

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZYNGA INC.,
Petitioner,

v.

IGT,
Patent Owner.

IPR2022-00223
Patent 7,303,473 B2

Before HUBERT C. LORIN, SCOTT A. DANIELS, and
BARBARA A. PARVIS, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Zynga Inc. (“Zynga” or “Petitioner”) filed a Petition requesting *inter partes* review of claims 1–37 of U.S. Patent No. 7,303,473 B2 (Ex. 1001, “the ’473 patent”) and a Declaration by Petitioner’s Declarant, Sandeep Chatterjee, Ph.D. (Ex. 1003). Paper 1 (“Pet.”). IGT (“IGT” or “Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). We authorized Petitioner a Reply to Patent Owner’s Preliminary Response to address specific issues relating to the 35 U.S.C. § 314(a) issues raised by Patent Owner and the interference estoppel issue raised by Patent Owner in IPR2022-00199. Paper 7; Paper 8 (“Prelim. Reply”). We similarly authorized Patent Owner a Sur-Reply in Support of its Preliminary Response to address the same issues. Paper 7; Paper 9 (“Prelim. Sur-Reply”).

We instituted trial for claims 1–37 of the ’473 patent on all grounds of unpatentability alleged in the Petition. Paper 10 (“Decision to Institute” or “Inst. Dec.”).

After institution of trial, Patent Owner filed a Patent Owner Response, (“PO Resp.,” Paper 15), along with a Declaration by Patent Owner’s Declarant, Craig E. Wills, Ph.D. (“Wills Decl.,” Ex. 2020). Petitioner timely filed a Reply (“Pet. Reply,” Paper 18). Subsequently, Patent Owner filed a Sur-Reply (“PO Sur-Reply,” Paper 20) to address certain arguments raised by Petitioner in its Reply.

A hearing for this proceeding, IPR2022-00199, and IPR2022-00200 was held on March 13, 2023. The transcript of the hearing for this proceeding has been entered into the record of this case. Paper 29. (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a).

For the reasons that follow, we determine that Petitioner has met its burden of showing by a preponderance of the evidence that claims 1–37 are unpatentable.

A. Real Parties in Interest

Petitioner states that Zynga Inc. is the real party in interest. Pet. 2. Patent Owner states that IGT is the real party in interest. Paper 4.

B. Related Matters

The parties state that the '064 patent was asserted in *IGT v. Zynga Inc.*, Case No. 6:21-cv-00331 (W.D. Tex.). Pet. 3; Paper 4, 1. Petitioner and Patent Owner are parties to the following additional *inter partes* review proceedings: IPR2022-00199 (U.S. Patent No. 7,168,089), IPR2022-00200 (U.S. Patent No. 8,795,064), and IPR2022-00368 (U.S. Patent No. 8,266,212). Petitioner informs us that, other than being directed to the same general technological field, these patents are not directly related to the '473 patent. Pet. 3.

C. The '473 Patent (Ex. 1001)

The '473 patent is titled “Network Gaming System” and issued on December 4, 2007. Ex. 1001, codes (54), (45). The '473 patent “is directed to a networked gaming system that may include a website server which may be accessed by a plurality of players via remotely located player terminals.” *Id.* at 1:5–7.

Figure 1 of the '473 patent is reproduced below.

FIG. 1

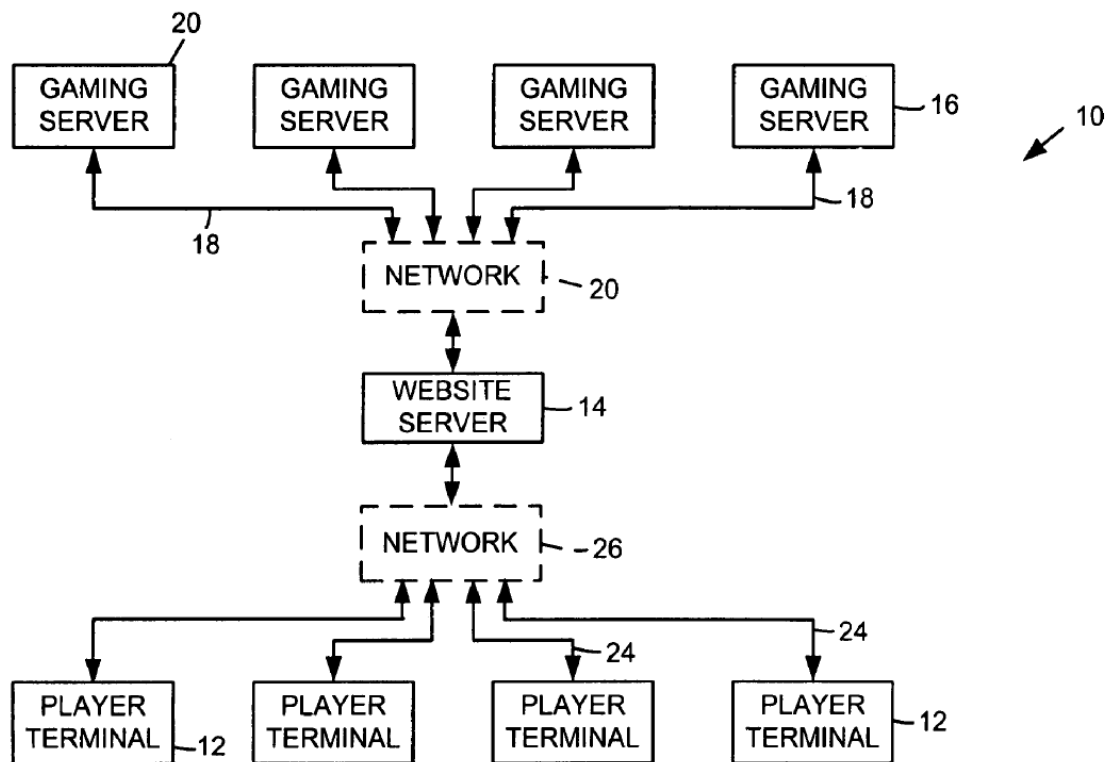


Figure 1 is a block diagram illustrating an embodiment of gaming system 10. Ex. 1001, 3:23–24. Gaming system 10 includes a plurality of remote player terminals 12, a website server 14, and a plurality of gaming servers 16 operatively coupled to the website server 14 via a plurality of data links 18, a network 20, and data link 22 connected between network 20 and website server 14. *Id.* at 4:41–48. The '473 patent describes that “[d]uring operation, a player could utilize one of the player terminals 12 to logon to the website serviced by the website server 14 in order to play various wagering games, such as poker, blackjack, slots, bingo or keno.” *Id.* at 4:23–26.

D. Illustrative Claims

Claims 1, 9, 16, 22, 27, 29, and 33 are independent. Each of claims 2–8, 10–15, 17–21, 23–26, 28, 30–32, and 34–37 ultimately depends from

claims 1, 9, 16, 22, 27, 29, and 33, respectively. Claims 1 and 33 are illustrative. Claim 1 is reproduced below with Petitioner's labeling of the limitations added in bracketing (Ex. 1014).

[1(pre)] 1. A gaming system that allows players to play games via a plurality of remote player devices, said gaming system comprising:

[1(a)] a first gaming server that facilitates play of a first game by a player utilizing one of said remote player devices, said first gaming server comprising a controller that comprises a processor and a memory in which image data corresponding to a video image representing said first game is stored, said controller being programmed to facilitate play of said first game and said first game being one of the following games: poker, blackjack, slots, keno or bingo;

[1(b)] a second gaming server that facilitates play of a second game by a player utilizing one of said remote player devices, said second game being different than said first game, said second gaming server comprising a controller that comprises a processor and a memory in which image data corresponding to a video image representing said second game is stored, said controller of said second gaming server being programmed to facilitate play of said second game and said second game being one of the following games: poker, blackjack, slots, keno or bingo; and

[1(c)] a website server that is capable of being operatively coupled via the Internet to said remote player devices, said website server capable of being operatively coupled to said first and second gaming servers, said website server comprising:

[1(d)] a controller that comprises a processor and a memory; and

[1(e)] a network communications circuit coupled to said controller of said website server, said network communications circuit allowing data to be

communicated between said controller of said website server and said remote player devices,

- [1(f)] said controller of said website server being programmed to select logon display data and to cause said logon display data to be transmitted to one of said remote player devices via said network communications circuit when said one remote player device is operatively coupled to said website server,
- [1(g)] said controller of said website server being programmed to cause player data received from said one remote player device to be stored in memory,
- [1(h)] said controller of said website server being programmed to cause data representing a game selection display to be transmitted to said one remote player device, said game selection display comprising a first image representing said first game and a second image representing said second game,
- [1(i)] said controller of said website server being programmed to receive data representing a game selection from said one remote player device,
- [1(j)] said controller of said website server being programmed to determine whether said data representing said game selection corresponds to said first game or said second game;
- [1(k)] said controller of said website server being programmed to determine whether to select said first gaming server or said second gaming server based on said game selection received from said one remote player device;
- [1(l)] said controller of said website server being programmed to select said first gaming server for data communication between said one remote player device and said first gaming server if said player selected said first game for play, and
- [1(m)] said controller of said website server being programmed to select said second gaming server for

data communication between said one remote player device and said second gaming server if said player selected said second game for play.

Ex. 1001, 19:15–20:19.

Claim 33 is also illustrative and reproduced below.

33. A method of operating a gaming apparatus, comprising:

transmitting first game display data from said gaming apparatus to a website computing apparatus, said first game display data representing a first game image relating to a game that may be played via a player device that is remote from said website computing apparatus and that is remote from said gaming apparatus, said first game display data being included in a data communication having a destination address that specifies said player device;

receiving wager data from said website computing apparatus, said wager data being included in a data communication having a source address that specifies said player device;

transmitting second game display data from said gaming apparatus to said website computing apparatus, said second game display data representing a second game image relating to said game, said second game display data being included in a data communication having a destination address that specifies said player device; and

transmitting outcome data from said gaming apparatus to said website computing apparatus, said outcome data representing an outcome of said game, said outcome data being included in a data communication having a destination address that specifies said player device.

Id. at 25:16–26:5.

E. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–37 would have been unpatentable on the following grounds:¹

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 4, 8–10, 12, 16, 18, 22, 24, 27–32	103(a)	Sparks, ² Wiltshire ³
3, 11, 17, 23	103(a)	Sparks, Wiltshire, Hawkins ⁴
5, 13, 19, 25	103(a)	Sparks, Wiltshire, Moody ⁵
6, 7, 14, 15, 20, 21, 26	103(a)	Sparks, Wiltshire, Schneier ⁶
33–37	103(a)	Sparks, Wiltshire, Joshi, ⁷ Schneier

II. ANALYSIS

A. Legal Standards

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. 35 U.S.C. § 103; *KSR Int’l Co. v. Teleflex Inc.*, 550

¹ Petitioner supports its challenge with a Declaration of Sandeep Chatterjee, Ph.D. (Ex. 1003) and Patent Owner provides the Declaration of Craig E. Wills, Ph.D. (Ex. 2020). *See infra*.

² Sparks, II, U.S. Patent No. 6,352,479 B1, issued March 5, 2002 (Ex. 1004) (“Sparks”).

³ Wiltshire et al., U.S. Patent No. 6,409,602 B1, issued June 25, 2002 (Ex. 1005) (“Wiltshire”).

⁴ Hawkins et al., U.S. Patent No. 6,009,458, issued December 28, 1999 (Ex. 1006) (“Hawkins”).

⁵ Moody, U.S. Patent No. 6,098,985, issued August 8, 2000 (Ex. 1007) (“Moody”).

⁶ Schneier et al., U.S. Patent No. 6,099,408, issued August 8, 2000 (Ex. 1008) (“Schneier”).

⁷ Joshi, U.S. Patent No. 7,470,196 B1, issued December 30, 2008 (Ex. 1009) (“Joshi”).

