UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

WORLDS, INC., **Plaintiff,** **v.** **ACTIVISION BLIZZARD, INC., BLIZZARD ENTERTAINMENT, INC. and ACTIVISION PUBLISHING, INC.,** **Defendants.**	**Civil Action No. 12-10576-DJC**

MEMORANDUM AND ORDER

CASPER, J. **June 26, 2015**

I. Introduction

Plaintiff Worlds, Inc., ("Worlds") alleges that Activision Blizzard, Inc., Blizzard Entertainment, Inc. and Activision Publishing, Inc. (collectively, the "Defendants") infringe certain claims of United States Patents Nos. 7,181,690 ("'690"), 7,493,558 ("'558"), 7,945,856 ("'856"), 8,082,501 ("'501") and 8,145,998 ("'998") (collectively, the "Patents-In-Suit"). The parties now seek construction of eleven disputed claims terms. After extensive briefing and a Markman hearing, the Court's claim construction follows.

II. Patents-in-Suit

This lawsuit involves patents that are directed to a client-server network that enables large numbers of computer users to interact in a "virtual world" displayed on a computer screen. D. 62-2, 62-3, 62-4, 62-5, 62-6. Worlds alleges that Defendants infringe the following patent claims: '690 claims 1-20; '558 claims 4-9; '856 claim 1; '501 claims 1-8, 10, 12, 14-16; '998 claims 1-3, 7, 8, 11-20. See Worlds, Inc. v. Activision Blizzard, Inc., No. 12-cv-10576-DJC,

2014 WL 972135, at *1 (D. Mass. Mar. 13, 2014). The Patents-in-Suit are all part of the same patent family and share a common specification. D. 62-2, 62-3, 62-4, 62-5, 62-6.[1] The '690 patent was filed on August 3, 2000 and issued on February 20, 2007. Worlds, Inc., 2014 WL 972135, at *1. The '558 patent was filed on November 2, 2006 and issued on February 17, 2009. Id. The '856 patent was filed on January 13, 2009 and issued on May 17, 2011. Id. The '501 patent was filed on March 19, 2009 and issued on December 20, 2011. Id. at *2. The '998 patent was filed on March 19, 2009 and issued on March 27, 2012. Id.

III. Procedural History

Worlds instituted this action on March 30, 2012, D. 1, and later filed an amended complaint. D. 32. The Defendants moved for summary judgment on June 18, 2013. D. 83. The Court subsequently allowed the Defendants' motion for summary judgment, concluding that the Patents-in-Suit were not entitled to claim priority to November 13, 1995, the filing date of Worlds's Provisional Application. D. 124. Worlds, however, has continued to allege infringement as from the issuance of the certificates of correction by the PTO on September 24, 2013 for the '045 and '690 patents (of which the '558, '856, '501 and '998 are continuations) through the lives of the Patents-in-Suit. D. 127. After claim construction briefing, the Court held a Markman hearing and took the matter under advisement. D. 147.

IV. Standard of Review

The construction of disputed claim terms is a question of law. Markman v. Westview Instruments, 517 U.S. 370, 372 (1996). For claim construction, a court must construe "the meaning that the term would have to a person of ordinary skill in the art in question at the time of . . . the effective filing date of the patent application." Phillips v. AWH Corp., 415 F.3d 1303,

[1] As all of the patents share a common specification, when citing the specification the Court will cite to the '690 patent, D. 62-2.

1313 (Fed. Cir. 2005). To do so, the Court must look to "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." Id. at 1314 (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

A. The Claims

The analysis must always begin with the language of the claim, which "define[s] the invention to which the patentee is entitled the right to exclude." Id. at 1312 (citing Innova, 381 F.3d at 1115). "[T]he context in which a term is used in the asserted claim can be highly instructive." Id. at 1314. Courts may find that the claim itself provides the means for construing the term where, for example, the claim term is used consistently throughout the patent. Id. In that case, "the meaning of a term in one claim is likely the meaning of that same term in another." Abbott GmbH & Co., KG v. Centocor Ortho Biotech, Inc., No. 09-11340-FDS, 2011 WL 948403, at *3 (D. Mass. Mar. 15, 2011) (citing Phillips, 415 F.3d at 1314). Furthermore, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." Phillips, 415 F.3d at 1315.

B. The Specification

Nevertheless, the claims "do not stand alone" but "are part of a fully integrated written instrument, consisting principally of a specification," which "is always highly relevant to the claim construction analysis." Id. "Usually, [the specification] is dispositive; it is the single best guide to the meaning of a disputed term." Id. (citing Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). "[T]he scope and outer boundary of claims is set by the

patentee's description of his invention" and, therefore, "claims cannot be of broader scope than the invention that is set forth in the specification." On Demand Mach. Corp. v. Ingram Indus., Inc., 442 F.3d 1331, 1338-40 (Fed. Cir. 2006); see also Phillips, 415 F.3d at 1315–17, 1323 (noting that "the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim," but "expressly reject[ing] the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment"). The Court must "us[e] the specification [only] to interpret the meaning of a claim," and must be careful not to "import[ ] limitations from the specification into the claim." Phillips, 415 F.3d at 1323. This standard may "be a difficult one to apply in practice," id., but "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Id. at 1316 (citing Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

C. The Prosecution History

After the claims themselves and the specification, "a court should also consider the patent's prosecution history, if it is in evidence." Id. at 1317 (quoting Markman, 52 F.3d at 980) (internal quotation mark omitted). "Like the specification, the prosecution history provides evidence of how the [United States Patent and Trademark Office] and the inventor understood the patent" and "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." Id. (citing Vitronics, 90 F.3d at 1582–83). The prosecution history should be given less weight than the claims and

the specification, however, because "it often lacks [] clarity . . . and thus is less useful for claim construction purposes." Id.

D. Extrinsic Evidence

Courts may also consider extrinsic sources, which "can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean." Id. at 1319. In particular, "dictionaries and treatises can be useful in claim construction" as they may assist the court in understanding the underlying technology and "can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention." Id. at 1318. "[W]hile extrinsic evidence can shed useful light on the relevant art," however, "it is less significant than the intrinsic record in determining the legally operative meaning of claim language." Id. at 1317 (citations and internal quotation marks omitted). In general, extrinsic evidence is viewed "as less reliable than the patent and its prosecution history in determining how to read claim terms . . . ." Id. at 1318. Therefore, extrinsic evidence is "unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." Id. at 1319.

E. Indefiniteness

A patent claim is invalid for indefiniteness if its claims, when read in light of the specification and the prosecution history, "fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." Nautilus, Inc. v. Biosig Instruments, Inc., ___ U.S. ___, 134 S. Ct. 2120, 2124 (2014). "The definiteness requirement must take into account the inherent limitations of language, but at the same time, the patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them." Fairfield Indus., Inc. v. Wireless Seismic, Inc., No. 4:14-CV-2972, 2015 WL 1034275, at *4

(S.D. Tex. Mar. 10, 2015) (quoting Nautilus, 134 S. Ct. at 2128–29). Patents are presumed to be valid, 35 U.S.C. § 282, and indefiniteness must be proved by the more demanding standard of clear and convincing evidence. Microsoft Corp. v. i4i Ltd. P'ship, ___ U.S. ___, 131 S. Ct. 2238, 2242 (2011).

V. Construction of Disputed Claims

The parties dispute the meaning of the following terms and the Court resolves these disputes as discussed below:

A. "Position of Less than All of the Other Users' Avatars"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
position of less than all of the other users' avatars	No construction necessary	positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars

The phrase "position of less than all of the other users' avatars," or one of its eleven variations, appears in all of the asserted claims. D. 71 at 5 n.2. For example, claim 1 of the '690 patent provides:

> A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, wherein the method comprises:
>
> > (a) receiving a position of less than all of the other users' avatars from the server process; and
> >
> > (b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user,
> >
> > wherein steps (a) and (b) are performed by the client process associated with the first user.

