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## Before the Crash

Wolf, Mark J.P.

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STACI TUCKER

## Early Online Gaming

*BBSs and MUDs*

It's an unmistakable sound, the piercing shriek of a 300-baud dial-up modem making a connection. It's followed by then the flash of a welcome screen and pathways to buzzing chat rooms, fantasy role-playing in virtual dungeons, libraries of pirated software, text-based flirtation, and impish trolling. The year is 1983, a decade before the World Wide Web became a truly worldwide phenomenon.

In the 21st century, exploring online virtual worlds as a pastime is now an acceptable mainstream activity.<sup>1</sup> Online games are a cultural phenomenon of increasing relevance, with millions of players in North America alone. They are no longer only toys for teenage boys; those of us who grew up with computer games matured to adulthood, and games evolved in complexity and sophistication. The game development industry continues to grow in economic importance, and ever-increasing numbers adopt online games as an essential recreational and social outlet. The global video game market is expected to be three times the size of the recorded music market by 2014, based on current growth trends..<sup>2</sup> They are played in the privacy of homes on computers and game consoles, in public on cell phones and handhelds, on planes, at the office, in schools, and, based on adoption rates among children, over the next generation, millions more will play.<sup>3</sup>

For much of the general public, the online world did not exist prior to the introduction of HTML (hypertext markup language) and its contribution to the rise of the Internet in the mid-1990s. It's difficult to imagine a vibrant online world other than the Internet or online games that preceded

*Neverwinter Nights* and *Doom*. In an age preoccupied with intellectual property rights, digital media, online pornography, celebrity tweets, Net neutrality, the Xbox 360, and Playstation 3, it's easy to forget the people and experiments that spawned the first online communities and online games decades ago.

The term *digital natives* refers to children, teens, and young adults who grow up surrounded by digital technology and can't imagine a world without the Internet, cell phones, and MP3 players. People born before the late 20th century have been called "digital immigrants," since they can remember a pre-digital world.<sup>4</sup> Industry statistics indicate that older players log more hours than their younger counterparts, and that the average age of video gamers has risen by about one year each year, averaging in the thirties in 2008.<sup>5</sup> It seems that once people start playing, most don't stop, particularly as the games mature with them.

Virtual worlds today are constructed by computers, often a network of computers, which simulate a contained environment. Users, represented by avatars, can interact with each other and objects in the synthetic space. Although virtual worlds have many applications beyond entertainment, they began as computer games. For this reason, much of the language describing virtual worlds is game based. Today, massively multiplayer online (MMO) games are persistent and always accessible, and the player's avatars develop and change as they advance in the game and participate in long-term social relationships with other players, making MMOs vibrant sites of community. Most MMO virtual worlds are immersive, 3-D, graphically and sonically rich, testing the boundaries of game consoles and home computers.

However, the first virtual worlds were text-based and did not begin with the Internet, that colossal maze of packet-switching networks through which online games are played today. These virtual worlds originated as ASCII text-based environments, transmitted via analog modulated signals on telephone lines, by a niche community of digital immigrants who populated the bulletin board systems (BBSs) and multi-user dungeons (MUDs) that sprung up in the 1970s and 1980s. Today online games offer stories, sounds, visual stimulation, and movement. They also offer community, interactivity, challenge, and experiences of fear, achievement, and success. In that regard, they still closely resemble the text-based worlds where it all started. This essay explores the origins of these text-based virtual worlds and investigate the issues persisting today with the explosion of their popularity brought on by the advent of modern computer technology and 3-D graphics.

## SPACEWAR!

The creation of *Spacewar!*, coded by Steve Russell, a student at the Massachusetts Institute of Technology (MIT), in 1962, served as a significant milestone in the history of online games. Steve Russell, J. Martin Graetz, and Wayne Witanen, regulars of a dingy tenement near campus fictitiously named the “Hingham Institute,” imagined the game in 1961 for the mainframe DEC PHP-1 computer at MIT.<sup>6</sup> Russell completed the game by February 1962, taking approximately 200 hours of development time to complete the first version and earning the nickname “Slug” for the slow pace at which he tackled the project.<sup>7</sup>

*Spacewar!* involved two spaceships, “the needle” and “the wedge,” that attempted to shoot each other while maneuvering in the gravity well of a star. The ships had limited ammunition and limited fuel. A hyperspace feature could be used to evade enemy fire, but the reentry location was random and carried the possibility of exploding with continued use. The player controlled their ship with test switches, which included actions for clockwise and counterclockwise rotation, thrust, fire, and hyperspace. The switches were prone to wear out after significant gameplay.

