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LEVELING UP TO IMMERSIVE DISPUTE RESOLUTION (IDR) IN 3-D VIRTUAL WORLDS: LEARNING AND EMPLOYING KEY IDR SKILLS TO RESOLVE IN-WORLD DEVELOPER-PARTICIPANT CONFLICTS

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I. INTRODUCTION

As technology improves, bandwidth expands and devices proliferate,[1] hundreds of millions of people[2] are engaging with ever-more realistic and complex three-dimensional (3-D) immersive environments[3] for up to thirty hours per week.[4] The growing variety of online 3-D spaces allows individuals to try on new identities as avatars[5] and to interact, explore, and shape either reality-based[6] or fantasy-based online worlds.[7] In some of these virtual worlds, the emphasis is on developing personal relationships through social networking,[8] while others revolve primarily around achieving competitive game objectives.[9] Participants may engage in a laundry list of mundane or whimsical activities from decorating your virtual home and chatting with fellow avatars to slaying mythical monsters or accomplishing quests in a hero's journey.[10] Some virtual world members seek to improve real world outcomes through cooperation on political or philanthropic efforts,[11] while others view virtual worlds as new venues for deviance[12] and tortious and criminal activity.[13] For some virtual world participants, these 3-D immersive environments—not their bricks-and-mortar residences—have become their true homes.[14]

One activity typically missing within the contours of the virtual world is an effective, in-world conflict resolution process[15] to handle developer (or owner)-participant (or player) conflicts within the contours of the virtual world.[16] Despite the scholarly debate over the application of real world law to virtual world conflicts,[17] it is clear that most of these disputes, if brought forward at all, end up in real world courts[18] for final determination of party rights and responsibilities under the terms of use of these virtual worlds.[19] Most of these virtual environments require adversarial conflict resolution either in traditional courts[20] or arbitration[21] to process disputes between game developers and members. A few sites' terms of use refer vaguely to "non-appearance based" conflict resolution options without further explana-

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tion of the nature of these processes.[22] In other instances, developers can unilaterally take action against players through a variety of self-help remedies,[23] which have led to further court challenges.[24]

Incongruously, these virtual realities often teach some of the key skills necessary for collaborative conflict resolution methods outside of traditional litigation, including strategic analysis of one's own and third party interests,[25] understanding other perspectives through shifting online identities,[26] balancing collaborative and competitive interactions with other parties,[27] and exploring creative solutions to achieve objectives.[28] Yet these virtual spaces seldom offer any meaningful opportunity for these skills learned in-world to be applied using the existing 3-D infrastructure to resolve these disagreements.[29]

This article calls for a new conflict resolution approach: the utilization of "immersive dispute resolution (IDR)"[30] to leverage both the communication and graphical technological advancements in 3-D virtual worlds[31] and the collaborative and strategic thinking skills virtual participants readily acquire in these digital experiences.[32] In this paper, Part II will discuss research on learning in virtual worlds[33] with a special emphasis on the key collaborative conflict resolution skills garnered through exploration, engagement, and play in virtual environments.[34] Part III examines current dispute resolution processes in forty-five 3-D worlds which emphasize adversarial methods and illustrate a failure to leverage the 3-D immersive technologies or the collaborative skills learned in these immersive environments.[35] Part IV will call for established dispute resolution for professional and organizational providers to spearhead greater integration of 3-D technologies with facilitative IDR processes to help leverage player-acquired collaborative skills in resolving owner-participant conflicts.[36]

II. ACTIVE LEARNING OF COLLABORATIVE SKILLS IN 3-D VIRTUAL WORLDS

Learner engagement, or active learning, is considered essential to effective teaching, knowledge construction, and retention.[37] Pedagogical experts opine that too much of education is focused on the symbolic presentation of facts and abstract concepts separated from either an appropriate context or a practical application.[38] When information is divorced from context and practice, learners can become disengaged and are not able to retain information about or gain mastery of a subject matter.[39] Researchers have also found that

play can be a vital pedagogical tool for enhancing substantive learning.[40] However, to ignite effective learning, the play needs to be connected to challenging and meaningful tasks.[41] Competitive online gaming is intentionally structured with "progressively more difficult tasks that challenge players at the 'edge of their region of competence' and require the learning of new strategies."[42]

Recently, there has been a surge of interest in the development of educational, or "serious," immersive games to increase learner engagement,[43] including the law school environment.[44] Some of this interest in virtual environments reflects the realization that today's students have grown up in a digital environment and are comfortable with emerging technologies.[45] This generation of students learns differently and finds it more difficult to learn in the traditional teach, test, and repeat way that baby boomers learned concepts.[46] Generally, these digital era students tend to prefer exploring ideas in a collaborative and interactive context with customizable, rather than static, content.[47]

Since the 1990s, education researchers have examined the potential value of virtual worlds in the learning process.[48] Research on training programs in 3-D synchronous and asynchronous virtual environments shows great educational potential in such varied fields as medicine,[49] military,[50] science,[51] law,[52] engineering,[53] business,[54] and computer science training.[55] Although still in its early stages, current pedagogical research illustrates that immersive game play has tremendous and often untapped potential for improving learner engagement and excitement about active learning.[56] Unlike a standard classroom, these environments aid learning through both learner immersion in a 3-D world[57] and interaction with peers and content in these environments.[58] In these immersive spaces, participants can use avatars to shed a sense of self-consciousness and anxiety about grasping new information and skills.[59] In some instances, a fantasy or mythical setting or other context that the learner cannot possess or inhabit in the real world heightens the sense of immersion and increases learner motivation and active learning.[60] Further, virtual world participants become so immersed that they often lose track of time when participating[61] with "the game the only relevant reality"[62] which increases levels of engagement. Success over obstacles empowers participants and fuels their desire to remain immersed in these online worlds.[63] In commercial games, high quality interfaces, graphics, and sounds create a truly realistic sensory experience that promotes participant suspension of belief and immersion in 3-D worlds.[64] Immersive learning

environments can help to connect the traditional classroom with constructivist and situated learning and to aid curricular objectives through the use of collaborative and interactive settings.[65]

Some academics may scoff at the value of immersive game play in educational institutions as lacking rigor[66] and serving as just another fad in "edutainment."[67] However, pedagogical experts contend that serious games, particularly 3-D immersive simulations, dovetail with three key learner-centered theories[68] on the study of knowledge: cognitive constructivism,[69] social constructivism,[70] and situated cognition or learning.[71]

Cognitive constructivism eschews traditional objectivist learning theory based on a transmission of information from instructor to student[72] or as truths objectively discovered in the learning process.[73] Constructivism focuses primarily on the notion that an individual constructs knowledge through first-person experiences and interaction with information.[74] Through these interactions, learners construct and attach personal meaning to concepts from these experiences.[75] This approach views learners, not as passive recipients of information, but as gaining knowledge through experiences.[76] Experiential education or apprenticeship opportunities where individuals "learn by doing" are other examples of the cognitive constructivist perspective.[77] In virtual realities, participants can roam a wide range of both realistic environments, like *The Sims Online* or *Second Life*, or fantasy environments, such as medieval *World of Warcraft* or space age *EVE Online*. Residents of virtual worlds experience and interact with in-world content learning about the world, its norms, and limitations.

Another branch of constructivism, social constructivism, indicates that learning is at its core a social activity or experience.[78] Social constructivism moves beyond individual experiences and suggests that learning emanates from collaboration and social interaction between small groups of learners.[79] These small group interactions between students or students and an instructor will help transcend and amplify the individual's ability to learn on their own.[80] This perspective moves the role of teacher from "sage on the stage" to "guide on the side."[81] The social aspects of virtual worlds can be learned through interacting and allying one's self with other participants in-world as well as learning through interactions on numerous ancillary web sites, discussion boards, and online forums and exchanges.[82] Game developers can help guide newcomers early on through hints that may appear on screen as the player becomes more acquainted with the world.[83]

Situated cognition or learning largely values the importance of learning by active participation, rather than just experiences, in a broader authentic social or cultural context.[84] This learning theory looks to opportunities for learners and teachers to participate in challenging, problem-solving activities, to take on multiple roles and perspectives,[85] and to model the behavior of mentors who are experts in the domain.[86] The situated learner is both influenced by and influences the learning environment, first as a novice and then learning and adapting toward greater mastery and fuller participation in an interconnected domain.[87] A newcomer starts out on the periphery of a world[88] but, through practice and participation, acquires greater knowledge and stronger connection between the learner and other individuals carrying out similar or shared activities in a "community of practice."[89] As a community of practice is developed, it is strengthened by overlapping relationships between participants, activities, and worlds over a period of time.[90]

For example, a novice in a 3-D world may only be tangentially involved in an online community at the start. To gain knowledge, the new user may consult manuals and ancillary chat rooms or message boards to learn more about and to problem-solve through the different aspects or levels in the world.[91] Through continued engagement, the participant learns through practice and interactions with in-world content and through greater connectedness with more experienced members participating in that virtual world.[92] Eventually, the novice becomes a more experienced, knowledgeable member of the community who may influence or shape its future through participation, interaction, and offering advice to both less and more experienced members of the world.[93]

Overall, 3-D worlds provide fertile grounds for learning under these various learning theories. Within the context of these virtual worlds, commercial game developers expect and design for learning to take place in order for that knowledge to be applied to in-world activities.[94] In online gaming and virtual realities, participant learning cycles generally follow four basic steps: 1) gathering information through interaction; 2) analyzing information and identifying relationships between interactive information; 3) problem-solving and making decisions about the information gathered; and, 4) selecting options and taking action based upon the collected knowledge and prior practice.[95] Throughout this cycle, players must interact, collaborate, strategize, and problem-solve to progress through the game or proceed through the world.[96] Although world developers never intended it,

this iterative cycle tracks closely the key steps of collaborative methods of dispute resolution, such as interest-based negotiation and mediation.[97]

In a virtual world, participants must gather information through their exploration of and experiences in-world, their interaction with other players and in-world content and their consultation of play guides, discussion boards, chat rooms, and other informational sources.[98] Some information may not be known or readily identifiable, and a player may need to use strategic thinking to determine how to find this information.[99] Similarly, in preparing for and participating in a real world negotiation or mediation, parties must also collect information either through their personal experience or by a review of relevant documentation.[100] There may be information that is missing because it is in the hands of another party or not recognized by either party as important to their conflict. Once in the session, parties may gather additional information through interactions with the other party, such as party opening statements, discussions of disputed facts, and accumulation of other relevant documents.[101]

Once information has been collected, then a party must analyze that information to determine its strategic relevance in accomplishing certain tasks or quests to advance to the next level or to more fully participate in a virtual world.[102] Players may take on multiple identities through avatars to examine information from differing perspectives to determine its meaning and value as to in-world tasks or quests.[103] The player may also decide to form alliances and collaborate with others in an effort to improve their comprehension of key facts and in-world rules and norms as well as further their common objectives.[104] In an actual negotiation or mediation, participants also need to analyze information and determine its relevance in processing their dispute.[105] Parties will also have to consider another party's interests, at times putting themselves in another's shoes, to test their understandings and analyses of the issues.[106] The parties will need to collaborate with each other and/or with a third party neutral to generate options for achieving party interests.[107] In multi-party disputes, parties may also decide to form alliances with others to promote their understanding of key concerns and to advance their interests.[108]

Whether acting individually or in concert with others, the utilization of problem-solving skills are fundamental to both leveling up or advancing in online role-playing games[109] as well as successfully concluding real world negotiation and meditation sessions.[110] Whether it is a team effort in a virtual world or closing the gap between disputing interests, parties must weigh

their interests and objectives and decide strategically what their next steps will be to accomplish their objectives.[111] Filtering various options through a trial-and-error approach can be integral to finding strategies and outcomes suitable for gamers carrying out in-world tasks[112] as well as for opposing parties trying to resolve disputes in interest-based negotiation and mediation conferences.