U.S. 398, 406 (2007). “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 50–51 (1966)). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

The Supreme Court made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. To support this conclusion, however, it is not enough to show merely that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness additionally requires that a person of ordinary skill at the time of the invention “would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention.” *Id.*

Accordingly, an obviousness determination generally requires a finding “that a person of ordinary skill in the art would have been motivated to combine or modify the teachings in the prior art and would have had a reasonable expectation of success in doing so.” *Univ. of Strathclyde v. Clear-Vu Lighting LLC*, 17 F.4th 155, 160 (Fed. Cir. 2021) (citing *OSI Pharms.*, 939 F.3d at 1382 (quoting *Regents of Univ. of Cal. v. Broad Inst.*,

Inc., 903 F.3d 1286, 1291 (Fed. Cir. 2018))). “Whether the prior art discloses a claim limitation, whether a skilled artisan would have been motivated to modify or combine teachings in the prior art, and whether she would have had a reasonable expectation of success in doing so are questions of fact.” *Strathclyde*, 17 F.4th at 160. In determining whether there would have been a motivation to combine prior art references to arrive at the claimed invention, it is insufficient to simply conclude the combination would have been obvious without identifying any reason why a person of skill in the art would have made the combination. *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1366 (Fed. Cir. 2017). Moreover, in determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 164 (Fed. Cir. 1985) (“It is elementary that the claimed invention must be considered as a whole in deciding the question of obviousness.”); *see also Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983) (“[T]he question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious. Consideration of differences, like each of the findings set forth in *Graham*, is but an aid in reaching the ultimate determination of whether the claimed invention *as a whole* would have been obvious.”).

As a factfinder, we also must be aware “of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.” *KSR*, 550 U.S. at 421. Applying these general principles, we consider the evidence and arguments of the parties.

B. Level of Ordinary Skill in the Art

In our Decision to Institute trial, we determined that

A person of ordinary skill in the art (“POSITA”) of the technology described in the ’473 patent would have a bachelor’s degree in computer science, or a related field and two years of experience in system development in developing distributed computer systems, including networked gaming systems. . . . This POSITA would be aware of and generally knowledgeable about networked gaming systems at the time the application that led to the ’473 patent was filed, including the networks connecting various components of video game systems and the communications between the elements of the system.

Inst. Dec. 17–18. Patent Owner does not dispute this level of skill. PO Resp. 12–13.

C. Claim Construction

We interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2020). Under this standard, we construe the claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* Furthermore, we expressly construe the claims only to the extent necessary to determine whether Petitioner has proven unpatentability of the challenged claims by a preponderance of the evidence. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

In the Petition’s claim construction section, Petitioner states that it requested a specific claim construction in the related district court litigation

for each of the following terms: “website server,” “first gaming server,” and “second gaming server.” Pet. 18–19. “In contrast, IGT sought ‘plain and ordinary meaning’ constructions of these terms,” according to Petitioner. *Id.* at 19. Petitioner then states that “[t]he Board, however, need not resolve these disputes here because the prior art cited below discloses these limitations under either parties’ constructions.” *Id.*

In its Preliminary Response, Patent Owner stated that “[i]n the District Court proceeding[,], the claim construction process is over and the Court has issued its claim construction rulings.” Prelim. Resp. 1. Patent Owner, however, did not argue the district court’s claim construction order or propose a specific construction for any of the claim terms at issue in this proceeding. *See generally id.*

In our Decision to Institute, we noted that “[t]he district court construed [“website server,” “first gaming server,” and “second gaming server”] to have their ‘[p]lain and ordinary meaning.’” Inst. Dec. 19 (citing Ex. 2004, 2). We then determined that “[w]e need not expressly construe any terms of the ’473 in order to decide whether to institute *inter partes* review.” *Id.* (citing *Vivid*, 200 F.3d at 803).

In its Response, Patent Owner states that “[a]s the Board did not otherwise ‘expressly construe any terms,’ . . . IGT has construed the foregoing terms consistent with their plain and ordinary meaning.” PO Resp. 12 (citing Inst. Dec. 19). In its Reply, Petitioner does not dispute the district court’s claim construction order or our determination that we need not expressly construe any claim term, nor does Petitioner propose a specific construction for any claim term. *See generally* Pet. Reply.

At bottom, the Parties do not argue for an express construction of any claim term, and our analysis does not turn on such a construction, so we

determine that it is not necessary to expressly construe any claim term for purposes of this Decision. *See Vivid*, 200 F.3d at 803.

D. Ground 1: Claims 1, 2, 4, 8–10, 12, 16, 18, 22, 24, and 27–32 – Obviousness over Sparks (Ex. 1004) and Wiltshire (Ex. 1005)

On the complete record before us, Petitioner has shown by a preponderance of the evidence that claims 1, 2, 4, 8–10, 12, 16, 18, 22, 24, and 27–32 would have been obvious over Sparks and Wiltshire (Ground 1).

1. Sparks (Ex. 1004)

Sparks is titled “Interactive Gaming Server and Online Community Forum” and issued on March 5, 2002. Ex. 1004, codes (54), (45).

Sparks describes a “networked game system for allowing one or more users to interactively play games from individual user terminals via a network and which includes a network server that interfaces with the user terminals via the network and one or more game servers connected to the network server.” Ex. 1004, 1:53–58. Figure 1 of Sparks, reproduced below, illustrates a plurality of computer systems connected in a network configuration. *Id.* at 2:38–39.

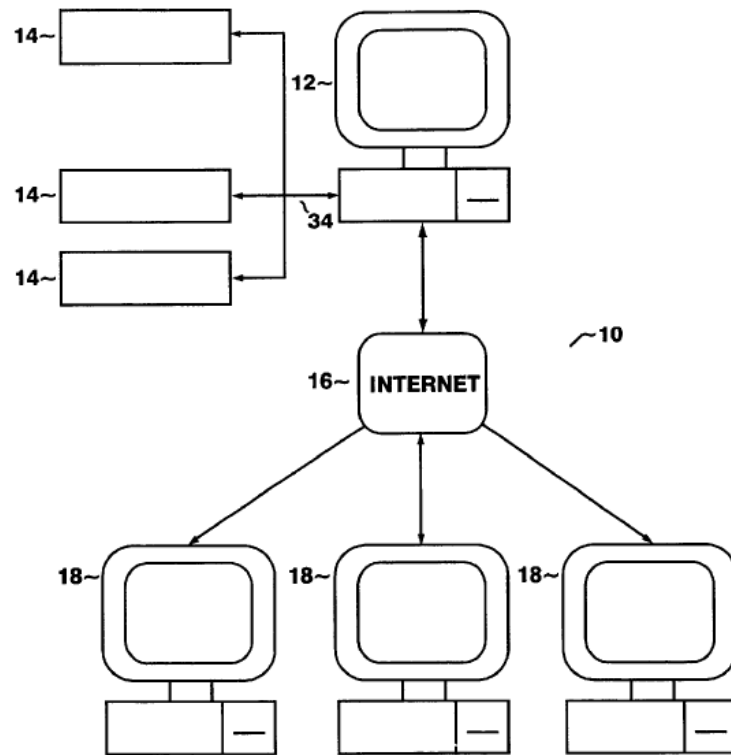


FIG. 1

As shown in Figure 1, Sparks discloses network configuration comprising a world wide web (“WWW”) server 12 coupled via a wide area network such as the Internet 16 to a number of user computer systems 18. Ex. 1004, 3:1–3. Sparks describes that “WWW server 12 is linked to a plurality of game servers 14 via links 34 which can be the Internet or direct links or both.” *Id.* at 3:4–6. “Each game server 14 and each of the user computer systems 18 includes stored game software,” and the “game software includes various application program interfaces (APIs) providing an interface to operating system software.” *Id.* at 3:6–11.

2. Wiltshire (Ex. 1005)

Wiltshire is titled “Slim Terminal Gaming System” and issued June 25, 2002. Ex. 1005, codes (54), (45).

Wiltshire discloses “a computer gaming system and method of operation thereof that both drastically reduces the cost and substantially

increases the tamper resistance of individual gaming stations.” Ex. 1005, 2:22–25. Wiltshire’s system “allows concurrent access to multiple computer gaming programs from individual gaming stations by a patron” and “enables concurrent, non-intrusive status monitoring of clustered gaming stations for engineering maintenance and regulatory purposes.” *Id.* at 2:25–35.

Figure 1A of Wiltshire, reproduced below, is a block diagram of a computer gaming system. Ex. 1005, 3:7–8.

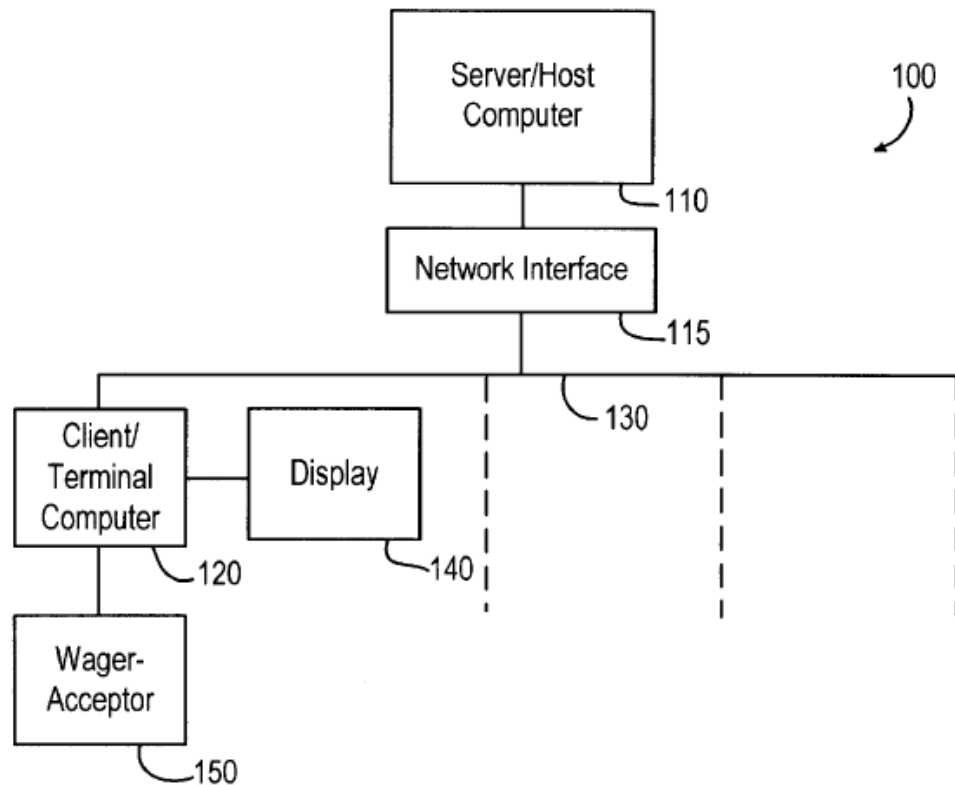
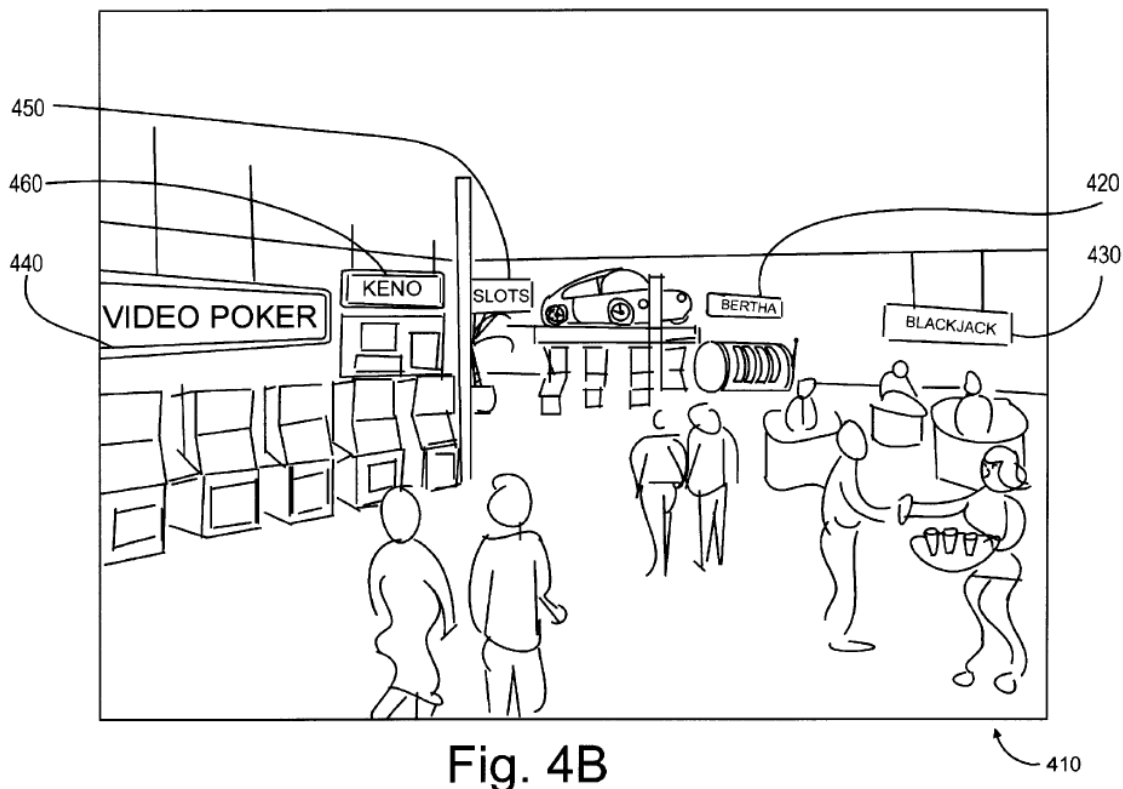


Fig. 1A

As shown in Figure 1A, computer gaming system 100 includes a server/host computer 110 connected to a plurality of remote client/terminal computers 120 via network interface 115 and communication pathways 130. *Id.* at 3:61–67. Each of client/terminal computers 120 is connected to a display device 140 (*id.* at 3:65–67) and “a wagering or bet acceptor device 150 such

as a coin collector, a bill collector, a smart-card reader, a credit-card reader, etc.” (*id.* at 4:30–33).

