SFB 619
Ritualdynamik

Kerstin Radde-Antweiler (Ed.)

Being Virtually Real?

Virtual Worlds from a
Cultural Studies' Perspective.

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VIRTUAL WORLDS TODAY

GAMING AND ONLINE SOCIALITY

GORDON CALLEJA

Just over a decade ago, virtual worlds lurked in the shadows of popular media-consciousness, more often associated with cyberpunk fiction than contemporary actuality. Today it has become challenging to browse a newspaper without coming across a *Second Life* success story or a virtual-tour of *World of Warcraft*. This dramatic rise in popularity of virtual worlds owes a lot to the development of Massively Multiplayer Online Games; graphical virtual worlds with significantly game-like design structures inhabited by tens of thousands to millions of players.

With this rise in popularity comes increased attention from a spectrum of institutions ranging from investing corporations, the mass media, governmental bodies and academia. The popularity of virtual worlds has caused a certain vagueness to accumulate around the term. This has been aggravated by media and marketing sensationalism surrounding all things virtual as well as a ubiquity of application without discrimination as to the implication of the term and its constituent parts. This paper aims to shed some conceptual light on the specific application of the term 'virtual world' in relation to the conceptual underpinnings of the 'virtual'. Following a conceptual discussion of the virtual and the proposal of a working definition for virtual worlds, the paper will give a brief history of major developments in virtual worlds from their inception in 1978 till the present.

Problems with the Virtual

Technological innovation has had a tendency to excite the popular imagination, whether this results in public executions, ecclesiastical excommunication or a quasi-fanatic dedication to heralding the age of a digital New Jerusalem.[1] Every age of wonder has its champion speakers and championed tropes. In the widely celebrated digital age, one of the most prominent instances of the latter comes in the form of a prefix: the virtual. One does not have

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[1] See Wertheim, 2000.

to look very far to come face to face with the term: open a newspaper or magazine and you are bound to find catchy terms like virtual tourism, virtual classrooms, virtual dating or, for the more hedonistically inclined, virtual sex. Thanks to the joint efforts of techno-fetishist theorists of the late eighties and the ever-hungry mass media, the presence of the virtual within the popular imagination has become largely unrelated to its technical and philosophical roots, gravitating instead towards the novel and liberating powers of new technologies. This has resulted in a close connection being established between the virtual and the unreal and the virtual as vehicle to the unknown. If the meaning of the term 'virtual' is not precisely defined, the meaning of the term 'real' is often taken for granted, referring typically to the routine and mundane.

In academia this opposition of the real to the virtual is also surprisingly taken for granted. Although the 'virtual' is used in every conceivable discipline to some degree or other, the implications of this binary relationship are rarely questioned. This creates a limited conception of virtuality which impedes progress in fields in which the term carries theoretical weight. In our present discussion, for example, conceiving of virtual worlds as somehow fake or separate from our everyday lives ignores the most important implications these worlds carry for contemporary society.

In his recent book, Castronova takes issue with the term virtual worlds and argues for a replacement of 'virtual' with 'synthetic'. He outlines how the rise and fall of the hype around virtual reality created a negative association with the term virtual:

> "Finally, while being conservative in writing is one decision imposed by the nearness of this book to early VR writing, another is the importance of avoiding words like 'virtual'. That word points a misleading finger from the game worlds back to the earlier VR paradigm. As I have said, no such connection is warranted. And therefore where I use 'virtual' in this book, I just mean 'rendered by a computer': a virtual world is a world rendered by computer."[2]

The solution to the misrepresentation of the virtual in such discussions is not to remove the term from use or relegate its signification to its least interesting use. Castronova argues that we should move away from the virtual/real binary by replacing 'virtual' with 'synthetic'. But this move only creates another binary; between the man-made, crafted synthetic world and a "largely unmodified reality that has been in existence for a while"[3] which he refers to as 'the Earth'. The problem with binary oppositions is that they create either/or relationships which

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[2] See Castronova, 2005, 294.
[3] See Castronova, 2005, 294.

ignore the richer middle ground. As Harraway[4] has argued, contemporary culture is best expressed in terms of hybridity; of dialectic relationships between poles of difference, rather than reductionist dualisms. Castronova does not manage to escape the binaries he identifies as problematic. Synthetic Worlds is steeped in such relations, in many instances characterising interaction with virtual worlds as a form of encroaching migration from the Earth onto a domain which is distinct from it. Castronova is at pains to preserve the "fantasy" of synthetic worlds from the tainting reach of "Earth's governments" and "Earth's culture".[5] This dubious separation is evident in Castronova's concept of the 'membrane'; a form of barrier between the 'Earth' and virtual worlds:

> "The synthetic world is an organism surrounded by a barrier. Within the barrier, life proceeds according to all kinds of fantasy rules involving space flight, fireballs, invisibility and so on. Outside the barrier, life proceeds according to the ordinary rules. The membrane is the magic circle within which rules are different (Huizinga 1938/1950). The membrane can be considered a shield of sorts, protecting the fantasy world from the outside world. The inner world needs defining and protecting because it is necessary that everyone who goes there adhere to the different set of rules."[6]

There are considerable contradictions between this drive to protect synthetic worlds from 'the Earth' and Castronova's the analysis which first drew attention to Castronova's ideas. His paper sought to establish that the money generated through online auctions of virtual world gold pieces, items and property (which has come to be known as 'real money trade' or RMT) was at par with that of third world country economies thus creating an overlap rather than a seperation between the real and the virtual.[7]

'Synthetic' tells us nothing much about the underlying nature of these 'worlds' aside from their status as designed objects, which is in itself not a particularly useful distinction from 'the Earth' or 'the real'. What is reality/Earth if not a collection of designed structures: cities, media, social conventions and value systems? How is our experience of reality, or the Earth anything but an interaction with designed material spaces and systems of signification? This makes distinctions between synthetic worlds and Earth rather redundant. The latter cannot be separated from the synthetic. Indeed, humankind has designed and structured its existence since inception.

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[4] See Harraway, 2000.
[5] See Castronova, 2005, 198.
[6] See Castronova, 2005, 294.
[7] See Castronova, 2001.

The notion of virtual opposed to the real is a relatively recent idea. In a recent history of the virtual Marie-Laurie Ryan locates the origins of what she calls "the virtual as fake"[8] in 18th and 19th century discussions of physics and optics. The connotations of illusion and inauthenticity associated with the mirror image carried over to the virtual. This idea persists until today, not only in the popular view of the virtual, but even in various aspects of academia including philosophy.

Ryan conceptualises perspectives on the virtual on a continuum ranging from virtual as fake and the virtual as potential, related to the work of Levy and Deleuze. Levy gives a potent account of the virtual, emphasizing its earlier use in scholastic philosophy. The virtual here is not viewed in opposition to the real but rather as that which has potential to come into existence. The virtual is compared not with the real, but the actual.[9] Levy incorporates Deleuze's[10] distinction between the virtual and the possible.