Lastly, gamers must then choose their options and take action,[113] sometimes being successful in their strategies, other times failing and returning back to a lower level by losing points or prestige they previously earned.[114] Immersive environments reward persistence in practicing skills over and over until one achieves expertise.[115] Similarly, disputing parties may make positive headway in a negotiation or mediation session applying certain strategies. However, at other times their chosen strategies may cause setbacks in the process or completely wipe out any common ground the parties may have initially achieved. By continuing to persist in seeking out common ground, disputing parties may be able to achieve consensus and settlement in real world disputes.[116]

The game designs of many immersive environments often track key steps and skills needed for collaborative dispute resolution methods. Yet with all of this emphasis on collaboration and strategic thinking, it is unfortunate that few virtual worlds make any meaningful use of this game-based learning or immersive technologies in handling conflicts between developers and participants.

III. DEVELOPER-PLAYER CONFLICTS AND ADVERSARIAL DISPUTE RESOLUTION OPTIONS IN MAJOR VIRTUAL WORLDS

In immersive environments, End User Licensing Agreements (EULAs) typically specify the rights and responsibilities of virtual world developers and players in-world.[117] These EULAs may be informally supplemented through the development of in-world norms[118] or superseded by real world civil and criminal laws.[119] Normally, these agreements focus on the preservation of intellectual property rights[120] and the maintenance of developer control over the continued operation of, and player behavior in, the immersive environment.[121] World owners usually maintain a unilateral self-help right to terminate individual participation for any or no reason at all.[122] Because EULAs, like most online agreements, are clickwrap contracts of adhesion, there are no opportunities for world residents or consumers to negoti-

ate any terms, including dispute resolution options.[123] EULAs are routinely criticized for being heavily weighted toward the protection of developer rights and remedial options while offering little to no protection of participant rights.[124]

The universe of immersive environments is an ever-changing one. This author chose forty-five immersive worlds with an effort to represent sites for children, teens, and adults, as well as 3-D worlds with both gaming versus social networking objectives.[125] Each selected site was reviewed to identify: (1) whether or not the terms of service permitted owners to terminate players unilaterally, regardless of the continued existence of the immersive environment; (2) whether the terms of service included any clause about the resolution of disputes between the site's owner and participants; (3) what dispute resolution processes are identified for player-developer disputes; and (4) what choice of law was mandated in the terms of service.[126] Although many 3-D virtual environments are located in the United States, sites with national bases outside the United States were considered as well because many expressly target English-speaking users.[127]

Although game-based learning promotes collaboration, few worlds ever leverage their 3-D capabilities or their players' collaborative skills in order to cooperatively resolve in-world disputes. When disputes arise between developers and end-users, most immersive worlds still look to adversarial processes in the real world to resolve these conflicts . A majority of the selected sites require the use of traditional world courts in the developer's home country or home state without any reliance on immersive technologies. Nearly all of the immersive worlds considered retained a unilateral right to terminate participants for any or no reason.[128]

Those sites that do not demand litigation often select adversarial arbitration methods. Depending upon the site, these arbitrations may be in-person, by telephone or other non-appearance-based methods, such as e-mail or written submissions.[129] Some sites opting for arbitration before the American Arbitration Association (AAA) required the use of its commercial rules,[130] while others allowed for the use of its consumer rules,[131] which are better-suited for typical players or end-users. Despite the technological complexity of these sites, most 3-D worlds did not typically include hyperlinks, video clips, or podcasts to educate or more fully inform the public about arbitration processes. In some instances, sites did provide a link to the American Arbitration Association with little further direction.[132]

Several sites made limited use of informal negotiation, such as requiring a party to negotiate with a developer's law department or customer service before filing a claim for arbitration.[133] However, these sites do not indicate how this method will proceed or provide any explanatory information to users. In addition, it is difficult to see how facts will be independently determined or verified[134] or how a typical consumer will fare without adequate negotiation, training, or experience against more seasoned customer service or legal staff.[135] While online mediation might help the parties to more objectively determine facts and even the playing field between participants and developers, none of the reviewed immersive sites identified mediation as a dispute resolution option.[136]

These 3-D worlds are nearly uniform in seeking to outsource their adversarial conflict resolution mechanisms to entities outside of the immersive environment; primarily the courts and arbitration services providers.[137] Even in those virtual worlds that utilize informal negotiation, parties are directed to the company's law firm or customer service organization outside of the immersive realm.[138] Only one immersive world indicated an opportunity to resolve disputes through an in-world adversarial process, Active Worlds.[139] Its terms of service refer to mandatory arbitration either in Boston, Massachusetts, at the AAA offices, or before the Active Worlds Tribunal.[140] However, the Active Worlds site offers no further public explanation or information about the procedures utilized in this immersive tribunal.[141]

IV. PROPOSAL FOR GREATER USE AND INTEGRATION OF IDR PROCESSES INTO DEVELOPER-PARTICIPANT DISPUTES

The results of Table 1 make it clear that most virtual world sites are either unwilling or unable to utilize IDR involving collaborative or facilitative dispute resolution methods. Part of this reluctance may stem from concerns about the time and costs involved in developing, operating, and maintaining in-world dispute resolution processes.[142] Other sites may be concerned about detracting from their fantasy or role-playing environments with real world problems.[143] Many sites may simply prefer to rely upon courts to set precedent in their conflicts in hopes of supporting their legal position.[144] The costs of court and arbitration proceedings and travel to distant states or nations may also be a way for some virtual worlds to deter small-dollar claims by consumers from ever being brought.[145]

Regardless of the reason, it is obvious that facilitative dispute processes are largely nonexistent to resolve owner-player disputes in virtual environments.[146] The emphasis has been on adversarial processes that may only serve to further alienate disgruntled users from developers and to harm these continuing commercial relationships.[147] One important step forward would be to offer and promote in-world mediation services[148] that draw upon users' collaborative and strategic skills garnered from game-based learning in virtual worlds. These virtual worlds could hyperlink to sites or offer video clips or podcasts explaining the mediation process.[149]

Most end-users have little experience with or knowledge of collaborative dispute resolution methods. Therefore, any impetus to use facilitative processes in IDR will need to come from existing dispute resolution providers. Currently, most dispute resolution professionals and organizations seem to be sitting passively on the sidelines of 3-D virtual worlds.[150] Yet organizations such as the AAA[151] or the Better Business Bureau Online[152] have tremendous experience mediating disputes between consumers and businesses. In many instances, they already possess connections with a broad range of industries, including virtual worlds. These types of entities have professional administrative staff, lists of experienced mediators, and established rules of procedure that have been tested for years. Rather than rest on traditional approaches, dispute resolution providers need to reach out to a new generation and to recognize the natural synergies between their services and the skills and abilities learned in immersive environments. These organizations could work with virtual worlds to develop in-world dispute resolution centers that have often been suggested but seldom carried out in full measure. These organizations could also provide opportunities for members of the public to learn about and practice facilitative dispute resolution processes in immersive environments. While game-based learning has laid the foundation for collaborative skills and strategic thinking, these providers could breathe life into IDR processes by setting up shop in virtual worlds or allowing developers and participants in the avatar form to handle their disputes using immersive technologies on their sites.

Some commentators might wonder why simply using telephone, online video conferencing, e-mails, or other non-appearance-based adversarial proceedings[153] are not sufficient to handle these in-world conflicts. Three key reasons exist for supporting facilitative IDR processes to resolve in-world disputes. First, unlike other forms of interaction, research shows that virtual worlds promote collaboration, creativity, role-playing, and strategic deci-

sion-making.[154] As discussed earlier, immersive environments develop skills essential to effective facilitative dispute resolution methods.[155] Further, the use of an avatar-mediator will help to level the playing field between developer and player, to more objectively determine the relevant facts and to aid the parties in exploring options and fashioning mutually acceptable outcomes.[156] This approach may also allow for community norms to develop around collaboration and strategic thinking to improve overall community life and cooperative norms in the virtual world.[157] Through fair and effective dispute resolution programs, developers may also end up improving overall customer satisfaction and maintain greater player loyalty to their 3-D sites.[158]

Second, any formal dispute resolution process would be alien to many users of virtual worlds and experienced parties, such as a developer's customer service personnel or legal representatives, would have a clear unfair advantage over the average consumer.[159] The anonymity of the avatar and the screen of technology may help some participants to more candidly participate in the process than if they had to expose their own identities or be subjected to personal scrutiny.[160] Whether it is an informal negotiation or a full-blown adversarial process, laypeople may feel more at ease behind the masks of their avatar and less comfortable in processes grounded in direct conflict engagement.[161] The IDR process may move forward more smoothly if an individual's lack of confidence or self-consciousness about conflict is reduced or alleviated in the immersive proceeding.[162]

Third, the use of 3-D technologies is more likely to heighten party engagement in the conflict resolution process than flat two-dimensional (2-D) approaches.[163] Typical 2-D communication methods in prior ODR use, such as e-mail, automated software programs, or video conferencing,[164] never effectively captured or maintained public interest in these systems.[165] Game-based learning has shown that participants are more likely to persist in tasks and remain engrossed if high quality interfaces, graphics and sounds create an immersive sensory experience.[166] Participants in these virtual environments have come to expect these quality immersive experiences,[167] which could be replicated within the contours of the game through a 3-D dispute resolution center or processes or by dispute resolution providers on their own sites.

As more and more individuals gain collaborative and strategic abilities in 3-D worlds,[168] it would be unfortunate to see those skills ignored aside once a conflict arises between an end-user and a developer. With millions

already inhabiting virtual worlds and millions more expected to do so in coming years, the skills and technological foundation for IDR has already being laid in 3-D immersive games and social networking sites and hold the promise for future experimentation and development in the conflict resolution field. It is up to forward-thinking dispute resolution providers and professionals to recognize the natural connections between their facilitative services and the collaborative skills and strategic thinking abilities learned in immersive environments every day. A new digital generation continues to live, learn, and collaborate in virtual worlds. While ODR processes never truly won meaningful public support, IDR could effectively bring together 3-D immersive technologies with facilitative dispute resolution skills. With proper support from and planning by conflict resolution professionals and organizations, immersive dispute resolution can become the next major evolution of dispute resolution in the coming decades.

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Table 1: Nature of Dispute Resolution (DR) Clauses in Forty-Five Imersive Environments**

(as of Nov. 4, 2011 - listed alphabetically)

Immersive Environment **(Game Developer's National Base)**	No Owner-Player DR Clause	Unilateral Termination **Clause**	Negotiation	Binding Arbitration	Litigation and/or Choice of Law
3D Planets **(US/Canada)**		√			State court of MI or provincial court of Ontario, Canada; MI or Ontario law
Active Worlds (US)		√		Mandatory; AAA in Boston, MA or Active Worlds Tribunal	
Aion (South Korea)		√	Informal negotiation required 30 days before filing for arbitration	Voluntary; AAA commercial rules; in US by in-person, online, or telephone; outside US, in Austin, TX; no class actions	If arbitration not elected then courts of Austin, TX; TX law
Avination (UK)	√ Has clause but does not specify any DR method only choice of law				Laws of United Kingdom
Blue Mars (US)		√		Mandatory; Claims <	Claims > $10,000;

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				$10,000: nonappear-ance-based; AAA under consumer rules; by telephone, online or writing	courts in city and county of San Francis-co, CA; CA law
Call of Duty – MW 3 (US)		√			State or fed-eral courts of LA county, CA
Chit Chat City **(Canada)**		√			Provincial court in Mon-treal, Québec, Canada; laws of Québec
City of Heroes (South Korea)		√	Informal negotiation required 30 days before filing for arbitration; owner may extend pro-cess up to 90 days	Mandatory; AAA com-mercial rules; in-person in Austin, TX, online or telephone; no class actions	
Club Penguin (US)		√			State or fed-eral courts of Manhattan, NY; NY & US law
Dark Age of Camelot (US)		√	Informal negotiation required 30 days before filing for arbitration	Mandatory; AAA con-sumer rules; by telephone, online or writing; excludes residents of Quebec, Russia, Swit-zerland and EU from arbitration	