‘690, D. 62-2 at 17. In other words, subpart (a) describes a method of communication where a client receives a “position of less than all of the other users’ avatars” from the server and subpart (b) explains that after receiving “less than all of the other users’ avatars,” the client determines which of the received avatars to display to the user. The Court focuses here on subpart (a), which the parties agree should be construed in the same manner across all claims. D. 71 at 5 n.2.

To begin, Worlds emphasizes the “heavy presumption that claim terms carry their full ordinary and customary meaning” that a person of ordinary skill in the art would understand, Epistar Corp. v. Int’l Trade Comm’n, 566 F.3d 1321, 1334 (Fed. Cir. 2009), and argues that Defendants are improperly “seek[ing] to import an entirely new limitation – up to a set maximum number” into the claim language. D. 62 at 16 (internal quotations omitted). Worlds argues that this limiting language “is untethered to (and in many ways, expressly contrary to) language from the patents’ claims, specifications, or prosecution histories.” Id. In fact, Worlds points out that “the specification never uses the phrase ‘up to a set maximum number of other users’ avatars,’ never says ‘a set maximum number’ is the determining factor for positions the server sends, and never focuses on a ‘set maximum number’ when describing how the server sends client positions.” D. 68 at 9 (emphasis in original).

Worlds readily agrees with Defendants’ argument that under a plain reading of the claim language “if a client receives positions for 999 out of 1000 other users, this would literally constitute receiving a position of ‘less than all of the other users,’ even though the client has received positions for the vast majority of other users.” Id. at 11 (quoting D. 63 at 16-17). In fact, Worlds argues that Defendants’ argument itself shows that the ordinary meaning of “less than all” is clear. Id. Further, Worlds contends that nothing in its patents or specifications excludes the system from sending the positions of a “vast majority of the other users” if the

various factors allow and that these factors also prevent the claims from being too broad because the claims are "defined (or confined) by proximity, orientation, filtering conditions, computing resources, user selections, and other filtering factors disclosed in the Worlds Patents and claims." Id. at 12.

The Defendants argue, however, that "when the claims are read in light of the invention described in the specification, it is apparent that 'less than all' must refer to the set maximum number of other users that each client receives from the server." D. 63 at 17. Noting that claims "must be read in view of the specification, of which they are a part," Philips, 415 F.3d at 1315, Defendants point out that the specification never uses the term "less than all" and directs the Court to several sections of the specification that they argue support their proposed construction. D. 63 at 17 (noting, for example, that "[s]erver 61 maintains a variable, N, which sets the maximum number of other avatars A will see") (citing '690 patent, D. 62-2 at 10, 14-15).

At oral argument, Worlds did not deny that a maximum filter is one way that the server or the client could filter avatars, but argued that the specification is not restrictive in what sorts of filtering criteria can be applied. Worlds acknowledged that the invention is designed to accomplish crowd control, but argued that this crowd control function can be accomplished in a flexible and variable manner.

After review of the specification, the Court agrees that the specification discloses an invention to solve the problem of "crowd control." See, e.g., '690, D. 62-2 at 10, 14 (explaining that "[w]hether another avatar is in range is determined a 'crowd control' function" and that "[c]rowd control is one of the tougher problems solved by the present system"). Contrary to Defendants arguments, however, the Court does not read the specification to require that this "crowd control" function must be accomplished by sending the client positions for up to a set

maximum number of avatars. Indeed, the specification explains that at "a 'crowd control' function" is only "needed in some cases." Id. at 10. For instance, the specification explains that the server can set the "variable N, which sets the maximum number of other avatars" at a "very high value." Id. "If server 61 sets a very high value for N, then the limit set by client 60 is the only controlling factor," and "client 60" is not required to limit the view. Id. Therefore, the specification makes clear that if "client 60 has not limited the view to less than N avatars" and the server has set the variable N at a "very high value," the client will in fact receive the position for a vast majority of the other users (for example, 999 out of 1000). Id.

Moreover, the specification makes clear that the system contemplates proximity filters that do not require a maximum number limit on the amount of other users that would be displayed. See, e.g., id. (explaining that the "[r]emote avatar position table 112 contains the current positions of the 'in range' avatars" and that "[w]hether another avatar is in range is determined [by] a crowd control function" "needed in some cases," but that "[i]n any case, remote avatar position table 112 contains an entry for each neighboring avatar . . ."). Consequently, filters applied to display only "neighboring" avatars, for example, may display two avatars or twenty – there is no "set maximum."

Accordingly, based on a review of patent record, the Court concludes that there is nothing to suggest that the term "position of less than all of the other users' avatars" was meant to carry anything but its ordinary meaning and the Court concludes that no construction is necessary.

B. "Determining, from the Received Positions, [a/the] Set of the Other Users' Avatars that are to be Displayed"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
determining, from the received positions, [a/the]	No construction necessary	selecting [a/the] set consisting of up to a set maximum number of

set of the other users' avatars that are to be displayed		the other users' avatars to be displayed based on the received positions

The parties similarly dispute the meaning of the phrase "determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed." D. 62 at 10; D. 63 at 20. This term implicates client-side filtering, as opposed to the server-side filtering discussed above, and the language, or a variation thereof, appears in a number of claims, including claim 1 of the '690 patent, quoted in full above, which provides, in part:

> A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, wherein the method comprises . . .
>
> > (b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user . . .

'690, D. 62-2 at 17. As with the above, the parties agree the phrase should be construed in the same manner across all claims. D. 71 at 6 n.4.

1. Determining versus Selecting

The language at issue here provides that the client "determin[es]" from the positions that it has received from the server, which avatars to display. If the client receives twenty positions from the server, the client will use criteria to decide which of those twenty avatars to display. The Defendants first argue that the word "determining" should be replaced with "selecting." D. 63 at 21. In support, Defendants point out that while claim 1 of '690 requires "determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user," dependent claim 2 requires an additional step of "displaying the set of the other users' avatars from based on the orientation of the first user's avatar . . . ." Id. (quoting '690, D. 64-1 at 18). Therefore, the Defendants assert that "determining" and "displaying" must be distinct, and argue

that while the specification explains that "displaying" requires the "rendering engine" to read "[1] register 114, [2] remote avatar position table 112, [3] rooms database 70 and [4] avatar image databases" to "render[] a view of the virtual world from the view point (position and orientation) of A's avatar," the specification discloses only one "determining" function – the selection of the other user's avatars to include in "remote avatar position table 112." Id. (quoting '690, D. 64-1 at 12). To support this reading, Defendants argue that because the specification states that "[w]here N' is less than N, the client also uses position data to select N' avatars from the N avatars provided by the server," '690, D. 62-2 at 10, that "determining" necessarily means that the client is "selecting a set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions." D. 63 at 22.

Worlds argues, however, that the Defendants' construction would require "selecting" in every instance, while the specification requires selection to occur only in some instances, D. 62 at 11 (quoting '690, D. 62-2 at 10). As noted above, the specification details that the "remote avatar position table 112" "contains the current positions of the 'in range' avatars near A's avatar" and "[w]hether another avatar is in range is determined [by] a 'crowd control' function," but "user A might have a way to filter out avatars on other variables in addition to proximity, such as user ID." '690, D. 62-2 at 10. In fact, the specification notes that the "remote avatar position table 112" contains a number of entry data points, including position, orientation and user identification, which the client uses to determine which avatar images to display. Id. So, each entry in the "remote avatar position table" provides a variety of data points that may be used in various combinations to determine which avatars will ultimately be displayed. Furthermore, while the specification states that the client "also uses position data to select N' avatars," that phrasing necessarily implies that the client "also uses" other data to select the

avatars. If the client only considered one metric, such as position, to determine which avatars would be displayed, then the Defendants' construction might be more appropriate. Here, however, it seems clear that the client considers a number of factors to determine the avatars to display and therefore is not making necessarily making a simple selection, but is potentially considering various information points and making a determination. Accordingly, without more, the Court will not replace the word "determining" with the word "selecting."