The possible is a copy of the real that is already fully determined. It is a 'phantom of the real', which comes into being without alteration. The possible is static. The virtual, on the other hand is dynamic. It is not determined until it is actualised:

> "…the virtual is a kind of problematic complex, the knot of tendencies or forces that accompanies a situation, event, object, or entity, and which invokes a process of resolution: actualisation. This problematic complex belongs to the entity in question and even constitutes one of its primary dimensions."[11]

The flow between virtual, actual and back is expressed in the processes of virtualisation and actualisation. Actualisation is a solution to a given problem that was "not previously contained in its formulation".[12] Unlike realisation where the components of the real exist in the possible, actualisation implies a process of creation that generates new qualities, "a true becoming that feeds the virtual in turn".[13] The actual interacts with the virtual, while the real resembles the possible. Levy emphasises transformation particularly in terms of "a displacement of the centre of ontological gravity of the object considered"[14]

Levy relates this displacement to the notion of deterritorilisation prominent in Michael Serres' book *Atlas*. Serres focuses on the virtual as something which is 'not-there'. This is not to be read as a form of inexistence, but rather as a form of existence, true to the etymological

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[8] See Ryan, 2001.
[9] See Levy, 1998.
[10] See Deleuze, 2004.
[11] See Levy, 1998, 24.
[12] See Levy, 1998, 25.
[13] See Levy, 1998, 25.
[14] See Levy, 1998, 26.

roots of the word: the conjunction of the Latin 'sistere' meaning "to cause to stand or place"[15] and 'ex' outside. Levy points to a view of existence contrasting with Heidegger's philosophy of 'being-there': existence as a movement between places rather than being in a place.

Virtualisation can be therefore understood as a form of existence related to a transformation of time and space. The virtuality of a virtual community radically shortens the geographical distance between participants and the speed of communication. The community is not pinned to a physical location but can be accessed from any terminal that provides a suitable gateway. The actual, represented by the material context of the participants, is transformed into a contingent variable subservient to the new core of gravity: the participants shared interests and passions.

Virtuality in Context

The 'virtual' in virtual worlds is most significantly characterised by the vast landscape of potential configurations of text and its actualisation. This potential emerges from the persistent interaction of a few million human subjectivities with each other and the textual world written for their habitation, which is in turn constantly being re-inscribed, to varying degrees depending on the world's design, by the readings and practices of its inhabitants. This constant process of actualizing real human relations – love, hate, frustration, competition and collaboration – is accelerated by what Bolter and Grusin have called the 'hypermediacy' of networked access[16].

The computer does not constitute the virtual in itself. It is a necessary tool for enabling the manifestation of the actual-virtual dialectic. The applications that run the digital games, virtual worlds and other digital artefacts are fully realised in their coded structure. The clusters of programmed code interact in a predetermined way until the point of contact with the interpreting human subjectivity. It is at this conjunction that the virtual comes into force:

> "Potential, not virtual, for the digital engram and the software used to read the text predetermine a set of possibles, which, though immense, are numerically finite and logically bound. However, it is not quantity that distinguishes the possible from the virtual. The essential distinction is to be found elsewhere. If we consider the mechanical substrate alone (hardware and software), computer technology provides only a combination of possibles, albeit infinite, and never a problematic domain. Digital

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[15] See Levy, 1998, 26.
[16] See Bolter & Grusin, 1999.

storage is a potentialisation, display a realisation… The virtual begins to flourish with the appearance of human subjectivity in the loop, once the indeterminateness of meaning and the propensity of the text to signify come into play, a tension that actualisation or interpretation, will resolve during the act of reading."[17]

It is the interaction of the player with the complex problematic presented by the game rules, environmental mechanics, representational signs and the hardware interface that engenders a movement from virtualisation to actualisation and back again. Virtual environments as defined above are unique sites of mediated instantiation of this recursive process of actualisation and virtualisation. The process moves from the creation of a problem, and thus virtualisation, in the design of the text to be traversed, to the creation of a solution: the actualizing of the text through interpretation of the surface signs. The possibility for exerting agency within the environment beckons the question 'what shall I do next?', creating another problematic; a re-virtualisation that requires the solution of practice. The player actualises thought into action, in itself a creation of a further problematic: the inscription of one's actions onto the environment, effecting the clusters of coded data as well as other users in the environment. The complexity of this recursive process is multiplied by the presence of others and emphasised by the immediacy enabled by networked computing.

Virtual environments increase the potential for desired experience to be actualised. Stating that this is their principal attractor would ignore the heterogeneity of users and environments, but I would be confident in claiming that it is, at least a key factor that makes them such compelling media. Out of the various types of virtual environments, virtual worlds enable the widest range of social experiences through their focus on some of the most enduring characteristics of the social.

This view of the virtual gives a constructive account of the essential features of virtual environments and worlds. It tackles the problematic formulation of the virtual/real in a constructive manner rather than simply dismissing its use. Castronova's replacement of 'virtual' with 'synthetic' in the context of virtual words, for example, ignores the richness that Levy's philosophy sets in motion when it is applied to our objects of study.

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[17] See Levy, 1998, 52-53.

Defining Virtual Worlds

'Virtual worlds' and 'virtual environments' are two terms which are often used interchangeably within popular and academic discussions of computer generated spaces. Klastrup notes the difficulties facing the researcher of virtual worlds when the terminology used is so unclear. She rightfully argues that "if we want to discuss specific environments with specific properties, it is important not to foster mis-judgement by choosing wrong terminology".[18] Although the terms are used widely in discussions of computer mediated technology, it is surprising to find that the kind of conscious terminological reflection that Klastrup employs in her work is typically lacking.

This terminological confusion is related to the metaphorical nature of terms like 'environment' and 'world' imported into computing contexts. If the commonalities of these terms outside of computing contexts are central to considering these two terms, it is just as important to acknowledge that the reason for the importation into such a context is to increase referential specificity.

The salient characteristic which links the concepts of virtual environment and virtual world is the dialectical relationship between space and agency. Murray argues that the experience of agency is a key attractor of digital games.[19] Giddens defines agency in the following terms:

> "Agency refers not to the intentions people have in doing things but to their capability of doing those things in the first place. Agency concerns events of which an individual is the perpetrator, in the sense that the individual could, at any phase in a given sequence of conduct, have acted differently. Whatever happened could not have happened if that individual had not intervened."[20]

Users conceive of certain computer screen images as representing a virtual environment or world as such because they can interact meaningfully in the perceptual space delineated by the computer as they would in ordinary experience. They can walk through the door on the west wall or the passage in the east. They can do a hand brake turn to lose the car tailing them or speed ahead along the highway. The responsibility for action is placed on the player, within the constraints placed upon the game environment by the designers. The spatiality of a domain encourages the exertion of agency within it and the ability to exercise agency in that domain validates its spatiality. This conceptualisation yields the following definition:

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[18] See Klastrup, 2004, 20.
[19] See Murray, 1998.
[20] See Giddens, 1984, 9.

virtual environments are computer generated domains which create a perception of space and permit modification through the exertion of agency.

This definition allows us to separate chat rooms, web pages, blogs and webcam applications from virtual environments like driving simulators, virtual reality applications and digital games on the grounds that the former group does not allow users to exert agency in a computer-generated spatial domain.