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Immersive Environment **(Game Developer's National Base)**	No Owner-Player DR Clause	Unilateral Termination **Clause**	Negotiation	Binding Arbitration	Litigation and/or Choice of Law
Dragon Oath (China)	√				only indicates DMCA/IP notices by e-mail to customer service
Dream of Mirror Online (US)		√		Voluntary; Claims < $10,000: nonappearance-based; by telephone, online or writing	Courts of Santa Clara county, CA; CA law; $1,000 penalty for improper filings
EntropiaUniverse (Sweden)					Courts and laws of Sweden
Eve Online (Iceland)	√				Laws of Iceland
Everquest III (US)		√	Informal negotiation required 30 days before filing litigation		State or federal courts of San Diego county, CA; CA law
Fantasy Westward Journey (China)	√ Players must observe laws of China	√			Players must observe laws of China
Final Fantasy XI (Japan)		√			State or federal courts of LA county, CA; CA law
Free Realms (US)		√	Informal negotiation required 30 days before filing litigation		State or federal courts of San Diego county, CA; CA law
FusionFall (US)		√			State or federal courts of

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					Atlanta, GA; GA law
Gaia Online (US)		√			State or federal courts in Santa Clara county, CA; CA law
Guild Wars (South Korea)		√			State or federal courts of Travis county, TX; TX law
HiPiHi (China)	√ No terms of use link				No terms of use link and no choice-of-law clause
IMVU (US)		√			State or federal courts in CA; CA law
InWorldz (US)	√				First US law, second CA law
Kaneva (US)		√			State or federal courts of Fulton county, GA; GA law
Immersive Environment **(Game Developer's National Base)**	No Owner-Player DR Clause	Unilateral Termination **Clause**	Negotiation	Binding Arbitration	Litigation and/or Choice of Law
Legend of Mir III (South Korea)		√			State or federal courts of King county, WA; WA law
Lineage II (South Korea)		√			State or federal courts of Travis county, TX; TX law
Moove **(Germany)**	√	√			No choice of law clause
Mu Online		√			Courts of

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(US)					Santa Clara county, CA; CA law
Nickelodeon Virtual Worlds/3-D Games (US)		√			Federal and state courts, state and county of New York.
Onverse (US)		√			State or federal court in Maricopa County, AZ; AZ law
Perfect World (China)	√ Only cites DMCA/IP notices by e-mail to customer service				
Ragnarok Online 2 (South Korea)		√			Courts and laws of US
Runescape (UK)		√			Courts of UK; English law
Second Life (US)		√		Voluntary; Claims < $10,000: nonappearance-based; by telephone, online or writing	Courts in city and county of San Francisco, CA; CA law
Sims 3 (US)		√	Informal negotiation required 30 days before filing for arbitration	Mandatory; AAA consumer rules; by telephone, online or writing; excludes residents of Quebec, Russia, Switzerland and EU from arbitration	

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Smeet (Germany)	√				Laws of Germany
Star Wars (Clone Wars Adventures & Old Republic) (US)		√	Informal negotiation required 30 days before filing litigation		State or federal courts of San Diego county, CA; CA law
Tian Long Ba Bu (China)					English courts; laws of England and Wales
Toontown (US)		√			State or federal courts of Manhattan, NY; NY & US law
Immersive Environment **(Game Developer's National Base)**	No Owner-Player DR Clause	Unilateral Termination **Clause**	Negotiation	Binding Arbitration	Litigation and/or Choice of Law
Utherverse (UK)		√		Inconsistent clause – exclusive use of online dispute resolution forum and exclusively through	Courts and tribunals located in Vancouver, British Columbia, Canada; laws of British Columbia
Ultima Online (US)		√			EU members – courts and law of England; US members – federal or state court of Northern District of CA; CA law
vSide		√			State or federal courts of

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					San Francisco county, CA; CA law
World of Warcraft (US)		√	Informal negotiation required 30 days before filing for arbitration	Mandatory; AAA consumer rules; by telephone, online, writing, or in-person- US residents – any convenient locations; non-US residents – County of LA, CA	
Whyville (US)		√			State or federal courts of LA county, CA; CA law

** Listing of immersive environments compiled from review of the following sources: EDWARD CASTRONOVA, SYNTHETIC WORLDS: THE BUSINESS AND CULTURE OF ONLINE GAMES 53, Table 1 (2005); Oliver Chiang, *Top Moneymaking Online Games Of 2009*, FORBES, June 10, 2010, http://www.forbes.com/sites/velocity/ 2010/06/10/ top-moneymaking-online-games-of-2009/ (last visited Nov. 4, 2011); Nadia Oxford, *Top 10 Virtual Online Worlds for Kids*, GAME THEORY ONLINE, Apr. 12, 2011, http://gametheoryonline.com/2011/04/12/online-games-mmo-virtual-kids/ (last visited Nov. 4, 2011); *Top 5, Best video games of 2010*, CNET TV Broadcast, Dec, 13, 2010, *available at* http://cnettv.cnet.com/best-video-games-2010/9742-1_53-50097336.html (last visited Nov. 4, 2011); *Top Ten MMORPG Games* (n.d.), THE-TOP-TENS.COM, http://www.the-top-tens.com/lists/top-ten-mmorpg-games.asp (last visited Nov. 4, 2011); *3D Virtual Worlds*, 3DCHATLINKS.COM, http://www.3dchatlinks.com/3D_Virtual_Worlds/ (last visited Dec. 29, 2011).

* Professor of Law, Florida Coastal School of Law. Professor Ponte wishes to acknowledge and thank her research assistants, Miles Weeks Mader, J.D., and Jeremiah Blocker, J.D. class of 2012, for their research on the ever-changing landscape of 3-D virtual worlds. In addition, the author thanks Dean Peter Goplerud and the Florida Coastal Summer Research Grant Program for supporting this research project.

1. Beth Simone Noveck, *The State of Play*, 49 N.Y.L. SCH. L. REV. 1, 2 (2004-2005); *Virtual Worlds Forecast to Grow 23% Through 2015*, STRATEGY ANALYTICS, (June 15, 2009), http://www.strategyanalytics.com/default.aspx?mod=PressReleaseViewer&a0=4745 [hereinafter *SA Forecast*] (copy on file with author). Harvey Cohen, President, Strategy Analytics, Inc., a global market research and consulting firm, stated that "[v]irtual worlds have largely overcome enabling restrictions in terms of broadband access, computing power, and ease of use, and are now experiencing significant interest among major brands, as well as traction among targeted demographics." *Id. See generally* Noveck, *supra* at 6−11 (providing a historical overview of virtual worlds). In addition, a 2011 Unisfair survey found that sixty percent of 550 marketers surveyed planned to increase their expenditures on virtual activities, including training (forty-two percent) and internal collaboration (thirty-four percent). Aliza Sherman, *Virtual Worlds: Immersive Training, Collaboration and Meetings*, GIGAOM (June 1, 2011), http://gigaom.com/collaboration/virtual-environments-for-training-collaboration-and-meetings/.

2. It is estimated that there are about 186 million individual or unique registrations in virtual worlds as of June 2009. Peter J. Quinn, *A Click Too Far: The Difficulty In Using Adhesive American Law License Agreements To Govern Global Virtual Worlds*, 27 WIS. INT'L L.J. 757, 758 (2010). By 2015, Strategy Analytics, Inc. predicts that active users of virtual worlds will reach about 638 million users globally, a twenty-three percent increase between 2009 and 2015. *SA Forecast*, *supra* note 1. The greatest increase will come from the "tweens and teens" market with a projected twenty-one percent increase. *Id.* In addition, the think tank asserts that the value of micro transactions in virtual worlds will make up eighty percent of their revenues, growing from $1 billion in 2008 to $17.3 billion by 2015. *Id.* Also, it is estimated that, globally, about 3 billion hours a week are spent in gaming communities. JANE MCGONIGAL, REALITY IS BROKEN, WHY GAMES MAKE US BETTER AND HOW THEY CAN CHANGE THE WORLD 3–4, 6 (2011). *See* Noveck, *supra* note 1, at 2.

3. *See supra* notes 1−2 and accompanying text. *See also* EDWARD CASTRONOVA, SYNTHETIC WORLDS, THE BUSINESS AND CULTURE OF ONLINE GAMES 1, 53, Table 1 (2005). *See infra* Table 1 and accompanying text. In general, the terms "virtual world," "virtual reality," "synthetic world," or "digital world" have been used in the past. *See* CASTRONOVA, *supra* at 4−5; BENJAMIN TYSON DURANSKE, VIRTUAL LAW, NAVIGATING THE LEGAL LANDSCAPE OF VIRTUAL WORLDS 4−5 (2008); F. Gregory Lastowka & Dan Hunter, *Virtual Worlds: A Primer*, *in* THE STATE OF PLAY: LAW, GAMES, AND VIRTUAL WORLDS 13, 15 (Jack M. Balkin & Beth Simone Noveck, eds. 2006) [hereinafter STATE OF PLAY]; Noveck, *supra* note 1, at 1. In 3-D gaming communities, terms such as "massive multi-player online" (MMO), "multi-player online role-playing game" (MPORG) or "massive multi-player online role-playing games" (MMPORG) have been applied. CASTRONOVA, *supra*, at 1, 9−10; Noveck, *supra* note 1, at 7−8. For the purposes of this paper, I will use the words "immersive (or virtual) environment," "virtual world, reality, or space(s)" interchangeably. These terms will apply to online spaces where individuals are present through 3-D avatars that can explore, engage, and interact with other avatars synchronously. *See* CASTRONOVA, *supra*, at 80−81; Joshua Fairfield, *Avatar Experimentation: Human Subjects Research in Virtual Worlds*, U.C. IRVINE L. REV. (forthcoming 2011); Lastowka & Hunter, *supra*, at 15. In addition, the 3-D immersive environment is continuous or persistent, meaning that the virtual world remains fully operational for others when an individual logs off or permanently departs that world. CASTRONOVA, *supra* at 80−81; DURANSKE, *supra*, at 2−3; Fairfield, *supra*; Lastowka &

Hunter, *supra*, at 15. My use of this terminology includes both gaming and social networking communities if the member interaction occurs primarily synchronously through 3-D avatars, which excludes casual, asynchronous games like *Farmville* or *Angry Birds*.

4. There have been various estimates of the amount of time users spend in immersive environments—from twenty to thirty average hours per week for typical users. CASTRONOVA, *supra* note 3, at 1. More recent figures, however, estimate that typical users play about one or two hours a day and only "hard-core" gamers play as much as twenty hours per week. MCGONIGAL, *supra* note 2, at 3−4. Regardless of the number of hours played, about sixty-nine percent of heads of households and ninety-seven percent of youths play video or computer games in an estimated $68 billion industry. *Id.* at 11. Estimates are that women make up about forty to forty-three percent of all gamers. *Id.* Nearly fifty percent of the world's population over the age of six plays computer or video games. CASTRONOVA, *supra* note 3, at 57.

5. An avatar is a "visual (or electronic) representation" of the individual user and may represent an aspect of the user's actual real world identity. DURANSKE, *supra* note 3, at 7, 10; Fairfield, *supra* note 3; Andrew Jankowich, *EULaw: The Complex Web of Corporate Rule-Making in Virtual Worlds*, 8 TUL. J. TECH. & INTELL. PROP. 1, 3, 21 (2006); Noveck, *supra* note 1, at 10. *See* CASTRONOVA, *supra* note 3, at 6−7. An avatar is often a human figure with varied appearance and dress than the user, but may also take shape as animal, abstract, or fanciful forms. DURANSKE, *supra* note 3, at 7−9. *See* Ed Finkel, *Will Dress Codes for Workplace Avatars Soon Be the Norm?*, A.B.A. (Feb. 1, 2011), http://www.abajournal.com/magazine/article/dress_for_virtual_success/.
However, Professor Fairfield warns about protecting individual's avatar in the rush to research and experiment in virtual worlds. He states that

> [a]n avatar, for example, does not merely represent a collection of pixels—it represents the identity of the user. The user is known by the avatar's name and is represented in the virtual world by the avatar. The avatar is the connection of the user to her online social community. Likewise, virtual reputations and trust are costly to generate, but easy to lose. If an avatar is identified as having harmed the community through interactions with a researcher, the human being behind the avatar will certainly suffer harm to her identity, reputation, and community.