Figure 4B of Wiltshire, reproduced below, depicts an image displayed on a screen of a client/terminal computer of FIG. 1, showing a virtual casino floor. Ex. 1005, 3:23–25.



With reference to Figure 4B, Wiltshire discloses that “[c]asino floor image 410 illustrates various casino games supported by computer gaming system 100.” Ex. 1005, 8:49–51. “Each of the available games is represented by a ‘virtual’ button: Bertha button 420, black jack button 430, video poker button 440, slots button 450 and keno button 460.” *Id.* at 8:51–54.

Wiltshire describes that a “patron can select any of these games by touching a corresponding area of Screen 140” and “[w]hen the patron presses a virtual button, an input command is detected by client/terminal program 122 and transmitted to server/host computer 110 over communication pathways

130.” *Id.* at 8:54–59. “Server/host interface program 114, in turn, receives the input command and passes the input command along to game program 112” which “responds to input command 112 by updating the state of the game and possibly modifying the image displayed on screen 140.” *Id.* at 8:59–63.

3. Petitioner’s Arguments and Evidence

a. Independent Claims 1, 9, 16, 22, and 27

Petitioner contends that “[t]he combination of Sparks and Wiltshire disclose independent Claims 1, 9, 16, 22, and 27, which generally contain repetitive and overlapping limitations,” and “[a] POSITA would have found it obvious to combine *Sparks*’ Internet network gaming architecture with *Wiltshire* to arrive at the ’473 patent claims.” Pet. 23; *see id.* at 24 (table showing correspondence between independent claim elements), 24–56, 65–66. As discussed in greater detail below, we are persuaded by Petitioner’s contentions in view of the arguments, evidence, and reasoning Petitioner sets forth. We select claim 1 as representative.

i. Element [1(pre)]

For the preamble step of “[a] gaming system that allows players to play games via a plurality of remote player devices,” Petitioner argues that “*Sparks* discloses a ‘multiplayer game system played over the Internet comprising [...] one or more game players connected to the Internet,’” and that “*Sparks* Fig. 1 . . . shows a gaming system that allows players to play games via multiple remote player terminals 18.” Pet. 24–25 (citing Ex. 1004, 3:1–6, 7:59–64, Fig. 1; Ex. 1003 ¶ 7). Petitioner’s citations, including Sparks’ Figure 1 depiction of a networked game system, show that the recitation in the preamble is satisfied by the prior art. *See, e.g.*, Ex. 1004, 3:1–6, 7:59–64, Fig. 1. Accordingly, we need not determine whether the

preamble is limiting. *See Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002) (“Generally, the preamble does not limit the claims.”).

ii. Elements [1(a)]–[1(e)]

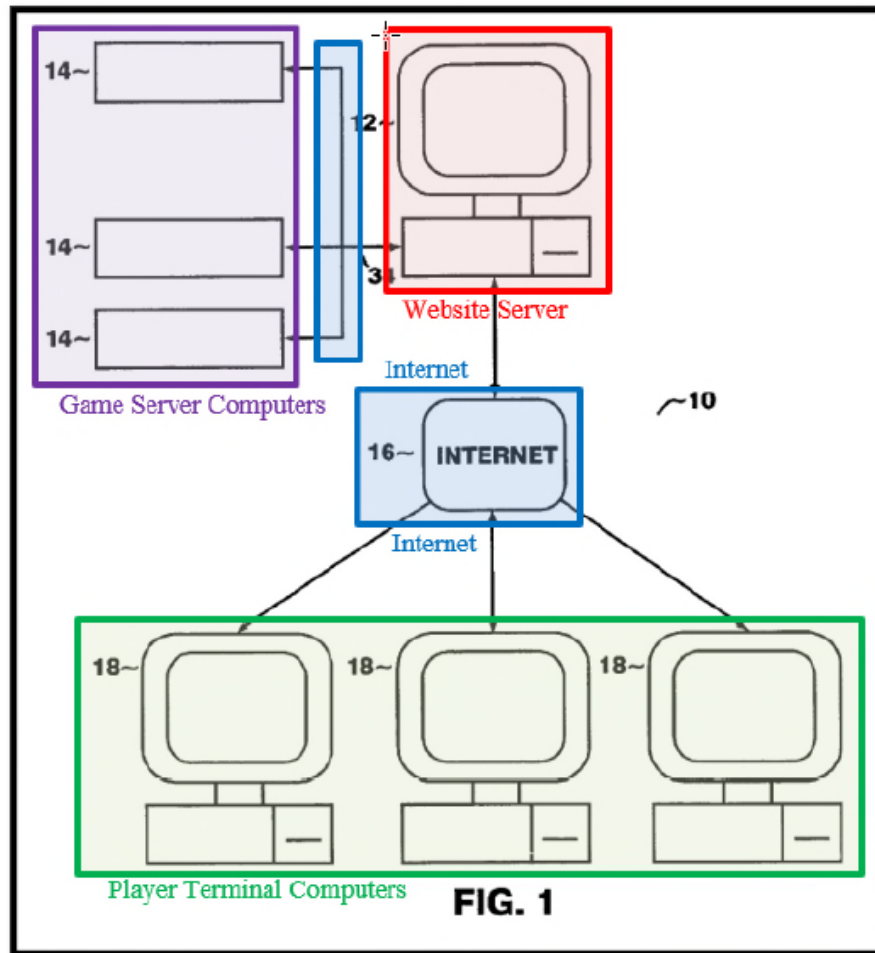
Elements [1(a)]–[1(e)] of independent claim 1 recite:

- [1(a)] a first gaming server that facilitates play of a first game by a player utilizing one of said remote player devices, said first gaming server comprising a controller that comprises a processor and a memory in which image data corresponding to a video image representing said first game is stored, said controller being programmed to facilitate play of said first game and said first game being one of the following games: poker, blackjack, slots, keno or bingo;
- [1(b)] a second gaming server that facilitates play of a second game by a player utilizing one of said remote player devices, said second game being different than said first game, said second gaming server comprising a controller that comprises a processor and a memory in which image data corresponding to a video image representing said second game is stored, said controller of said second gaming server being programmed to facilitate play of said second game and said second game being one of the following games: poker, blackjack, slots, keno or bingo; and
- [1(c)] a website server that is capable of being operatively coupled via the Internet to said remote player devices, said website server capable of being operatively coupled to said first and second gaming servers, said website server comprising;
- [1(d)] a controller that comprises a processor and a memory; and
- [1(e)] a network communications circuit coupled to said controller of said website server, said network communications circuit allowing data to be

communicated between said controller of said website server and said remote player devices.

Ex. 1001, 19:18–48.

Petitioner contends that Sparks discloses or suggests elements [1(a)]–[1(e)] of independent claim 1 except that Sparks “does not expressly disclose poker, blackjack, etc.,” as recited in elements [1(a)] and [1(b)]. Pet. 26–34 (citing Ex. 1003 ¶¶ 78, 109–110, 112–114, 122–132; Ex. 1004, Figs. 1–2, 1:38–40, 2:2–6, 3:1–8, 3:14–18, 3:37–39, 4:4–14, 5:36–45). Petitioner presents an annotated version of Sparks’ Figure 1 for showing “a first gaming server,” as recited in element [1(a)], “a second gaming server,” as recited in element [1(b)], and “a website server . . . operatively coupled via the Internet to said remote player devices . . . [and] to said first and second gaming servers,” as recited in element [1(c)]:



Pet. 25 (citing Ex. 1004, Fig. 1). Petitioner’s annotated version of Sparks’s Figure 1 depicts a networked game system according to one embodiment.

Ex. 1004, 2:66–3:13. As we stated in our Decision to Institute:

As shown in Petitioner’s annotated version of Sparks’ Figure 1, above, Petitioner contends that: (1) Claim 1’s “a first gaming server” and “a second gaming server” read on Sparks’ plurality of game servers 14; (2) The “Internet” of claim 1 reads on Sparks’ Internet 16; (3) Claim 1’s “a website server” reads on Sparks’ WWW server 12; and (4) Claim 1’s “a plurality of remote player devices” reads on Sparks’ user computer systems 18.

Inst. Dec. 25. More specifically, Petitioner contends that Sparks’ game servers are each a “gaming server” “comprising a controller that comprises a

process and a memory” as recited in elements [1(a)] and [1(b)] because “each game server run[s] a different game” (such as Quake II or Doom) and a “statistics program,” and has a “database 38.” Pet. 27–28 (citing Ex. 1003 ¶¶ 78, 112–114, 122–124; Ex. 1004, 1:38–40, 2:2–6, 3:6–8, 3:16–18, 3:37–39, 5:36–45; Ex. 1018 at 2). Petitioner explains that “*Sparks* discloses updating the game server via “[r]endering commands 44 [...] via the link to the WWW server 12 [...] to update the displays 32 of the player’s computers 18,”” and that “[t]hese rendering commands are game image data.” *Id.* at 29 (citing Ex. 1004, 4:10–14).

Petitioner then contends that Spark’s WWW server is a “website server” “comprising[] a controller that comprises a processor and a memory” as recited in element [1(d)] because Sparks discloses an “architecture includ[ing] a central processing unit (CPU) 20, memory 22, a mass storage device 24, a modem 26, and various input/output (I/O) devices 30” that “may be used for . . . the WWW server 12.” Pet. 33 (citing Ex. 1003 ¶¶ 128–129; Ex. 1004, 3:14–18).

Petitioner also contends that Sparks discloses or suggests “a network communications circuit” as recited in element [1(e)] because:

Sparks discloses a network circuit (modem 26) for . . . WWW server 12 . . . [, which] “receives inputs 42 via the Internet 16 from the [...] [user] computers 18” (the claimed remote player devices) and sends “[r]endering commands 44 [...] from the updated database 38 in the game server 14 via the link to the WWW server 12 and across the Internet 16 to update the displays 32 of the player’s computers 18.”

Pet. 33–34 (citing Ex. 1003 ¶¶ 130–132; Ex. 1004, Fig. 2, 3:14–18, 4:4–14).

Petitioner acknowledges that “[w]hile Sparks discloses many different games, it does not expressly disclose poker, blackjack, etc.” Pet. 29.