Having established a definition of virtual environment, we can now turn our attention to virtual worlds. The distinction between the two is more one of emphasis than kind. Virtual worlds are composite assemblages of virtual environments that are marked by their persistent temporality, support of large groups of concurrent users and a large enough spatial area as to make it impossible to visualise them in their totality. [21] Richard Bartle, co-creator of the first text-based virtual world *MUD* outlines the following as distinguishing characteristics of virtual worlds:

> "The world has underlying, automated rules that enable players to effect changes to it (although not to the rules that grant them this ability). This is the world's *physics*. Players represent individuals "in" the world. They may wield partial or total influence over an army; crew or party; but there is only one game entity that represents them in the world and with which they strongly identify. This is their *character*. All interaction with the world and other players is channeled through characters. Interaction with the world takes place in *real time*. When you do something in the world, you can expect feedback almost immediately. The world is shared. The world is (at least to some degree) persistent."[22]

Klastrup arrives at a multi-part definition of virtual worlds that encompasses the majority of these points:

> "A virtual world is a persistent online representation which contains the possibility of synchronous communication between users and between user and world within the framework of a space designed as a navigable universe. "Virtual worlds" are worlds, you can move in, through persistent representation(s) of the user, in contrast to the imagined worlds of non-digital fictions, which are worlds presented as inhabited, but not actually inhabitable. Virtual worlds are different from other forms of virtual environments in that they cannot be imagined in their spatial totality."[23]

Klastrup places particular emphasis in her discussion of virtual worlds on the last point which is not included in Bartle's characteristics. Klastrup states that a key element of worlds

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[21] See Klastrup, 2004.
[22] See Bartle, 2004, 4.
[23] See Klastrup, 2004, 27.

is their complexity and sise cannot be fathomed at first glance but need to be explored at length. This element attains significant importance when coupled with persistence and mass habitation. Unlike the online multiplayer game map (such as those featured in FPSs like *Counter-Strike* or RTSs like *Dawn of War)* which re-sets after every round, the virtual world remains active for an extended period of time. This extended period can be anything from a few years or a few decades, depending on the commercial success or user following the virtual world has. Persistence yields a continuity of existence which makes them independent of their inhabitants and to some degree, their creators.

Another defining element of virtual worlds outlined by both Klastrup and Bartle is the presence of other users in the world. This creates a sense that there is a persistent society which one can participate in to various degrees. Even if the user does not interact directly with others (although most users would) their presence creates a social context within which the user's actions are interpreted. This can be also true of virtual environments, but is not one of their defining characteristics.

A number of characteristics that Bartle and Klastrup outline, however, are also shared by what I have defined here as virtual environments. Elements like physics, the possibility to traverse and otherwise inhabit the space or the representation of individuals through avatars are not necessarily defining features of virtual worlds but can be commonly found in virtual environments. Building on the definition of virtual environments I will thus define virtual worlds as:

> **virtual worlds are composite assemblages of persistent, multi-user virtual environments extending over a vast geographical expanse.**

The above definitions and discussions of the virtual will now be contextualised through a brief history of virtual worlds. Due to the scope of this paper, this history is not meant to be exhaustive, but aims to signal important landmarks in the development of virtual worlds.

A Brief History of Virtual Worlds

Since virtual worlds are complex phenomena which encompass a multitude of activities within their domains, the history can be told from a number of perspectives.[24] These perspectives can emphasize the role of virtual worlds in a variety of histories: games (digital or otherwise), communication technologies, online communities, non-linear literature, collaborative story telling and/or performance; not to mention a deeper history of creation and interaction with other-worlds that has persisted since the earliest days of homo-sapiens. These perspectives form important threads in such a contextualization, but because a full genealogy of virtual worlds would require a monograph to itself, I will limit myself to signalling landmarks in the development of virtual worlds. The account will be divided in two sections: a history of social virtual worlds that place the emphasis on socializing and creation of in-world locations and objects and Massively Multiplayer Online Games (MMOGs) whose design revolves around a predominant game structure. The histories of these two broad types of virtual worlds are intertwined and they are being treated in separate sections here for structural clarity.

Early Stages in Virtual Worlds: MUDs

The computing genesis of virtual worlds can be traced back to Essex University, 1978. Roy Trubshaw, inspired by contemporary text adventures like *Zork, Haunt* and *Advent* created various iterations of *MUD*, a text-based virtual world shared over the university network.

Figure 1: Zork

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[24] See Taylor, 2006.

The first incarnation of *MUD* was a basic program intended to test the pragmatic principles that dictated the virtual world's running. The second version was closer to what is currently known as a text-based virtual world. In 1980 the first external players were allowed onto the Essex University servers to test Trubshaw's *MUD*. The initial iterations of *MUD* could host up to 36 simultaneous players. The acronym *MUD* stands for "Multi User Dungeons". Dungeon here refers not to the Dungeons and Dragons pen and paper game, as is often thought, but to DUNGEN, the Fortran incarnation of the popular, text-based adventure *ZORK*. The acronym was adopted following Trubshaw's interest in creating a multi-user version of DUNGEN.[25]

MUDs are text-based environments that represent the designed space through textual descriptions of various locations in the world. The world as a whole is made up of a number of these connected locations, sometimes called 'rooms' that players move through and interact by way of specific word commands. As Bartle states, the flexibility and evocative power of language means that the virtual worlds' representational potential is limited to the imagination and communicative ability of the designers and players, unlike later graphical worlds which are constrained by considerable budgets and the graphics technology available at the time.[26]

The players themselves are represented by text descriptions of their characters and signal their location to others through the presence of their names in the particular location.

Figure 2: World of Warcraft Tavern

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[25] See Bartle, 2004.
[26] See Bartle, 2004.

This means that unlike graphical worlds players are not anchored to a specific spatial coordinate in an environment. Walking into a tavern in *World of Warcraft* one comes across Muun sitting on a table at a balcony next to Ananke and Nil. In a text-based virtual world, Muun, Ananke and Nil would be names on a list of people in the tavern. To signal their proximity they would need to actively describe their specific location and action, but this would only be supported by the shared mental visualisation of the room's inhabitants, not the game program.

Graphical virtual worlds also give more information about the point of view and intentions of the player than text-based virtual worlds through the position and represented actions of their avatar. The degree of inference is dependent on the way the world is coded. The more restricted the point of view (for example, players are only allowed to control their avatars from a first person perspective), the tighter the alignment between player and avatar point of view and actions. If the world allows me to run in one direction, but zoom out and look all around me without indicating this change of point of view in the avatar (for example, by turning its head when looking sideways or behind), other players cannot be sure about what I, as a player, am actually seeing on my screen. For example, in *World of Warcraft,* it is possible to disassociate the 'camera' from the direction the avatar is facing, zoom out and look around quite liberally. Another MMOG, *Planetside,* on the other hand does not allow this freedom of camera movement and although it allows switches to third person perspective, the fast paced nature of the game along with its reliance on being in first person view to interact usefully with the world and others means that the direction in which the avatar is facing is a clear indicator of player perspective. For example, if an avatar from an opposing faction in *Planetside* is facing north the controlling player will not see me if I ran behind him. No such considerations exist in text-based virtual worlds as the perspective of the player is always that of the fly on the ceiling, observing all that goes on in a location without differentiating between specific coordinates within it. Distance is thus only measured in terms of 'hops' between locations. Spatiality inside the location can only be enacted through narration of an event and is not supported by the virtual world application per se. In graphical worlds, space is visibly traversable. If Muun and Nil are trying to get to the mailbox first, for example, they are each aware of the other's location in relation to the mailbox. Even though these are only a few elements that differentiate the experience of text-based virtual worlds from graphical ones it is immediately evident that the method of representation and interaction with the world creates a very distinct type of player experience requiring different analytical frameworks to be deployed for each.

Two broad poles of virtual world development can be identified at this stage. On one side we have virtual worlds created with an overriding game structure guiding the design process. At the other end of the spectrum are social virtual worlds which have no set goals or structures of formal progression. I will here refer to these worlds as 'social virtual worlds', following Klastrup.[27] The two are by no means neat and distinct categories but two poles on a continuum of design features. The histories of both types of virtual world are deeply entwined, but for the sake of clarity I will explore the social virtual world thread first, then go down the game-worlds path and finally end with a discussion of external sources that influenced both types of design.

Social Virtual Worlds

Figure 3: Lucasfilm´s Habitat

1985 saw the release of the first online graphical world by Lucasfilm Games called *Habitat. Habitat* represented a series of connected locations using 2D graphics. Players[28] controlled a single avatar drawn in cartoon style graphics through the use of a joystick. Communication between players appeared as bubbles above the avatars' heads and was effected through keyboard input. The initial incarnation of *Habitat* was coded for the Commodore 64 platform.

