that the synthetic world has the potential of becoming an extension of the player's world.

Fantasy, on the other hand, is a genre of storytelling that creates a make-believe world or an alternate reality that is credible to the player even though it is presented as separate and distinct from the player's material world. Thus, for fantasy to be effective, the fictional world must be a coherent, possible world that the player can imagine, cognitively inhabit and complete [6]. To create a coherent fantasy, game designers frequently draw on myths and legends for characters (trolls, fairies, wizards), settings (castles, dungeons), plot themes (quests), social structures (guilds), and artifacts (rings, gems, and magic swords).

2.3 Four Classes of Synthetic Worlds

Simulation Games are characterized by progressive rules and a high degree of correspondence with reality. Examples of games in this quadrant include *America's Army* and *SOCOM: U.S. Navy Seals*. Our example, *America's Army (AA)*, is a "first-person shooter" game that relies on realistic graphics and real-life settings such that the visual and acoustic representation of combat is fairly authentic. In fact, its creator, the U.S. Army, uses the game as a recruiting tool, holding it up as a realistic representation of American army life, though it has been criticized for omitting the gore typically associated with combat [3]. Therefore, while realistic, *AA* fails to achieve the highest degree of realism.

With regard to rules, *AA* relies on progressive rules, including the completion of missions and the need for experience points to achieve levels that allow the player to participate in multi-player combat. The game also includes "Rules of Engagement" based on rewards (for killing enemies) and punishments (for

friendly fire). Nevertheless, due to the multi-player nature of this game, some rules emerge through the play. Consequently, we locate *AA* in the middle of the game zone in Figure 1 for both realism and rule structure.

Virtual Reality worlds are characterized by emergent rules and a high degree of correspondence with reality. Examples of synthetic worlds fitting this profile are *There*, *Active Worlds*, and *Second Life (SL)*. Given the amount of media attention *SL* has received, we use it to illustrate this class of virtual worlds. Except for one park-like landscape with instructional signs and objects designed to orient newcomers, the content of *SL* is constructed entirely by its members or “residents.” Unlike simulation games, *SL* does not contain rules that set specific missions or quests for the residents. Instead, the rules regulate the *SL* economy. By granting ownership, copying, and modification rights to the individual creators of virtual objects and services (houses, clothes, and dances), Linden Labs, the creators of *SL*, has created a virtual economy that motivates residents to produce content that can be sold, rented, or licensed to other residents. Such transactions are completed in Linden Dollars, *SL*’s own currency, whose exchange rate fluctuates against the U.S. dollar. While some residents in *SL* make a ‘real’ living from their ‘virtual’ work, *SL* can be conceived of more broadly as an unstructured environment for interaction [16]. While some of this interaction is transactional, residents also spend a great deal of time engaging with other residents in social interaction and public events, for example, live musical performances. Whether one is engaged in economic or social activity, however, the rules are few, and the resulting game structure is very emergent.

To illustrate *SL*’s use as a social environment that corresponds closely to reality, we rely on *Time* reporter Joel Stein’s description of his first foray into *SL* [17]. While his description highlights the ways in which *SL* differs from real life (avatars can fly), he also focuses on the ways in which *SL* mimics real life. For instance, as a “newbie,” Stein meets Cristal Beese, a “hottie” avatar who takes him on a tour that includes dancing. In addition to the strong resemblance of Cristal’s avatar to her offline self, Stein notes many parallels between their time together and a real-life first date, including waiting for her to get ready, getting to know each other, making out, and meeting jealous boyfriends. All of these examples suggest a high degree of realism, which is why we position this example of *SL*’s use close to the realism pole of our realism dimension. Depending on a player’s use, however, *SL* can also be an example of virtual fantasy as we show in the next section.