Petitioner contends, however, that (1) “*Wiltshire* discloses ‘a memory in

which image data . . . is stored,” “the ‘first game being one of the following games: poker, blackjack, slots, keno or bingo,” and (2) “a POSITA would understand that *Sparks*’ system can be used with any type of game,” so “[a] POSITA would have found it obvious to use *Sparks*’ game architecture to play the games claimed in *Wiltshire*.” Pet. 29 (citing Ex. 1003 ¶¶ 119, 355–362; Ex. 1004, Fig. 7, 4:10–14; Ex. 1005, 1:26–44, 8:51–54); *see also id.* at 65–66.

iii. Elements [1(f)]–[1(m)]

The remaining elements of claim 1 recite functions the controller of the website server is programmed to perform. *See* Ex. 1001, 19:49–20:18 (elements [1(f)]–[1(m)]). Petitioner contends that Spark’s WWW server, which can be programed with a suitable web server program such as Apache, *and* Wiltshire’s server/host interface program, which is executed on a server/host computer, each “disclose a web-server that is programmed to and therefore has a program in memory to carry out its functions.” Pet. 36 (citing Ex. 1003 ¶¶ 250–51; Ex. 1004, 3:34–37; Ex. 1005, 4:34–42; 5:50–65, 8:53–65). Petitioner further contends that “[i]t was undisputed during prosecution of the ’473 patent that *Wiltshire* discloses displaying a game selection user interface to a patron and allowing the patron to select and play a game on a host/game server, as required by limitations [1(h-m)].” *Id.* at 36–37 (citing Ex. 1003 ¶ 42; Ex. 1005, 8:49–65, Fig. 4B).

We discuss Petitioner’s specific contentions for elements [1(f)]–[1(m)] below.

iv. Element [1(f)]

Element [1(f)] recites “said controller of said website server being programmed to select logon display data and to cause said logon display data to be transmitted to one of said remote player devices via said network

communications circuit when said one remote player device is operatively coupled to said website server.” Ex. 1001, 19:49–54.

Petitioner contends that Sparks discloses this element because “*Sparks* discloses ‘[t]he user, via his or her programmed PC 18, logs into the web site 46 under the user’s user name and password at step 106’ and the website communicates with a website interface that ‘in turn, communicates with WWW server 12: (a) for validating and/or initiating registration of web site users (e.g., game players) at web site 46.’” Pet. 38 (citing Ex. 1004, 4:18–21, 5:5–7); *see also id.* (citing Ex. 1003 ¶¶ 134–137; Ex. 1004, Abstract, 2:12–19, 3:1–3).

v. Element [1(g)]

Element [1(g)] recites “said controller of said website server being programmed to cause player data received from said one remote player device to be stored in memory.” Ex. 1001, 19:55–57.

Petitioner contends that Sparks and Wiltshire disclose or suggest this element because “*Sparks* and *Wiltshire* disclose a web-server storing player data in memory including player ID, player name, address, password, credit card number, and credit card expiration date.” Pet. 39 (citing Ex. 1003 ¶¶ 138–44); *id.* at 39–40 (citing Ex. 1003 ¶¶ 139, 142; Ex. 1004, 4:15–25, Fig. 4; Ex. 1005, 4:66–52, 5:8–13). For example, Petitioner cites Spark’s disclosure that WWW server 12 may access database 34 “for determining the registration identity of . . . a game player.” *Id.* at 39 (citing Ex. 1004, Fig. 4, 4:23–25).

vi. Element [1(h)]

Element [1(h)] recites “said controller of said website server being programmed to cause data representing a game selection display to be transmitted to said one remote player device, said game selection

display comprising a first image representing said first game and a second image representing said second game.” Ex. 1001, 19:59–64.

Petitioner contends that Sparks and Wiltshire disclose this element. Pet. 40–44 (citing Ex. 1003 ¶¶ 145–146, 225, 228–231, 250–252, 296–298; Ex. 1004, 1:66–2:2, 2:13–16, 3:14–18, 3:34–37, 5:5–8, 5:17–28; Ex. 1005, 5:50–57, 6:17–31, 7:13–22, 8:42–55, 10:6–14, 10:54–61, Figs. 4B, 7A, 8A). For example, Petitioner contends that “*Sparks* discloses these limitations as the WWW server 12 displays a list of available games to the user through the website on the user’s personal profile page.” *Id.* at 41 (citing Ex. 1003 ¶ 225; Ex. 1004, 5:5–8, 5:26–28). Petitioner also cites Figure 4B of Wiltshire, reproduced below, and its associated descriptions.

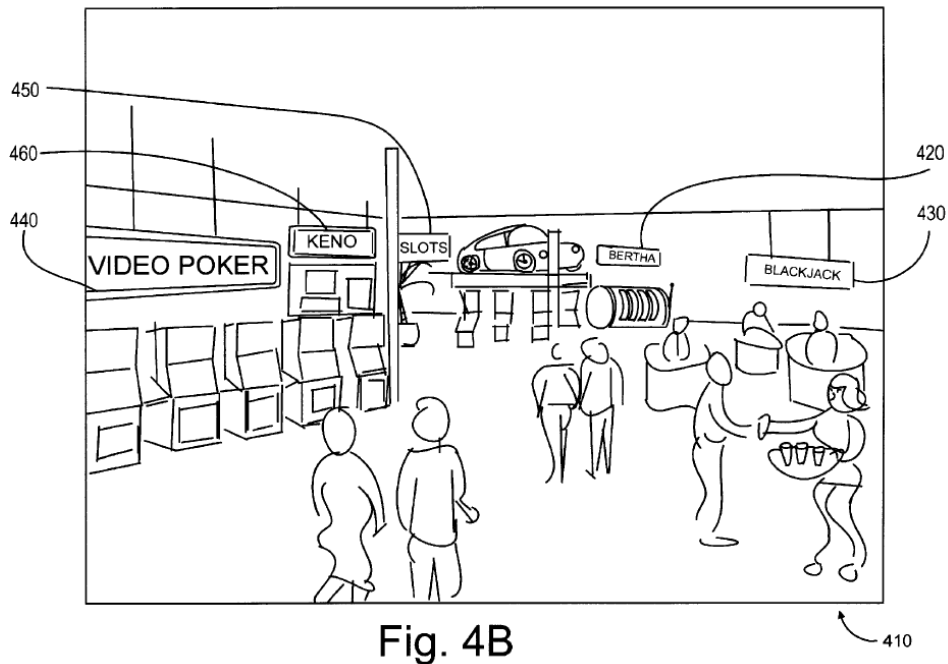


Fig. 4B

Id. at 41–42 (citing Ex. 1003 ¶¶ 145–146; Ex. 1005, Fig. 4B, Ex. 1004, 8:42–54). Figure 4B of Wiltshire depicts an image displayed on a screen of a client/terminal computer, showing a virtual casino floor.

Ex. 1005, 3:23–25. Wiltshire describes that “[c]asino floor image 410 illustrates various casino games supported by computer gaming system 100,” where “[e]ach of the available games is represented by a ‘virtual’ button: Bertha button 420, black jack button 430, video poker button 440, slots button 450 and keno button 460” that “[t]he patron can select.” *Id.* at 8:49–54.

vii. Elements [1(i)]–[1(k)]

Elements [1(i)]–[1(k)] recite

[1(i)] said controller of said website server being programmed to receive data representing a game selection from said one remote player device;

[1(j)] said controller of said website server being programmed to determine whether said data representing said game selection corresponds to said first game or said second game; [and]

[1(k)] said controller of said website server being programmed to determine whether to select said first gaming server or said second gaming server based on said game selection received from said one remote player device.

Ex. 1001, 19:65–20:8.

Petitioner contends that Sparks and Wiltshire disclose or suggest these elements. Pet. 44–48 (citing Ex. 1003 ¶¶ 148–150, 152–154, 156–157, 254–260, 262–265, 269–270, 299–302, 304). For example, Petitioner contends that Sparks discloses these elements because “[t]he user mouse clicks on a desired game link displayed on his or her personal profile page at step 116, and the WWW server 12 links the user to the game server 14 running the selected game,” wherein the game link ‘constitutes a dynamic link to a game server 14 which is running the corresponding game listed.’” *Id.* at 44–45 (citing Ex. 1003 ¶¶ 148–49; Ex. 1004, 5:29–39), 46 (citing Ex. 1003 ¶ 152), 48 (citing Ex. 1003 ¶ 156).

Petitioner contends that Wiltshire also discloses these elements because “[w]hen the patron presses a virtual button [to select a game], an input command is detected by client/terminal program 122 and transmitted to server/host computer 110,” which “passes the input command along to game program 112 [which] . . . responds . . . by updating the state of the game” “and allows the user to play the game selected.” Pet. 46 (citing Ex. 1003 ¶ 153; Ex. 1005, 8:56–63), 48 (citing Ex. 1003 ¶ 157 and same part of Wiltshire); *id.* at 45 (citing Ex. 1003 ¶ 150 and same part of Wiltshire). For example, Petitioner points out that “Figs. 6A, 7A, 8A, 9A (blackjack, poker, slots, and keno images[]) are] displayed in response [to the] user’s virtual button input.” *Id.* at 45 (citing Ex. 1005, 9:12–14, 10:6–8, 10:54–55, 11:32–33, Figs. 6A, 7A, 8A, 9A), 48 (citing same parts of Wiltshire).

viii. Elements [1(l)]–[1(m)]

Elements [1(l)] and [1(m)] recite

[1(l)] said controller of said website server being programmed to select said first gaming server for data communication between said one remote player device and said first gaming server if said player selected said first game for play, and

[1(m)] said controller of said website server being programmed to select said second gaming server for data communication between said one remote player device and said second gaming server if said player selected said second game for play.

Ex. 1001, 20:9–18.

Petitioner contends that “*Sparks* discloses this limitation because its website server selects the first game server if the first game is selected and the second game server if the second game is selected.” Pet. 50 (citing Ex. 1003 ¶¶ 159–64; Ex. 1004, 5:29–31, 5:36–39).

ix. Motivation to Combine

Petitioner articulates several reasons one of ordinary skill in the art would have been motivated to combine the asserted teachings of Sparks and Wiltshire. Pet. 65–66. For example, Petitioner reasons that “a POSITA would have been motivated to combine *Sparks*’ game system architecture with the gaming teachings of *Wiltshire*” because:

(1) “both patents are in the same field and directed to solving challenges of remote gaming,”

(2) “[b]oth *Sparks* and *Wiltshire* contemplate playing the same video games, such as Doom or Chess,”

(3) “a POSITA would recognize from *Wiltshire* that casino games are a popular genre of video games and be motivated to implement casino style wager games, such as poker, blackjack, etc. and means of placing wagers in *Sparks*’ architecture,” and

(4) “[t]he player statistics tracking of *Sparks* would be beneficial for the gambling games of *Wiltshire* by providing a means to track player preferences and customization that would increase player engagement.”

Id. at 65–66 (citing Ex. 1003 ¶¶ 355–357; Ex. 1004, Fig. 7 (Chess), Fig. 8 (Doom); Ex. 1005, 1:26–44 (Chess/Doom games)).

Petitioner additionally reasons that “[a] POSITA would be further motivated to combine Sparks and Wiltshire to achieve efficiencies and speed for *Wiltshire*’s system by adding multiple independent game servers, each providing a specific game, thereby providing more efficient use of computing resources,” and that “[a] POSITA would also combine use of the processors and memory disclosed by *Wiltshire* in *Sparks*’ game servers used to play *Wiltshire*’s games because *Wiltshire* expressly discloses computer hardware suitable for those games.” *Id.* at 66 (citing Ex. 1003 ¶¶ 359, 361).

x. Conclusion for Independent Claims 1, 9, 16, 22, and 27

Considering the evidence in Sparks and Wiltshire as well as Dr. Chatterjee's testimony, on the complete record before us we are persuaded that Sparks and Wiltshire disclose or suggest all the elements recited in claims 1, 9, 16, 22, and 27, and that it would have been obvious to combine Sparks and Wiltshire as proposed by Petitioner. *See, e.g.*, Pet. 23–66; Ex. 1003 ¶¶ 103–362. In reaching our conclusion of obviousness, we have considered Patent Owner's specific arguments for these claims, which we address, in detail, below.

b. Independent Claim 29

Presenting similar argument and evidence as was set forth for independent claims 1, 9, 16, 22, and 27, Petitioner contends that the combination of Sparks and Wiltshire also discloses or suggests independent claim 29, and that a POSITA would have found it obvious to combine *Sparks*' Internet network gaming architecture with *Wiltshire* to arrive at the claim. Pet. 57–63, 65–66. Petitioner explains that “[c]laim 29 claims a method of operating a website computing apparatus with limitations that are substantively identical to Claim 1 and Claim 27 but recite additional limitations relating to ‘wager[ing] data,’” which Petitioner contends Wiltshire discloses with its descriptions of a gaming system in which a player can input wagers to the server/host computer while playing a game of blackjack. *See, e.g., id.* at 57, 61–63 (citing, *e.g.*, Ex. 1003 ¶¶ 341–342; Ex. 1005, Abstract, 5:31–33, 9:38–43, Fig. 6A).