Like many experiments prior to the 1980s, *Spacewar!* was tinkered with by a number of hobbyists over the years, who added to the games design, including Rick Blomme in 1969. Blomme changed *Spacewar!* from a single-player game to a two-player game that could be accessed over a remote network named PLATO (Programmed Logic for Automatic Teaching Functions). Networked multiplayer gaming was born.<sup>8</sup>

PLATO was a pre-Internet, mainframe computer-based system originally designed for computer-based education. For many, PLATO’s most enduring legacy is the creation of an online community that resulted from its communication features. The system originated in the early 1960s at the Urbana campus of the University of Illinois (UI). Driven by an interest in using computers for education, Professor Don Bitzer, co-inventor of the plasma display panel, recruited UI colleagues and founded the Computer-based Education Research Laboratory (CERL). In collaboration with engineers and creative programmers, many of whom had no computer background, Bitzer designed the PLATO system. Through the 1960s, it remained small, supporting only a single classroom of terminals; in the early 1970s, it transitioned with advancing computer technology to a collection of mainframes that could support up to 1000 users simultaneously.<sup>9</sup>

PLATO was one of the first time-sharing systems to be operated in public and at least a decade ahead of its time. Though originally designed for computer-based education, PLATO contributed significantly to advance-

ments that spawned culturally transformative online tools of the future. These included PLATO Notes for online messages boards, Personal Notes for e-mail, Talkomatic for chat rooms, Term-Talk for instant messaging, remote screen sharing, and even emoticons.

After *Spacewar!*, several more games appeared on the PLATO system, including *DECWAR* (1974, based on “Star Trek”), *Empire* (1974), a *Dungeons & Dragons*-inspired game named *dnd* released in 1979, *Moria* (1975), the original *Freecell* (1978), and a flight simulator named *Airfight* (1974). Like *Spacewar!*, these games were open source and ever-improving with new iterations, which helped to inspire continued play. In the early 1970s and early 1980s, PLATO had superior graphics to other systems, 512x512 random access monochrome displays. Also, much like console systems today, everyone accessing the mainframe system had the same hardware capabilities, so the response time was impressive for the age. A series of games influenced by *Spacewar!* followed in its wake, including *Galaxy Game* (1971) and *Computer Space* (1971), *Space Wars* by Cinematronics (1977), the Atari 2600 game *Space War* (1978), *Asteroids* (1979), and *Star Control* (1991). The introduction of networked gaming led to a significantly larger list of games.

In the early 1980s, the PLATO service was heavily advertised, but it was expensive. An attempt was made to mass-market a Micro-PLATO, which could be run on various home computers, such as those by Texas Instruments, Atari, and IBM. Micro-PLATO could connect to a central data center for Multi-User programs, but cost \$5 an hour. The legacy and value of PLATO was in its online applications, which were overly expensive before and after conversion to microcomputers. Due to the lack of success in their transition to personal computers, the plug was pulled on PLATO in the mid-1980s.

Due to increasing availability, technical improvements, and affordability, beginning in the mid-1970s, microcomputers, the first personal computers, began significantly growing in popularity, and hobbyists were quick to tinker and explore their capabilities. Using the microcomputer and modems to convert data from analog to digital to communicate with computers remotely via phone lines, bulletin board systems (BBSs) were born, and online communities throughout the country sprang to life.<sup>10</sup>

## BULLETIN BOARD SYSTEMS

In Berkeley in the early 1970s, a music store named Leopold’s Records housed an odd typewriter beneath a bulletin board in the hallway. Sheltered by a cardboard box with a transparent top, the teletype machine churned

out personal ads, classifieds, and messages, which customers gathered to read. A mainframe was connected to the teletype machine through a 110-baud modem, which produced a mere 10 characters per second. The teletype was noisy, the cardboard box kept the SDS 940 timesharing system dry, the transparent top contained holes for typing, and a set of instructions were mounted above on how to send messages, look for content, and tag messages with searchable keywords.