Virtual Fantasy environments are characterized by a high degree of fantasy and emergent rules. For an example of a virtual fantasy world, we again present a specific case of *SL* use, the Uru Diaspora, described by Pearce [9]. The fantasy game *Uru: Ages Beyond Myst* had been shut down. After its closure, some of the 10,000 ‘homeless’ *Uru* players re-constructed an exact replica of major portions of the original game in *SL*. This simulation of *Uru* within *SL*, itself a simulated world, included minutely detailed aspects of *Uru* such as swarms of fireflies that follow players around. In addition, a group of *Uru* and *Myst* players created a new world (called an “Age” in *Myst* and *Uru*) in *SL*, complete with puzzles, poems that contain clues, and machines to activate. Both the simulation of the original *Uru* and the new

Uru-inspired game are popular destinations for the residents of *SL*. Given the mix of fantastical contents of the *Uru* game in *SL*, as well as the introduction of the more progressive game rules typically associated with fantasy games like *Uru*, we locate the *Uru* Diaspora example in the middle of the fantasy zone and the middle of the emergent rules zone in our framework.

Fantasy Games are characterized by a high degree of fantasy and a progressive rule structure. Examples of fantasy games include *WoW*, *EverQuest*, and *Lineage*. We focus here on *WoW*, a game set in the fictional “Warcraft Universe,” within which exist fantasy worlds like Azeroth (an earth-like planet that is home to most in-game species) and Draenor (home of the orcs). Many of the races and places in the game are based on fantasy worlds created by Tolkien. Thus, we position *WoW* close to the fantasy pole of the realisticness dimension.

The game rules revolve around players completing quests (such as fighting monsters). The successful completion of a quest is rewarded by money, possessions, and experience points, which allow the player to “level” (advance) to the next stage of game-play. While players can play solo at low to medium stages of play, more challenging play, especially “raids,” require collaboration with other players. “Guilds” are one of the key game structures that provide the social cohesion to help coordinate such collaborative action. Given the high degree of sociality in this MMOG and the emergent social norms that develop around the designer-intended rules as the game is enacted [14], we position *WoW* close to the middle of our rules dimension to acknowledge the blending of progressive and emergent rules.

These examples are intended primarily to illustrate the diversity of synthetic worlds currently in use to provide context for our discussion of synthetic worlds as a medium for organizational communication.

3 Synthetic Worlds as Media for Organizational Communication

A variety of organizations are either experimenting with synthetic worlds or have incorporated them into their day-to-day practice. Educators are integrating online game environments into the classroom (the ECON 201 course at the University of North Carolina Greensboro) while researchers are designing and using games to test social theory (the “Synthetic Worlds Initiative” at Indiana University). Apparel companies, hotel chains, and automakers have all taken advantage of synthetic worlds as a new marketing outlet, and at least one organization, PA Consulting, has integrated *Second Life* into its recruiting process, giving potential recruits a virtual tour of its London headquarters and globally-distributed centers [18].

Many of the corporate appropriations of synthetic worlds, however, have been for the purpose of communication, whether with customers, collaborators, or even within their own organizations. Indeed, Sun Microsystems’ chief gaming officer, Chris Melissinos, was quoted as saying that Sun’s exploration of *SL* was to understand “what is going on in terms of the next mode of communication” [18]. IBM seems to have similar interests. They used *SL* to host a reunion [19] and are

reported to be on the verge of holding regular meetings of globally distributed managers in a secure *SL* conference room [20].

Communication in synthetic worlds has also been a focus for business innovation. Metaverse Technology, which developed a suite of communications and collaboration tools to facilitate business meetings and other gatherings in *SL*, recently won second place in a *SL*-sponsored business plan competition [21].

All of these examples of the appropriation of synthetic worlds for organizational communication map onto the virtual reality quadrant of our synthetic worlds typology (Figure 1). In other words, they all appear to be striving for a high degree of congruence with the ‘real’ world of business and organizational work. This raises questions about the more fantasy-oriented synthetic worlds and their appropriability for organizational communication. The researchers and educators mentioned earlier are employing more fantastical worlds—the bottom two quadrants of Figure 1—and game proponents argue that online game participants learn valuable business skills regardless of the degree of realism [2].