Fairfield, *supra* note 3, at 9. *See infra* note 15 and accompanying text.

6. *See, e.g.*, HIPIHI WORLD, http://www.hipihi.com/en (last visited Aug. 11, 2011) (first 3-D virtual world in China with functioning economy, but government-censored); SECOND LIFE, http://www.secondlife.com (last visited Aug. 11, 2011) (official site with emphasis on 3-D social networking in various user-created living spaces and worlds); THE SIMS 3, http://www.thesims3.com (last visited Aug. 11, 2011) (official site of suburban life skills gaming environment); VSIDE, http://www.vside.com (last visited Aug. 11, 2011) (official site of teen social networking and music virtual environment).

7. *See, e.g.*, ENTROPIA UNIVERSE, http://www.entropiauniverse.com (last visited Aug. 11, 2011) (official site with science fiction, planetary-based environment with real cash economy); EVE ONLINE, http://www.eveonline.com (last visited Sept. 8, 2011) (science fiction site set 20,000 years in the future involving mastering skills as spaceship pilots); FINAL FANTASY XIV, http://na.finalfantasyxiv.com/# (last visited Sept. 8, 2011) (fantasy world set in mythical Eorza focusing on heroic missions against evil forces).

8. *See, e.g.*, GAIA ONLINE, http://www.gaiaonline.com (last visited Aug. 23, 2011) (official site of anime-inspired virtual world with emphasis on social networking and games); IMVU.COM, http://www.imvu.com (last visited Aug. 11, 2011) (official site focusing on social networking with 3-D chat and gaming fashion-based community).

9. *See, e.g.*, GUILD WARS, http://www.guildwars.com (last visited Sept. 8, 2011) (official site of sword and sorcery role-playing game of battles and heroic tasks); RUNESCAPE, http://www.runescape.com (last visited Aug. 23, 2011) (official site of most popular and free 3-D MMORPG Adventure game with monsters, quests, and treasure); WORLD OF WARCRAFT CATACLYSM, http://us.battle.net/wow/en/ (last visited Sept. 8, 2011) (official site of World of Warcraft, US portal, with focus on mythical battles and cooperative group raids).

10. Quinn, *supra* note 2, at 760−61. *See supra* notes 6−8 and accompanying text.

11. MCGONIGAL, *supra* note 2, at 302−12; Beth Simone Noveck, *Democracy-The Video Game: Virtual Worlds and the Future of Collective Action*, *in* STATE OF PLAY, *supra* note 3, at 276−79; Albert C. Lin, *Virtual Consumption: A Second Life for Earth?*, 2008 BYU L. REV. 47, 49−52 (2008); Mike Snyder, *Games that Teach Green Lessons Rack up Points*, USA TODAY, Aug. 18, 2011, at 3B.

12. A great deal of heated, worldwide controversy has arisen over the issue of virtual child pornography and exploitation through "age play," sexual conduct with avatars who appear as minors in virtual worlds. *See* Caroline Meek, *Recent Development, Just Age Playing Around? How Second Life Aids and Abets Child Pornography*, 9 N.C. J.L. & TECH. ON. 88 (2008), *available at* http://cite.ncjolt.org/9NCJOLTOnlineEd88; Gabrielle Russell, *Pedophiles in Wonderland: Censoring the Sinful in Cyberspace*, 98 J. CRIM. L. & CRIMINOLOGY 1467, 1487−94 (2008); Natalie Paris, *Virtual World 'Child Abuse' Claim*, THE TELEGRAPH (May 9, 2007), http://www.telegraph.co.uk/news/worldnews/1551071/Virtual-world-child-abuse-claim.html; David Rising, *Germans Investigate Child Porn in Virtual World*, MSNBC.COM, http://www.msnbc.msn.com/id/18600982/ns/technology_and_science-tech_and _gadgets/t/germans-investigate-child-porn-virtual-world/ (last updated May 10, 2007, 7:44 PM); *Virtual Child Porn May Be a Crime in Netherlands*, YAHOO! NEWS (Feb. 21, 2007), http://msl1.mit.edu/furdlog/docs/2007-02-21_reuters_dutch_virtual_porn.pdf. Under pressure, Second Life revised its terms of service to ban age play and sharing of virtual or real child pornography in-world. *See Linden Lab Official: Clarification of Policy Disallowing Age Play*, http://wiki.secondlife.com/wiki/Linden_Lab_Official:Clarification_of_policy_ disallowing_ageplay (last visited Sept. 8, 2011). In considering virtual worlds like Second Life, Professor Lin noted that

> While Second Life presents a myriad of potentially positive applications, it also has its share of potentially degrading influences. Perhaps the most troubling concerns posed by virtual worlds are the dangers of addiction, dehumanization, and detrimental effects on relationships and values. In one columnist's words, Second Life is "98% stupid, overrun with sex clubs, discos, casinos, yard sales, tragic architecture, and more shopping malls than the San Fernando Valley." Another observer, analogizing Second Life to "a seedy, derelict carnival," found Second Life to be dominated by the "breakdown of inhibition," resulting in "the triumph of amusement and distraction over meaning and purpose."

Lin, *supra* note 11, at 107−08 (footnotes omitted).

13. Claims of criminal activity such as hacking, theft of virtual property, terrorism, gambling, fraud, stalking, and prostitution in virtual worlds have been reported. CASTRONOVA, *supra* note 3, at 237−38; DURANSKE, *supra* note 3, at 200−07; Lastowka & Hunter, *supra* note 3, at 122−25; Jack Balkin, *Law and Liberty in Virtual Worlds*, *in* STATE OF PLAY, *supra* note 3, at 97−98. Even in the early era of text-based online worlds, a "rape in cyberspace" was reported. CASTRONOVA, *supra* note 3, at 156; Lastowka & Hunter, *supra* note 3, at 122. In another instance, a woman in Japan was jailed for killing her virtual world's spouse by hacking into his account and deleting his avatar. Mari Yamaguchi, *Woman in Japan Jailed in 'Killing' Virtual Spouse*, ASSOCIATED PRESS, Oct. 24, 2008, http://www.azcentral.com/news/articles/2008/10/24/20081024japan-virtual1024.html#ixzz1XIGyVyjL. *See also* Joshua A.T. Fairfield, *The Magic Circle*, 11 VAND. J. ENT. & TECH. L. 823, 824 (2009). Other commentators have weighed the potential liability of game owners or developers for 3-D video games that have allegedly inspired real-world homicides and school-shooting rampages. *See, e.g.*, Richard C. Ausness, *The Application of Product Liability Principles to Publishers of Violent or Sexually Explicit Material*, 52 FLA. L. REV. 603, 604−12 (2000); William Li, Note, *Unbaking the Adolescent Cake: The Constitutional Implications of Imposing Tort Liability on Publishers of Violent Video Games*, 45 ARIZ. L. REV. 467, 467−71 (2003).

14. In one survey, about twenty percent of responders indicated that online worlds were their "'real' places of residence" with the bricks-and-mortar world viewed as "just a place you go to get food and sleep." Noveck, *supra* note 1, at 2. More importantly, Professor Noveck stated that

> regular participants in virtual worlds spend more time in these virtual societies than they do on the job or engaged in their own communities. Whereas here they do not vote, they do not bowl, they do not participate, and they do not follow politics, "there" they do. "There" people are gathering, not to shoot space invaders or munch blips on the screen, but to participate in building new social universes.

Id. at 2−3 (footnotes omitted). *See* CASTRONOVA, *supra* note 3, at 1−2. *See supra* note 3 and accompanying text.

15. *See* Eric M. Fink, *The Virtual Construction of Legality: 'Griefing' & Normative Order in Second Life*, 21 J. OF L. INFO. & SCI. (forthcoming in Edition 21(1)).

16. There may be a variety of conflicts between game developers and regulatory government bodies or with outside third parties, but this article will focus on developer-participant disputes. *See* Fink, *supra* note 15, at 12–13 (discussing six potential kinds of disputes between developers, gamers, third parties, and governmental bodies).

17. Scholars have hotly debated over how to properly identify and define the boundaries of virtual worlds in the context of real world laws and regulations. *See, e.g.*, Richard A. Bartle, *Virtual Worldliness*, 49 N.Y.L. SCH. L. REV. 19 (2004-2005) (asserting that courts should not interfere with discretion and rights of game developers); Edward Castronova, *The Right to Play*, 49 N.Y.L. SCH. L. REV. 185 (2004-2005) (arguing for "law of iterration" in which legislation should protect closed, synthetic worlds from state intervention); Joshua A.T. Fairfield, *The Magic Circle*, 11 VAND. J. ENT. & TECH. L. 823 (2009) (contending that online worlds are not enclosed within "magic circle" beyond the reach of real worlds, but porous entities capable of real world legal consequences); Fink, *supra* note 15, at 18–19, 28

(stating that normative practice of "griefing" plays important role in maintaining social order in Second Life); Michael Risch, *Virtual Rule of Law*, 112 W. VA. L. REV. 1 (2009) (positing that EULAs and code are the strongest possibilities for effective rule of law in virtual worlds). *See generally* DURANSKE, *supra* note 3, 19−26; Noveck, *supra* note 1, at 11−18 (both sources offer an overview of key perspectives in debate over application of real world law to virtual worlds).

18. *See, e.g.*, MDY Indus., LLC v. Blizzard Entm't, Inc., 2011 U.S. App. LEXIS 3428 (9th Cir. Feb. 17, 2011) (reversing claims of secondary copyright infringement as game players did not commit primary infringement when using MDY's bot to play World of Warcraft, but upholding DMCA violations against MDY); Amaretto Ranch Breedables, LLC v. Ozimals, Inc., 790 F. Supp. 2d 1024 (N.D. Cal. 2011) (online seller of virtual rabbits sued online merchant of virtual horses for alleged copyright infringement in Second Life); Evans v. Linden Research, Inc., 763 F. Supp. 2d 735 (E.D. Pa. 2011) (upholding CA forum selection clause when subscribers sued Second Life under contract and tort action for alleged unlawful confiscation of virtual property); Zynga Game Network, Inc. v. Playerauctions.com, Case No. CV10-2576- CBM, 2010 WL 1606354 (C.D. Cal. Apr. 8, 2010) (Zynga sued auction site for trademark and copyright infringement for selling virtual currency and game assets); Fahy v. Linden Research, Inc., CV01-561, 2010 U.S. Dist. LEXIS 109591 (E.D. Pa. Oct. 13, 2010) (dismissing without prejudice plaintiff's claim that certain "John Does" avatars in Second Life infringed his algorithm permitting faster loading times and improved interactivity with other avatars in virtual world); Blizzard Entertainment, Inc. v. Reeves, 2009 U.S. Dist. Ct. Pleadings 7621 (C.D. Cal., Oct. 20, 2009) (Blizzard breach of contract and DMCA lawsuit against defendant for creation and proliferation of software and operation of web server allowing unlawful access to copies of World of Warcraft (WoW) via scapegaming.com); Zynga Game Network, Inc. v. John Does 1-50, Case No. CV-02957-HRL (N.D. Cal., June 19, 2009) (Zynga sued unnamed parties for allegedly selling virtual game chips in violation of Zynga's trademarks); Taser Int'l v. Linden Lab, 2:09-cv-00811 (D. Ariz., Apr. 20, 2009) (Taser brought trademark infringement case against Second Life adult-themed stores selling virtual taser guns which was ultimately dismissed without prejudice); Minsky v. Linden Res., Inc., Civil Case No. 08-CV-819 (N.D.N.Y., July 29, 2008); Bragg v. Linden Research, Inc., 487 F. Supp. 2d 593 (E.D. Pa. 2007) (determining that Second Life's arbitration provision requiring a venue of San Francisco, California is unconscionable in light of the website's national presence); Hernandez v. Internet Gaming Entm't, Ltd., 2007 U.S. Dist. Ct. Pleadings 21403 (S.D. Fla. June 1, 2007) (class action brought on behalf of WoW players against Hong Kong "gold farming" operation for trading in virtual game assets for profit and substantial impairment of asset use and WoW player enjoyment associated with consumer agreements between Blizzard Entertainment and subscribers); Eros, LLC v. Leatherwood, Case No. 8:07-CV-1158-SCB-TGW (M.D. Fla., July 3, 2007) (default judgment in case when plaintiff sued avatar Volkov Catteneo for copyright infringement of Eros's virtual sex bed); Eros, LLC et al. v. Simon, Case No. 07-CV-4447-SLT-JMA (E.D.N.Y., Oct. 24, 2007) (case settled in which Eros sued avatar, Rase Kenzo, for copyright and trademark infringement of adult-oriented virtual clothing, furniture, and other virtual objects); Marvel Enters. v. NCsoft Corp., 2005 U.S. Dist. LEXIS 8448 (C.D. Cal. Mar. 9, 2005) (Marvel brought trademark and copyright infringement against company whose online game permitted users to create and name their own online characters for game play in 3-D City of Heroes universe of Paragon City); Davidson & Assocs. v. Internet Gateway, 334 F. Supp. 2d 1164