2. Set Maximum Number

As discussed above, the specification provides that "[c]lient 60" maintains a variable N' which represents the maximum number of avatars the client wants to view. '690, D. 62-2 at 10. The specification allows for the possibility that the number N' set by the client might be less than N or greater than N. If N' is greater than N, the number of avatars – N – will be used. If, however, the server sets a very high value for N, the limit set by the client, N', if lower, will be the main controlling factor on the number of avatars displayed. See id. The question here is whether N' is a hard coded number – i.e., a set maximum – or whether N' is variable. Based upon a review of the specification, the Court concludes that N' is intended to be flexible and user specific.

Indeed, at oral argument the Defendants conceded that N' is not a hard coded number for all applications and can be user specific. Defendants further acknowledge that N' is variable to the extent that the number can be chosen from application to application. Nevertheless, the Defendants argue that even though N' is variable between applications, "for the system to work N and N' must at some point be assigned actual values (i.e., definable numbers, such as N = 2)." D. 69 at 11. In essence, Defendants make a temporal argument – that the variable limit must at

some point become a specific number and, at that point, the system is necessarily selecting a "set maximum number" when it determines "a set of the other users' avatars that are to be displayed."

As Worlds argues, however, the Defendants' construction would put the disputed claims directly at odds with several of the Defendants' claims, for example, dependent claim 4 of '690. See '690, D. 62-2 at 17; see also '690 claims 8, 13, 16, D. 62-2 at 17-18. Indeed, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." Philips, 415 F.3d. at 1315. The Defendants contend, however, that claim 4 merely provides a specific way of selecting a set maximum number that involves comparison (of an actual and maximum number), and that because claim 1 could be practiced without comparison at all, claim 1 is still broader than claim 4 even incorporating the set maximum number language. D. 69 at 10. Contrary to the Defendants' arguments that claim 4 "is in complete alignment" with Defendants' construction, however, the Court reads claim 4 as plainly providing for a narrower method of claim 1 that explicitly requires the client to determine a maximum number limit. Claim differentiation must apply where, as here, "there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, and that limitation is the only meaningful difference between the two claims." Wenger Mfg., Inc. v. Coating Mach. Sys., Inc., 239 F.3d 1225, 1233 (Fed. Cir. 2001).

Finally, the Defendants argue that its proposed construction is supported by the prosecution history. D. 69 at 9. They contend that during the prosecution of the '045 patent, unasserted here, "the applicants explained that 'determining' required limiting the number of avatars displayed." Id.; see also, D. 64-7 at 6 (providing that "claim 8 includes a 'means for determining from said list of avatars a set of avatars to be displayed at each client process,

wherein said means for determining is located at each client process.' Thus, each target client limits the number [of] avatars displayed at that target client based on, for example, target client processing capacity"). The prosecution history cited by the Defendants does not use the "set maximum number" language, however, and does not provide that the client is limiting the number of avatars displayed to a "set maximum number." The prosecution history also does not clearly disavow an invention that omits the "set maximum" limit. See GE Lighting Solutions, LLC v. AgiLight, Inc., 750 F.3d 1304, 1309 (Fed. Cir. 2014) (noting that "[t]he standards for finding lexicography and disavowal are exacting" and "[t]o act as its own lexicographer, a patentee must 'clearly set forth a definition of the disputed claim term,' and 'clearly express an intent to define the term,'" while "disavowal requires that 'the specification [or prosecution history] make[] clear that the invention does not include a particular feature'" (citations omitted)).

Accordingly, the Court concludes that there is nothing in the patent record to suggest that the phrase "determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed" was meant to carry anything but its ordinary meaning and the Court concludes that no construction is necessary.

C. "A Participant Condition" / "A Condition"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
A participant condition	No construction necessary Or, alternatively, A condition imposed on an avatar, its controlling user, or its associated client device that affects the status or display of an avatar	A condition set by the client Or, alternatively, Indefinite under 35 U.S.C. § 112, ¶ 2

A condition	No construction necessary Or, alternatively, An expression in a software program that affects the status or display of an avatar	A condition set by the client Or, alternatively, Indefinite under 35 U.S.C. § 112, ¶ 2

The term "participant condition" appears in all of the claims of the '501 patent. For example, claim 1 of the '501 patent provides:

> A method for enabling a first user to interact with other users in a virtual space, each user of the first user and the other users being associated with a three dimensional avatar representing said each user in the virtual space, the method comprising the steps of:
>
> > customizing, using a processor of a client device, an avatar in response to input by the first user;
> >
> > receiving, by the client device, position information associated with fewer than all of the other user avatars in an interaction room of the virtual space, from a server process, wherein the client device does not receive position information of at least some avatars that fail to satisfy a participant condition imposed on avatars displayable on a client device display of the client device;

'501, D. 62-5 at 22. The term "condition" appears in several of the claims of the '998 patent. For example, claim 1 of the '998 patent provides, in part:

> A method for displaying interactions of a local user avatar of a local user and a plurality of remote user avatars of remote users interacting in a virtual environment, the method comprising: receiving, at a client processor associated with the local user, positions associated with less than all of the remote user avatars in one or more interaction rooms of the virtual environment, wherein the client processor does not receive position information associated with at least some of the remote user avatars in the one or more rooms of the virtual environment, each avatar of the at least some of the remote user avatars failing to satisfy a condition imposed on displaying remote avatars to the local user;

'998, D. 62-6 at 22. The terms "participant condition" and "condition" do not appear in the specification of the Patents-in-Suit. Nor do these terms appear in any of the claims of the earlier filed patents.

In brief, the parties' dispute centers on whether "a condition" may be set by the server. Worlds does not dispute that a condition may be set by the client, but argues that the condition may be set by the server as well. D. 68 at 17. Worlds contends that, contrary to the Defendants' proposed construction, nothing in the patents and specification suggests "that the client must 'set' anything, or that any setting must be made 'by the client,'" D. 62 at 26, or that the patentees sought to give "condition" or "participant condition" any special meaning inconsistent with the ordinary understanding of those terms. Id. at 25. Worlds further argues that its proposed constructions reflect the "dictionary-based meanings" of the words and captures the words "plain and ordinary meanings." Id. at 25; see also D. 146 at 5 (noting that "[a]ccording to the IBM Dictionary of Computing, a 'condition' is '[a]n expression in a program or procedure that can be evaluated as either true or false when the program or procedure is running'" (citation omitted)). In contrast, the Defendants argue that nothing in the specification suggests that the condition can be set by the server. D. 69 at 20-22.

It is not disputed that the "condition" limitations at issue here concern "what information the server will send to each client." D. 63 at 25. The Defendants further concede that "[a]lthough the specification gives only a few examples of conditions that may be imposed on avatars displayable on a client device display, [they] [do] not seek to limit the types of conditions that may be used." D. 69 at 22. Indeed, the specification clearly contemplates that the client "'might have a way to filter out avatars on other variables in addition to proximity.'" Id. (emphasis in original) (quoting '690, D. 62-2 at 10) (explaining that "user A might have a way to filter out avatars on other variables in addition to proximity, such as user ID"). Instead, the Defendants argue that the context of the claims and the specification indicates that the conditions must be set by the client. D. 63 at 25-27. For example, the Defendants point out that it is "the

client" that "may set a value of N', which is less than N, and send that value to the server" and that it is "the client" that "may send specific user IDs to the server to identify specific avatars that the client wants to block (so that the client does not receive any position information for such avatars) because those avatars are 'unfriendly.'" Id. at 27 (citations omitted).