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[27] See Klastrup, 2004.

[28] *Habitat*'s designers, Farmer and Morningstar, use the term 'player' instead of 'user' to signal the fact that it was created as an artifact of the entertainment industry.

The world was made up of a large number of linked locations called 'regions'. In its initial phases *Habitat* contained around 20,000 of these regions, which grew in number as the world evolved. Players made money through logging in and various other possible transactions, including trading and the popular treasure hunts. These funds could be used to buy various objects ranging from appearance altering items to functional tools like torches, weapons and also items used to decorate players' homes. These objects could be transferred, dropped, stored and carried in various containers. As the designers Farmer and Morningstar state in an important paper written in 1991 called "The lessons of Lucasfilm's Habitat" some of *Habitat*'s most notable features were its ability to host thousands of simultaneous users and its open ended design. Unlike MUDs and computer games in general, it did not have any set goals or formal progression structure, as is popular in the majority of contemporary MMOGs. Nevertheless, as Taylor notes, a number of *Habitat's* novel characteristics coupled with its graphical representation make it an important precursor for contemporary social virtual worlds and the more game oriented MMOGs:

> "It was one of the first online graphical spaces in which average computer users could fashion for themselves avatars and undertake living in a virtual world. While games did exist in the space, its sense of emergent "worldness" was foregrounded. These worlds operate as an environment in which users can play games, role-play, visit with friends, decorate personal homes known as "turfs", and participate in a social world. With an economy, housing system, lively social life, and emergent player culture it is an artifact that anticipates the mass virtual worlds of games like *Everquest*."[29]

Although there were crude graphical virtual worlds released before and contemporaneous with *Habitat,* they did not have the same level of graphical representational power nor were they as widely accessed as *Habitat.* More importantly, however, *Habitat* was the first popular virtual worlds to adopt an open ended design philosophy. This makes it a crucial milestone in virtual world development not only as the first major graphical online virtual world but more importantly as the first online social virtual world:

> "For the designer of an ordinary game or simulation, human diversity is not a major problem, since he or she gets to establish the goals and motivations on the participants' behalf, and to specify the activities available to them in order to channel events in the preferred direction. Habitat, however, was deliberately open ended and pluralistic. The idea behind our world was precisely that it did not come with a fixed set of objectives for its inhabitants, but rather provided a broad palette of possible activities from which the players could choose, driven by their own internal inclinations. It was our intention to provide a variety of possible experiences, ranging from events with established rules

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[29] See Taylor, 2006, 25.

and goals (a treasure hunt, for example) to activities propelled by the players' personal motivations (starting a business, running the newspaper) to completely free-form, purely existential activities (hanging out with friends and conversing)."[30]

If *Habitat* lay the foundations for the graphical MMOGs to come it was more immediately related to another milestone of virtual world development. Jim Aspnes created the popular *TinyMUD,* a text-based social virtual world, at Carnegie Mellon University in 1989. *TinyMUD* is even more extreme in its removal of combat and structured game-like elements than *Habitat* as it omitted the game-elements altogether. *TinyMUD* allowed users not only to socialise but added the important feature that is a defining aspect of contemporary social virtual worlds: allowing the individual user to contribute to the process of world creation by building locations and objects using a scripting language (*TinyMUD* was a text-based virtual world).

TinyMUD shut down after just one year, but its innovative potential and popularity inspired a long line of text-based social virtual worlds. One of the most significant among these was *MOO* (MUD, object-oriented). It was written by Stephen White and released in 1990. MOOs extended the ideas developed in *TinyMUD*, and quickly became very popular as social virtual worlds as well as attracting the attention of academia and educators. Pavel Curtis followed White's development and created possibly the most popular text-based social virtual world to date: Lambda MOO. Lambda MOO rose to infamy with an article written by Julian Dibell for the Village Voice in 1993 called "A Rape in Cyberspace". Dibell's article signaled to the general public the seriousness of virtual worlds, at least for their inhabitants. Virtual worlds, particularly social ones, had already become a socio-cultural force requiring close analysis and scrutiny.

The legacy initiated by virtual worlds like *Habitat, TinyMUD,* MOOs and MUSHes paved the way for 3D social virtual worlds that are popular today. Ron Britvich created the first 2.5D virtual world called *Webworld.* Britvich soon moved on to Knowledge Adventure Worlds (later to become Worlds Inc.) where he worked with a number of other designers on *Alphaworld. Alphaworld* was renamed *Active Worlds*, after the name of its incorporated 3D web browser, and launched in 1995. *Active Worlds* quickly became the foremost 3D social virtual world attracting thousands of users and growing exponentially in sise. The maps below give a snapshot of the development of user created structures over 5 years. To get a sense of

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[30] See Farmer & Morningstar, 1991, 287-288.

the overall sise of *Active Worlds* consider that it takes an avatar 2 (real-time) hours to walk across the area displayed by the maps and this is only 0.3% of the total A*ctive Worlds* area.[31]

Figure 4: Alphaworld 1996
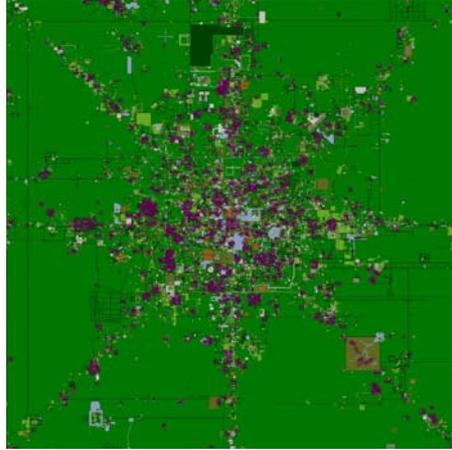
Figure 5: Alphaworld 1998
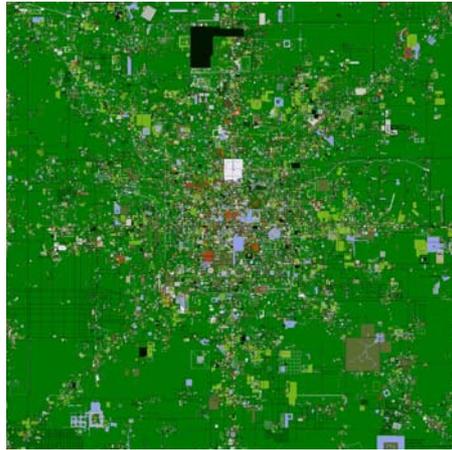
Figure 6: Alphaworld 1999

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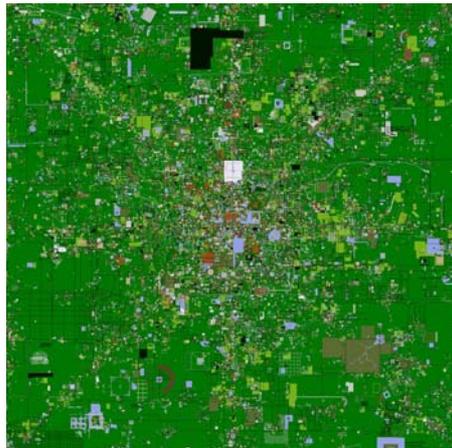
[31] See *Active Worlds'* website at http://www.activeworlds.com.