Considering the evidence in Sparks and Wiltshire as well as Dr. Chatterjee's testimony, on the complete record before us we are persuaded that Sparks and Wiltshire disclose or suggest all the elements recited in independent claim 29, and that it would have been obvious to combine

Sparks and Wiltshire as proposed by Petitioner. *See, e.g.*, Pet. 57–63, 65–66; Ex. 1003 ¶¶ 317–347, 355–362. In reaching our conclusion of obviousness, we have considered Patent Owner’s specific arguments for this claim, which we address, in detail, below. *See* discussion *infra* Section II.D.4.

c. Dependent Claims 2, 4, 8, 10, 12, 18, 24, 28, and 30–32

As for dependent claims 2, 4, 8, 10, 12, 18, 24, 28, and 30–32, we have considered, and on the complete record at this point in the proceeding, accept as our own, Petitioner’s arguments and evidence set forth at pages 50–57 and 63–66 of the Petition. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that dependent claims 2, 4, 8, 10, 12, 18, 24, 28, and 30–32 would have been obvious over Sparks and Wiltshire.

Patent Owner does not directly address the remaining dependent claims 2, 4, 8, 10, 12, 18, 24, 28, and 30–32 challenged in the first obviousness ground, other than asserting that these claims are non-obvious for the same reasons as their respective base claims 1, 9, 16, 22, 27, and 29. PO Resp. 39–40. To the extent Patent Owner’s arguments apply to dependent claims 2, 4, 8, 10, 12, 18, 24, 28, and 30–32, we are not persuaded for the reasons below. *See* discussion *infra* Section II.D.4.

4. Patent Owner’s Arguments

Patent Owner argues that Petitioner has not shown that the challenged claims of the ’473 patent are unpatentable because (1) the Petitioner has not met its burden of establishing unpatentability (PO Resp. 13–15), (2) it would not have been obvious to a POSITA to combine the teachings of Sparks and Wiltshire (*id.* at 13, 15–21), and (3) “the proposed combinations do not

include every claim limitation of any of the challenged patents” (*id.* at 13, 21–40). We are not persuaded by these arguments for the reasons below.

a. Petitioner Has Met Its Burden of Establishing Unpatentability

Patent Owner argues that Petitioner has not met its burden of establishing unpatentability by a preponderance of the evidence because the Petition includes “ambiguities” and “misrepresentations.” PO Resp. 13–15. Patent Owner asserts that the Petition “implies that the prior art describes functionality or includes quotations that do not exist” when it “admits that ‘Wiltshire does not disclose separate game and website servers,’ . . . but then repeatedly falsely states that Wiltshire has a web server.” *Id.* at 14 (citing Pet. 61, 63, 75, 80). Patent Owner further asserts the Petition “groups together similar claim limitations across multiple independent claims, then addresses each group generally, but then has to separately handle the differences between limitations in the same group,” such that “the reader must trace backwards to confirm whether the Petition addresses each variety of limitations within that group.” *Id.* at 14–15. For example, Patent Owner asserts that the Petition’s analysis of elements [16(c)], [22(c)], and [27(c)] does not clarify which limitations Sparks discloses and “is unclear whether the memory retrieval limitation and the memory element [of element [16(c)]] are the same, and which portions of the actual language of element 16(c) they relate to.” *Id.* at 15 (citing Pet. 40–43).

Contrary to Patent Owner’s argument, we determine that Petitioner has met its burden of establishing unpatentability of challenged claims 1–37 by a preponderance of the evidence. *See, e.g.*, Pet. 23–84; Ex. 1003. Patent Owner’s argument and assertions in support thereof lack merit for at least the following reasons.

First, Patent Owner improperly attacks Wiltshire individually where Petitioner’s obviousness challenges are based on the combined teachings of at least Sparks and Wiltshire. “Well-established law dictates that ‘[t]he test for obviousness is not . . . that the claimed invention must be expressly suggested in any one or all of the references,’” but “‘what the combined teachings of the references would have suggested to those of ordinary skill in the art.’” *Willis Elec. Co., Ltd. v. Polygroup Macau Ltd. (BVI)*, 777 F. App’x 495, 501 (Fed. Cir. 2019) (quoting *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Accordingly, “[a] finding of obviousness . . . cannot be overcome ‘by attacking references individually where the [challenge] is based upon the teachings of a combination of references.’” *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (quoting *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986)). Here, irrespective of the Petition’s discussions of Wiltshire, it is clear from the Petition—and undisputed—that Sparks’ WWW server discloses a “website server.” *E.g.*, Pet. 25, 31–34 (citing Ex. 1003 ¶¶ 128–132; Ex. 1004, 3:14–18, 4:4–14, Figs. 1 (item 12), 2); Tr. 149:13–18 (“JUDGE PARVIS: So Patent Owner does not dispute that Sparks clearly discloses a web server. MS. WIESENBERGER: Yes. JUDGE PARVIS: The issue is whether Wiltshire also discloses it. Is that correct? MS. WIESENBERGER: Well, yes.”).⁸ Regardless of whether Wiltshire also discloses a “website server,” we are persuaded that Sparks does so.

⁸ *See also* Wills Decl. (Ex. 2020) ¶ 48 (stating that “[t]he Sparks system includes . . . a web server (‘WWW server 12’).”); Deposition of Dr. Craig E. Wills (“Wills Deposition,” Ex. 1021), 64:4–14 (“one of the aspects of the Sparks system is to . . . have . . . a web server . . . so that [it] can help match game clients to particular game servers”).

Second, Patent Owner’s reference to a few statements about Wiltshire in the Petition does not change our overall understanding of Petitioner’s challenges to the ’473 claims. To the contrary, we find it clear from the Petition (including its Table of Contents) that Sparks is being relied on for disclosing a “website server” and its recited components (*e.g.*, Pet. 30–35 (discussing [1(a)]–[1(e)]), 57 (citing discussion of [1(a)]–[1(e)] for [29(pre)]) 64–65 (citing discussion of [1(a)]–[1(e)] for claim 32)), and that Sparks, or Sparks and Wiltshire, are being relied on for disclosing or suggesting the website server’s recited functions (*e.g.*, *id.* at 35–50 (discussion of [1(f)]–[1(m)]), 57–60 (citing discussion of [1(h)]–[1(m)] for [29(a)]–[29(e)]), 64–65 (citing discussion of [1(i)] for claim 32)). That is not to say that Petitioner has admitted Wiltshire does not disclose or suggest “a website server”—we are not apprised of any such admission on the record. Petitioner states that “Wiltshire does not disclose separate game and website servers” (Pet. 28), but this is merely asserting that Wiltshire does not disclose game servers separate from a website server. In fact, the record supports that Wiltshire’s server/host computer at least suggests to a person of ordinary skill in the art, a “website server.” *See, e.g.*, Pet. 28 (citing Ex. 1003 ¶ 115; Ex. 1005, 4:49–65), 43 (citing Ex. 1005, 7:13–22), 45 (citing Ex. 1005, 8:56–63), 46 (citing Ex. 1003 ¶ 153; Ex. 1005, 8:56–63); Prelim. Reply 9 (citing Ex. 1005, 8:17–24); Ex. 1003 ¶¶ 80–85 (citing Ex. 1005, Fig. 1A). For example, Wiltshire describes that its computer gaming system 100 includes a server/host computer 110 connected to a plurality of remote client/terminal computers 120 via communication pathways 130, which can be a global computer network such as the Internet, and that a user of client/terminal computer 120 connected to the Internet may access a website using a web browser and download a copy of client/terminal program 122.

Ex. 1005, 3:61–66, 8:17–24, Figs. 1A, 1D. Similarly, during prosecution of the '473 patent, the Examiner found that Wiltshire disclosed “a website server,” but that Wiltshire “[did] not disclose the use of a website server that is operatively coupled to a first gaming server that facilitates play of a first game and a second gaming server that facilitates a second game.” *See* Ex. 1002, 404–408 (Final Office Action (mailed April 17, 2007) 2–6 (citing Ex. 1005, Figs. 1A, 1D, 3:61–4:3, 5:30–44)); Pet. 18 (citing Ex. 1002, 442) (“On June 14, 2007, Applicant emphasized that Wiltshire, nevertheless, did not teach a separate website server but rather, taught ‘utilizing the same computer for all server functionality.’”).⁹

Third, contrary to Patent Owner’s assertion, the Petition’s analysis of elements [16(c)], [22(c)], and [27(c)] is not unclear. In addressing elements [1(h)], [9(e)], [16(c)], [22(c)], and [27(c)], Petitioner (1) reproduces the language of each claim element ([1(h)] and [9(e)] being the same), (2) explains any differences between each element—in particular, the differences between [16(c)] and [1(h)], between [22(c)] and [16(c)], and between [27(c)] and [1(h)], and (3) explains why Sparks and Wiltshire each disclose or suggest these elements. *See* Pet. 40–43 (citing *id.* at 39–40; Ex. 1003 ¶¶ 145–146, 225, 228–231, 250–252, 296–298; Ex. 1004, 1:66–2:2,

⁹ *See also* Tr. 120:12–16 (Petitioner’s counsel arguing that “over a series of rejections and responses the Patent Owner emphatically argued that what was different with its invention as opposed to Wiltshire was the functionality of the gaming server and the website server was split into two different devices”—“something that’s commonly known as distributed computing.”), 132:26–133:2 (“[D]uring prosecution the objection about Wiltshire wasn’t that it didn’t have a web server or that it didn’t have a game server,” but “that both of those functions were running on a single computer.”).

2:13–16, 3:14–18, 3:34–37, 5:5–8, 5:17–28; Ex. 1005, 5:50–57, 6:17–31, 7:13–22, 8:42–55, 10:6–14, 10:54–61, Figs. 4B, 7A, 8A). When the Petition reproduces the claim language for elements [1(h)], [9(e)], [16(c)], [22(c)], and [27(c)], and then states that “*Sparks* discloses these limitations,” it is clear that the word “these” means all of elements [1(h)], [9(e)], [16(c)], [22(c)], and [27(c)]. *See* Pet. 40–41. No further clarification was necessary to reasonably understand the relatedness of these claim limitations and their relevance in view of *Sparks*. It is also clear that the Petition’s discussions of “[16(c)]’s memory retrieval limitation” and “[16(c)]’s memory element”—although Petitioner uses slightly different language—are referring to the same claim element—“*retrieve from said memory data prompting a game selection to be made.*” *Id.* at 40, 42–43.

b. Petitioner Has Shown it Would Have Been Obvious to a POSITA to Combine the Teachings of Sparks and Wiltshire

Patent Owner disputes Petitioner’s contention that a POSITA would have been motivated to combine the teachings of *Sparks* and *Wiltshire* and argues:

- (1) “a POSITA would not have been motivated to combine *Sparks* and *Wiltshire* for any reason, let alone in a manner that would result in the claimed invention of the ’473 patent,” absent hindsight bias (PO Resp. 15–17),
- (2) the proposed motivations are unrelated to the manner in which the Petition proposes to modify or combine the prior art (*id.* at 15–16, 17),
- (3) *Wiltshire* teaches away from and is incompatible with *Sparks* (*id.* at 16–19), and
- (4) “modifying the system of *Sparks* with the gaming server of *Wiltshire* would render *Sparks* unsatisfactory for its intended purpose,” and “[i]t would not make sense to substitute a design choice from a simpler network architecture [(*Wiltshire*)] into a more complex architecture [(*Sparks*)] when

doing so would decrease efficiencies of the communications”
(*id.* at 19–21).

PO Resp. 15–21 (citing Pet. 28, 29, 54, 64–66; Ex. 1004, 1:36–40, 4:10–14, Fig. 3; Ex. 1005, Abstract, 1:58–2:5, 2:21–25, 2:35–39, 2:45–50; Ex. 2020 ¶¶ 70–92, 108; *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1337 (Fed. Cir. 2016)).