All of the claims of the Patents-in-Suit require that the client receive position information of "fewer than all" or "less than all" of the other users avatars. Specifically, the claims of the '501 and '998 patents require that the client device receive "position information associated with fewer than all of the other user avatars." See '501, D. 64-4 at 23. While the claims of the '690, '558 and '856 patents require the client to receive positions for "less than all" of the other users. See '690, D. 62-2 at 17. The claims of the '501 and '998 patents, at issue here, then further require that "at least some" of the avatars for which the client does not receive position information "fail to satisfy" "a condition" or "a participant condition." See '501, D. 64-4 at 23. Claim 1 of '501 details, for example, that "the client device" receives "position information" from the "server process" and that "the client device does not receive position information of at least some avatars that fail to satisfy a 'participant condition.'" Id. Claim 1 does not explicitly indicate whether "the server process" or the "client device" imposes the condition, id., and the specification does suggest that the server has the ability to filter avatars in order to determine the other avatars a user will see. See, e.g., '690, D. 62-2 at 10 (explaining the "'crowd control' function"). Nevertheless, read in context, the "at least some" language appears to represent an additional limitation – beyond the selection of the N avatars by the server – to determine whether or not avatar position information will be sent to the client.

The Court agrees with the Defendants, therefore, that the "conditions" constitute additional limits and that in the '501 and '998 patents: "(1) the client receives position

information for less than all of the other users' avatars, and (2) at least some, but not necessarily all, of the avatars for which the client does not receive position information are ones that failed to satisfy a 'participant condition' or 'condition.'" D. 63 at 25-26. The "conditions" contemplated in the '501 and '998 patents then must be distinct from the server conditions described in the specification and are properly construed to be consistent with the user or client conditions contemplated by the specification, including user ID and "other variables in addition to proximity." '690, D. 62-2 at 10. And while the specification explicitly considers that there may be a wide range of variables that a client might set, nothing in the patent record suggests that the server will set these additional conditions.

Accordingly, the Court construes the terms "participant condition" and "condition" to mean "a condition set by the client."[2]

D. "Programmed to Limit the Number of Remote User Avatars Shown on the Graphic Display"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
programmed to limit the number of remote user avatars shown on the graphic display	No construction necessary	programmed to restrict the number of remote user avatars shown on the graphic display to a maximum number of avatars allowed

This term appears in claims 11-15 of the '998 patent. '998, D. 64-5 at 23. These claims address the ways in which the system limits the avatars displayed:

> 11. The system according to claim 2, wherein the first processor is further programmed to limit the number of remote user avatars shown on the graphic

[2] Because the Court adopts Defendants' proposed construction, the Court need not address the Defendants' separate argument that the terms are indefinite under 35 U.S.C. § 112, ¶ 2. Energizer Holdings v. Int'l Trade Comm'n, 435 F.3d 1366, 1370 (Fed. Cir. 2006) (noting that "[a] claim that is amenable to construction is not invalid on the ground of indefiniteness").

> display based on the proximity of the remote user avatars relative to the local user avatar.
>
> 12. The system according to claim 2, wherein the first processor is further programmed to limit the number of remote user avatars shown on the graphic display based on the orientation of the remote user avatars relative to the local user avatar.
>
> 13. The system according to claim 2, wherein the first processor is further programmed to limit the number of remote user avatars shown on the graphic display based on computing resources available to the local user graphic display.
>
> 14. The system according to claim 2, wherein the first processor is further programmed to limit the number of remote user avatars shown on the graphic display based on a selection made by the local user.
>
> 15. The system according to claim 14, wherein the selection is independent of the relative position of the local avatar and the remote user avatars not shown on the graphic display.

Id.

Here, the Defendants argue that the phrase "limit the number," which is contained in the disputed phrase, "should be construed to mean 'restrict the number . . . to a maximum number . . . allowed.'" D. 69 at 17.[3] The Defendants contend that the ordinary meaning of "limit the number" necessarily "imposes a maximum number limit" in to the claim. Id. Worlds argues, however, that claims 11-15 of '998 are particularly "clear, precise, and easily understood" and that "[e]verything in these claims suggests that the 'limit' applies in the express manner disclosed." D. 68 at 20.

[3] To the extent that the Defendants also argue that the word "limit" is consistent with the word "restrict," D. 63 at 30-31, the Court agrees with Worlds that "[s]wapping one common, ordinary word for its synonym adds no clarity to the meaning" and provides no basis for the Defendants proposed substitution. D. 62 at 20 (noting that the word "restrict" does not appear in the '998 patent at all while the word "limit" is used consistently throughout all of the Patents-In-Suit). Regardless, in the Defendants' Reply Claim Construction Brief, Defendants concede that they do not actually "propose that 'limit' means 'restrict,'" rather Defendants propose only "that 'limit the number' should be construed to mean 'restrict . . . to the maximum number . . . allowed.'" D. 69 at 17 n.6. Therefore, the Court will focus on this argument.

The independent claim 2 details "[a] system for displaying interactions in a virtual world among a local user avatar of a local user and a plurality of remote user avatars . . . ." '998, D. 64-5 at 23. Based on a plain reading, then, it is clear that the system will display the plurality of remote user avatars. Each of the dependent claims, at issue here, then explicitly set forth precise limiting criteria. The claims unambiguously provide that the limits are based on "'the proximity of the remote user avatars relative to the local user avatar' (claim 11); 'the orientation of the remote user avatars relative to the local user avatar' (claim 12); 'computing resources available to the local user graphic display' (claim 13); 'a selection made by the local user' (claim 14); and 'a selection made by the local user,' wherein 'the selection is independent of the relative position of the local avatar and the remote user avatars not shown on the graphic displays' (claim 15)." D. 62 at 20-21 (quoting '998, D. 62-6 at 23). Nothing in these claims suggest that an additional "maximum number" limit is necessary or implied. If, as in claim 12, the first processor limits the number of avatars shown based on the "orientation of the remote user avatars relative to the local user avatar" the only articulated limit to the system displaying a plurality of the remote user avatars – no matter that number – is their orientation relative to the local use avatar. Nowhere does the Court detect an additional "maximum number" limit.

Accordingly, the Court concludes that the phrase "programmed to limit the number of remote user avatars shown on the graphic display" is unambiguous and that no construction is necessary.

E. "Avatar"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
avatar	graphical representation of a user in three-dimensional form	a graphical representation of a user

The parties agree that the term "avatar" should be construed, in part, as "a graphical representation of the user." D. 62 at 27; D. 63 at 32. The parties dispute, however, whether the term avatar is properly construed as "a graphical representation of the user in three-dimensional form," or whether the "graphical form" could be represented in two-dimensions. D. 62 at 27; D. 63 at 32. Review of the specification suggests, however, that the patentees sought to limit their patent to three-dimensional virtual worlds and, correspondingly, three-dimensional avatars. For example, the first sentences of the "Abstract" and the "Summary of the Invention" for each of the Patents-In-Suit provide that "[t]he present invention provides a highly scalable architecture for a three-dimensional graphical, multi-user, interactive virtual world system" and in the "preferred embodiment" users would "interact in the three-dimensional, computer-generated graphical space . . . ." '690, D. 62-2 at 1, 8. The specification also explains that the avatar's orientation "is needed for rendering because the avatar images are three-dimensional and look different (in most cases) from different angles." Id. at 10. Further, the specification provides an illustration of a client screen display, describing the illustrative avatar as "a three dimensional figure chosen by a user to represent the user in the virtual world." Id. at 9. Moreover, as both parties acknowledged at oral argument, the "crowd control" issue at the heart of this patent is an issue implicated by the more complex three-dimensional system, as opposed to the two-dimensional systems that did not require as much strain on computing resources.