Figure 7: Alphaworld 1996

Active Worlds gives users the ability not only to create structures and objects but also to develop and host a whole "world" for other users to explore incorporated within its wider framework. It is also interesting to note that the *Active Worlds* universe is accessed through the Active Worlds browser, which was intended to be the 3D equivalent of a 2D browser like Internet Explorer, Firefox or Netscape. It includes web browsing, voice chat and instant messaging capabilities. Although new versions (currently version 4) are still being developed for the *Active Worlds* universe, its number of users has plummeted over the past years, with users migrating to new social virtual worlds like *There* and *Second Life.* The latter is currently the fastest growing and most popular social virtual world on the net, claiming over 320,000 users at the time of writing.[32]

Figure 8: Second Life Tower

Second Life allows users to create detailed objects, structures and land through a fairly straightforward interface. The created objects can be bought and sold for the in-world

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[32] See *Second Life's* website at http://secondlife.com.

currency, the Linden Dollar. The Linden Dollar has a floating exchange rate with the US Dollar enabling direct transfer between currencies through the use of a credit card. Users can market and sell their creations, which range from plots of land to avatar clothing and accessories to in-world games. This makes *Second Life* (and similar worlds) ideal test-beds for creative ideas.

Figure 9: Secondlife´s Anshe Chung on the cover of Business Weekly

One user, for example, created an in-world game called *Tringo* which sold widely enough in-world to attract the attention of Donnerwood Media who offered Kier a five figure deal for *Tringo*'s license, which is set to appear on a variety of platforms including Nintendo's Game Boy Advanced. Another user known by the alias of Anshe Chung has a strong enough in-world business to require a staff of 20 globally distributed users to sustain it. Chung graced the cover of the May 2006 edition of *Business Weekly*. The net worth of her real estate business is estimated at around 250,000 USD. Various institutions and businesses have invested in *Second Life* through the renting of 'islands': areas of in-world land, such as those sold by Chung that can be developed into anything from shopping malls (for both in-world and physical world items), entertainment centres or educational sites.

As *Second Life*'s popularity reaches ever more users and mainstream media, more institutions are setting up virtual-shop inside it. In 2006, BBC bought an in-world island and used it to send live broadcasts from its annual music festival, BBC Big Weekend. Infinite Mind Media have also staged a number of in-world events including interviews with science fiction writer Kurt Vonnegut, Howard Rheingold and a live performance by renown music artist Suzanne Vega. On the educational front, a number of universities including Harvard have begun holding classes in *Second Life*. The latter is running a law course called CyberOne:Law in the

Court of Public Opinion, where students meet inside the Harvard Extension school within *Second Life*. The course deals with making persuasive arguments in virtual spaces such as web sites, wikis, and virtual worlds.

Figure 10: Suzanne Vega in Secondlife

Figure 11: Suzanne Vega in studio
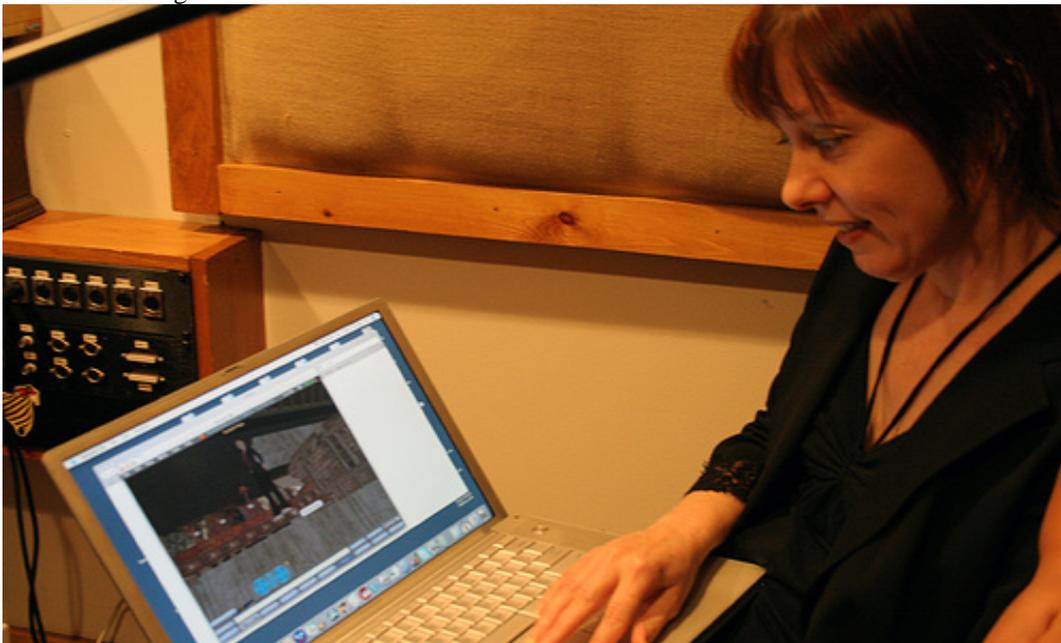
Unlike MMOGs which tend to require a monthly fee to access making it easier to measure active users, *Second Life* can be accessed for free. Linden Labs claims 320,000 residents, referring to the number of accounts created, not the number of unique active users, making it impossible to differentiate between people actually inhabiting *Second Life* on a regular basis and those that have created an account to try the place out and never returned. When compared to some MMOGs, even this impressive number pales somewhat (*World of Warcraft*

claims 8 million paying users at the time of writing[33]), but when one compares the figure to other social virtual worlds, both past and present, *Second Life's* population represents a considerable advance in popularity.

Figure 12: Kurt Vonnegut in Secondlife

More importantly than what *Second Life* represents today is what *Second Life* means for the future of virtual worlds. As will be discussed in later chapters, virtual worlds like *Second Life* are making it clear that such online places are increasingly becoming an integral part of the everyday, not a domain of practice separate from it. Let us now back-track to the era of the MUD and trace the evolution of game oriented virtual worlds from their text-based origins to the present day MMOGs.

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[33] See *World of Warcraft's* website at http://www.worldofwarcraft.com.

Massively Multiplayer Online Games

How massive is a massively multiplayer online game? Like many others in the industry, the term was coined in conjunction with marketing discussions. In this particular case, the company that can be credited with first using "massively multiplayer" is 3DO in the 1996 pre-launch stages of *Meridian 59*, which is widely considered to be the first MMOG to hit the Internet. *Meridian 59* was an impressive effort by a group of programmers and artists distributed all over the US. Although not the roaring success that the later *Ultima Online* was to become, *Meridian 59* established a number of design conventions, particularly in terms of the user interface, which can be seen in later giants like *Everquest*.