We are not persuaded of any error in Petitioner’s reasoning supporting the combination of Sparks and Wiltshire. Notably, Patent Owner’s arguments are largely unsupported by the record. Patent Owner cites to its expert declaration, but much of Dr. Wills’ testimony on this issue is merely his opinion without persuasive supporting evidence beyond inconclusive passages from Sparks and Wiltshire. *See* Ex. 2020 ¶¶ 70–92, 108. For example, Dr. Wills testifies that “Sparks and Wiltshire do not independently provide teachings that would have guided a POSITA at the time of the ’473 patent to combine the two references.” *Id.* ¶ 70. There is no legal requirement that the reason to combine be predicated on a specific “teaching” in the references. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007) (“The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.”) Dr. Wills testifies that “Wiltshire indicates that its system is not intended for playing real-time online multiplayer games, such as Doom.” Ex. 2020 ¶ 82 (citing Ex. 1005, 1:26–43. A plain reading of Wiltshire appears to contradict Dr. Wills. Wiltshire states explicitly that in addition to casino-type games “[t]he terms ‘game’ and ‘gaming,’ as used herein, include . . . video based games such as Doom, Pong, Packman, Myst;

video games based on sports such as golf, baseball, football, basketball, soccer, rugby; arcade type games.” Ex. 1005, 1:26–41.

Dr. Wills’ Declaration also cites to articles discussing Doom and Quake (including their specific architectures, performance, network play capabilities, and programmability), game engine consideration and selection, and latency considerations in multiplayer games, but, as discussed below, this evidence does not persuasively rebut Petitioner’s proposed reasons to combine Sparks and Wiltshire. *See* Ex. 2020 ¶¶ 80–81 (citing Ex. 2024, 28, 30; Ex. 2027, 5), 89 (citing Ex. 2027, 3).

In response to argument (1), Petitioner did not engage in hindsight bias because Petitioner articulates reasons to combine that are supported by the record and rooted in the capabilities of Sparks’ and Wiltshire’s systems, not the ‘473 patent Specification. *See, e.g.*, Pet. 28–29, 64–65 (citing Ex. 1003 ¶¶ 355–362); Pet. Reply 2–12. For example, Petitioner contends that “*Wiltshire* discloses popular games that users of *Sparks* would want to play,” Pet. Reply 2 (citing Pet. 65; Ex. 1003 ¶ 356), and that the “player matching of *Sparks* improves player retention” and engagement, *id.* (citing Pet. 65; Ex. 1003, ¶ 357). We are persuaded by Petitioner and its expert, Dr. Chatterjee, that game popularity and player engagement/retention are important considerations that would have motivated one of ordinary skill in the art developing networked gaming systems to combine the cited teachings of Sparks and Wiltshire. We are persuaded that a skilled artisan would have understood the importance of adding popular games—such as Wiltshire’s casino games—to Sparks’ multiplayer game system because it keeps current players interested and engaged and attracts more players with an interest in those newly added games. *See* Pet. 65; Ex. 1003 ¶¶ 13, 356; *see also* Ex. 1004, 1:26–43 (explaining that “[t]he terms “game” and “gaming” . . .

include electronic, electromechanical or mechanical gambling and casino game facsimiles . . . such as . . . keno, bingo, . . . blackjack, . . . poker, . . . slot machines, [and] video poker machines”), 1:44–46 (“Physical embodiments of various games from the past have been reimplemented into microcomputer-based video gaming stations during the last 20 years.”); Ex. 1009, 1:16–30 (discussing popularity of casino gaming machines such as slot machines and video poker); Ex. 1019, 1 (“Video poker is one of the most visited sections of casinos around the world”). A skilled artisan would also have understood that modifying Wiltshire’s teachings to include Sparks’ player statistics capabilities—for example, to track and cater to player preferences or match players of similar skill—would result in a gaming system with improved player experience, players who are more engaged, and a higher level of player retention. *See*, Pet. 65; Ex. 1003 ¶ 357; *see also* Ex. 1004, 1:47–49 (“There exists a need for a system wherein players are only matched against other players according to their skill levels.”), 3:56–4:3, 5:17–52, 6:18–33, 6:55–61. In sum, Petitioner has articulated multiple reasons to combine Sparks and Wiltshire, supported by the record, which Patent Owner does not persuasively rebut. For at least these reasons, we disagree with Patent Owner that “Petitioner fails to support its contention that ‘a POSITA would have been motivated to combine Sparks’ game system architecture with the gaming teachings of Wiltshire.’” PO Resp. 16.

Argument (2) wrongly assumes that Petitioner’s obviousness challenges depend on physically combining or integrating aspects of Spark’s and Wiltshire’s systems. “[A] determination of obviousness based on teachings from multiple references,” however, “does not require an actual, physical substitution of elements,” nor does it require that “the features of a secondary reference may be bodily incorporated into the structure of the

primary reference.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citations omitted); *MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d 1284, 1294 (Fed. Cir. 2015) (quoting *Keller*, 642 F.2d at 425); *see also Elbrus Int’l Ltd. v. Samsung Electronics Co., Ltd.*, 738 Fed. App’x 694, 698 (Fed. Cir. 2018) (non-precedential). Rather, “what the combined teachings of the references would have suggested to those of ordinary skill in the art” is the focus. *Willis*, 777 F. App’x at 501 (citation and internal quotations omitted). Moreover, “any need or problem known in the field . . . and addressed by the patent can provide a reason for combining the elements in the manner claimed,” *KSR*, 550 U.S. at 420, and “[a]ny motivation, ‘whether articulated in the references themselves or supported by evidence of the knowledge of a skilled artisan, is sufficient,’” including “design incentives and other market forces.” *Bayer Pharma AG v. Watson Lab’ys, Inc.*, 874 F.3d 1316, 1324 (Fed. Cir. 2017) (quoting *Outdry Techs. Corp. v. Geox S.p.A.*, 859 F.3d 1364, 1370–71 (Fed Cir. 2017); *KSR*, 550 U.S. at 401).

For example, Patent Owner argues that Petitioner has not explained why a person of ordinary skill in the art would have been motivated to use separate game and website servers. PO Resp. 18. First, this is not entirely accurate. Petitioner argued in its Petition that “A POSITA would be further motivated to combine *Sparks* and *Wiltshire* to achieve efficiencies and speed for *Wiltshire*’s system by adding multiple independent game servers, each providing a specific game, thereby providing more efficient use of computing resources. Pet. 66 (citing Ex. 1003 ¶ 359). In support, Dr. Chatterjee testifies that “having multiple game servers, each providing a specific game, would allow for more efficient use of computing resources, including processing resources and memory resources. A POSITA would understand that these would result in improvements to performance and

speed, whereby further improving the useability and ease-of-use of the combined system.” Ex. 1003 ¶ 359. This testimony is essentially un rebutted on this record. Moreover, Dr. Wills did not, during his deposition, contradict the assertion that designing a distributed network system having combined, or separate game and web server was within the level of skill in the art:

Q. Because nothing about putting two servers either on one computer or multiple computers was, at that level of generality, a problem for people skilled in the art in 2001, right?

...

A. THE WITNESS: It could be possible, but I don’t see that Wiltshire teaches in that direction.

Ex. 1021:87:1–7.

Accordingly, we find no defect in Petitioner’s articulated reasons to combine Sparks and Wiltshire (*see* discussion *supra*), regardless of whether Wiltshire’s computer gaming system may be physically integrated or compatible with Sparks’ multiplayer game system architecture.

For argument (3), Patent Owner argues that Wiltshire teaches away from Sparks’ use of separate game and website servers because Wiltshire describes a single server/host computer for executing gaming programs and the associated gaming display generation programs, which reduces software and hardware costs for each client/terminal computer. PO Resp. 18 (citing Ex. 1003 ¶¶ 85; Ex. 1005, 1:58–2:5); *see also* Ex. 1003 ¶ 91 (citing Ex. 1005, 2:20–3:3). “A reference does not teach away,” however, “if it merely expresses a general preference for an alternative invention but does not ‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d

1314, 1327 (Fed. Cir. 2009) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). While the cited passage of *Wiltshire* may tout certain benefits of using a single server/host computer, we do not read it to “criticize, discredit, or otherwise discourage” the use of a web server such as Sparks’ WWW server. In fact, as Petitioner points out “the cited portion of *Wiltshire* merely encourages shifting game functionality to the server to reduce the software/hardware requirements of the *client*,” so “[t]here is no reason this shift of functionality to servers could not be accomplished if *Wiltshire*’s game servers were implemented in *Sparks*’ architecture.” Pet. Reply 7 (citing Ex. 1005, 2:45–51). We also credit Petitioner’s point that, given *Wiltshire*’s “broad disclosures encompass[ing] computers with a wide array of capabilities,” “the mere fact that the *Wiltshire* game server allows a client computer to have lower system requirements does not mean that it cannot be used with a client computer with greater performance.” *Id.* at 7–8 (citing Ex. 1005, 5:14–16). Nor do we find any persuasive evidence in the record that *Wiltshire*’s computer gaming system could not be modified to include a separate web server for performing its web-related functions. For example, Patent Owner’s expert, Dr. Wills, could not provide a “reason why a person of skill in the art couldn’t look at the computer system in Column 4 of *Wiltshire* and determine whether or not it was suitable for playing a particular game client server software and a particular web server software simultaneously.” Ex. 1021, 83:7–16.

Patent Owner also asserts that “Petitioner . . . does not explain why a POSITA would be motivated to use separate game and website servers.” PO Resp. 18. But, as Petitioner points out, patentability challenges “are not limited to the same motivation that may have motivated the inventors” and the “motivation to combine may be found in many different places and

forms.” Pet. Reply 4–5 (quoting *PAR Pharmaceutical, Inc. v. TWI Pharmaceuticals, Inc.*, 773 F.3d 1186, 1197 (Fed. Cir. 2014)). And, as we explained above, Petitioner has articulated multiple, valid reasons to combine Sparks and Wiltshire. Petitioner need not provide any further explanation on this issue.

Patent Owner similarly argues that “Wiltshire itself teaches against the use of web servers as incompatible with Wiltshire’s stated goals and solution.” See PO Resp. 19 (citing Ex. 1005, 1:58–2:5). But the cited passage of Wiltshire discusses how a user computer can connect to a website and download a web page including one or more applets. Ex. 1005, 1:58–2:5. And, as Petitioner points out, “Wiltshire itself discloses a ‘website’ in its embodiment.” Pet. Reply 9 (citing Ex. 1005, 8:17–24). Nor does Wiltshire limit its applicability to other environments, such that its web-related functions could not be performed in a separate web server such as Sparks’. Rather, as cited by Petitioner, Wiltshire expressly states that “the invention is not limited to any particular software or hardware package used to implement the server/host operating system or interface or the client/terminal interface or program” and “other software and hardware packages could be used in place of the ones described.” Pet. Reply 8 (citing Ex. 1005, 12:15–21).

Patent Owner also asserts that “[a] POSITA would not have picked Sparks and Wiltshire out of the ‘sea of prior art’ to solve a technical problem” because Sparks is “logistical” and “nothing more than a matchmaking system” that “focuses on multiple players playing the same game,” whereas Wiltshire “is technical” and “directed to ‘drastically reduc[ing] the cost of gaming stations and allow[ing] contemporaneous access to multiple game programs from a single gaming station.’” PO Resp.

17 (citing Ex. 1004, 1:36–40; Ex. 1005, Abstract; Ex. 2020 ¶¶ 75–78). However, prior art disclosures are useful for all they teach, and are not limited to the particular concerns or problem faced by those inventors. *See, e.g., In re Lemelson*, 397 F.2d 1006, 1009 (CCPA 1968) (“The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned”). Also, a finding that two inventions were designed to resolve different problems is insufficient to demonstrate that one invention teaches away from another.” *Nat’l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd.*, 357 F.3d 1319, 1339 (Fed. Cir. 2004).