The mainframe running that teletype machine at Leopold's Records comprised the first version of a computerized BBS, the brainchild of a project known as Community Memory. Community Memory formed from a group of Berkeley innovators who gathered to reimagine how information systems and social communities could fit together. Ken Colstad, Mark Szpakowski, Lee Felsentein, and Efrem Lipkin were friends and computer enthusiasts who sought to build a system that could centralize and source community information. With the help of the Resource One computer center at Project One in San Francisco, which had access to a mainframe computer, the first BBS was born in August 1973.

The term *bulletin board system* is a reference to the conventional cork-and-pin bulletin board, such as the one mounted above the teletype machine at Leopold's Records, where people post advertisements and community news. People took to the Community Memory project as they would a neighborhood kiosk, immediately engaging in disjointed conversations, seeking out used furniture and rides to Los Angeles. Participants exchanged messages about music, the Vietnam War, art, literature, economics, current events, and local cuisine.<sup>11</sup>

"We wanted to use the computer to create a sort of information flea market," said Lipkin, still residing in Berkeley in 2001. "We were thinking in terms of cork bulletin boards, community-generated newspapers, things like that. We took this mainframe the size of six refrigerators and put it to use."<sup>12</sup>

Driven by financial considerations and evolving technology, Community Memory changed over the years, ultimately aiming to create a global information network. In 1974, Community Memory moved from the XDS-940, which was large and underpowered, to a network of microcomputers. In the 1980s, coin-operated hardwired terminals for posting and reading messages could be found throughout Berkeley neighborhoods.<sup>13</sup>

With the advent of microcomputers, hobbyists and early adopters were soon tapping into BBSs from the privacy of their homes and offices. With ever-advancing computers being brought home, it was only a matter of time before someone connected one to a telephone. In Chicago, during the Great Blizzard of 1978, Randy Suess and Ward Christensen (who later de-

veloped the Xmodem file transfer protocol) took shelter indoors and began preliminary work on their own computerized BBS, which was made public the following year. These cyberspace pioneers used microcomputers and some creative programming to build CBBS (computer bulletin board system), turning home computers into communication devices. It didn't take long for the idea to spread through the personal-computing community. Within a few years, a flood of Apples, IBMs, and Commodores were going online.<sup>14</sup>

Using a terminal program, users could connect and log into CBBS over an analog phone line using a modem. Once logged in, users had access to public bulletins, electronic messages, and file exchanges. Early BBSs had only one phone line, so users had to wait for people to log off before they could access the board. Once logged in, many were subject to time limits of 15 minutes to an hour. The 110 and 300 baud modems available in the 1970s resulted in particularly slow BBSs. The introduction of the 1200-bit/s modems in the early 1980s improved speed and led to a significant increase in the popularity of the systems. Most local BBSs were operated by private hobbyists known as system operators or SysOps. These systems were often located in homes or rental spaces, some with specialized hardware, multitasking software, or local area networks (LAN) for multiple phone lines, allowing simultaneous log-ins and real-time chat. The original BBSs ran on S-100 microcomputer systems, such as Altair, IMSAI, and Comemco with the CP/M operating system, and used custom software, often developed by the SysOps themselves. By the late 1970s, BBS software was available for all the major home computer systems, such as the Apple II, the Atari 400/800, and the TRS-80.

The early BBSs were ASCII text-based. Eventually, advances in home computers allowed for color and graphics capabilities. Early custom character sets resulted in compatibility issues between manufacturers, so not all BBS users enjoyed the same display. Unless a caller was using terminal emulation software written for the same type of system as the BBS, the display would default to a basic ASCII output. Both SysOps and users operated on a selection of different microcomputers, resulting in compatibility issues. In this regard, BBSs resembled the Internet today, contrasting with the proprietary mainframe systems that preceded them.