In response, the Defendants make three main arguments for their proposed construction. First, the Defendants note that the ordinary meaning of avatar to a person of ordinary skill in the art is not limited to a graphical representation in three-dimensional form. D. 63 at 32 (citing Webster's New World Dictionary of Computing Terms (6th ed. 1997), D. 64-12 at 4 (defining avatar as "[a] graphical representation of a person that appears on the computer screen in an

interactive game or communication system"); Microsoft Computer Dictionary (4th ed. 1999), D. 64-13 at 4 (defining avatar, in part, as "a graphical representation of a user" that is typically "a generic picture or animation of a human of either gender, a photograph or caricature of the user, a picture or animation of an animal, or an object chosen by the user to depict his or her virtual-reality 'identity'")). As the Defendants acknowledge, however, a person of ordinary skill in the art is not meant to determine the ordinary meaning of a disputed term in a vacuum. See D. 63 at 12. Rather, "[t]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313. The proper inquiry then is to determine the meaning of avatar "to the ordinary artisan after reading the patent," id. at 1321, and the Court will focus its analysis on Defendants' contextual arguments.

Second, the Defendants point out that particular claims of the '501 and '998 patents "expressly require that the avatars are three-dimensional." D. 63 at 32 (internal quotation mark omitted). For example, claim 1 of '501 reads: "A method for enabling a first user to interact with other users in a virtual space, each user of the first user and the other users being associated with a three dimensional avatar representing said each user in the virtual space . . . ." D. 62-5 at 22. While claim 1 of '690 provides, for example: "A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar . . . ." D. 62-2 at 17. The Defendants argue that "construing the term avatar to require a three-dimensional form" across all the Patents-In-Suit "would improperly render this language in the claims of the '501 and '998 patents superfluous." D. 63 at 32-33 (citing Bicon, Inc. v. The Straumann Co., 441 F.3d 945, 950 (Fed. Cir. 2006); Merck & Co. v. Teva Pharm. USA, Inc., 395 F.3d 1364, 1372 (Fed. Cir. 2005)). Construing the term "avatar" to include two-dimensional

graphical representations, however, would improperly read the three-dimensional limiting language out of the patent record. Claims "must be read in view of the specification, of which they are a part." Phillips, 415 F.3d at 1315. And while the Court must be careful to distinguish "between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim," id. at 1323, "where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims." Alloc, Inc. v. Int'l Trade Comm'n, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (citing SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1345 (Fed. Cir. 2001)).

Here, the specification consistently refers to a three-dimensional virtual world, '690, D. 62-2 at 1, 8, where the users choose a "three-dimensional figure" as their "avatar." Id. at 9. The "construction that stays true to the claim language and most naturally aligns with the patent's description," Phillips, 415 F.3d at 1316, is, therefore, "a graphical representation of the user in three-dimensional form." See SanDisk Corp. v. Memorex Products, Inc., 415 F.3d 1278, 1285 (Fed. Cir. 2005) (noting that "[a] claim construction that excludes a preferred embodiment, moreover, "'is rarely, if ever, correct'") (citing Vitronics, 90 F.3d at 1583). Another construction would improperly divorce the claim "from the context of the written description." Cf. Nystrom v. Trex Co. Inc., 424 F.3d 1136, 1144-45 (Fed. Cir. 2005); see also Curtiss-Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374 (Fed. Cir. 2006) (rejecting district court's broad construction of the term "adjustable" because it placed too much emphasis on the ordinary meaning without adequate grounding within the context of the specification).

Third, and finally, the Defendants argue that "the term 'three-dimensional' is used in the specification to refer to an avatar that is actually comprised of multiple two-dimensional panels,"

which the Defendants contend shows that – if based solely on the specification – a proper construction of the term avatar "would be a graphical representation made from two-dimensional panels that looks different from different angles."[4] D. 63 at 33 (quoting '690, D. 62-2 at 10 (explaining that "[t]he orientation is needed for rendering because the avatar images are three-dimensional and look different (in most cases) from different angles. . . . [i]n a simple embodiment, each avatar image comprises M panels (where M is greater than two with eight being a suitable number) and the i-th panel is the view of the avatar at an angle of 360*i/M degrees")); see also '690, D. 62-2 at 11 (explaining that "[t]he avatars in fixed avatar image database or custom avatar images database contain entries which are used to render the[] avatars. A typical entry in the database comprises N two-dimensional panels, where the i-th panel is the view of the avatar from an angle of 360*i/N degrees"). The specification language relied on by the Defendants explicitly states, however, that even in a "simple embodiment" "the avatar images are three-dimensional" and explains that when the "three-dimensional" "avatar images" are rendered the "simple embodiment" comprises at least three panels "with eight being a suitable number." '690, D. 62-2 at 10. The specification makes clear then that even a simple embodiment requires at least three panels. The specification also explains that the avatar database contains entries that are used to render the avatars and that some of these entries are comprised of "N two-dimensional panels." Id. at 11. The specification only states, however, that these entries are used to render the avatars, the avatars themselves are consistently described as "three-dimensional" images. See id.

Accordingly, the Court construes the term "avatar" to mean "a graphical representation of the user in three-dimensional form."

[4] Defendants nevertheless argue that when avatar is construed in accordance with its ordinary meaning it means "a graphical representation of a user." Id. at 33-34.

F. "Client Process" / "Server Process"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
client process	a program executed, stored, or accessible on a user's computer to provide access to a server	a program being executed by a user's computer that receives services from a server
server process	a program executed, stored, or accessible by one or more computers that provide one or more services to users of computers across a network	a program being executed by a computer that provides services to a client

The dispute regarding the terms "client process" and "server process" concerns the proper construction of the word "process." The question is whether a "client process" or a "server process" refers to: (1) a program being executed; or (2) a program executed, stored, or accessible. In other words, the question is whether a program must be in the state of being executed to be considered a "process."

Worlds argues that "to qualify as a 'client process' or a 'server process,' a program . . . must only be capable of being executed (e.g., 'executed, stored, or accessible,')" and contends that its construction is consistent with the ordinary meaning of "process." D. 62 at 22 (emphasis in original); see D. 68 at 24 (citing The IEEE Standard Dictionary of Electrical and Electronics Terms (6th ed. 1996), D. 68-2 at 3 (defining "process" to mean "[a]n executable unit managed by an operating system scheduler")). The Defendants counter though that under its ordinary meaning "'process' refers to a software program that is being executed on a processor" and that Worlds's construction improperly equates "process" with "software." D. 63 at 34; see also D. 64-14 at 4, The Dictionary of Computer Graphics and Virtual Reality (2d ed. 1995) (defining "process" as "a program while being executed, usually as one of several in a multiprogramming environment").

In support of their proposed constructions, the parties rely upon the same language from the specification. D. 62 at 22-23; D. 63 at 34. The relevant section reads:

> A person of ordinary skill in the art of computer programming will also understand that where a process is described with reference to a client or server, that process could be a program executed by a CPU in that client or server system and the program could be stored in a permanent memory, such as a hard drive or read-only memory (ROM), or in temporary memory, such as random access memory (RAM). A person of ordinary skill in the art of computer programming will also understand how to store, modify and access data structures which are shown to be accessible by a client or server.

'690, D. 64-1 at 10. Worlds argues that this language should be read as defining "client process" and "server process" broadly and reads the passage as indicating that the patentees viewed the "client process" and "server process" as flexible – as "a program executed by a CPU" or as a program "stored in a permanent memory." D. 62 at 22-23. The Court agrees with the Defendants, however, that, under a plain reading, the description of how "the program could be stored" is only meant to refer to the program just referenced. '690, D. 64-1 at 10; D. 69 at 18-19. Therefore, the above section only confirms that "process could be a program executed by a CPU" and that the "program executed by a CPU" could be stored in "permanent memory" or in "temporary memory." '690, D. 64-1 at 10. Nevertheless, the Court does not read the cited passage as dispositive to the meaning of the term since it provides only that a process "could be a program executed by a CPU." Id. The passage is, therefore, only illustrative of one example of what a process "could be," but does not necessarily disallow that a process could also be stored or accessible. The Court, therefore, examined other claims and the rest of the specification for guidance.