Figure 14: Avatar on the Plato System
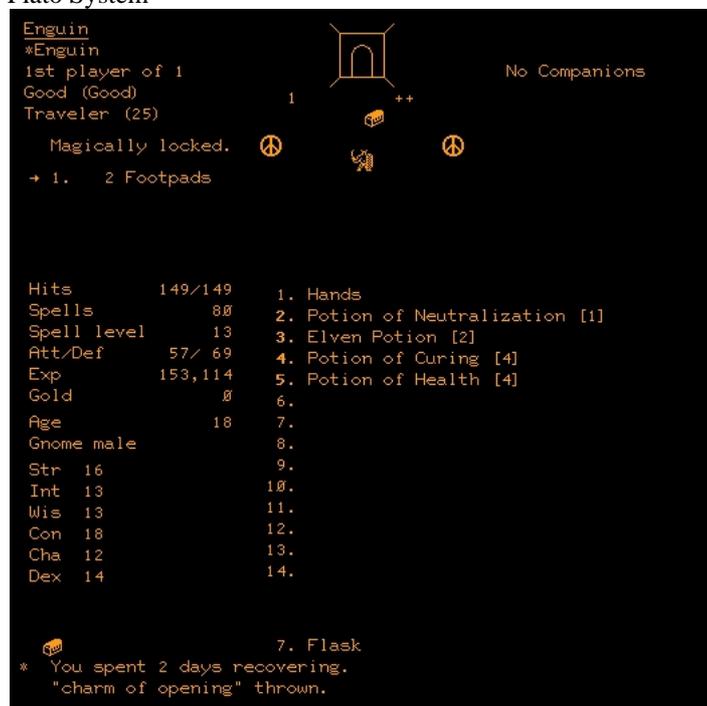
Figure 15: Meridian 59
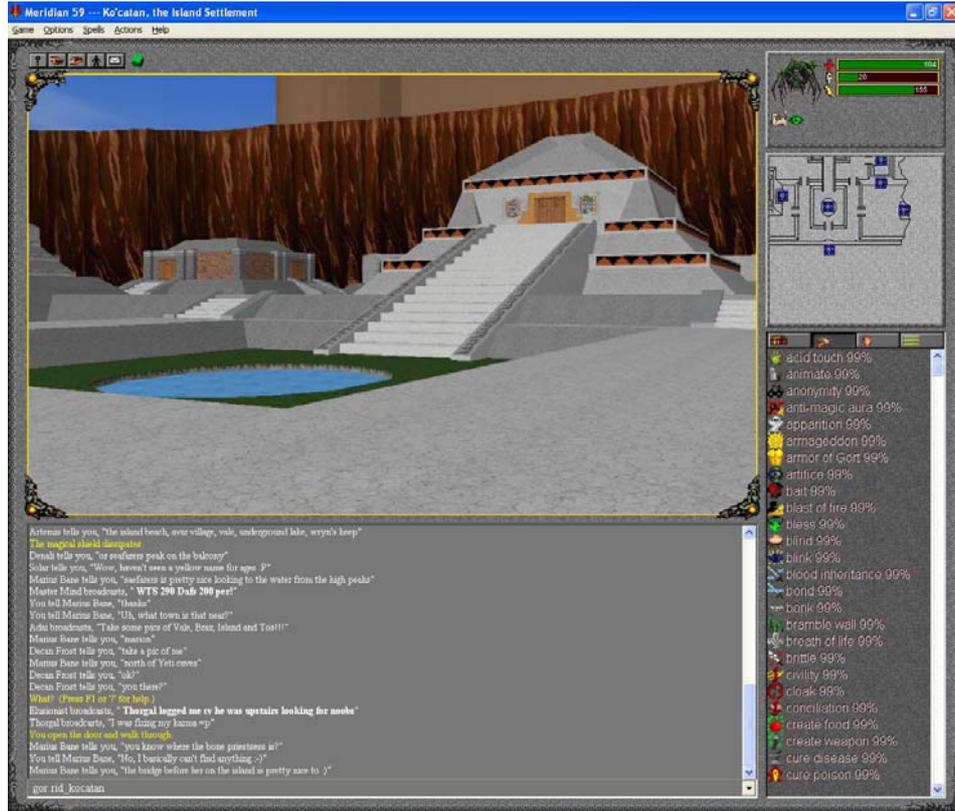
Meridian 59 used DOOM-like 2.5D graphics that were not to become a regular staple of MMOGs till Everquest came along in 1999. Although the designers of Meridian 59 were successful in achieving their goal of creating a three dimensional, first person perspective, graphical MUD, a number of issues related to timing and publisher constraints crippled what could otherwise have been a hugely successful MMOG.[34] A major source of concern for 3DO was the looming release of Origin System's Ultima Online. The effort placed into releasing Meridian before Ultima Online meant the game was not as polished as it could have been and since the internet was still in its early stages, it had not reached a critical mass of users that was available when Ultima Online was released a year later.

In the same year that 3DO released *Meridian 59* in the US, Nexxon came out with its own MMOG in Korea. Designed by Jake Song, *The Kingdom of the Winds* was the precursor to the hugely popular *Lineage,* that was to follow in 1997. *The Kingdom of the Winds* attracted over a million users and *Lineage* soon topped this number and hit 3.2 million paying subscribers at its peak in 2004[35]. Korea was the perfect breeding ground for MMOGs for a number of reasons. After World War 2, the Korean government banned all Japanese imports, meaning that the console phenomenon did not take hold in Korean culture, leaving the PC platform to

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[34] See Bartle, 2004.
[35] See Bruce Sterling's website at http://www.mmogchart.com.

account for the majority of digital gaming. Half the population of Korea lives in Seoul. The high-density urban population made wiring up the country with broadband far easier than other places. On top of this, the popularity of PC Baangs (Korean versions of net cafes) with the local youth meant that networked gaming was seen as a group social activity from its early stages, in contrast to western countries where to this day, gaming (particularly online gaming) is regarded as an activity for the socially inadequate among many segments of society.

Figure 16: Attempted assasinations on the avatars of Ultima Online´s Designers

Because of these different market situations and models, it is hard to compare the success of Korean games with US and European ones based on paying subscribers. In the west, the first hugely successful MMOG to hit the market was *Ultima Online,* released in 1997 by Origin Systems Inc. It set a new standard for the term 'Massively Multiplayer' when it hit 100,000 users in one year. The lead designer, Richard Garriott, had garnered great respect from players and designers alike through his *Ultima* single player adventure game series. Unlike *Meridian 59,* it did not offer its players the possibility of viewing the world in first person but used an isometric perspective. *Ultima Online* presented its inhabitants with a depth of world design that had not yet been seen in virtual worlds. It followed a relatively open ended approach that accommodated a wide variety of playing styles as well as giving the player community a strong hand in self-organisation and governance:

> *"Ultima Online* has become notable in the history of MMOGs not only for the ways it revolutionised multi-player gaming, but for being a frontrunner on issues still under heavy debate. It was one of the first games to confront mass player protest, not to mention the sale of virtual items for real world currency."[36]

In many ways, the open-ended nature of *Ultima Online* also meant that aggressive aspects like player-killing could become a nuisance, particularly for starting players. It also meant that the community had to work out ways of dealing with such issues, giving a stronger sense of consequence to actions than is available in most contemporary MMOGs. Nevertheless the newbie (new player) experience in *Ultima Online* was tough enough to scare off droves of first timers. By 1999 the newbie and PK issues escalated enough to drive a number of players to look for another appealing MMOG. *Everquest* launched at a perfect time to welcome these disgruntled players. In three months its player base surpassed that of *Ultima Online.* It set a new benchmark for MMOG success when it reached 550,000 users in 2004.[37]

Figure 17: Everquest

Everquest designers decided to go down a different path from *Ultima Online*'s player versus player (PvP) model. The *Everquest* design team decided to aim for a collaborative gameplay experience and thus designed *Everquest* in such a way as to require players to adventure in small groups from the early stages in the MMOG. This fostered a stronger sense

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[36] See Taylor, 2006, 26.
[37] See Bruce Sterling's website at http://www.mmogchart.com.

of collaborative community than other MMOGs out at the time and it also motivated players to interest their offline friends to enter the virtual world and play collaboratively with them. *Everquest* was also strictly level-based, again following more closely the design structure of MUDs and earlier Dungeons and Dragons table top RPGs than *Ultima Online* did. *Everquest* used a 3D, first person perspective like *Meridian 59*, with the important difference of a camera that could be detached from the avatar's point of view and rotated round the avatar at various distances. Its graphical quality and the area represented on the screen were considerably superior to *Meridian 59*.