In 1981, IBM released the first DOS personal computer. Due to their immediate popularity, the majority of BBSs were soon DOS based. The transition to DOS also aided in the introduction of the first commercial BBSs, which charged a subscription fee or were offered by a business, such as PCBoard BBS, RemoteAccess BBS and Wildcat! BBS. Some BBSs offered special levels of access for those who paid extra or contributed extensively

to file exchanges. However, from their conception through the mid-1990s, most BBSs were offered free of charge. Some surviving BBSs in the mid-1990s converted over to the Internet, primarily taking on the appearance of forums. However, the Internet completely replaced and enveloped the boards by the end of the 20th century.<sup>15</sup>

Early BBSs were typically a local offering (dialing long distance incurred additional fees). Since early BBSs were frequently run by computer hobbyists, they were typically populated by users interested in technology. Many SysOps were converts from the amateur radio community; technology and radio were popular board topics in the early years. Active, close-knit communities sprang up around local BBSs. Since frequent users of the local BBSs often lived in the same area, “BBS Meets” or local get-togethers, where the users could meet face-to-face, were common, particularly with BBSs that offered chat rooms.

Eventually, a number of special interest boards joined the ranks. Boards could be found for most every hobby and interest, including politics, religion, personals, music, and alternative lifestyles. Many BBSs carried themes, reflected in their names and on their welcome screens. Common themes included castles, dungeons, spaceships, pirate ships, sanatoriums, and circuses. Some “elite” or “warez” boards exclusively offered pirated software and required membership in order to exclude law enforcement (“lamers”). Despite such efforts, some of the BBSs providing illegal content were investigated. On July 12, 1985, “The Private Sector BBS,” the official BBS of the grey hat hacker quarterly magazine *2600*, was raided by the Middlesex County, New Jersey, Sheriff’s Office in conjunction with a credit card fraud investigation. A BBS in Boardman, Ohio, “Rusty n Edie’s,” was raided by the FBI in January of 1993 for software piracy and later sued by Playboy for copyright infringement. In 1996, the SysOp of a BBS in Flint, Michigan, was charged with distributing child pornography.<sup>16</sup>

One legacy spawned by early BBS computer hacker subculture was the slang known as “leet” (l33t or l337) which comes from the word *elite*, referencing the membership-only BBSs frequented by hackers in the early 1980s. l33t is unique in its substitution of other characters to represent letters in a word. Once exclusive to hackers, l33t has since entered mainstream culture. Versions of l33t are still used today by gamers and some web communities. N00bs, or newcomers, to online gaming are challenged to learn the l33t speak frequently used by gaming veterans. Some could argue that a version of l33t is used by almost everyone who sends text messages or tweets today.<sup>17</sup>

In the 1980s, door games, both single-player and multiplayer, drew early online gamers. Bulletin board system doors allowed users to communicate



with external programs, such as games, so games offered through BBSs were referred to as “door games.” Some of first versions of these closely resembled board games. Players would submit their moves to the SysOp or Gamemaster, and their moves were updated and posted daily or several times daily. Unfortunately, this lag in update time resulted in conflicts, such as invading armies rushing in to discover their opponents had moved to a new location. Door games evolved, and soon many allowed for automation by the computer. Many BBSs with multiple phone lines for simultaneous log-ins offered ASCII text-based games that allowed users to compete or interact with each other in virtual environments. Some popular 1980s door games include *Trade Wars* (1984), a possible precursor to *EVE Online* (2003), *Usurper* (1985), *Space Empire Elite* (1987), *Legend of the Red Dragon* (LoRD, 1989), and *The Pit* (1989). A community and subculture of online gamers developed around text-based multi-user games, which were significantly influenced by pen-and-paper role-playing games (RPGs) such as *Dungeons & Dragons*. These virtual worlds were known as multi-user dungeons (MUDs).<sup>18</sup>

#### MULTI-USER DUNGEONS

Gary Gygax and Dave Arneson turned their love of *The Lord of the Rings* (1954–55) into a table-top game named *Dungeons & Dragons* (*D&D*) in 1973. Unlike board games, *D&D* is a role-playing game that doesn’t employ a board. It requires an assortment of many-sided dice, character sheets, and sometimes a map, but play largely takes place in the imaginations of the players. Players construct characters by determining their attributes and race, which include Elves, Dwarves, and Halflings. Characters also have a class, similar to a profession, such as fighters, thieves, wizards, and clerics. One player serves as a Dungeon Master (DM), who constructs the environment and narrates the adventures.