Can we anticipate that, over time, fantastical worlds may be added to the corporate world’s game repertoire? Both Sun Microsystems and IBM representatives have indicated that they expect their organizations will build their own synthetic world platforms in the foreseeable future (personal communication). If they proceed with these plans, will they limit those worlds to replications of the material world or might they consider allowing more fantastical elements? If so, how might business meetings change if participants were able to take on the form of a dragon, a wizard, or an elf? How might the role-playing (or play acting) that is typically associated with fantasy games and virtual fantasy environments impact interactions among colleagues or with customers?

Information systems and computer-mediated communication scholars are uniquely poised to address these and related questions, providing guidance to organizations about the effectiveness of current synthetic world appropriations and the potential for new uses as well as technology design features and social practices that could enhance or detract from their intended objective(s). To demonstrate, we will revisit our framework through a genre analysis lens, one of many existing IS perspectives on organizational communication that could be used to offer new insights into the implications of using synthetic worlds as media for organizational communication.

3.1 Synthetic Worlds through a Genre Lens

The notion of genre from rhetoric and literary criticism [22] has been useful for studying patterns of communicative action, and the related social processes, in other electronic media [12, 13]. Viewing organizational communication as communicative acts structured by genres, that is, socially recognizable communicative forms, studies have identified a host of business-related genres including meetings, reports, memos, and letters of recommendation [22]. While genres do not dictate how members of an organization (or community) interact, they do create a set of expectations about the

purpose, content, format, place, and time of the interaction. More succinctly, these expectations can be characterized as the why, what, how, where, when, and who of organizational communication [13].

In this section, we apply the six genre dimensions to synthetic worlds in order to highlight their affordances and their implications for organizational communication. By so doing, we raise questions and concerns that IS research is uniquely positioned to address. We start our discussion with those dimensions of the genre framework along which synthetic worlds fundamentally distinguish themselves from more established business media (the how, who and where), as these have implications for the other dimensions (the what, why and when), with which we will close this section.

How: The how dimension deals with the medium, format, and language use in the communicative act. Given that synthetic worlds represent a new medium for organizational communication, we focus on the affordance that presents the most dramatic departure from more ‘traditional’ media, namely *embodiment*. In synthetic worlds, participants take on a bodily form (their avatar), and objects obey physical laws such as gravity and opacity. It is through embodiment that people, places, and things are made concrete and tangible, thus enabling an immersive experience. Specifically, embodiment enables “practices of the body” [11], such as body language and facial expressions, which are generally associated with more material worlds. Embodiment also reintroduces placement, perspective, and presence into mediated communication.

Taylor’s [11] research on *DreamScape* explores the significance of embodiment in online social life. She highlights that physical proximity (or distance) between avatars and their relative orientations toward each other—facing towards or away from each other—carry information and meaning, expanding the modes of expression available to players beyond the seemingly ‘lean’ chat used explicitly for communication. Thus, embodiment expands players’ expressive capabilities.

Unlike real-world non-verbal communication, however, the body language in synthetic worlds is purely intentional and completely under the players’ control. Indeed, the players not only have to use a command to ‘turn on’ a facial expression or a physical pose, they might even have to program it first. Thus, there are no unintended frowns, sighs, or crossed arms that could give away a communicator’s unconscious reactions. Instead, non-verbal communication in synthetic worlds is more likely to be as strategic and self-monitored as verbal communication. This raises several questions. Under what conditions and to what degree are non-verbal cues important to communicators in synthetic worlds? Specifically, when and why will communicators put effort into changing their facial expressions or poses and programming unique ones?