(E.D. Mo. 2004), *aff'd* Davidson & Assocs. v. Jung, 422 F.3d 630 (8th Cir. 2005) (finding in favor of Blizzard as to copyright, DMCA, and breach of contract/terms of use against former subscribers and others in illicitly emulating Blizzard's Battle.net site). Notably, a Chinese civil court was the first to recognize the value of virtual property when it ordered "Red Moon" game developer to restore virtual goods and game status to an online gamer whose account was hacked into due to poor game security. CASTRONOVA, *supra* note 3, at 166; Jay Lyman, *Gamer Wins Lawsuit in Chinese Court Over Stolen Virtual Winnings*, TECHNEWSWORLD (Dec. 19, 2003), http://www.technewsworld.com/story/32441.html?wlc=1315771673. *See generally* Joshua A.T. Fairfield, *The God Paradox*, 89 B.U. L. REV. 1017, 1025−60 (2009) (providing an overview of likely bases for game developer liability, including copyright and trademark infringement, DMCA violations, contract and property claims, and tort liability).

19. *See infra* Table 1 and accompanying text.
20. *Id*. *See infra* note 128 & Table 1 and accompanying text.
21. *Id*. *See infra* notes 129−32 & Table 1 and accompanying text.
22. *See infra* notes 129, 153 & Table 1 and accompanying text. Based on this phrasing, Web 1.0 online dispute resolution (ODR) technologies could be employed such as e-mail, automated software programs, or video conferencing outside of the virtual world, but typically not utilizing the 3-D technologies within the contours of these virtual worlds. *See* Lucille M. Ponte, *Throwing Bad Money After Bad: Can Online Dispute Resolution (ODR) Really Deliver the Goods for the Unhappy Internet Shopper?*, 3 TUL. J. TECH. & INTELL. PROP. 55, 65−86 (2001); Jennifer Sackin, *Online Dispute Resolution With China: Advantageous, But At What Cost?*, 12 CARDOZO J. CONFLICT RESOL. 245, 259−61 (2010); Amy Schmitz, "*Drive Thru" Arbitration in the Digital Age: Empowering Consumers Through Binding ODR*, 62 BAYLOR L. REV. 178, 187−99 (2010). *See generally* ETHAN KATSH & JANET RIFKIN, ONLINE DISPUTE RESOLUTION: RESOLVING CONFLICTS IN CYBERSPACE 21–27 (2001); LUCILLE M. PONTE & THOMAS D. CAVENAGH, CYBERJUSTICE: ONLINE DISPUTE RESOLUTION FOR E-COMMERCE 24−31 (2005); COLIN RULE, ONLINE DISPUTE RESOLUTION FOR BUSINESS: B2B, ECOMMERCE, CONSUMER, EMPLOYMENT, INSURANCE, AND OTHER COMMERCIAL CONFLICTS 61–80 (2002).
23. *See infra* note 128 & Table 1 and accompanying text.
24. Evans v. Linden Research, Inc., 763 F. Supp. 2d 735, 738 (E.D. Pa. 2011) (claimed Second Life unilaterally changed terms of use, changing their virtual property ownership to mere license of use and resulting in requested class action); Bragg v. Linden Research, Inc., 487 F. Supp. 2d 593, 595–597 (E.D. Pa. 2007) (Second Life unilaterally froze plaintiff's account for claimed improper purchase of virtual land leading to judicial challenge).
25. *See infra* notes 94−95 and accompanying text.
26. *See infra* note 103 and accompanying text.
27. *See infra* notes 102−08 and accompanying text.
28. *See infra* notes 109−16 and accompanying text.
29. *See infra* notes 128, 146 & Table 1 and accompanying text.
30. *See infra* notes 153−66 and accompanying text.
31. *See infra* notes 109−12 and accompanying text.
32. *See infra* notes 27, 65, 89, 97 and accompanying text.
33. *See infra* Part II and accompanying text.
34. *See id*.

35. *See infra* Part III and accompanying text.

36. *See infra* Part IV and accompanying text.

37. JAMES PAUL GEE, WHAT VIDEO GAMES HAVE TO TEACH US ABOUT LEARNING AND LITERACY 37−38 (rev. ed. 2007); K. Facer et al., *Savannah: mobile gaming and learning?*, 20 J. OF COMPUTER ASSISTED LEARNING 399, 399−400 (2004); Cher P. Lim, Darren Norris & John Hedberg, *Gaming in a 3D multiuser virtual environment: engaging students in Science lessons*, 37 BRIT. J. OF EDUC. TECH. 211, 213 (2006); Herbert H. Wideman et al., *Unpacking the potential of educational gaming: A new tool for gaming research*, 38 SIMULATION & GAMING 1, 1−2 (Mar. 2007).

38. GEE, *supra* note 37, at 9, 65−66; Michele D. Dickey, *Three-dimensional Virtual Worlds and Distance Learning: Two Case Studies of Active Worlds as a Medium for Distance Education*, 36 BRIT. J. OF EDUC. TECH. 439, 440 (2005); M. Hobbs, E. Brown & M. Gordon, *Using A Virtual World for Transferable Skills in Gaming Education*, Virtual World Environments ¶ 1.1 (Aug. 2006); Wideman et al., *supra* note 37, at 2. Professor Dickey noted that "information taught in schools is often presented as 'third-person symbolic experiences,' whereas innately, much of how we learn is through first-person nonsymbolic experiences. . . . VR [Virtual Reality] can help bridge the gap between experiential learning and information representation." Dickey, *supra*, at 440.

39. GEE, *supra* note 37, at 65; MCGONIGAL, *supra* note 2, at 127−28.

40. Carlo Fabricatore, *Learning and Videogames: An Unexploited Synergy*, ¶¶ 2.2, 3.1; Lim, et al., *supra* note 37, at 212.

41. Facer et al., *supra* note 37, at 408; Hobbs et al., *supra* note 38, at ¶ 2.1; Lim et al., *supra* note 37, at 217; Wideman et al., *supra* note 37, at 3. Based on their pedagogical research, Professor Facer and her colleagues indicate that

> [f]or games to encourage the sorts of problem solving, hypothesis generation and testing that are in evidence in effective mainstream games and in the best learning environments, the challenges need to be real and complex and difficult to solve . . . "wicked-problems" that have no simple closed solution. In itself, this is a benefit to the game. . . . a complex, difficult and problematic challenge.

Facer et al., *supra* note 37, at 408.

42. Wideman et al., *supra* note 37, at 3−4. *See* GEE, *supra* note 37, at 67−68; MCGONIGAL, *supra* note 2, at 36.

43. MCGONIGAL, *supra* note 2, at 127−28; Facer et al., *supra* note 37, at 399−400; Wideman et al., *supra* note 37, at 2; John Zich, *Colleges' latest thrust in learning: Video games*, USATODAY.COM (Nov. 29, 2011), http://www.usatoday.com/_ads/interstitial/2008/page/interstitial_new.htm?http://www.usatoday.com/news/education/story/2011-11-29/video-games-college-learning/51478224/1. *See infra* notes 49−55 and accompanying text.

44. *See* Proposal from David R. Johnson & Tanina Rostain to the Future of Legal Education Conference, Seriously Gamifying Legal Learning (Feb. 27, 2011), http://dotank.nyls.edu/futureed/2011proposals/03sgll.pdf [hereinafter Gamifying Proposal].

45. Facer et al., *supra* note 37, at 399; Lim et al., *supra* note 37, at 212; Marc Prensky, *Digital Natives, Digital Immigrants*, 9 ON THE HORIZON 1, 1–3 (Oct. 2001).

46. GEE, *supra* note 37, at 172−73; Prensky, *supra* note 45, at 2−4; John Seely Brown, *Growing Up Digital*, 32 CHANGE 10−20 (Mar./Apr. 2000) (ProQuest unpaginated). Professor Prensky stated that

> Today's students – K through college – represent the first generations to grow up with this new technology. They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age. Today's average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives.
>
> It is now clear that as a result of this ubiquitous environment and the sheer volume of their interaction with it, today's students *think and process information fundamentally differently* from their predecessors. These differences go far further and deeper than most educators suspect or realize. "Different kinds of experiences lead to different brain structures," says Dr. Bruce D. Perry of Baylor College of Medicine. . . . [I]t is very likely that *our students' brains have physically changed* – and are different from ours – as a result of how they grew up."

Prensky, *supra* note 45, at 1 (emphasis added).

47. GEE, *supra* note 37, at 188; MCGONIGAL, *supra* note 2, at 26−27; Lim et al., *supra* note 37, at 214, 223; *Writing*, Essay on *What Kids Learn That's POSITIVE From Playing Video Games*, MARCPRENSKY.COM, 4 (2002), http://www.marcprensky.com/writing/; Brown, *supra* note 46. Ms. McGonigal, an accomplished video game designer and futurist, indicates that successful video games do not explain their rules upfront, but require the participant to puzzle out what they are supposed to do and how they are supposed to play the game. MCGONIGAL, *supra* note 2, at 26. She states that

> [t]his kind of ambiguous play is markedly different from historical, predigital games. Traditionally, we have needed instructions in order to play a game. But now we're often invited to learn as we go. We explore the game space, and the computer code effectively constrains and guides us. We learn how to play by carefully observing what the game allows us to do and how it responds to our input. As a result, most gamers never read game manuals.

Id.

48. Hobbs et al., *supra* note 38, at ¶¶ 1.3.2. One of the first virtual world communities used in an educational context was the University of Central Florida's ExploreNet Experiment. *Id. See generally* Charles E. Hughes & J. Michael Moshell, *Shared Virtual Worlds for Education: The ExploreNet Experiment*, 5 ACM MULTIMEDIA 145, 145−54 (Mar. 1997), http://www.cs.ucf.edu/~ExploreNet/papers/VA.Experiment1195.html (creation and testing of "Habitat" 2-D virtual world in which 100 elementary students learned how to construct virtual worlds in order to teach instructor-chosen concepts to their peers in 1995).

49. Chang Ha Lee et al., *Towards an Immersive Virtual Environment for Medical Team Training*, 125 STUD. IN HEALTH TECH. AND INFORMATICS 274, 274−79 (2007); J. Galea et al., *On The Design Of Learning Contents For 3d Virtual Environments*, 2002 Proceedings of International Conference on Information and Communication Technologies in Education, Information Society and Education: Monitoring a Revolution, 4–6, http://www.sre.urv.es/web/tel3D/recursos/icte.pdf (last visited Sept. 29, 2011); Wideman et al., *supra* note 37, at 5−6. *See Virtual Heroes, Duke Medical School team up for virtual training*, WRAL TECH WIRE (May 27, 2010), http://wraltechwire.com/business/tech_wire/news/blogpost/7681540/.