Everquest, even more than *Ultima Online* before it, attracted the attention of companies within the digital gaming industry and the media at large. This meant that in the next few years a large number of *Everquest* clones were in development. Like *Ultima Online* before it, *Evequest* expanded the overall client base for MMOGs. This heralded an age of expansion in MMOG development. A number of important MMOGs were released in the following years, a good number of them following the *Everquest* model to an almost repetitive degree, others contributed important features that would became staple elements of MMOGs to come. Let us take a brief look at some of the bigger MMOGs from 2000 till the present.

Figure 18: Dark Age of Camelot Siege

Dark Age of Camelot (DAoC), launched in October 2001 and is generally considered as the first major competitor to *Everquest*. DAoC is set in a world inspired by Arthurian legends

rendered in graphics that surpassed those provided by *Everquest* at the time. It included a number of features which *Everquest* did not provide or was seriously lacking in. One of these was the ability for players to have and decorate their own houses. DAoC focused intensely on the player versus player (PvP) aspects, creating a system of mass fantasy battles with specific buildings designated as tactical objectives intended to be held by player controlled factions. Unlike *Ultima Online,* however, the PvP combat was not crippling for new characters as it was limited to a specific area of the world instead of throughout the world.

2001 also saw the launch of *Anarchy Online*, that can claim to be both the first science fiction themed MMOG, as well as the first MMOG to be produced by a European publisher. *Anarchy Online*'s initial months were plagued by serious technical glitches and bugs. By the November launch of its first expansion, *Notum Wars*, Funcom had resolved the majority of technical issues and *Anarchy Online's* future looked far brighter.

Figure 19: Anarchy Online

One important design innovation that Funcom contributed and was to become a staple of most MMOGs was the concept of instanced areas. One problem with *Everquest* was over-crowding in locations which contained creatures that were central to the completion of important quests or that were known to yield powerful items. Players tended to have to line up and wait for the re-spawning (return of a creature to life after it has been killed by other players) of the creature. Sometimes these 'camping' groups, as they are known, needed to

wait for long hours to attack the prised victim, often resulting in arguments between camping groups and general annoyance. *Anarchy Online's* solution to the camping problem was to create 'instanced' mission areas. Instanced areas are pocket areas within the world that are created for each player or group of players that enter a mission area (generally called dungeons, even if they are not, in themselves dungeon settings). This means that players in instanced areas will never bump into other players since multiple instances of the same area are being created for anyone that enters the instance door/portal. This major innovation was to become not only a staple elment of MMOGs to follow, but also spawned later MMOGs where the entire world outside of particular (usually urban) hubs is instanced, as is the case of recently released MMOGs such as *Guild Wars* and *Dungeons and Dragons Online.*

Anarchy Online was also to create an industry first by switching from a pay per month subscription model to a free subscription model by looking towards sponsors for revenue. This was announced in 2005 and worried a number of industry experts that feared in-world adverts would become the norm with other MMOGs, which has not been the case (at least at the time of writing).

Figure 20: World War II Online Map
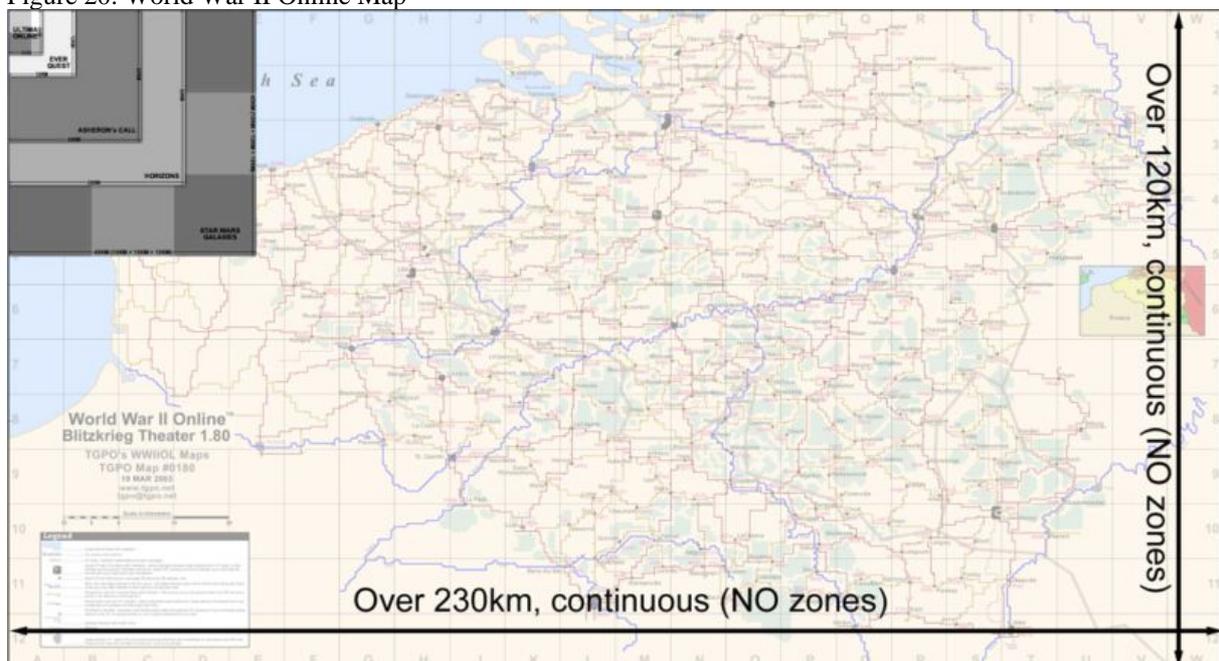
Another important industry first appeared in 2001 in the shape of *World War II Online*, the first Massively Multiplayer Online First Person Shooter (MMOFPS) as well as the first MMOG with a historical theme. *WWII Online* can also be considered to be the first

commercial online virtual battlefield, simulating an area of 120K by 230K of continuous (not loading in separate zones) terrain modelled on satellite photos of Europe.[38]

World War II Online caters for a niche market of enthusiasts for military history and thus privileges realistic and strategic combat simulation over fast-paced, crowd pleasing fun and attractive graphics. Over the years its graphics engine has improved considerably but it always lagged behind contemporary graphics. Like *Anarchy Online* it suffered from a shaky start fraught with technical issues, heralded by the closing down of the data centre used by its developers, Cornered Rat Software which reduced its server capacity from 10,000 to 1,200 players. Two other MMOFPSs followed soon after, *Neocron*, a cyberpunk themed MMOG released in 2002 and *Planetside* in 2003.

Figure 21: Planetside

Neocron suffered from a number of bugs and design issues that left it limited to a small number of ardent fans. *Planetside* focused more directly on mass combat without the inclusion of the traditional quests/missions or AI creatures and characters. In fact, *Planetside* is a giant battlefield distributed over a number of continents on which players, divided into three factions, fight a never ending war for supremacy. At its peak in 2004 *Planetside* claimed up to 60,000 players, which dropped sharply in mid 2005 to 20,000 players. Some attribute this drop to the introduction of massive combat robots called Battle Frame Robotics. In the

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[38] See website of *World War II Online* at http://www.wwiionline.com.

opinion of many veteran players, these powerful vehicles were too overpowered, changing the dynamics of the game radically.

Following *Anarchy Online,* the next big sci-fi themed MMOG to follow was *Star Wars Galaxies,* released in 2003. Its rich mythos and background, accumulated over a 25-year period meant it had both a huge fan base at launch as well as high expectations which were fuelled further by its pre-release hype. *Star Wars Galaxies* allowed players to choose among a wide variety of gameplay styles. Players could progress through game goals by spendind their entire time playing musical instruments in cantinas, crafting armour or bounty-hunting. Other games tend to feature crafting professions as an add-on to a combat role of some sort, making it impossible to progress without a good dose of combat and quest/mission participation. *Star Wars Galaxies* also allowed players to build their own housing and towns. Although a great idea, a number of factors including players leaving *Star Wars Galaxies,* led to whole areas of uninhabited ghost towns.