Some researchers have decried the rational, cognitive, and linguistic representation of events and human experience in information technology applications [24] because they fail to capture the role of the body in action and interaction with people, things and places, as key to human development and learning [25]. On the one hand, it seems that synthetic worlds could address this concern by enabling the embodied, physical dimension of cognition that people gain

through their interaction with the ‘real’ world. On the other hand, the form of embodiment offered by synthetic worlds differs in that the actions and interactions it supports are not bound by the physical constraints of the real world, including the experience of (social) time and distance or the finality of death. This raises questions about the efficacy of this form of embodiment with respect to cognition and learning. In what ways do bodily experiences gained in a synthetic environment differ from those gained in a material environment? How does the degree of congruence between the limitation-constrained ‘real’ and the unconstrained synthetic world impact embodied cognition and learning?

Another way embodiment might influence cognition is by affording perspective. Players can move to achieve a shared perspective or, by observing others’ placement, can appreciate their relative perspectives. This suggests that synthetic worlds might offer new opportunities for achieving shared perspectives. Building on Boland and Tenkasi’s [26] notions of perspective making and perspective taking, we might explore how placement of avatars, vis-à-vis others and objects, can be used strategically, for instance, to reach agreement in organizational decisions.

Who: The who dimension addresses expectations regarding participation in a communicative action (for example, who will initiate the communication, who will receive it, what is the relationship between the communicators, etc.). Applying the who dimension to synthetic worlds, and especially the affordance of embodiment, we focus our discussion here on presence, placement, and self-representation.

As Taylor puts it, “bodies root us and make us present, to ourselves and others” [11, p.41]. An avatar indicates that there is a real person—the avatar owner/player—present and actively engaged with the world, making it impossible to forget or be unaware of others that are inhabiting the space, as can happen in audio-conferences and video-conferences. In fact, some synthetic worlds signal when a player is “away from keyboard (afk).” For instance, avatars in *SL* go to ‘sleep’ (their heads drop forward), when the people they represent are not actively managing their presence.

However, presence is not merely established through the creation of an avatar, “it is instead through the *use* of the body as *material* in the dynamic performance of identity and social life that users come to be ‘made real’” (11 p. 42 (emphasis as in original)). Thus, by placing themselves in relation to others, players engage not only in social activity but also express who they are in relation to others through their relative proximity to and actions toward others.

Another aspect of perspective revolves around the participants’ ability to see themselves the way that others see them, creating a reflexive environment in which players can learn and experiment with their concept of self [11]. Depending on the particular synthetic world, embodiment affords players considerable control over their (re)presentation of self. Avatars do not have to be simulations of the player they represent. In fact, they do not even have to be in human form. The consciously chosen and/or purposefully designed nature of avatar bodies allows participants to focus on specific aspects of their character, emphasizing a mood or competence and downplaying other characteristics. As Juul [6] highlights, virtual spaces and avatars—just like cartoons—are made effective by de-emphasizing the appearance of the physical world in favor of the world of ideas and concepts. Thus, omitting

physical details (the extraneous information that is a necessary part of real life) controls the information “noise” that can be distracting in a rich media like video. It is therefore not surprising that some participants in *DreamScape* reported that their avatar was a truer representation of their selves than their own bodies [11].

A player’s choice of avatar, however, is likely to have significant implications for the nature of his/her interactions with people and things in the synthetic world. For instance, one *DreamScape* player noted that a human avatar face tended to afford deeper and more meaningful interactions with others than did animal faces [11]. This raises important questions about the appropriateness of avatar designs for organizational communication. In many gaming environments, the participants’ real identity remains hidden as they get to know each other as characters in a game. Indeed, at game conventions where players actually meet face-to-face they typically relate to one another by their in-game names rather than their real ones [14]. In organizational settings, however, participants are likely to deal with and get to know one another in both material and synthetic worlds in parallel, raising questions about the opportunities and risks of one’s avatar choice. What if the CEO dons a dragon avatar for a shareholder meeting? Or an analyst, with a girl-next-door look in ‘real’ life, represents herself as a Lara-Croft-like avatar, believing it to be an expression of her true self? How will these avatar choices affect organizational communication overall, the communicator, and the audience? When and what types of avatar-based forms of self-expression enable (or disrupt) organizational communication?