50. David Axe, *Virtual World for Future Army Training*, WIRED.COM (July 29, 2008, 5:00 AM), http://www.wired.com/dangerroom/2008/07/mmog/; Jose Antonio Vargas, *Virtual Reality Prepares Soldiers for Real War*, THE WASH. POST (Feb. 14, 2006), http://www.washingtonpost.com/wp-dyn/content/article/2006/02/13/AR2006021302437.html.

51. GEE, *supra* note 37, at 55−57; Facer et al., *supra* note 37, at 400−02; Yoav Yair, Rachel Mintz & Shai Litvak, *3D-Virtual Reality in Science Education: An Implication for Astronomy Teaching*, 20 J. OF COMPUTERS IN MATHEMATICS AND SCI. TEACHING 293, 293−305 (2001), *available at* http://www.stanford.edu/dept/SUSE/projects/ireport/articles/3D/JCMST203293.pdf (last visited Sept. 29, 2011).

52. Press Release, Toolwire, Toolwire and University of East London Re-Invigorate Legal Study, "Virtual Internships" Bring Law to Life for Students (Jan. 25, 2011), http://www.toolwire.com/pdfs/Toolwire%20UEL%20Press%20Release_012511.pdf. Overall, there has been a dearth of 3-D simulations in law school, and law school professors have called for efforts to find appropriate authoring tools and the creation of an online repository for law school serious games. *See* Gamifying Proposal, *supra* note 44.

53. Prensky, *supra* note 45, at 5.

54. Dickey, *supra* note 38, at 441, 443−44; Wideman et al., *supra* note 37, at 5−6. *See* Press Release, PR Web, Vertical Learning Curve Creates the World's First 3D MBA (June 23, 2011), http://www.prweb.com/releases/2011/6/prweb8594779.htm.

55. Dickey, *supra* note 38, at 447−49; Susan H. Rodger, *Introducing Computer Science Through Animation and Virtual Worlds*, www.cs.duke.edu/csed/rodger/papers/cse02.pdf (last visited Sept. 29, 2011).

56. GEE, *supra* note 37, at 24−25; Dickey, *supra* note 38, at 440; Fabricatore, *supra* note 40, at ¶5; Lim et al., *supra* note 37, at 212. Similarly, Professor Wideman notes that

> The lack of student motivation evident in traditional schooling has been viewed by many educational theorists and researchers as largely a consequence of the routinized decontextualization of instruction—the presentation of knowledge to students in its most abstract forms. Learning is removed from contexts in which is [sic] has instrumental utility and divorced from students' intrinsic interests. In contrast, effective games embed learning in meaningful situations that are endogenous to the game itself. The personally meaningful and valued social and material worlds in which game learning takes place may be "virtual" from an outsider's perspective; however, they have a psychological reality for the player that directly mediates the player's level of immersion, persistence in the face of

> challenges, and intrinsic desire to learn. Gaming can make it possible for new, situated understandings to be developed through embodied experiences in complex domains that are otherwise inaccessible. Factual learning comes more easily when learners are immersed in personally meaningful experiences and use those facts for achieving desired ends within that situated domain.

Wideman et al., *supra* note 37, at 2−3 (citations omitted).

57. Dickey, *supra* note 38, at 445, 447−48; Lim et al., *supra* note 37, at 214; Wideman et al., *supra* note 37, at 2−3.

58. Dickey, *supra* note 38, at 441, 449; Lim et al., *supra* note 37, at 214; Wideman et al., *supra* note 37, at 4.

59. GEE, *supra* note 37, at 59; Dickey, *supra* note 38, at 445−46; Fabricatore, *supra* note 40, at ¶¶ 2.1, 3.2. *See* Abed H. Almala, *Applying the Principles of Constructivism to a Quality E-Learning Environment*, DISTANCE LEARNING, no. 1, 2006 at 33 (2006), *available at* http://www.usdla.org/assets/pdf_files/USDLA_Distance_Learning.pdf (ProQuest, unpaginated). As to video games, Professor Gee discusses the role of "psychosocial moratorium" which finds that games can provide "a learning space in which the learner can take risks where real-world consequences are lowered. After all, you can save the game and start back at the save point when you fail. . . . [T]he cost of caring is not prohibitive, as it often is in school." GEE, *supra* note 37, at 59.

60. Wideman et al., *supra* note 37, at 3−4, 7. Professor Wideman and his team noted that, "[e]vidence of the importance of meaningful contextualization in educational games can be seen in a series of experiments by Lepper and colleagues, who found that providing concrete contextualizations for solving gamelike puzzles by embedding them in a simple fantasy narrative markedly enhanced student motivation and learning." *Id.* at 3.

61. Lim et al., *supra* note 37, at 214−15; Prensky, *supra* note 45, at 7; Wideman et al., *supra* note 37, at 4.

62. Fabricatore, *supra* note 40, at ¶ 2.1.

63. MCGONIGAL, *supra* note 2, at 33. Ms. McGonigal discusses the notion of "fiero" as "the most primal emotional rush" to overcoming obstacles. *Id.* at 33. She notes that humans have "a craving for challenges that we can overcome, battles we can win, and dangers we can vanquish . . . [t]he more challenging the obstacle we overcome, the more intense the fiero." *Id.* She does warn about the dangers of game addiction and the importance of designing fatigue ticklers into games to reward rest periods or reduce rewards for obsessive, continuous gameplay. *Id.* at 43−44.

64. Wideman et al., *supra* note 37, at 3, 5. Much of educational gaming tends not to meet students' expectations and is largely unable to compete with the sophisticated graphics and interfaces of commercial video gaming. Facer et al., *supra* note 37, at 402; Wideman et al., *supra* note 37, at 5.

65. Dickey, *supra* note 38, at 440, 445; Hobbs et al., *supra* note 38, at ¶¶ 1.1, 1.3.1; Wideman et al., *supra* note 37, at 4−5.

66. Wideman et al., *supra* note 37, at 5−6.

67. Fabricatore, *supra* note 40, at ¶¶ 1, 4; Facer et al., *supra* note 37, at 399−400. Professor Facer notes that

> [g]ames technologies . . . have for some time struggled to be taken seriously within the educational arena. Games, with their emphasis on fun and pleasure, and their often (to an adult eye) repetitive challenges, have until recently been seen as a distraction from the more serious business of computer aided learning . . . [I]t is only relatively recently that sustained educational research has been carried out in this area. What research that does exist, however, is increasingly pointing towards the potential of computer games to offer children powerful opportunities not only to learn through experience, but to develop meta-level reflections on strategies for learning.

Id. (citations omitted).

68. *See* Nishan C. Perera, *Constructivism, Social Constructivism and Situated Cognition: A Sliding Scale*, NISHANCPERERA (Jan. 31, 2011), http://nishancperera.com/2011/01/31/constructivism-social-constructivism-and-situated-cognition-a-sliding-scale-by-nishan-perera/; Katherine C. Powell & Cody J. Kalina, *Cognitive and Social Constructivism: Developing Tools for an Effective Classroom*, 130 EDUCATION 241, 241−50 (Winter 2009) (ProQuest, unpaginated); John Quay, *Experience and Participation: Relating Theories of Learning*, 26 J. OF EXPERIENTIAL EDU. 105, 105−07 (Fall 2003); Wideman et al., *supra* note 37, at 3. Professor Perera indicates that even though these learning theories are considered separate concepts, he suggests that there is sufficient overlap that they could be considered on a sliding scale within the constructivist paradigm. Perera, *supra*.

69. *See infra* notes 72−77 and accompanying text.

70. *See infra* notes 78−83 and accompanying text.

71. *See infra* notes 84−90 and accompanying text.

72. Dickey, *supra* note 38, at 449.

73. Almala, *supra* note 59; Powell & Kalina, *supra* note 68.

74. Almala, *supra* note 59, at 441; Facer et al., *supra* note 37, at 400; Powell & Kalina, *supra* note 68; Quay, *supra* note 68, at 106−07, 109; Wideman et al., *supra* note 37, at 3−4.

75. Dickey, *supra* note 38, at 440; Powell & Kalina, *supra* note 68; Wideman et al., *supra* note 37, at 2−3. *See* MCGONIGAL, *supra* note 2, at 49.

76. Almala, *supra* note 59, at 35. Professor Almala indicated that constructivism is a post-modern approach to learning and indicates that the five main aspects of constructivism are "(1) a complex and relevant learning environment; (2) social negotiation; (3) multiple perspective and multiple modes of learning; (4) ownership in learning; and (5) self-awareness and knowledge construction." *Id.* He added that these five factors are essential to an effective online learning course. *Id.*

77. Quay, *supra* note 68, at 109; John Seely Brown et al., *Situated Cognition and the Culture of Learning*, 32 EDUC. RESEARCHER 39, 39−40 (Jan.-Feb. 1989); Wideman et al., *supra* note 37, at 4. Professor Wideman states that

> Learning in advanced gaming occurs largely as an iterative process in which concrete experience is observed and reflected on, leading to the development of mental models and inferences that are then applied to the environment to test emergent conclusions, generating further concrete experience. This "trial-and-error" approach to meeting the types of challenges common to most recreational

> games has been seen as supporting the development of logical thinking and problem-solving skills. The process embodies Kolb's four-stage model of effective experiential learning; it is how children naturally learn outside of the school context, and it forms the basis for many types of expert practice.

Id. at 3 (citations omitted). *See infra* note 110 and accompanying text.

78. Almala, *supra* note 59, at 35; Dickey, *supra* note 38, at 440, 445; Hobbs et al., *supra* note 38, at ¶ 1.1; Lim et al., *supra* note 37, at 218, 223; Powell & Kalina, *supra* note 68; Quay, *supra* note 68, at 106−07. *See* MCGONIGAL, *supra* note 2, at 49.

79. *See supra* note 75 and accompanying text. *See* GEE, *supra* note 37, at 187 (discussing social nature and team work inherent in online games and worlds). Research has also shown that children who play games that require them to help others to succeed are much more likely to exhibit helpful attitudes in their real world interactions. MCGONIGAL, *supra* note 2, at 113−14.

80. Dickey, *supra* note 38, at 441, 448−49; Powell & Kalina, *supra* note 68; Quay, *supra* note 68, at 106−07.

81. Lim et al., *supra* note 37, at 229; *Learning Theories and Transfer of Learning*, OTEC, http://otec.uoregon.edu/learning_theory.htm (last visited Sept. 29, 2011).

82. Hobbs et al., *supra* note 38, at ¶¶ 3.1, 3.3, 4; Lim et al., *supra* note 37, at 212; Quay, *supra* note 68, at 107−08; Wideman et al., *supra* note 37, at 4−5. *See* Almala, *supra* note 59.

83. *See* Hobbs et al., *supra* note 38, at ¶ 3.3; Lim et al., *supra* note 37, at 222.

84. GEE, *supra* note 37, at 8−9; Dickey, *supra* note 38, at 448; Quay, *supra* note 68, at 107−08; Wideman et al., *supra* note 37, at 3−4. In reviewing an Active Worlds 3-D modeling class, Professor Dickey stated,

> [The] class also supported many characteristics of situated learning. Underlying situated learning is the belief that "knowledge is contextually situated and is fundamentally influenced by the activity, context, and culture in which it is used." Characteristics of situated learning include authentic context and activity, access to expert modeling, multiple roles and perspectives, and scaffolding and mentoring.

Dickey, *supra* note 38, at 447–48 (citations omitted)

85. GEE, *supra* note 37, at 54−55; Dickey, *supra* note 38, at 448−49; Wideman et al., *supra* note 37, at 3.

86. Dickey, *supra* note 38, at 448−49; Hobbs et al., *supra* note 38, at ¶ 3.3; Lim et al., *supra* note 37, at 218, 229; Wideman et al., *supra* note 37, at 4−5.