The combat system underwent a number of changes and culminated with the now infamous 'combat upgrade', a completely redesigned combat system that proved to be highly unpopular with a number of players. Another unpopular change was the decision to change the coveted Jedi class. Initially players had to master a number of professions in order to become Jedi, requiring a number of months dedicated mostly to tediously repetitive tasks. Sony Online Entertainment later decided to make the Jedi a class open to new players, in many ways undermining the arduous efforts of players that had invested in the profession. Although *Star Wars Galaxies* reached the 300,000 subscriber mark in only three months[39] and was expected to be the first non-Asian MMOG to hit the one million mark, it never went above 300,000 users. This was due both to the radical shifts in gameplay and character development mentioned above and to a long line of bugs, ridiculously long travel times (initially there were no vehicles or mounts to make the long journeys quicker), unbalanced classes and a problematic combat system.

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[39] See Bruce Sterling's website at http://www.mmogchart.com.

Figure 22: Eve Online

The first space opera themed MMOG was *Eve Online,* developed by the Icelandic company CCP. *Eve Online* experienced a slow but steady increase in subscriptions and popularity. Starting off with a lowly subscription base of 15,000 players in 2003 *Eve Online* rose with relentless monthly increments up to 125,000 subscriptions at the time of writing.[40] *Eve Online* is also the first MMOG to focus on space combat and trading. The *Eve* universe exists on a single server, unlike the majority of MMOGs whose worlds exist on multiple cloned incarnations called 'shards' or 'realms'. Many players have complained that *Eve Online's* learning curve is somewhat steep. The *Eve* universe is constructed with the safer zones controlled and protected by AI corporations in the centre and an outer ring of lawless galaxies at the perimeter of the universe. Player versus player combat is allowed anywhere but the protection new players receive in the starting areas means they are generally safe from marauding player pirates. *Eve's* economy is completely player run and it takes a good few months into the game to start appreciating the complexity of its economy and trading system. Since it allows players and player factions to plot against each other at will, this MMOG has a strong political streak to it, with multiple player-run corporations banding together to form giant alliances which result in massive battles with at times thousands of players on each side.

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[40] See Bruce Sterling's website at http://www.mmogchart.com.

This kind of emergent game-play is very rich but requires a considerable amount of coordination and effort on the part of the players to make it work.

Eve Online is a good example of an MMOG designed with an open-ended gameplay approach. This throws new players in at the deep end, sensing that beyond the central safe zones there are complex political manoeuvres being undertaken by masses of people around the globe. On the opposite end of contemporary MMOG design styles are worlds that are geared to guide the player more closely and signpost a clear path of progression. It is not that the latter worlds restrict players' choices in absolute terms, but their design is intended to keep the potential of varied, emergent activity to a minimum. In 2004 Blizzard released an MMOG that would bring the genre to the popular consciousness of both western and eastern countries: *World of Warcraft.*

World of Warcraft's subscription figures shot through the roof in a matter of months. In just one year it boasted 5 million paying subscribers, making it the first MMOG to be as successful in the US as it is in Europe or in Asia. Soon, feature articles, travel diaries, photography contests and the like started appearing in publications that would generally barely mention games, let alone MMOGs. Today the name *World of Warcraft* is synonymous with MMOGs and for the uninitiated *World of Warcraft* is **the** virtual world. *World of Warcraft's* success cannot be attributed to ground breaking innovations in terms of design, but a careful blend of successful elements of previous MMOGs. Its graphic style follows on from the hugely successful *Warcraft* Real Time Strategy game series that preceded it: a colorful, cartoonish fantasy world having more aesthetic resonance with sword and sorcery comics and graphic novels then the Tolkienesque style dominant in most other MMOGs.

World of Warcraft's launch went smoothly, Blizzard keeping up their reputation of delivering highly polished bug-free products. Another element which drew a lot of new players to the MMOG is the ease by which new players are initiated into the game and guided through the initial areas out into the open world. To this day, the number of subscribers are steadily increasing. It would not be too bold to state that *World of Warcraft* greatly expanded the MMOG market and through its popularity crystallised a view of what MMOGs are and how they function both in terms of game-play and as a media object known to the general public.

Figure 23: World of Warcraft

The Future of Virtual Worlds

The number of MMOGs in development seem to be increasing exponentially. At the time of writing there are approximately 94 MMOGs in development and 120 MMOGs released.[41] *Eve Online'*s developers, CCP have recently merged with White Wolf Games, producers of the highly popular *Vampire* and *Werewolf* (among other titles) table-top RPGs line, and will be working on an MMO set in their famous World of Darkness setting. Mythic have teamed up with Games Workshop, developers of the Warhammer line of table-top wargames to bring the popular Warhammer universe to the MMO scene. Cyan Worlds are having a second go at bringing the *Myst* universe back to the MMO scene with *Uru Live. Anarchy Online* developers Funcom are working frantically on *Age of Conan: Hyborian Adventures* that promises to be one of the more innovative MMOGs to launch in the coming years and set in Robert E. Howard's Hyboria. There is of course no shortage of intellectual property imported from the movie and literary world. *Lord of the Rings Online* is one of the more highly expected releases of 2007. *Star Trek Online* and *Stargate Worlds* are also scheduled for a late 2007 release. There are doubts whether any of the upcoming releases can top *World of*

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[41] See Bruce Sterling's website at http://www.mmogchart.com.

Warcraft's still growing 8 million subscriber mark, but there is also a general sense of innovative expectation tied to the next generation of MMOG releases. One thing that is clear with the range of upcoming MMOGs is that they are proceeding down the road of mainstream entertainment and slowly moving out of the fantasy combat oriented worlds to a multitude of genres, eras and intellectual property cross-overs.

If William Gibson's concept of cyberpsace was the visionary pennant under which the virtual reality movement rallied, Neal Stephenson's notion of the metaverse has been adopted as the poster child for the contemporary vision of tomorrow's cyberspace. A project titled *The Metaverse Roadmap* aims to accelerate the development towards Stephenson's portrait of virtual worlds by bringing together representatives from leading technology companies and fostering a collaborative, if distributed, working environment. Here the notion of the metaverse has moved from the metaphoric to the metonymic, displacing the fictional with the attainable:

> "The metaverse is the next incarnation of the internet and the opening of a new informational dimension to physical space. It is a permanent new space that incorporates all previous informational dimensions (text, etc.) of physical space and goes increasingly beyond it, an immense reservoir of information that is constantly being updated, a platform for easy and intimate contact with others, a place whose future is very bright and hard to predict in its specifics, but less so in its general trends."[42]

The ease of mobility between concepts in literary fiction and culture-shaping communication technologies is perhaps one of the most telling aspects of virtuality in our time. We have attained an unprecedented level of confidence in actualizing the most challenging technological problematics to such a degree that we sometimes forget that the goals we aim towards were born out of a literary writers' mind. It is surely not the first time in our history that artists have started such a process of creation, but expectations of immediate actualisations have scarcely been this high. The *Metaverse Roadmap* project asks whens and hows, but rarely whys. Why do we have such a drive to fix the imaginary upon the material; to give it a shared and perceivable tangibility we can inhabit at the click of a few buttons? In the understandable drive to further current understanding and development of digital technologies such broader questions are often ignored. The current explosion in the popular appeal of the digital worlds we are creating might be an ideal time to start addressing such issues.

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[42] See website of the Metaverse Roadmap at http://www.metaverseroadmap.org.

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