Where: The where dimension addresses expectations related to the location of a communicative action. For instance, the genre “team meeting” creates an expectation of a location conducive to collaboration. The embodiment supported by synthetic worlds allows interactions to be “staged” [27], or purposefully placed, just like a team meeting in the material world. Similarly, spontaneous “in-world” interactions also occur in a ‘place’ that forms part of the context for interaction.

There is little prior research that specifically addresses the implications of place for social behavior in synthetic worlds, but the field of ecological psychology [28, 29] and Goffman’s [27] studies of face-to-face interaction have both demonstrated how social actors actively monitor, respond to, and even engage the setting in material-world contexts. However, prior studies, documenting the “psychological immersion” synthetic world participants’ experiences [1, 14], suggest that synthetic world settings might similarly influence in-world social activity. Considering again the dimensions of Figure 1, what role might the realisticness of the setting have on the communication that occurs there? How might a team meeting in a fantastical setting, such a medieval castle or futuristic city, influence the meeting process and outcome? Under what conditions might such non-traditional meeting spaces be conducive to ‘out-of-the-box’ thinking and innovation? Under what conditions might they be counter-productive by either distracting participants or enticing them to engage in behavior (say, the treatment of women) consistent with the synthetic setting but unacceptable in a modern organization? Furthermore, what setting characteristics either facilitate or complicate the enactment of particular organizational communication genres?

What: The what dimension focuses on the content of the communication. Since we have already touched on some of the content issues relating to avatar choice—that a non-human form tends to generate more playful and superficial interactions between players [11]—we will focus on the implications of forging a new genre of embodied organizational communication, which forces participants to continuously confront questions about the content’s authenticity and factuality. As Taylor and Kolko [30] note, however, the need to continuously negotiate the fact-fiction and authenticity-artificiality boundaries are not unique to synthetic worlds but are endemic to Internet-mediated communication, which mixes authentic information with staged fictions, destabilizing knowledge, relationships, and identity.

Nevertheless, their research on *Majestic*, a highly innovative game that sought to remove the game-space boundaries by, among other things, blurring the lines between content based on authoritative knowledge and conspiracy-theories endorsed by the fringe, serves as a cautionary tale about some of the pitfalls of relying on a genre-boundary defying strategy. For instance, the game mixed fictitious and factual websites, intruded on players’ off-line lives through the use of emails, phone calls, and faxes to convey game-related information, and incorporated real-world events, such as those of September 11, 2001, into the game’s narrative. The authors claim that the game ultimately collapse—10 months after its launch—under “the weight of its own heightened toying with truth” [30, p. 511].

These content-related issues prompt questions such as how participants might signal to others when their actions and words are more game- than work-like, more artificial than authentic, or more factual than fictitious? How best is such meta-data communicated? And what are the implications for using information obtained in a conversation tagged as “artificial”?

Why: This dimension relates to the socially recognized purpose of the communicative act, and it serves as a way of drawing together and aligning the other genre elements into a coherent whole. At a high level, each quadrant in our synthetic worlds’ typology (Figure 1) can be viewed as a genre or genre system,² distinguishable by its predominant purpose. For instance, the purpose of “games” (left two quadrants) is acting, whereas the purpose of “virtual environments” (right two quadrants) is interacting. Furthermore, the differentiating purpose of fantasy worlds (bottom half) is role-playing, while the predominant purpose of realistic worlds (top half) is practice.³ Even though these purposes are not mutually exclusive, but rather inextricably intertwined, the why dimension does provide the participants with a set of high-level expectations around each game-type’s purpose, which ultimately guides their own communicative acts as well as their interpretation of others’ communication. The questions raised by the why dimension concern the

² Genre systems are “a series of genres comprising a social activity and enacted by all the parties involved” [13: 16], such as meetings or collaborative authoring. In fantasy games, players rely on a host of genres ranging from in-game play to back-channel whispering to fan-generated game websites.