87. Quay, *supra* note 68, at 107−08; Wideman et al., *supra* note 37, at 4−5.

88. This tentative beginning at the edges is referred to as noted theorists Jean Lave and Etienne Wenger's "concept of *legitimate peripheral participation*." Quay, *supra* note 68, at 107. *See* GEE, *supra* note 37, at 123−24. Professor Gee notes that effective games allow novices to work through "subdomains" of the online world that are basic training modules for the fuller world and are not merely "thrown into the 'real' thing—the full game—and left to swim or drown." *Id*. at 123−24.

89. Researchers Lave and Wagner are also credited with this idea. Hobbs et al., *supra* note 38, at ¶ 2.1; Quay, *supra* note 68, at 108, 111; Wideman et al., *supra* note 37, at 4−5.

> Communities of practice are groups of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly. The benefits include engagement with activities, feelings of connectedness, increased satisfaction[,] belonging and trust, support, increased confidence, personal development and even a sense of fun. Such groups are defined by what members do together, and are seen to develop around 'things that matter', such as learning and the kinds of open ended problems that benefit from informal collaborative activity. It is stating the obvious that when people enjoy the social aspects of a task they tend to work better, but perhaps it is a little less obvious that these informal socialisation skills can and should be encouraged in an academic setting.

Hobbs et al., *supra* note 38, at ¶ 2.1. *See* GEE, *supra* note 37, at 65 (pointing out the importance of practice in learning and retention of knowledge).

90. Hobbs et al., *supra* note 38, at ¶ 2.1; Quay, *supra* note 68, at 107−08; Wideman et al., *supra* note 37, at 4−5.

91. Hobbs et al., *supra* note 38, at ¶¶ 3.1, 3.3, 4; Lim et al., *supra* note 37, at 212; Quay, *supra* note 68, at 107−08; Wideman et al., *supra* note 37, at 4−5. *See* Almala, *supra* note 59.

92. GEE, *supra* note 37, at 65−68; Wideman et al., *supra* note 37, at 5.

93. Quay, *supra* note 68, at 107−08; Wideman et al., *supra* note 37, at 4−5.

94. Fabricatore, *supra* note 40, at ¶¶ 3.1-3.2. *See supra* note 81−89 and accompanying text.

95. Fabricatore, *supra* note 40, at ¶¶ 3.1-3.2. *See* Lim, et al., *supra* note 37, at 217. Similarly, Professor Lim and her colleagues assert that effective learning in online communities comes from curricular tasks or quests that "consist of information collection, interpretation and analysis, and personal reflection to foster critical thinking and metacognition." *Id.*

96. Fabricatore, *supra* note 40, at ¶¶ 3.1-3.2; Lim et al., *supra* note 37, at 216−18.

97. *See infra* notes 98−116 and accompanying text. *See also* Sackin, *supra* note 22, at 267−68 (author notes importance of mediation as "dominant method" of conflict resolution in China).

98. *See supra* notes 88, 92−93 and accompanying text.

99. Fabricatore, *supra* note 40, at ¶¶ 3.2; Lim et al., *supra* note 37, at 214.

100. MARTIN A. FREY, ALTERNATIVE METHODS OF DISPUTE RESOLUTION 84 (2003); PONTE & CAVENAGH, *supra* note 22, at 38, 54; LUCILLE M. PONTE & THOMAS D. CAVENAGH, ALTERNATIVE DISPUTE RESOLUTION IN BUSINESS 62−63, 70−71 (1999).

101. FREY, *supra* note 100, at 84, 152−53; PONTE & CAVENAGH, *supra* note 100, at 70−71, 99.

102. GEE, *supra* note 37, at 78, 121; Facer et al., *supra* note 37, at 407; Wideman et al., *supra* note 37, at 1−2. *See supra* notes 92−93 and accompanying text.

103. CASTRONOVA, *supra* note 3, at 108−09; GEE, *supra* note 37, at 7, 49−50, 53−56, 122; Balkin & Noveck, *Introduction*, *in* STATE OF PLAY, *supra* note 3, at 10; Almala, *supra* note 59; Wideman et al., *supra* note 37, at 3. Profs. Balkin and Noveck state,

> A key feature of virtual worlds is their flexibility about identity: They allow players to assume multiple identities and take on new social roles. Multiple iden-

> tities and role playing are hardly unique to virtual worlds. Nevertheless, the graphical representation of avatars is one of virtual worlds' most salient characteristics, and it creates a wide range of interesting problems about identity and personal privacy. Virtual spaces encourage people to adopt new and multiple identities, which are often very different from their real-world identity. The rules of the space, controlled by the game gods, regulate what kinds of identities people can adopt, and whether they can keep their real-world identity hidden and separate from their online identities.

STATE OF PLAY, *supra* note 3, at 10. *See* GEE, *supra* note 37, at 49−50 (discussing notions of virtual, real world and projective identities in online role-playing games).

104. CASTRONOVA, *supra* note 3, at 114−15; GEE, *supra* note 37, at 37−38; MCGONIGAL, *supra* note 2, at 13, 30−31; Beth Simone Noveck, *Democracy-The Video Game, Virtual Worlds and the Future of Collective Action*, *in* STATE OF PLAY, *supra* note 3, at 258−59. Some experts contend that the collaboration found in online worlds and gaming can be utilized to help solve a myriad of real world problems. MCGONIGAL, *supra* note 2, at 266−95; Noveck, *supra*, at 276−79.

105. FREY, *supra* note 100, at 83−84, 152−53; PONTE & CAVENAGH, *supra* note 100, at 62−63, 70−71.

106. FREY, *supra* note 100, at 86, 91, 152−53; PONTE & CAVENAGH, *supra* note 100, at 62−63, 70−71.

107. FREY, *supra* note 100, at 86−89, 95, 153; PONTE & CAVENAGH, *supra* note 100, at 63, 70, 73−74, 99.

108. *See* Alana Knaster, *GREEN LEADERSHIP (UN)CONFERENCE: Resolving Conflicts Over Climate Change Solutions: Making the Case for Mediation*, 10 PEPP. DISP. RESOL. L.J. 465, 469−71, 479−80 (arguing for use of mediation in multi-party environmental disputes where parties seek to reach consensus amongst varied interests and within existing community or business relationships).

109. GEE, *supra* note 37, at 78, 187; MCGONIGAL, *supra* note 2, at 130−31; Facer et al., *supra* note 37, at 408; Hobbs et al., *supra* note 38, at ¶¶ 3.1, 3.3, 4; Wideman et al., *supra* note 37, at 1−2, 3. *See supra* note 41 and accompanying text. Professor Wideman and his peers indicate that

> [t]o capture and hold player interest, games are now being created that engage players in a wide range of potentially rewarding activities and challenges, requiring them to actively investigate the game environment and apply different problem-solving strategies. Game play in genres such as role-playing, simulation, and real-time strategy now calls on considerable in-situ learning and the application of a range of cognitive and metacognitive skills. In addition, the increasingly popular genre of multiplayer games require players to employ social learning skills in support of collective problem solving, social negotiation, and distributed learning.

Wideman et al., *supra* note 37, at 1−2 (footnote and citation omitted). *See* MCGONIGAL, *supra* note 2, at 30−31, 230−31, 309−10 (discussing various aspects of collaborative play

from team raids in *World of Warcraft* and cooperative fun in *Castle Crashers* to civic-minded community efforts in *Wikipedia* and *World Without Oil*).

110. FREY, *supra* note 100, at 86−89, 153−54; PONTE & CAVENAGH, *supra* note 100, at 63, 73−74, 100−01.

111. Fabricatore, *supra* note 40, at ¶ 4. Professor Fabricatore indicates that strategic thinking is at the heart of the decision-making stage in online environments.

> In this stage, the player has already gathered and analyzed all the information that she considers necessary to "make the next move", has drawn all her conclusions about the status of the virtual world, and consequently she faces the task of deciding what to do. In this context, strategic thinking is very probably the most important talent required. In videogames very few decisions are made based on the certainty of their outcome, and usually the player decides based on her belief of how the results of her course of action will affect her struggle to achieve the goals of the game, and based on the resources available and needed to act. Therefore, making decisions usually imply managing risks and resources, which in turn stresses the importance of strategic thinking, and how the decision-making stage is an ideal context to develop it. Additionally, decisions are never free: as mentioned in the previous section, every game as [sic] rules, and whatever the player wishes to do, she will always be subject to the rules. Therefore, known rules are always considered as a fundamental element to make decisions. Furthermore, unknown rules may be a good teacher to refine strategic thinking, once the player analyzes a strategy that did not lead to the expected outcome, and determines why and how the unknown rules (and eventually other unexpected events) determined the failure of her strategy.

Fabricatore, *supra* note 40, at ¶ 3.2.

112. GEE, *supra* note 37, at 65, 217; Facer et al., *supra* note 37, at 407; Wideman et al., *supra* note 37, at 3. *See supra* note 76 and accompanying text. Professor Facer and her research team found that especially in "massively multiplayer online games, players are fully able to develop strategic and critical thinking [skills] . . . as part of a gaming community in which the dominant pedagogic approaches consist of just-in-time learning, trial and error and participation in activities with more knowledgeable others." Facer et al., *supra* note 37, at 407. *See supra* notes 77 and accompanying text.

113. Fabricatore, *supra* note 40, at ¶ 4. *See supra* notes 92−93 and accompanying text.

114. *See supra* notes 92−93 and accompanying text.

115. *See supra* notes 77, 87, 93 & 110 and accompanying text.

116. FREY, *supra* note 100, at 86−88; 100; PONTE & CAVENAGH, *supra* note 100, at 63, 70−74, 76−77, 100−101.

117. CASTRONOVA, *supra* note 3, at 157; Fairfield, *supra* note 17, at 1022; Jankowich, *supra* note 5, at 1, 2, 5, 9−12; Quinn, *supra* note 2, at 759, 772−74; Risch, *supra* note 17, at 2, 27−28. *See supra* note 17 and accompanying text.

118. CASTRONOVA, *supra* note 3, at 157; Risch, *supra* note 17, at 3, 10−12, 33−36. *See supra* note 17 and accompanying text. The resolution of disputes between players, perhaps with the assistance of a mediator, are generally not addressed in EULAs, but might occur

informally through in-world norms. *See* Schmitz, *supra* note 22, at 213−14 (author notes development of "community courts" to handle buyer-seller disputes on eBay India).

119. *See supra* note 13 and accompanying text. Risch, *supra* note 17, at 42−43.

120. Fairfield, *supra* note 17, at 1018, 1022; Jankowich, *supra* note 5, at 7−9; Quinn, *supra* note 2, at 759, 772−773, 780. Mr. Quinn notes that

> The licensors of these virtual worlds, overwhelmingly American corporations, have chosen to preemptively address all potential questions of virtual property or general user rights of virtual worlds via adhesion contracts, commonly known as clickwrap licenses. These license agreements are exhaustive and as aggressively drafted as U.S. consumer contract law allows. They usually require the licensee to disclaim all potential property rights and the right to sue. Additionally, the agreements grant absolute authority over the licensee's ability to access the world and control virtual assets to the licensor. This structure effectively installs another level of alternative dispute resolution prior to arbitration. These agreements constitute an extremely contractarian approach to the online Wild West.

Quinn, *supra* note 2, at 759.

121. Fairfield, *supra* note 17, at 1023−24; Jankowich, *supra* note 5, at 7−12; Quinn, *supra* note 2, at 759, 773, 780. Mr. Jankowich noted that "[t]ension permeates the governing agreements because virtual worlds are controlled by authoritarian proprietors and are populated by crowds of participants who seek unscripted interaction." Jankowich, *supra* note 5, at 7. *See* Quinn, *supra* note 2, at 759.

122. Fairfield, *supra* note 17, at 1023; Jankowich, *supra* note 5, at 18−20, 43−48; Quinn, *supra* note 2, at 759, 773, 780. *See infra* Table 1.