Concerning argument (4), Patent Owner argues that “modifying the system of Sparks with the gaming server of Wiltshire would render Sparks unsatisfactory for its intended purpose” because the “[t]he result of such a combination would increase the latency of the data and thus reduce the responsiveness (i.e., the real-time nature) of a real-time multiplayer game such as Quake.” PO Resp. 19–21 (citing Ex. 1004, 4:10–14, Fig. 3; Ex. 2020 ¶¶ 88, 108). Petitioner, however, does not propose modifying Sparks’s system with Wiltshire’s game server. Rather, Petitioner’s proposed combination starts with Sparks’ system, asserts that it “can be used with any type of game,” and then persuasively reasons that “a POSITA would have found it obvious to use Sparks’ game architecture to play the games claimed in Wiltshire.” *See* Pet. 29 (citing *id.* at 65–66; Ex. 1003 ¶¶ 119, 355–362; Ex. 1004, Fig. 7 (broad list of games); Ex. 1005, 1:26–44, 8:51–54); *see also* Pet. Reply 10. Nothing in the record shows that playing Wiltshire’s casino games on Spark’s game architecture would require an unusually high level of computing resources or otherwise result in increased latency. Patent Owner also disputes “Petitioner’s assertion that ‘using rendering commands

(as in Sparks) or stored game images (as in Wiltshire) is a routine design choice’ [as] an oversimplification of gaming graphics” because “choosing one over the other impacts the network architecture requirements,” and “[i]t would not make sense to substitute a design choice from a simpler network architecture into a more complex architecture when doing so would decrease efficiencies of the communications.” *Id.* But even if certain costs or inefficiencies were to arise from Petitioner’s proposed combination, we find no evidence that they would be prohibitive, and engineers routinely make tradeoffs between expense, complexity, and reliability when considering and making design modifications. *See, e.g., Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“[O]bviousness must be determined in light of all the facts, and . . . a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.”); *Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”); *see also* Pet. Reply 10–11 (citing Ex. 1921, 64:25–65:20).

For the reasons above, we are not persuaded by Patent Owner’s arguments disputing Petitioner’s contention that a POSITA would have been motivated to combine the teachings of Sparks and Wiltshire.

c. Sparks and Wiltshire Teach or Suggest the Disputed Elements

Patent Owner argues that Ground 1 of the Petitioner should be rejected because Sparks and Wiltshire fails to teach or suggest:

- the ‘image data’ and ‘game display data’ limitations of

elements 1(a-b) and 29 (d-f) (PO Resp. 23–29);

- the ‘logon display data’ limitations of elements [1(f)], [9(c)], and [27(a)] (*id.* at 29–32);
- the ‘player data’ limitations of elements [1(g)] and [9(d)] (*id.* at 32–33);
- the ‘game selection display’ of elements [1(h)], [9(e)], [16(c)], [22(c)], and [27(c)] (*id.* at 33–37); or
- the ‘wager data’ of elements [29(g)]–[29(i)] (*id.* at 37–39).

See also id. at 22, 39–40. For the reasons below, we are not persuaded by Patent Owner’s arguments and, instead, agree with Petitioner that Sparks and Wiltshire teach or suggest these claim elements. We address each of these arguments in turn.

i. Storing and Retrieving Image Data: [1(a)]–[1(b)], [29(d)]–[29(e)]

Claim elements [1(a)] and [1(b)] include “a first gaming server” and “a second gaming server,” respectively, each game server comprising “a memory in which image data corresponding to a video image representing said . . . game is stored.” Ex. 1001, 19:18–38. [29(d)] and [29(e)] recite similar elements. *Id.* at 24:30–37.

Patent Owner argues that “the Petition does not show that the combination of Sparks and Wiltshire teaches the gaming server having memory in which image data or game display data is stored.” PO Resp. 23–28. Notably, Patent Owner argues that “Sparks fails to disclose a gaming server having ‘a memory in which image data . . . is stored.’” *Id.* at 23–26. Patent Owner asserts that Sparks’ database 38 (located in game server 14) “stores game play statistics for each player” and “provides and maintains the game world for each game,” but it does not teach or suggest storing image data or game display data. *Id.* at 23–24; *see also id.* at 24 (citing Ex. 1004,

3:15–16, 4:10, 5:44; Ex. 2020 ¶ 103). Patent Owner further asserts that Sparks’ “rendering commands” are not the same as the ‘image data’ or ‘game display data’ of the ’473 patent” because “[r]endering commands are not themselves image data according to the plain and ordinary meaning of ‘image data,’” and “interpreting ‘game image data’ as Petitioner proposes is incongruous with the context of the phrase.” *Id.* at 24–25 (citing Ex. 2020 ¶ 104). Patent Owner also asserts that “Sparks is silent with regard to the game server storing the rendering commands,” and “it would not have made sense[] for Sparks’ game server to also store these short term commands.” *Id.* at 25–26 (citing Ex. 2020 ¶ 105); *see also id.* at 25 (citing Ex. 1004, 4:4–15, Fig. 3; Ex. 2020 ¶ 105).

We are not persuaded by Patent Owner’s arguments. Rather, we agree with Petitioner that Sparks and Wiltshire disclose or suggest “a memory in which image data . . . is stored” at least because Sparks discloses a game server 14 having a database 38 from which rendering commands 44 are transmitted via WWW server 12 to update the game world on displays of players’ computers. *See, e.g.*, Pet. 21, 27–29 (citing Ex. 1004, 4:10–14); Pet. Reply 12–16; *see also* Pet. 59 (citing Ex. 1003 ¶ 333; Ex. 1004, 4:10–14). Patent Owner argues that Sparks’ rendering commands “are not themselves image data according to the plain and ordinary meaning” and are different from “actual game image data,” but Patent Owner offers nothing more than opinion and conclusory assertions to support its position. *See, e.g.*, PO Resp. 24–26; Ex. 2020 ¶¶ 104–105; Pet. Reply 13. Moreover, we agree with Petitioner that Sparks’ rendering commands are “image data” or “game display data” because the rendering commands are used to update the game world on the displays of players’ computers. *See* Ex. 1004, 4:10–14; *see also* Pet. Reply 13 (noting that “the claim language . . . does not require

‘image data’ to be images themselves,” but “[r]ather . . . states that image data merely *corresponds* to a video image”). Also, contrary to Patent Owner’s assertions, Sparks does disclose or suggest that the rendering commands are stored in memory because they are sent *from database 38* in the game server 14 via WWW server 12 to update the displays 32 of the players’ computers 18. *See* Ex. 1004, 4:10–14.

Wiltshire also discloses or suggests storing image data in memory because, as Petitioner persuasively argues, images are sent from server/host computer 110 to client/terminal computer 120. *See* Pet. 16 (citing Ex. 1005, Fig. 2), 29–30 (citing Ex. 1003 ¶¶ 116–117; Ex. 1005, 7:9–22); *see also* Pet. Reply 15 (citing Ex. 1005, 7:12–20). To the extent Wiltshire does not expressly disclose this claim element, we credit Dr. Chatterjee’s testimony that “it would be obvious to a POSITA to understand Wiltshire as disclosing the storage of images in the host server’s memory for later transmission to the remote client’s computers.” Ex. 1003 ¶ 231; *see id.* ¶¶ 168–169, 230 (citing Ex. 1005, Fig. 2 (stages 210, 220, 230), 7:13–22); Pet. Reply 15–16. Consistent with Dr. Chatterjee’s testimony, Patent Owner’s expert Dr. Wills acknowledges that an image generated in Wiltshire’s server/host computer 110 could be stored in memory (RAM) prior to being sent. Ex. 1021, 93:8–24; *see* Pet. Reply 15. And, as Petitioner explains, Dr. Wills’ unsupported assertion that “a system could hypothetically generate and transmit an image without storing it in memory[] in no way rebuts the obviousness of storing and retrieving an image from memory as explained in the petition.” Pet. Reply 15 (citing Ex. 1021, 94:1–97:6).

Claim element [29(d)] recites “at said website computing apparatus, initiating the retrieval of game display data from said first gaming apparatus.” Ex. 1001, 24:30–33.

Patent Owner argues that “[t]his additional requirement is not taught by Sparks and Wiltshire” because “Sparks’ web server does nothing to initiate retrieval,” and “Wiltshire does not even disclose a web server,” countering Petitioner’s contention that “Wiltshire suggests that the gaming server is also a web server.” PO Resp. 28–29 (citing Pet. 36, 59–60; Ex. 1004, 4:10–14; Ex. 1005, 4:34–42, 5:50–65, 8:15–34, 8:46–49, 8:53–65; Ex. 2020 ¶¶ 109–111).

But as Petitioner correctly asserts, the ’473 Specification is just as sparse on how its website server would “initiate retrieval” as the cited descriptions of Sparks’ WWW server 12 receiving inputs 42 and being sent rendering commands 44. *See* Pet. 59 (citing Ex. 1003 ¶¶ 332–335; Ex. 1004, 4:5–14); Pet. Reply 16 (asserting that “[t]he thin disclosure” of storage and retrieval and images from memory in the ’473 patent “strongly suggests these concepts are well-known to POSITAs, which suggests that the patent was merely claiming the common way of doing things, not a non-obvious feature of its system.”). Indeed, the only discussion of retrieving data from memory in the ’473 patent Specification is very general does not specify how such retrieval would be initiated: “[d]uring operation of the gaming system 10, various gaming data may be stored in memory, in either the website server 14 or the gaming server 16 or both of the servers 14, 16, so that the data may be retrieved or utilized later for various purposes.” Ex. 1001, 12:17–21. Under these circumstances, we are not persuaded by Patent Owner’s argument and expert testimony attempting to distinguish the retrieval capabilities of its website server from those disclosed or suggested by Sparks’ WWW server. *See Uber Techn., Inc. v. XOne, Inc.*, 957 F.3d 1334, 1339 (Fed. Cir. 2020) (“The specification of the [patent-at-issue] is entirely silent on how to transmit user locations and maps from a server to a

user's mobile device, suggesting that a person of ordinary skill in the art was more than capable of selecting between the known methods of accomplishing this.”); *In re Epstein*, 32 F.3d 1559, 1568 (Fed. Cir. 1994) (“[T]he Board's observation that appellant did not provide the type of detail in his specification that he now argues is necessary in prior art references supports the Board's finding that one skilled in the art would have known how to implement the features of the references and would have concluded that the reference disclosures would have been enabling.”).

ii. Logon Data: [1(f)], [9(c)], [27(a)]

Patent Owner argues that “Sparks fails to disclose logon display data or the selection, retrieval, and transmission of logon display data” for three reasons: (1) “‘logon display data’ or ‘visible fields’ are not necessary for the Sparks user to log in,” as “[t]he Sparks user may instead log in via a command line interface,” (2) “even if logon display data were used, it is not necessary”—and “nothing in Sparks suggests”—“that such display data be provided by the purported web server of Sparks; such display information could originate from the user's device,” and (3) “[g]iven the prominence of login GUIs, including visible fields, in present-day web technology, it is an application of improper hindsight bias to assume that ‘the server needs to provide display data in the form of visible fields to enter log-on details.’” PO Resp. 30–32 (citing Pet. 38; Ex. 1003 ¶ 135; Ex. 1004, Abstract, 2:12–19, 5:5–7; Ex. 1018; Ex. 2020 ¶¶ 118–121).

This argument is not persuasive. “[T]he question under 35 USC [§] 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made.” *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807–08 (Fed. Cir. 1989) (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA

1976)). Moreover, “[e]very patent application and reference relies to some extent upon knowledge of persons skilled in the art to complement that [which is] disclosed.” *In re Bode*, 550 F.2d 656, 660 (CCPA 1977) (quoting *In re Wiggins*, 488 F.2d 538, 543 (CCPA 1973)). Those persons “must be presumed to know something” about the art “apart from what the references disclose.” *In re Jacoby*, 309 F.2d 513, 516 (CCPA 1962). We agree with Petitioner that, although log in “display data” is not expressly stated, the cited descriptions of Sparks at least suggest “logon display data” as recited.¹⁰ Pet. 37–38 (citing Ex. 1004, 4:18–21, 5:5–7; Ex. 1003 ¶ 135); Pet. Reply 16–18. For example, Sparks describes that “[t]he Internet interface 48, in turn, communicates with WWW server 12: (a) for validating and/or initiating registration of web site users (e.g., game players) at web site 46.” Ex. 1004, 4:18–21. We are not persuaded by Patent Owner’s suggestion that the Sparks user could use a command line interface to log in because “*Sparks* expressly states that the user logs into *the website*, not a game server.” Pet. Reply 17–18 (citing Ex. 1004, 5:5–7). Moreover, we agree with Petitioner that a skilled artisan would have understood a well-known way to implement Sparks’ log in process would have been for a user to access the website via a GUI with fields for entering their user name and password (i.e., “logon display data”). *Id.*; see Pet. 37–38 (citing Ex. 1004, 4:18–21, 5:5–7; Ex. 1003 ¶ 135). Notably, the background section of Sparks similarly describes a log in process in existing WWW gaming systems:

Typically such systems utilize a network server which operates the game being played. The individual players log onto the network server from their personal computers via the WAN using a graphical user interface (GUI). After entering a user

¹⁰ We use the terms “logon” and “log in” interchangeably.

name and a password, they are then enabled to play a game being hosted by the network server along with other players.