³ “Practice” is used here to mean both the repetitive activity associated with learning and the enactment of one’s professional self.

opportunities, risks, and limits of blurring the boundaries between fantasy worlds (or genres of play) and realistic worlds (or genres of authentic communication) illustrated by *Majestic*'s demise discussed earlier. Is it possible that the fantasy game genre's purpose and its related expectations for communicative action are so orthogonal to the expectations of organizational communication, that combining them would result in an unstable genre that is likely to collapse, just like *Majestic*? In other words, at what point does it become either impossible or too burdensome for a participant in embodied organizational communication to constantly negotiate and disambiguate communicative acts in such a genre mix?

When: The when dimension relates to the temporal expectations of a communicative act. It includes both deadlines and the sequencing of communicative actions into a coherent system. "When" questions related to the appropriation of synthetic worlds for organizational communication include when and how interactions in synthetic worlds might be integrated into or interleaved with more traditional genres such as audio conferences, email, or discussion boards? Are there situations when synthetic worlds should be avoided or others when they might be preferred? How might interactions in different types of synthetic worlds, such as a simulation game, a virtual meeting in *Second Life*, and a brainstorming session in a fantasy world be sequenced to achieve the desired outcomes?

3.2 Synthetic Worlds: Limits

It is no accident, of course, that all of us are not already using synthetic worlds for our day-to-day interaction. All media have limitations. In their current forms, synthetic worlds still require significant investments of time and attention to build one's avatar, to learn how to participate in the world, and to develop proficiency at moving and interacting within the environment.⁴ In addition, synthetic worlds still have many technical constraints. Despite announcements of large-scale events such as press conferences and concerts, processing capacity and bandwidth limitations constrain the number of avatars that can be gathered in one location for an event. The lack of audio support for voice communication in most synthetic worlds⁵ also means that most communication occurs through chat-style typing, which may be considered both a feature and a limitation. Chat allows many people to communicate simultaneously, it provides a record, and it allows players to hide identifying characteristics such as gender, but it is also cumbersome.

In addition, despite the affordances of embodiment, as compared to traditional "disembodied" organizational communication media (email, audioconferencing), Taylor [11] also observes that a game design can constrain full expression. In many cases, users push back and invent creative ways of achieving their communicative goals through positioning and movement of their avatars to achieve their desired

⁴ At Sun's press conference in Spring 2006, many attendees had not yet learned how to make their avatars sit in the pavilion seats—a source of humor and confusion (private communication).

⁵ Second Life started beta testing voice chat in March 2007 [31].

communicative goals, but the expressive constraints of any particular world would need to be taken into consideration during an analysis.

4 Conclusion

In this paper, we have provided an overview of the psychologically immersive online game environments known as “synthetic worlds” or “massively multi-player online games” (MMOGs) and drawn on research from other disciplines to show their broader social implications. A particular aspect of these worlds that remains unexamined is their use as media for organizational communication, a phenomenon the IS community is uniquely positioned to explore. Applying a genre lens, we offer a few broad categories of questions to provoke thought, discussion, and IS research. We look forward to future research that studies synthetic worlds as embodied organizational communication genres.