On this point, the Defendants argue that the Patents-In-Suit use the words "process," "processor," "software program" and "program stored" in distinct ways, D. 63 at 35, and that the use of the word "process" in the claims makes clear that a program that stored is different than a

"process." D. 69 at 19. Specifically, the Defendants point to claim 4 of '558, which reads, in part:

> A machine-readable medium having a program stored in the medium, the program enabling a plurality of users to interact in a virtual space, wherein each user of the plurality of users is associated with a different client process on a different computer, wherein each client process has an avatar associated with said each client process, and wherein said each client process is configured for communication with a server process, wherein the program comprises instructions for: (a) monitoring, by said each client process, a position of the avatar associated with said each client process; (b) transmitting, by said client process to the server process, the position of the avatar associated with said each client process;

'558, D. 64-2 at 19. The Defendants argue that claim 4 of '558 makes clear that: (1) "a program" is "stored" in the medium and (2) this stored program comprises the instructions for the "client process" to carry out (e.g.., "monitoring," "transmitting," etc.). D. 69 at 19. Therefore, the Defendants argue that "[t]he program is what is stored in memory" and "[t]he process is the active execution of the program by a computer." Id. This argument is persuasive in so far as the text cited above does refer to a client process in its active state and to a stored program. Like the first passage cited, however, it is not clear that the above section requires the client process to be an active program at all times.

While the word "process" is often used in an active context throughout the specification, see, e.g., '690, D. 62-2 at 8 (explaining that "where many client machines or processes are communicating with each other in real-time through the server, several problems arise" and noting that "[i]n order that the view can be updated to reflect the motion of the remote user's avatars, motion information is transmitted to a central server process which provides positions updates to client processes for neighbors of the user at that client process. The client process also uses an environment database to determine which background objects to render as well as to

limit the movement of the user's avatar"), the patent never explicitly disallows the alternate "capable of being executed" construction of "client process" and "server process."

In contrast, the "Abstract" and the "Summary of the Invention" provides that "[i]n a preferred embodiment a plurality of users interact in the three-dimensional, computer-generated graphical space where each user executes a client process to view a virtual world from the perspective of that user." See, e.g., '690, D. 62-2 at 1, 8. The Court reads this language as allowing for the possibility of a non-executing "client process." If the "client process" was only "a program being executed" it would be circular to say that the user "executes" a "program being executed by the user." This language makes eminently more sense if the user executes the program that is "capable of being executed" and is otherwise "stored, or accessible on the user's computer."

Accordingly, the Court construes the term "client process" to mean "a program executed, stored, or accessible on a user's computer to provide access to a server" and construes the term "server process" to mean "a program executed, stored, or accessible by one or more computers that provide one or more services to users of computers across a network."

G. "Synchronously Disseminating . . . Positions"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
synchronously disseminating . . . positions	No construction necessary Or, alternatively, Transmitting in a manner that is synchronized or coordinated	Indefinite under 35 U.S.C. § 112, ¶ 2

Claims 9 and 18 of the '690 patent contain the term "synchronously disseminating." For example, claim 9 provides:

> A method for operating a server to enable a plurality of users to interact in a virtual space, wherein each user has a computer associated therewith, wherein each computer has a client process associated therewith, wherein each client process has an avatar associated therewith, wherein the server has a process associated therewith, and wherein each client process is in communication with the server process, comprising:
>
> > (a) receiving, from each client process by the server process, data indicating a position of the avatar associated with the client process; and
> >
> > (b) synchronously disseminating less than all of the positions of the avatars not associated with a particular client process to each of the other client processes so that the particular client process can determine from the positions a set of avatars that are to be displayed.

D. 62-2 at 17.

In Nautilus, the Supreme Court recently clarified "the proper reading of the [Patent Act's] clarity and precision demand."[5] Nautilus, 134 S. Ct. at 2124. Overturning the previous "insolubly ambiguous" standard, the Supreme Court held "that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." Id. "The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable." Id. at 2129. "The Supreme Court explained that a patent does not satisfy the definiteness requirement of § 112 merely because 'a court can ascribe some meaning to a patent's claims.'" Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1371 (Fed. Cir. 2014) (quoting Nautilus, 134 S. Ct. at 2130). Rather, "[t]he

[5] The parties requested, and were granted, the opportunity to submit supplemental briefs addressing the impact of Nautilus in this case.

claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art." Id.

Here, the Defendants argue that the term "synchronously disseminating" does not have any "ordinary meaning" and, in fact, may have different meanings depending on its context. D. 63 at 36. They cite to a variety of dictionaries to show that "'synchronously disseminating' could mean disseminating positions (1) at the same time, (2) at equal time intervals, (3) with a predictable time relationship, (4) upon the occurrence of a specific event, (5) only after a specific activity is completed, (6) at the same rate while maintaining a desired phase relationship, or (7) one exchange at a time." D. 69 at 28; see also D. 63 at 36 (quoting Webster's II New College Dictionary, D. 64-9 at 5 (defining "synchronous" to mean both "[h]appening at the same time" and "[h]aving identical periods")). The Defendants acknowledge that ambiguity of the term does not necessarily render the term indefinite as long as the specification clarifies the meaning of the term. D. 63 at 37 (noting that "[a]s a general matter, a claim that contains an ambiguous term is not indefinite when the meaning of the term may be readily ascertained from the description in the specification" (citing Energizer Holdings, Inc. v. Int'l Trade Comm'n, 435 F.3d 1366, 1369 (Fed. Cir. 2006)). They argue, however, that the specification does not provide clarity here. Id.

In response, Worlds argues that its construction reflects the ordinary, dictionary-based meaning of the term that a person of ordinary skill in the art would understand. D. 68 at 25-26; see D. 62-11 at 2, IBM Dictionary of Computing (defining "synchronous" as "[p]ertaining to two or more processes that depend upon the occurrence of specific events such as common timing signals"); D. 62-12 at 2, Computer Dictionary (defining "synchronous operation" as "[g]enerally, any operation that proceeds under control of a clock or timing mechanism"); D. 62-13 at 2, The IEEE Standard Dictionary (defining "synchronous" as "[a] mode of transmission in which the

sending and receiving terminal equipment are operating continuously at the same rate and are maintained in a desired phase relationship by an appropriate means"). Worlds also contends that the patent "more than sufficiently discloses the scope and meaning of the term" so that a person of ordinary skill in the art would understand the term to be consistent with Worlds proposed construction. D. 62 at 34. For instance, Worlds notes that the specification "details the mechanics of data transmissions across multiple client and server machines," providing that:

> where a client-server system is used for real-time exchange of information, such as a distributed virtual reality network where users at client machines visually and aurally interact with other users at other client machines, communication is much more difficult, especially where the information is high-bandwidth data such as audio streams, graphic images and image streams. One application of such a client-server system is for game playing, where the positions and actions of each user need to be communicated between all the players to inform each client of the state changes (position, actions, etc.) which occurred at the other clients. The server might maintain global state information and serve as a data server for the clients as they request visual, program and other data as the game progresses.