During the late 1970s and into the 1980s, *D&D* had become a phenomenon, played in college dorms and office boardrooms after hours. It also inspired its share of controversy. Religious organizations and parent groups denounced the game as devil worship and dabbling in the occult. Pat Pulling formed the organization BADD (Bothered About Dungeons & Dragons) in 1982, after her son, who was an active *D&D* player, committed suicide. Pulling filed a wrongful death lawsuit against her son’s principal, who had “cursed” Irving during a game of *D&D*. BADD described *D&D* as “a fantasy role-playing game which uses demonology, witchcraft, voodoo, murder, rape, blasphemy, suicide, assassination, insanity, sex perversion, homosexuality, prostitution, satanic type rituals, gambling, barbarism, can-

nibalism, sadism, desecration, demon summoning, necromantics, divination, and other teachings.”<sup>19</sup> Similar fears are expressed today by parents and politicians about video games. Despite the controversy, *D&D* remained popular through the 1980s and continues to be played today, motivating a long list of films, cartoons, toys, comics, and books. *D&D* also served as a significant motivator for a long list of online games. Among the first of these were MUDs.<sup>20</sup>

The single-player game *Adventure*, created in 1975 by Will Crowther on the mainframe computer DEC PDP-10, was the first widely played adventure game. *Adventure* was expanded in 1976 by Don Woods and contained many references to *D&D*. *Zork*, also single-player, soon followed in *Adventure*'s wake, written the summer of 1977 for the DEC PHP-10 mini-computer and rising to prominence on ARPANET, which later became the Internet. Roy Trubshaw, a talented computer science undergraduate student at Essex University in the UK, started work on a multi-user spin of the adventure game in 1978 on the DEC PDP-10 in the assembly language MACRO-10. He named the game *Multi-User Dungeon*, or MUD, as a tribute to a variant of *Zork*, named *Dungeon* (1978), that he'd logged numerous hours playing. Trubshaw converted his MUD to BCPL, the predecessor to the C programming language, before a development was taken over by a fellow Essex University student in 1980, Richard Bartle. In 1980, when Essex University connected to ARPANET, MUD, which ran on the Essex University network, became the first online role-playing game, introducing MUDs (multi-user dungeons, multi-user dimensions, or multi-user domains) to the world. By the early 1990s, there were nearly 200 different multi-users games online, written in dozens of different development languages.<sup>21</sup>

Within the game, the player's character, Super Freak, is stealthily exploring a maze of newly discovered caves. The air is humid and dank, the lighting dim, and the labyrinth of interconnecting tunnels difficult to navigate. A magic sword feels heavy in your hand, as you turn each corner in preparation for unwelcome surprises. If you encounter the wrong creature here, hours of work on your avatar will be lost in your virtual death. Your heart is beating quickly, your hands pause before typing new commands into your keyboard. You pray for the arrival of one of your many friends, represented by other characters, who could serve as allies. Along with thousands of other people from around the world, you are exploring a MUD.

MUDs, better known as the Essex MUD or MUD1 in later years, were entirely text-based. Players read descriptions of the environment, other players, nonplayer characters (NPCs), and events. MUDs were labyrinthine role-playing games in which the characters assume the identity of an

avatar, much like massively multi-player online role-playing (MMORPG) games today. They combined role-playing, interactive fiction, and online chat. Traditional MUDs were fantasy worlds populated by fictional races and creatures, many controlled by the players, similar to *Dungeons & Dragons*. However, themes and rules varied significantly. Some were set in science fiction universes or based on popular books and films. The object of the MUDs were to explore the virtual world, complete quests, kill monsters, and advance player-created characters. However, instead of being immersed in 3-D graphics, the players were prompted by a command line. Typed commands such as “east,” “west,” “say,” and “look” were used to interact with the virtual environment. According to Bartle, “The game was originally little more than a series of interconnected locations where you could move and chat.”<sup>22</sup> The importance of Trubshaw and Bartle’s experiment is not just its contribution to gaming but its introduction to a new era in multi-user virtual worlds.

