

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BUNGIE, INC.,
Petitioner,

v.

WORLDS INC.,
Patent Owner.

Case IPR2015-01269
Patent 7,493,558 B2

Before KARL D. EASTHOM, KERRY BEGLEY, and JASON J. CHUNG,
Administrative Patent Judges.

BEGLEY, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

Bungie, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 4–9 (“challenged claims”) of U.S. Patent No. 7,493,558 B2 (Ex. 1001, “558 patent”). Paper 3 (“Pet.”). Pursuant to 35 U.S.C. § 314(a), we determined the Petition showed a reasonable likelihood that Petitioner would prevail in establishing unpatentability and instituted *inter partes*

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review of these claims on certain asserted grounds of unpatentability.

Paper 13 (“Inst. Dec.”).

After institution, Patent Owner Worlds Inc. (“Patent Owner”) filed a Patent Owner Response (Paper 20 (“Resp.”)) and a Supplement to the Response (Paper 22 (“Supp. Resp.”)). Petitioner filed a Reply to Patent Owner’s Response. Paper 31 (“Reply”).

Patent Owner filed a Motion to Exclude. Paper 33 (“Mot.”). Petitioner filed an Opposition to the Motion (Paper 36 (“Opp.”)), to which Patent Owner filed a Reply (Paper 38 (“Mot. Reply”)).

An oral hearing was held before the Board. Paper 41 (“Tr.”).

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Having considered the record before us, we determine Petitioner has shown by a preponderance of the evidence that claims 4, 6, 8, and 9 of the ’558 patent are unpatentable. *See* 35 U.S.C. § 316(e). Petitioner, however, has not demonstrated by a preponderance of the evidence that claims 5 and 7 are unpatentable.

I. BACKGROUND

A. RELATED PROCEEDINGS

The parties indicate that Patent Owner has asserted the ’558 patent in a case before the U.S. District Court for the District of Massachusetts (“District Court”), *Worlds, Inc. v. Activision Blizzard, Inc.*, Case No. 1:12-cv-10576-DJC (D. Mass.) (“District Court Case”). Pet. 10; Paper 6. In addition, patents related to the ’558 patent are the subject of *inter partes* reviews, based on petitions filed by Petitioner: IPR2015-01264, challenging U.S. Patent No. 7,945,856 B2; IPR2015-01268, challenging U.S. Patent No. 7,181,690 B1 (“690 patent”); IPR2015-01319, challenging U.S. Patent No. 8,082,501 B2 (“501 patent”); IPR2015-01321 and IPR2015-01325,

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challenging U.S. Patent No. 8,145,998 B2 (“’998 patent”). *See* Pet. 10; Paper 6.

B. THE ’558 PATENT

The ’558 patent discloses a highly-scalable “client-server architecture” for a “graphical, multi-user, interactive virtual world system.” Ex. 1001, [57], 2:30–32, 3:1–3. In the preferred embodiment, each user chooses an avatar to “represent the user in the virtual world,” *id.* at 3:19–21, and “interacts with a client system,” which “is networked to a virtual world server,” *id.* at 3:8–9. “[E]ach client . . . sends its current location, or changes in its current location, to the server.” *Id.* at 3:35–38; *see id.* at 2:39–42.

In the preferred embodiment, the system implements a “crowd control” function, which determines “[w]hether another avatar is in range” and “is needed in some cases to ensure that neither client 60 nor user A get overwhelmed by the crowds of avatars likely to occur in a popular virtual world.” *Id.* at 5:32–36; *see id.* at 2:61–63. “Server 61 maintains a variable, N, which sets the maximum number of other avatars [user] A will see,” whereas client 60 “maintains a variable, N’, which might be less than N,” indicating “the maximum number of avatars client 60 wants to see and/or hear.” *Id.* at 5:37–41; *see id.* at 13:19–21. These limits of N and N’ avatars “[g]enerally” “control how many avatars [user] A sees.” *Id.* at 5:55–58. Server 61 tracks the location and orientation of each user’s avatar and maintains a list of the “N nearest neighboring remote avatars” for each user’s avatar. *Id.* at 5:45–49, 13:22–25, 14:29–34. “[A]s part of crowd control,” the server notifies client 60 for a user “regarding changes in the N closest remote avatars and their locations.” *Id.* at 14:34–40. On the client-side, “[w]here N’ is less than N, the client also uses position data to select N’ avatars from the N provided by the server.” *Id.* at 6:6–8.

The specification explains that in the preferred embodiment, client 60, used by user A, features remote avatar position table 112 and current avatar position register 114. *Id.* at 2:61–63, 4:51–64, Fig. 4. “Current avatar position register 114 contains the current position and orientation of [user] A’s avatar in the virtual world.” *Id.* at 5:21–22. Remote avatar position table 112, in turn, “contains the current positions of the ‘in range’ avatars near [user] A’s avatar.” *Id.* at 5:31–32; *see id.* at 5:53–54, 6:1–6.

The client executes a process to render a “view” of the virtual world “from the perspective of the avatar for that . . . user.” *Id.* at [57], 2:34–36, 3:24–27, 4:44–50, 7:48–52. In the preferred embodiment, client system 60 executes a graphical rendering engine program to “generate[] the user’s view of the virtual world.” *Id.* at 2:61–63, 4:44–50. “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.” *Id.* at 7:40–43. “Rendering engine 120 then reads register 114 [and] remote avatar position table 112,” as well as databases holding avatar images and the layout of the virtual world, and “renders a view of the virtual world from the view point (position and orientation) of [user] A’s avatar.” *Id.* at 7:48–56; *see id.* at 6:39–41, 7:34–39.

C. ILLUSTRATIVE CLAIM

Challenged claims 4, 6, and 8 of the ’558 patent are independent claims. *Id.* at 21:58–23:5. Claim 4 is illustrative of the recited subject matter and is reproduced below.

4. 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 each client process to the server process, the position of the avatar associated with said each client process;
- (c) receiving, by said each client process from the server process, the positions of avatars in a set associated with said each client process, wherein the set associated with said each client process does not include at least one avatar of the avatars associated with the client processes of the plurality of users, the at least one avatar not being associated with said each client process; and
- (d) determining from the positions received in step (C), by said each client process, avatars that are to be displayed to the user associated with said each client process.

Id. at 21:58–22:13.

D. INSTITUTED GROUNDS OF UNPATENTABILITY

We instituted *inter partes* review of claims 4–9 of the '558 patent on the following grounds of unpatentability asserted in the Petition. Inst. Dec. 36.

Claims	Basis	Reference(s)
4, 6, 8, and 9	§ 102 ¹	Thomas A. Funkhouser, <i>RING: A Client-Server System for Multi-User Virtual Environments</i> , in 1995 SYMPOSIUM ON INTERACTIVE 3D GRAPHICS 85 (1995) (Ex. 1005, “Funkhouser”)
5 and 7	§ 103	Funkhouser, and Thomas A. Funkhouser & Carlo H. Séquin, <i>Adaptive Display Algorithm for Interactive Frame Rates During Visualization of Complex Virtual</i>

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29 (2011), revised 35 U.S.C. §§ 102–103, effective March 16, 2013. Because the '558 patent has an effective filing date before this date, we refer to the pre-AIA versions of §§ 102 and 103 throughout this Decision.

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