D. 62 at 34-35 (emphases omitted) (quoting '690, D. 62-2 at 8); see also '690, D. 62-2 at 9 (addressing how the system works to communicate position information). Worlds argues that this language from the specification provides the appropriate context to conclude that "[a] method for operating a server to enable a plurality of users to interact in a virtual space," '690, D. 62-2 at 17, must occur in a "coordinated and synchronized" manner. See D. 62 at 34-35; D. 68 at 25. In contrast, the Defendants rely upon the specification's use of the term "asynchronously" to argue that the meaning of the claim term is ambiguous. The specification provides that:

> In rendering a view, client 60 requests the locations, orientations and avatar image pointers of neighboring remote avatars from server 61 and the server's responses are stored in remote avatar position table 112. Server 61 might also respond with entries for short object ID lookup table 110. Alternatively, the updates can be done asynchronously, with server 61 sending periodic updates in response to a client request or automatically without request.

D. 62-2 at 11. The Defendants assert that this disclosure "is nonsensical" because "both descriptions refer to updates made by a server in response to a client request" and, therefore, the sections "shed[] no light on the meaning of 'synchronously disseminating.'" D. 63 at 37.

After a careful review of the specification, the Court agrees with the Defendants that the specification does not sufficiently clarify the meaning of the term. For synchronization to have any reasonably certain meaning, see Nautilus, 134 S. Ct. at 2124, at the very least, it must be apparent what is being synchronized to (e.g., timing signals or a clock). Here, it is unclear how the data transmission is being synchronized and with what it is being coordinated. The sections of the specification cited by Worlds indicate only the importance of the server and the client communicating with each other, but do not assist in determining how this communication might be "coordinated" and to what it would be "synchronized." Moreover, the passage highlighted by the Defendants indicates that asynchronous communications happen periodically, but provides no guidance in determining how synchronous communications might happen.

Accordingly, the Courts concludes by clear and convincing evidence that the term "synchronously disseminating . . . positions" is indefinite under 35 U.S.C. § 112, ¶ 2.

H. "Third User Perspective"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
third user perspective	View from the perspective of the user	Indefinite under 35 U.S.C. § 112, ¶ 2

The term "third user perspective" appears in claim 2 of the '998 patent, which provides, in part:

> switch between a rendering on the graphic display that shows the virtual world to the local user from a third user perspective and a rendering that allows the local user to view the local user avatar in the virtual world

‘998, D. 62-6 at 22. It is not disputed that the claim describes a switch between two renderings: (1) “a rendering . . . that shows the virtual world to the local user from a third user perspective”; and (2) “a rendering . . . that allows the local user to view the local user avatar.” Id. The parties also seem to agree that the latter rendering allows the user to view her own avatar. See D. 63 at 40 (noting that “it would be nonsensical to switch from an ‘out of body’ view to a view that allows the local user to see his avatar”); D. 68 at 27 (noting that “the specification makes clear that . . . an ‘out of body’ viewing corresponds to a view or ‘rendering that allows the local user to view the local user avatar in the virtual world’”) (citations omitted). The Defendants argue, however, that the term “third user perspective” is indefinite under 35 U.S.C. § 112, ¶ 2 because “there is no way for a person of ordinary skill in the art to determine what perspective constitutes a ‘third user perspective.’” D. 145 at 8.

In response, Worlds asserts that a person of ordinary skill in the art would understand the term to mean “a view from the perspective of the user.” D. 146 at 7. And the specification does explain that the preferred embodiment allows the user to view the virtual world “from the perspective of that user.” ‘690, D. 62-2 at 8. For instance, the specification provides that:

> In a preferred embodiment a plurality of users interact in the three-dimensional, computer-generated graphical space where each user executes a client process to view a virtual world from the perspective of that user.

Id. Worlds also argues that the term “third user perspective” is clearly shown in Figure 1 of the specification:

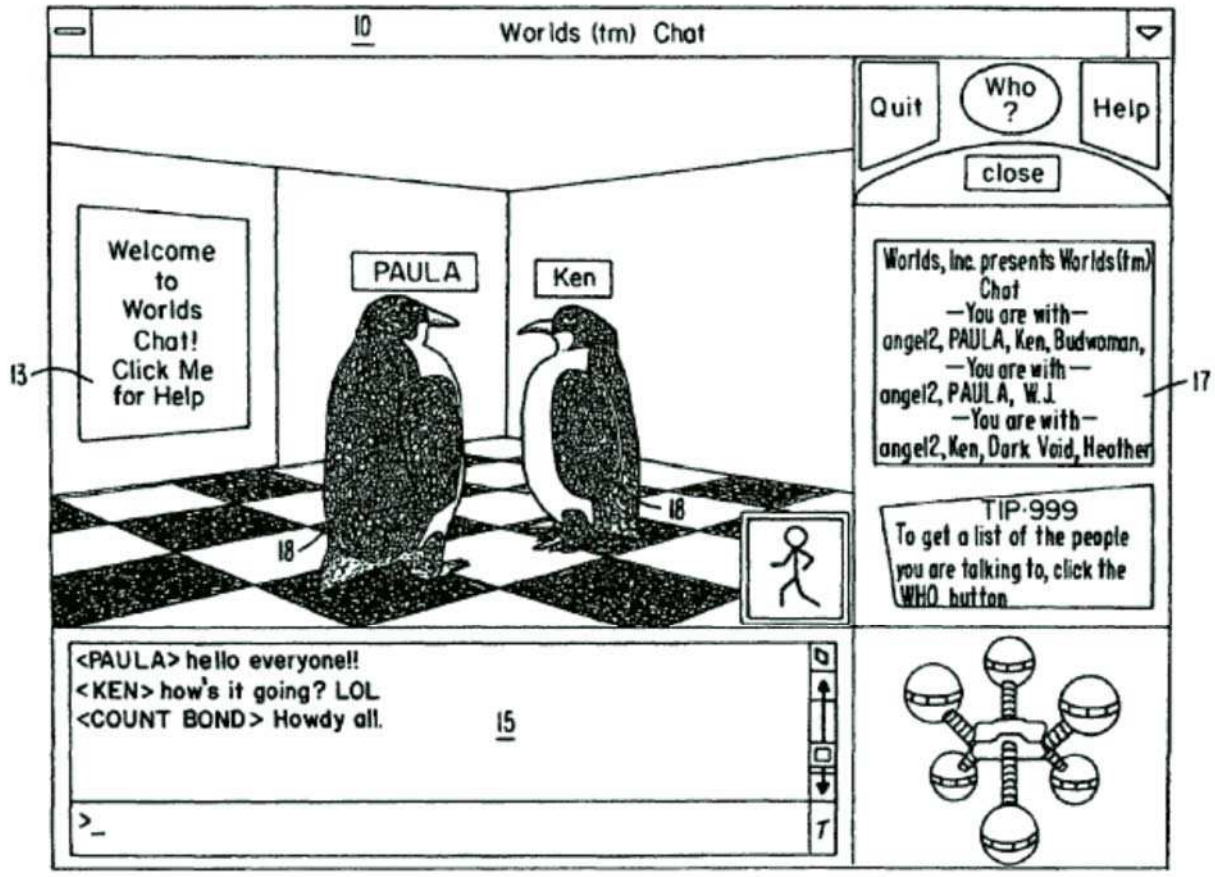

FIG. 1.

D. 62 at 29; see also '690, D. 62-2 at 3. The specification explains that:

> FIG. 1 is an illustration of a client screen display 10 seen by one user in the chat system. Screen display 10 is shown with several stationary objects (wall, floor, ceiling and clickable object 13) and two 'avatars' 18. Each avatar 18 is a three dimensional figure chosen by a user to represent the user in the virtual world. Each avatar 18 optionally includes a label chosen by the user. In this example, two users are shown: 'Paula' and 'Ken', who have chosen the 'robot' avatar and the penguin avatar, respectively. Each user interacts with a client machine (not shown) which produces a display similar to screen display 10, but from the perspective of the avatar for that client/user. Screen display 10 is the view from the perspective of a third user, D, whose avatar is not shown since D's avatar is not within D's own view. Typically, a user cannot see his or her own avatar unless the chat system allows '[out] of body' viewing or the avatar's image is reflected in a mirrored object in the virtual world.