Much like BBSs, most MUDs were administered and created by hobbyists who offered the service for free. However, many accepted donations or allowed players to purchase virtual items for their characters with real money to help manage maintenance costs. A few MUDs required a monthly subscription fee to play. MUDs could be accessed via a modem through telnet clients or custom clients designed specifically for MUDs. A few portals offered access to a selection of MUDs.

Due to the multiplayer functionality of these worlds, players were not always actively engaged with the game. MUDs quickly became active social communities, where friendships formed and relationships blossomed. Most MUDs offered forumlike boards where the players discussed topics both related and unrelated to the virtual world. Much like BBSs, players met face-to-face at gatherings attended by people willing to fly in from cities around the world. Many of these social connections, however, remained online, and MUDs soon attracted the interest of social scientists and journalists who became fascinated with the alter-ego assumption that was part of the game. They speculated about people adopting new identities, genders, or personalities through online networks, as well as the potential ramifications of virtual communities and what was perceived as an “addiction,” where people lived out their fantasies and carried on relationships through chat. These conversations continue today in reference to graphic-based online games.<sup>23</sup>

The MUD remained mainly an Essex University phenomenon in its early years. However, some were inspired to write their own MUDs, such as *ROCK* (based on TV’s *Fraggle Rock* [1983–87]), *MIST*, *BLUD*, and *UNI*. News of MUD reached the UK’s small community of BBS users, who played

the game through direct dial-up. However, the number of available log-ins was limited, and players were restricted to playing at night during off-peak hours when the system had cycles to spare. The demand continued to grow. The draw to MUDs expanded to the United States in the late 1980s with the growing popularity of personal computers with 300- to 2400-bit/s modems, which enabled players to log in to multiline BBSs and online services, such as CompuServe. In the 1990s, the first graphical multi-user games were created, such as *Meridian 59* (1995), *Ultima Online* (1997), *Lineage* (1998), and *EverQuest* (1999).

Widely played by college students, MUD was jokingly said to stand for “multi-undergraduate destroyer” due to the amount of time the students devoted to play.<sup>24</sup> Text-based MUDs still exist today, although they are now accessed through the Internet via DSL and digital cable connections. Graphical MUDs, or massively multiplayer online games (MMOs), such as *World of Warcraft*, are played by millions and continue to swell as a culturally, socially, and economically important phenomenon. Whereas early players were, for valid reasons, stereotyped as young, white, teenage and college-age males, recent studies reveal that the population of online gamers has grown significantly more diverse.<sup>25</sup>

### BBSs, MUDs, AND ECONOMICS

In the pioneering days of early microcomputers, bulletin board systems, and multi-user dungeons, there was little if any money to be made in online virtual experiments. A wide selection were offered free of charge by hobbyists, willing to incur the expense, with help from donations, for love of the medium. In the 21st century, digital game development is a lucrative industry. Game development companies seek to profit from creating virtual institutions consumers will find appealing. Digital games demand increasing technical capacity, to the joy of the hardware industry. The global digital game industry’s software sales were \$30 billion dollars in 2005, surpassing Hollywood’s revenues from worldwide theatrical film releases.<sup>26</sup> As the number of gamers and the appetite for faster, more complex and visually stimulating games increases, so will the profits of hardware and software development companies.

The American Dream persists, permeating all areas of our culture, transcending race, gender, and class. This dream promises infinite possibility, wealth, and prestige through hard work, labor, and production. It desires a higher level of material, political, or spiritual attainment. However, increasingly, capitalism, and the American Dream are failing to adequately reward increased production and labor in the real world.<sup>27</sup> In his *Theory of Wages*,

John Hicks, an economist of the early 20th century, attributes the main cause of migration to differences in economic advantage, primarily differences in wages.<sup>28</sup> People will migrate if they are better off as a result.<sup>29</sup> This concept applies to increasing migration to the virtual world. Today, we are witnessing a widespread and fervent extension of authorship rights, branding of cultural space, and aggressive protection of those brands. Due to the extension of branded space and the commoditization of culture, consumerism and citizenship are seemingly interchangeable concepts.