123. Fairfield, *supra* note 17, at 1022; Jankowich, *supra* note 5, at 7, 49−50. Many users do not read these agreements because of their complex legalese and inability to make any changes to these virtual world agreements. Jankowich, *supra* note 5, at 49−50. The continuing standardization of terms of service in virtual worlds means that participants who few alternative options to oppressive EULAs. *Id.*

124. *See generally* Fairfield, *supra* note 17, at 1018−24, 1063−68 (asserting that "game gods" claim too much control in virtual worlds and should be viewed as similar to telephone companies under minimalist common carriage framework); Jankowich, *supra* note 5, 7−54 (criticizing various aspects of EULAs as oppressive and one-sided form of government in virtual environments); Quinn, *supra* note 2, at 780–89 (calling for application of European Union's approach to consumer contracts which provides broader protections from unfair terms in contracts of adhesion); *see also* Annalee Newitz, *Dangerous Terms: A User's Guide to EULAs*, ELECTRONIC FRONTIER FOUNDATION (Feb. 17, 2005), http://www.eff.org/wp/dangerous-terms-users-guide-eulas.

125. *See infra* Table 1 . Only currently active sites as of November 4, 2011 were considered. Sites that were only in beta form were excluded.

126. *See infra* Table 1.

127. *Id.*

128. *Id.*

129. *Id.*

130. *See, e.g.*, *Aion*, NCSOFT, http://us.ncsoft.com/en/legal/user-agreements/ (last visited Dec. 28, 2011) (terms of use website of fantasy-based 3-D game); *City of Heroes User Agreement*, NCSOFT, http://us.ncsoft.com/en/legal/user-agreements/city-of-heroes-user-agreement.html (last visited Dec. 28, 2011) (terms of use website of superhero-based 3-D game from NCsoft Games).

131. *See, e.g.*, *Dark Age of Camelot*, ELECTRONIC ARTS, http://tos.ea.com/legalapp/WEBTERMS/US/en/PC/#section9 (last visited Dec. 28, 2011) (terms of use website of medieval sword and sorcery 3-D game from Electronic Arts); *The Sims 3*, ELECTRONIC ARTS, http://tos.ea.com/legalapp/WEBTERMS/US/en/PC/#section20 (last visited Dec. 28, 2011) (terms of use website of suburban life skills gaming environment from Electronic Arts).

132. *See, e.g.*, The Sims 3, *supra* note 127; *Battle.Net Terms of Use*, BLIZZARD ENTERTAINMENT, http://us.blizzard.com/en-us/company/about/termsofuse.html (last updated June, 7 2012) (terms of use website for 3-D game of mythical battles and cooperative group raids).

133. *See, e.g.*, *Aion*, NCSOFT, http://us.ncsoft.com/en/legal/user-agreements/ (last visited Dec. 28, 2011) (terms of use website of fantasy-based 3-D game); *City of Heroes User Agreement*, NCSOFT, http://us.ncsoft.com/en/legal/user-agreements/city-of-heroes-user-agreement.html (last visited Dec. 28, 2011) (terms of use website of superhero-based 3-D game from NCsoft Games); *Dark Age of Camelot*, http://tos.ea.com/legalapp/WEBTERMS/US/en/PC/#section9 (last visited Dec. 28, 2011) (terms of use website of medieval sword and sorcery 3-D game from Electronic Arts); *Legal: Terms of Service*, SONY ONLINE ENTERTAINMENT, http://www.soe.com/en_US/termsofservice.vm?theme=freerealms (last visited Dec. 28, 2011) (terms of use website for free 3-D fantasy website of Sony Online Entertainment).

134. *See* Risch, *supra* note 17, at 36−37.

135. PONTE & CAVENAGH, *supra* note 22, at 39; PONTE & CAVENAGH, *supra* note 100, at 63−64; Schmitz, *supra* note 22, at 202−03; Fred Galves, *Virtual Justice As Reality: Making the Resolution of E-Commerce Disputes More Convenient, Legitimate, Efficient, and Secure*, 2009 U. ILL. J.L. TECH. & POL'Y 1, 44−45 (2009).

136. *See infra* Table 1.

137. *Id.*

138. *See, e.g.*, *Aion User Agreement*, NCSOFT, http://us.ncsoft.com/en/legal/user-agreements/aion-user-agreement.html (last visited Dec. 29, 2011) (thirty-day negotiation period with customer service before arbitration may be sought); *City of Heroes User Agreement*, NCSOFT, http://us.ncsoft.com/en/legal/user-agreements/city-of-heroes-user-agreement.html (last visited Dec. 29, 2011) (thirty-day negotiation period with legal department which process owner may extend to ninety days before arbitration may be sought); *Everquest Terms of Service*, SONY ONLINE ENTERTAINMENT, http://www.soe.com/en/termsofservice.vm (last visited Dec. 29, 2011) (thirty-day negotiation period with legal department before arbitration may be sought or alternatively seek resolution through customer service).

139. *Downloading the Active Worlds Educational Universe*, ACTIVE WORLDS, http://www.activeworlds.com/edu/awedu_download.asp (last visited Dec. 28, 2011) (available in dialog box during download process) (terms of use for 3-D social networking website) (requiring software installation prior to viewing).

140. *Id.*

141. Despite e-mail attempts, Active Worlds did not respond to request for information about its tribunal and hyperlinks to its rules or procedures were not found.

142. *See* PONTE & CAVENAGH, *supra* note 22, at 120, 122−26, 131; Risch, *supra* note 17, at 36−37.

143. *See* Risch, *supra* note 17, at 42−43; *see supra* note 17 and accompanying text.

144. *See* PONTE & CAVENAGH, *supra* note 22, at 186−87.

145. *See id.* at 8; Galves, *supra* note 135, at 32−34, 43−44; Risch, *supra* note 17, at 3, 36−37.

146. *See infra* Table 1.

147. *See* PONTE & CAVENAGH, *supra* note 22, at 24−25; Galves, *supra* note 135, at 40−41.

148. *See* PONTE & CAVENAGH, *supra* note 22, at 21−22, Table 2-1.

149. *See* Bragg v. Linden Research, Inc., 487 F. Supp. 2d 593, 607 (E.D. Pa. 2007) (court found dispute resolution clause unconscionable and indicated that virtual world owner should provide hyperlink in terms of service to rules and costs of arbitration).

150. Currently, a European Union project called VirtuaLife is working on creating a dispute resolution platform for virtual worlds using mediation. VIRTUALIFE, http://www.ict-virtuallife.eu (last visited Dec. 30, 2011) (official site of VirtuaLife project). The online process is largely a text-based mediation mechanism at this stage. *See YouTube Video: Online Dispute Resolution System in the VirtuaLife*, YOUTUBE.COM, http://www.youtube.com/watch?v=djm8OeUL4Sg (last visited Sept. 15, 2011).

151. *See* AMERICAN ARBITRATION ASSOCIATION, http://www.adr.org (last visited Dec. 30, 2011) (official website of American Arbitration Association).

152. *See Welcome to BBBOnLine*, BETTER BUSINESS BUREAU, http://www.bbb.org/online (last visited Dec. 30, 2011) (official website of Better Business Bureau). The BBBOnLine offers a trustmark for online businesses in compliance with its code of responsible conduct. *BBB Accredited Business Seal for the Web*, BETTER BUSINESS BUREAU, http://www.bbb.org/us/bbb-online-business/ (last visited Jan. 10, 2012). Under its program, a participating e-business must agree to utilize the BBB's conflict resolution programs which involve informal hearings before volunteer hearing officers or binding arbitration under the BBB Rules of Arbitration. *Dispute Resolution*, BBBONLINE, http://www.bbb.org/us/Business-Dispute-Resolution/ (last visited Jan. 10, 2012). E-businesses may choose dispute resolution providers outside the BBB provided that the process meets BBB's mandates on party assent, transparency, fairness, and impartiality. *Id.*; *see* Lucille M. Ponte, *Boosting Consumer Confidence in E-Business: Recommendations for Establishing Fair and Effective Dispute Resolution Programs for B2C Online Transactions*, 12 ALB. L.J. SCI. & TECH. 441, 461−64 (2002).

153. *See supra* note 22 and accompanying text.

154. *See* Part II, *supra* and accompanying text.

155. *See supra* notes 94−116 and accompanying text.

156. *See* PONTE & CAVENAGH, *supra* note 22, at 62−65.

157. *See supra* notes 104 & 118 and accompanying text.

158. *See BBB Accredited Business Seal for the Web*, BETTER BUSINESS BUREAU, http://www.bbb.org/us/bbb-online-business/ (last visited Jan. 10, 2012); Ponte, *supra* note 152, at 472 & n.102.

159. *See supra* notes 133, 135 & 138 and accompanying text.

160. *See* PONTE & CAVENAGH, *supra* note 22, at 24−25; Galves, *supra* note 135, at 44−45; Schmitz, *supra* note 22, at 203−04. Professor Schmitz stated that computer-mediated communications

> may create comfort and empowerment benefits for consumers by providing a sense of anonymity and allowing them to submit and respond to evidence and testimonies from the comfort of their computers. . . . Some individuals become more defensive, adversarial, and even offensive when they are F2F with opponents. Defensive posturing can lead parties' discussions off-course and dilute the substance of case presentations. . . . Privacy and anonymity may also lead parties to be more forthright and truthful in their statements. Although it seems that anonymity would prompt dishonesty, it actually may create a space for comfortable but contained communications. (footnotes omitted).

Schmitz, *supra* note 22, at 203−04.

161. *See supra* note 160 and accompanying text. Professor Galves notes that using an online dispute resolution (ODR) process

> allows consumers to interact in an environment with which they are familiar and comfortable—the Internet. Traditional courtrooms and conference rooms of mediators and arbitrators involve legal formalities and an "us versus them" environment that often intimidates parties involved in a dispute. Additionally, many e-commerce consumers have far less experience in dealing with attorneys and the process of litigation or ADR than their counterparts who might be institutional sellers from large companies. . . . Placing the parties in a comfortable and familiar forum tends to allow for a faster and more relaxed resolution of the dispute that is focused on the merits. . . .
>
> ODR also avoids the common problem of party confrontations that are inherent in traditional courtrooms and ADR conference rooms. Parties do not have the opportunity to look into each other's eyes and try to intimidate one another, or force each other into submission with their obvious attributes of wealth, or have lawyers cross-examine the parties in a confrontational manner. Rather, the only thing being considered in ODR are the merits of the dispute . . . The dispute is stripped down to the essence of the parties' interests and positions.

Galves, *supra* note 135 at 44–45 (footnotes omitted).

162. *See supra* notes 159−60 and accompanying text.

163. Fairfield, *supra* note 3, at 1021. Professor Fairfield stated that

> From a two-dimensional interface, virtual worlds provide a three-dimensional context. Humans instinctively think in three dimensions, and this new context has proven extremely attractive to millions of players worldwide. Yet despite the widespread adoption of virtual world technology, legal analysis of the issues arising in virtual worlds is still in its early stages.

Id.; *see supra* note 64 and accompanying text.

164. *See supra* note 22 and accompanying text; *see generally* PONTE & CAVENAGH, *supra* note 22, at 144−50 (authors spell out main issues that must be resolved in order to improve public awareness and use of online dispute resolution).

165. Schmitz, *supra* note 22, at 216; Sackin, *supra* note 22, at 258. *See generally* PONTE & CAVENAGH, *supra* note 22, at 144−50 (authors spell out main issues that must be resolved in order to improve public awareness and use of online dispute resolution); *see supra* note 22 and accompanying text.

166. *See supra* note 64 and accompanying text.

167. Facer et al., *supra* note 37, at 404; *see* Susan N. Exon, *The Next Generation of Online Dispute Resolution: The Significance of Holography to Enhance and Transform Dispute Resolution*, 12 CARDOZO J. CONFLICT RESOL. 19, 20, 38−42 (2010) (calling for use of 3-D holograms in International Cybercourt Central).

168. Fairfield, *supra* note 17, at 1021. Professor Fairfield indicated that 3-D virtual worlds "may become the next iteration of Internet technology." *Id. See supra* note 165 and accompanying text.