'690, D. 62-2 at 9. Worlds argues that this explanation "makes abundantly clear the term 'third user perspective' means a 'view from the perspective of the user'" or what is commonly

understood to be a first-person view. D. 68 at 26. To be sure, the view in Figure 1, shown above, is described as "the perspective of the third user." It is not clear to the Court, however, that the above passage actually defines "third user." Rather, as the Defendants point out, the description appears to refer "to a 'third user' simply because it has already referred to a first and second user (i.e., the two users shown in the display)." D. 69 at 25. If the figure had shown four users, it seems entirely possible that the specification would have said that "[s]creen display 10 is the view from the perspective of a [fifth] user, D, whose avatar is not shown since D's avatar is not within D's own view." '690, D. 62-2 at 9.

Defendants further argue that the claim language itself shows that when the patentees wanted to reference a "local user" they did so explicitly, and that "it makes no sense that the patentees would claim a 'third user perspective' instead of simply claiming a 'local user perspective.'" D. 69 at 25; see, e.g., '998, claim 2, D. 64-5 at 23 (describing a "switch between a rendering on the graphic display that shows the virtual world to the local user from a third user perspective and a rendering that allows the local user to view the local user avatar in the virtual world"). Based on a review of the claims and the specification, the Court agrees that it is not clear that the patentees consistently use "third user" to mean "local user." See, e.g., '998, D. 64-5 at 23 (describing "a rendering that allows the local user to view the local user avatar in the virtual world"). Moreover, the term "third user perspective" does not ordinarily hold the customary meaning of, essentially, first-person view. In fact, based on its ordinary meaning and when read in light of the specification, it seems equally likely that the term could refer to: (1) the perspective of an avatar other than the local user; or (2) a third-person perspective. In the context of the specific claim at issue, however, these definitions make little sense since claim 1 of the '998 patent explicitly refers to "a perspective of one of the remote user avatars" and since

"third-person" perspective is the view described in the latter, undisputed portion of claim 2. See '998, D. 64-5 at 23.

Admittedly, Worlds construction could make sense in the context of claim 2, but it is at odds with the patentees' use of the terms "third user" and "local user" elsewhere in the specification and is therefore not reasonably certain. See Nautilus, 134 S. Ct. at 2124. Without more, the Court cannot convert the term "third user perspective" into, essentially, "first-person view." See id. (holding "that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention").

Given this ambiguity, the Court concludes by clear and convincing evidence that the term "third user perspective" is indefinite as the patent record would not convey to one of skill in the art with reasonable certainty the meaning of the term.

I. "Switch Between a Rending in which All of a Perspective View of a Local User Avatar of the Local User is Displayed and a Rendering in which Less than All of the Perspective View is Displayed"

Term	Worlds's Proposed Construction	Activision's Proposed Construction
switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed	No construction necessary Or, alternatively, Switch between a graphical representation in which all of a local user's field of view is displayed, and a graphical representation in which less than all of a local user's field of view is displayed	Indefinite under 35 U.S.C. § 112, ¶ 2

The final disputed claim appears in claim 19 of the '998 patent, which provides, in part:

> switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed.

'998, D. 62-6 at 23. Here, the Defendants argue that the patent does not make clear what the term "perspective view" means, how "all of a perspective view is displayed" or how "less than all of a perspective view is displayed" and, as a result, the term is indefinite under 35 U.S.C. § 112, ¶ 2. D. 63 at 40-41.

First, the Defendants argue that the term "perspective view" is ambiguous. Id. at 40. The Defendants read the specification to allow the viewing of a virtual world from the perspective of particular users and, as a result, "perspective," as generally used in the specification, only means the "viewpoint" of a particular user. Id. at 41. Under the Defendants' reading of the specification, then, "perspective view" means only the "viewpoint view," which does not clarify the disputed term. The Court concludes, however, that when read in context of the claims as a whole, the term "perspective view" is easily construed to mean "the view from the perspective of the user." The disputed term does not read: "switch between a rendering in which all of a perspective view is displayed . . . ." The term states: "switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed . . . ." '998, D. 64-5 at 24. Therefore, this section does explicitly refer to the perspective of a particular user, the "local user." This distinction is important because even if the Defendants "viewpoint view" construction was adopted, the phrase would read: "a viewpoint view of a local user avatar of the local user is displayed." Given the specifications consistent explanations that "each user executes a client process to view a virtual world from the perspective of that user" and the ordinary meaning of the words in the phrase, the Court concludes that a person of ordinary skill

in the art would understand that claim 19 uses "perspective view" to mean a "view from the perspective of the user." '998, D. 62-6 at 14.

The Defendants also argue, however, that the phrase "all of a perspective view" is indefinite because it is impossible to know "how much of a particular view must be displayed in order to constitute all of a perspective view, or what constitutes less than all of that same view, as opposed to an entirely different view." D. 145 at 8. In response, Worlds contends that the terms "all of a perspective view" and "less than all of a perspective view" need no construction because an ordinary person skilled in the art would understand that "all of a perspective view" references "the user's entire field of view" and that the term "less than all of a perspective view" means "something less than the entire or full field of view of the user, such as a view that is zoomed in on or focused on a particular avatar or object within the user's virtual world environment." D. 146 at 8-9. As the Defendants point out, however, this construction does not address what exactly constitutes the "full field of view" or the "entire field of view." D. 63 at 41; see also D. 69 at 26 (questioning whether "all of the field of view" means "a 360-degree field of view? A 180-degrgee field of view? The maximum field of view setting?"); D. 145 at 9 (noting that "[t]he '998 patent does not refer to the number of degrees or radians of the field of view that would constitute 'all of the perspective view,' nor does it specify whether the principle applies to the horizontal field of view, the vertical field of view, or both" and noting that "the entire field of view at one moment in time might be different from the entire field of view at a different time or in a different setting, especially if the field of view is configurable by the user"). Nor does Worlds's proposed construction address what constitutes less than all of the same view, as opposed to an entirely different view. Here, Worlds only response is to argue that a person of ordinary skill would understand that the "scope" of the "entire field view" would include a view

with other avatars, "walls, floors, ceilings, and other stationary objects within the avatars line of sight." D. 68 at 27-28 (referencing Figure 1 of the '998 patent). This explanation lacks the specificity needed to clarify the term. How is the avatar's line of sight determined? The patent provides no boundaries on what constitutes "all of a perspective view."

Accordingly, the Courts agrees that there is no basis on which a person of ordinary skill in the art would be able to determine how much of a "perspective view" would need to be displayed to constitute "all" of that view. As a result, a person of ordinary skill in the art would be equally unable to determine what would constitute "less than all" of a "perspective view." The Court concludes by clear and convincing evidence, therefore, that the term "switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed" is indefinite under 35 U.S.C. § 112, ¶ 2.

VI. Conclusion

For the foregoing reasons, the disputed claim terms are construed as follows:

1. the term "position of less than all of the other users' avatars" does not require construction;
2. the term "determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed" does not require construction;
3. the terms "condition" and "participant condition" mean "a condition set by the client;"
4. the term "programmed to limit the number of remote user avatars shown on the graphic display" does not require construction;

5. the term “avatar” means a “graphical representation of a user in three-dimensional form;”
6. the term “client process” means “a program executed, stored, or accessible on a user’s computer to provide access to a server;”
7. the term “server process” means “a program executed, stored, or accessible by one or more computers that provide one or more services to users of computers across a network;” and
8. the terms “synchronously disseminating . . . positions,” “third user perspective” and “switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed” are indefinite under 35 U.S.C. § 112, ¶ 2.

So Ordered.

/s/ Denise J. Casper
United States District Judge