In the 1970s and 1980s, the success of BBSs and MUDs depended on the dedication and contribution of close-knit hobbyist communities. Early SysOps were BBS users, active participants in the communities they administered. MUDs were built by players, and players were inspired to take online games further as advancements in networking and computing technology propelled us forward. Much of this continues today as players continue to produce, actively fostering culture and creating large amounts of offline materials, such as guides, walkthroughs, discussion forums, websites, auctions, films, and clubs. Just as BBSs and MUDs benefited from the enthusiasm of their members, so do development companies today, who regularly enlist player communities in game production and encourage user-generated content. Player-driven game innovations and the contributions of “modders” who expand the game through the production of plugins and add-ons (mods), produce a significant amount of unpaid labor.<sup>30</sup>

Though game development companies benefit significantly from player innovation, we may be coming full circle, returning to an era when hobbyists imagine more possibility than perceived by commercial interests. We are seeing the emergence of an independent, open-source, grassroots video game development community, resembling the hobbyist communities of the 1970s and 1980s that spawned these experiments, much of which is utilizing the visual and immersive capabilities of synthetic environments to address social, political, and cultural issues. Perhaps, just as open-source development projects have challenged corporate control over software ownership by fostering open development communities that compete with commercial products, we will witness the intersection of open community-developed virtual environments that will aggressively compete with the products of game-development companies. As these virtual worlds expand, through increased migration to dreamscapes that satisfy needs that real life fails to quench, though these needs are currently defined in the context of capitalism and consumerism, perhaps the potential of these online cultures will then be fully realized—their power to reshape and reimagine the American Dream.

Despite persisting preoccupation with depictions of violence and enduring stereotypical assumptions about the gamer audience, online game analysis is no longer exclusively focused on effects or problematic implications. Online game analysis today also investigates their aesthetic, narrative, educational, economic, social, ideological, and technical characteristics. This broadening of perspectives is partly the result of the first generation to grow up with computer games now entering various academic disciplines. As the field evolves, games will not just be taken seriously, but will be taken seriously in a critical way. This doesn't mean the analysis will be made up exclusively of the voices of fans who play avidly and critics who have never played, but of analysts willing to thoroughly examine and critically discuss the various ideological, ethical, moral, political, sociological, and cultural contexts and manifestations of digital games and synthetic worlds online.

Yet another generation of "digital natives" are being born, who will grow up unable to conceive of a world without digital environments. It's important in this digital landscape to look back to the contributions of Seuss and Christensen of CBBS and of Trubshaw and Bartle of the Essex MUD, as they remind us what online communities and online games are really about. The communities that populate MMOs today are not dissimilar to the communities that grew up around the BBSs and MUDs of the 1980s. Online games were and remain active social cultures, with a language and rules of their own, places where friendship, collaboration, and innovation flourish. Populations will continue en masse to migrate to virtual environments not dissimilar to *World of Warcraft* and *The Sims*, where consumers shop, citizens debate, singles flirt, students learn, soldiers train, and artists create. Though the early BBSs and MUDs have evolved into a phenomenon seemingly swallowed up by game and hardware development corporations, political and media critiques of game content, and fears surrounding productivity and addiction, elements of the innocent text-based worlds accessible through analog phone lines decades ago persist among the players.

It's a joy that sometimes seems largely lost in examinations of the modern, commercialized web: that of connecting with strangers within your own metropolis or from across the world to play together and interact while on an adventure. To imagine the excitement that must have surrounded the first dial-in on a 300 baud modem into a local BBS or MUD is to step back to that early eager curiosity for what lies beyond the limits of our physical reality. Online gaming and the Internet have become economic tools, claimed by copyrights, brands, and bottom-lines. However, community continues to blossom, providing places where people with disparate interests, backgrounds, and allegiances intermingle, collaborate, and explore together.

## NOTES

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