References

1. E. Catronova, *Synthetic Worlds: The Business and Culture of Online Games* (University of Chicago Press, Chicago, 2005).
2. J.C. Beck and M. Wade, *Got Game: How the Gamer Generation is Reshaping Business Forever* (Harvard Business School Press, Boston, 2004).
3. A.R. Galloway, *Gaming: Essays on Algorithmic Culture* (University of Minnesota Press, Minneapolis, 2006).
4. S. Kline, N. Dyer-Witthof and G. De Peuter, *Digital Play: The Interaction of Technology, Culture and Marketing* (McGill-Queens University Press, Montreal, 2003).
5. T.M. Malaby, *Beyond Play: A New Approach to Games, Games and Culture*, forthcoming.
6. J. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds* (MIT Press, Cambridge, MA, 2005).
7. M. Ito, in: *Internet Culture*, edited by D. Porter (Routledge, New York, 1997) pp. 87-109.
8. A. Giddens, *The Constitution of Society: Outline of the Theory of Structuration*, (Polity Press, Cambridge, UK, 1984).
9. C. Pearce, Productive Play: Game Culture from the Bottom Up, *Games and Culture*, 1(1), 17-24 (2006).
10. N. Yee, The Labour of Fun: How Video Games Blur the Boundaries of Work and Play, *Games and Culture*, 1(1), 68-71 (2006).
11. T.L. Taylor, in *The Social Life of Avatars: Presence and Interaction in Shared Virtual Environments*, edited by R. Schroeder (Springer Verlag, London, 2002), pp. 40-62.
12. J. Yates and W. J. Orlikowski, Genres of Organizational Communication: A Structural Approach to Studying Communication and Media, *Academy of Management Review*, 17(2), 299-326 (1992).
13. J. Yates and W. Orlikowski, Genre Systems: Structuring Interaction Through Communication Norms, *The Journal of Business Communications*, 39(1), 13-35 (2002).

14. T. L. Taylor, *Play between Worlds: Exploring Online Game Culture* (MIT Press, Cambridge, MA, 2006).
15. C. Steinkuehler, The Mangle of Play, *Games and Culture* 1(3), 199-213 (2006).
16. R. Bartle, Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs, *Journal of MUD Research*, 1(1): <http://www.mud.co.uk/richard/hcds.htm> (1996).
17. J. Stein, My So-Called Second Life, *TIME Magazine*, December 25, 2006-January 1, 2007, pp. 76-77.
18. A. Cane, Big Players Join the New Game, *Financial Times*, January 04, 2007.
19. *Economist*, Living a Second Life, September 30, 2006, pp. 77-79.
20. M. Banks, 2006. IBM's 'Secret Island', *New York Times*, September 21, 2006.
21. D. Terdiman, A Winning Business Plan for 'Second Life', *CNet News*, February 19, 2007: <http://www.cnet.com>.
22. M.M. Bakhtin, *Speech Genres and other Late Essays*, Translated by V. W. McGee (University of Texas Press, Austin, 1986).
23. W. J. Orlikowski and J. Yates, Genre Repertoire: The Structuring of Communicative Practices in Organizations, *Administrative Science Quarterly* 39, 541-574 (1994).
24. S. Zuboff, *In the Age of the Smart Machine* (Basic Books, New York, 1988).
25. J. Mingers, Embodying Information Systems: The Contribution of Phenomenology, *Information and Organization* 11(2), 103-128 (2001).
26. R.J. Boland, Jr. and R.V. Tenkasi, Perspective Making, Perspective Taking, *Organization Science* 6(4), 350-372 (1995).
27. E. Goffman, *The Presentation of Self in Everyday Life* (Doubleday Anchor Books, Garden City, NY, 1959).
28. R. Barker, *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior* (Stanford University Press, Stanford, CA, 1968).
29. R. Barker, *Ecological Psychology: A Revision and Extension* (Stanford University Press, Stanford, CA, 1989).
30. T. L. Taylor and B. E. Kolko, Boundary Spaces: Majestic and the Uncertain Status of Knowledge, Community and Self in a Digital Age, *Information, Communication & Society* 6(4), 497-522 (2003).
31. D. Terdiman, Integrated Voice Coming to 'Second Life', *CNet News*, Morning Dispatch edition, February 27, 2007: <http://www.cnet.com>.

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