Ex. 1004, 1:19–24. Dr. Wills also acknowledges that, by 2000, it was typical for users to access the WWW by entering log-in information in graphical fields of a GUI on a web browser and communicating it to the website:

Q. For users looking to interact with the World Wide Web, it's true that interacting through a graphical-user interface in a web browser was the most common way to access the Web in the year 2000, correct?

...

A. That was certainly a typical, perhaps the most typical way in which access was done

...

Q. So my question, sir, is in the year 2000, isn't it true that the most common way to access the Web was through a browser accessing Web pages that would be rendered graphically?

...

A. Yes. That was a typical and probably the most typical in that time frame.

...

Q. So if I said, in the year 2000, I was going to log onto a website, how would you expect that to be implemented?

...

A. Certainly [one] way would be that there would be fields, graphical fields presented on the page that I would fill in. . . . I could have software audits on my own machine that is retrieving such log-in information and communicating it to a website.

Ex. 1021, 25:22–28:6.

Patent Owner also suggests that logon display data could originate from Sparks' user device rather than its WWW server, but as Petitioner points out, "*Sparks* plainly teaches that the user logs into the *website* and that the website is provided by the *Sparks* webserver, . . . [a]nd *Sparks* discloses that the entire webpage comes from the webserver, which was well-known in the art, including the logon display data." Pet. Reply 18 (citing Ex. 1004, Fig. 5A, 4:47–49, 5:5–9); *see also* Ex. 1004, 1:12–24.

In view of our discussion above, we are not persuaded that Petitioner or Dr. Chatterjee applied improper hindsight bias by assessing the challenged claims based on present-day web technology. Rather, the record is clear that Petitioner and Dr. Chatterjee have assessed the challenged claims as of the earliest claimed priority date of '473 patent, February 25, 2002. *See, e.g.*, Pet. 5–7 ("This POSITA would be aware of and generally knowledgeable about networked gaming systems at the time the application that led to the '473 patent was filed, including the networks connecting various components of video game systems and the communications between the elements of the system"); Ex. 1003 ¶ 15 ("I understand that an assessment of claims of the '473 patent should be undertaken from the perspective of a person of ordinary skill in the art as of the earliest claimed priority date, which I understand is February 25, 2002.").

iii. Player Data and Web Server: [1(g)], [9(d)]

Claim element [1(g)] recites "said controller of said website server being programmed to cause player data received from said one remote player device to be stored in memory." Ex. 1001, 19:55–57. Claim element [9(d)] recites a similar limitation. *Id.* at 21:19–21.

Petitioner contends that Sparks discloses claim elements [1(g)] and [9(d)] because "*Sparks* expressly shows memory 34 containing player data

connected to, and only to, webserver 12.” Pet. Reply 18–19 (citing Ex. 1004, Fig. 4); Pet. 39–40 (citing Ex. 1003 ¶¶ 139, 142; Ex. 1004, 4:15–25, Fig. 4). Patent Owner does not dispute that Sparks’ database 34 shows a memory containing player data. Rather, Patent Owner disputes Petitioner’s contentions because Sparks’ database 34 is *external* to web server 12. PO Resp. 32–33 (citing Ex. 1004, 4:15–25, Fig. 4; Ex. 1016, 575; Ex. 2020 ¶ 127).

Patent Owner’s argument, however, is not commensurate with the scope of the disputed claim language. While the claim language requires the “player data . . . to be stored in memory,” it does not limit the location of the “memory” in any way. It does not refer back to the controller’s memory recited in elements [1(d)] or [9(b)], nor does it recite that it must be located within the website server. As Petitioner contends, Patent Owner “provides no support and offers no claim construction supporting its assertion that the claimed memory must be physically integrated into the WWW server, as opposed to merely operatively connected to it, as is undisputedly shown in Sparks,” nor is there any “support in the ’473 patent for narrowly reading claims 1 and 9 to require the memory storing the player data be physically integrated in the same physical housing as the webserver.” Pet. Reply 19.

For the reasons above, we are not persuaded by Patent Owner’s arguments and, instead, find Petitioner’s contentions and evidence persuasive with regard to claim elements [1(g)] and [9(d)].

iv. Game Selection Display: [1(h)], [9(e)], [16(c)], [22(c)], [27(c)]

Claim elements [1(h)], [9(e)], [16(c)], [22(c)]–[22(d)], and [27(c)]
recite:

- [1(h)] said controller of said website server being programmed to cause data representing a game selection display to be transmitted to said one remote player device, said game selection display comprising a first image representing said first game and a second image representing said second game;
- [9(e)] said controller being programmed to cause data representing a game selection display to be transmitted to said one remote player device, said game selection display comprising a first image representing a first game and a second image representing a second game;
- [16(c)] said controller being programmed to retrieve from said memory data prompting a game selection to be made, and to cause said data prompting a game selection to be made to be transmitted to one of said remote player devices to prompt a player to select at least a first game or a second game;
- [22(c)] a first computer program portion stored in said memory that causes data prompting a game selection to be made to be transmitted to a remote player device to allow a first game or a second game to be selected via said remote player device;
- [22(d)] a second computer program portion stored in said memory that causes game selection data representing a game selection that is received from said remote player device to be stored in memory; and
- [27(c)] transmitting data representing a game selection display to said remote player device via the Internet, said game selection display comprising a first image representing a first game and a second image representing a second game.

Ex. 1001, 19:59–64, 21:22–26, 22:10–15, 22:55–59, 23:39–43.

Patent Owner argues that Petitioner has not shown that Sparks and Wiltshire disclose or suggest a game selection display including

first and second images, or the retrieval or transmission of the game selection display data as recited for several reasons:

- (1) Sparks' list of available games (e.g., dynamic links) are text, not images;
- (2) Sparks discloses retrieving personal statistics and game preferences from memory but does not disclose or suggest retrieving the game selection display from memory, as recited in element [16(c)];
- (3) Because Wiltshire does not disclose a web server, it cannot disclose the transmission or retrieval functions performed by the website server/controller/computing apparatus as recited in claims 1, 9, 16, and 27;
- (4) Petitioner has not explained—nor is it clear—why Wiltshire's description of images generated by the game computer program and passed to the server/host interface program are “images . . . stored in/retrieved from game server memory”; and
- (5) “Petitioner fails to allege that the combination of [Sparks'] suitable web-server program and [Wiltshire's] server/host interface program is at all related to the ‘first computer program portion’ of claim 22 that must ‘cause[] data prompting a game selection to be made to be transmitted to a remote player device.’”

PO Resp. 34–37 (citing Pet. 41–44; Ex. 1001, 8:33–39; Ex. 1003 ¶¶ 225, 230; Ex. 1004, 4:52–56, 5:5–8, 5:17–28, 5:26–32, Figs. 7, 9; Ex. 1005, 7:13–22, 8:46–55, 8:65–67; Ex. 2020 ¶¶ 133–140). For the reasons below, we are not persuaded by Patent Owner's arguments.

First, although Sparks does not expressly disclose that its lists of games (e.g., Ex. 1004, Figs. 7, 9) are images, Petitioner persuades us that it would have been obvious to implement this. Pet. Reply 19–20 (citing Ex. 1004, Figs. 7, 9; Ex. 1021, 25:21–26:4, 40:5–41:7, 43:10–20, 50:2–14); Pet. 41–42 (additionally citing Ex. 1003 ¶¶ 145–146, 225; Ex. 1004, 5:5–8, 5:26–

28). For example, “[t]he display shown in FIG. 7 . . . includes a graphical user interface (GUI) in the form of links (constituted by the game name in the display) which can be selected by a mouse click to vote on games which the user would like to play.” Ex. 1004, 4:52–59, Fig. 7. And Figure 9 of Sparks shows a game selection webpage displaying a list of available games to the user as selectable dynamic links. Ex. 1004, 5:26–32, Fig. 9. Although Sparks does not specify the data type of the lists or their dynamic links, we agree with Petitioner that it would be obvious to a POSITA to implement either list as buttons made from images in view of Dr. Wills’ acknowledgements that (1) “the most common way to access web pages was through a graphical user interface that could include images,” (2) “a POSITA understands that the boxes in Fig. 9 could represent images and buttons,” and (3) it was within the knowledge of a POSITA to implement weblinks as images. Ex. 1021, 25:21–26:4, 40:5–41:7, 43:10–20. Moreover, Petitioner has also shown that Wiltshire discloses game selection interfaces having images. Pet. 41–42 (citing Ex. 1005, Figs. 4B, 7A, 8A, 8:42–54, 10:6–14, 10:54–61); Pet. Reply 20. For example, Figure 4B of Wiltshire and its associated descriptions show a “[c]asino floor image 410 illustrat[ing] various casino games supported by computer gaming system 100,” where “[e]ach of the available games is represented by a ‘virtual’ button: Bertha button 420, black jack button 430, video poker button 440, slots button 450 and keno button 460” that “[t]he patron can select.” Ex. 1005, Fig. 4B, 8:49–54.

Second, Patent Owner argues that Sparks does not disclose retrieval of a “game selection interface” or “game selection display” from memory as recited in element [16(c)]. PO Resp. 36–37. But Sparks discloses that “an architecture which may be used for . . . WWW server 12” “includes a . . .

memory 22 . . . represent[ing] both . . . RAM[] and . . . ROM,” and that the game selection interfaces shown in Figures 7 and 9 are displayed at the host web site 46 by the WWW server 12. Ex. 1004, 3:14–18, 4:49–52, 5:26–29, Figs. 7, 9; Pet. 41; Ex. 1003 ¶¶ 225, 228. These disclosures show that Sparks’ WWW server 12 is at least capable of storing the game selection interfaces shown in Figures 7 and 9 in memory and retrieving them prior to being displayed. And Dr. Chatterjee testifies that “a POSITA would understand that Sparks discloses that the game selection interface is stored in memory and retrieved from the website server’s memory prior to transmission to the remote user device as computer programs pass images rendered through memory.” Ex. 1003 ¶ 229; Pet. 42–43. While Dr. Wills testifies that a server can generate images and transmit them without involving memory (*e.g.*, Ex. 1021, 94:1–97:6), Dr. Wills also testifies that an image transmitted from a server can come from RAM (*e.g.*, *id.* at 93:8–24). Accordingly, based on this record, we are persuaded that a POSITA would have known to apply a basic programming technique in which Sparks’ WWW server stores a generated game selection interface in memory and retrieves it therefrom prior to display to the user. Thus, we are not persuaded by Patent Owner’s argument because Petitioner has shown that “[a] website server, comprising a controller . . . being programmed to retrieve from said memory data prompting a game selection to be made,” as recited in [16(c)], at least would have been obvious over Sparks.

Third, Patent Owner’s argues that Petitioner’s challenge fails because Wiltshire does not disclose a web server. PO Resp. 36. As discussed above, however, Petitioner’s challenge is based on what the combined teachings of Sparks and Wiltshire would have suggested to a POSITA, not just on what Wiltshire may or may not expressly disclose. *See discussion supra*, Section

II.D.3.b.i (addressing a similar argument made by Patent Owner). For similar reasons, we are not persuaded by this argument.

Fourth, Petitioner disputes the value of Wiltshire’s generating and passing of images within server/host computer 110 during operation 200 of gaming system 100. PO Resp. 36–37 (citing Pet. 43; Ex. 1003 ¶ 230; Ex. 1005, 7:13–22, 8:46–55, 8:65–67; Ex. 2020 ¶¶ 139–40). As discussed above, however, we are persuaded that element [16(c)] at least would have been obvious over Sparks, so we need not address whether Wiltshire’s server/host computer 110 teaches or suggests this element it as well.

Fifth, Patent Owner argues that the Petition does not adequately address element [22(c)] (PO Resp. 37), but this is not accurate. To the contrary, in addressing the game selection display elements of the challenged claims, the Petition reproduces element [22(c)] and clearly explains the differences between it and elements [1(h)] and [16(c)]: “[22(c)] is substantively identical to [16(c)] but phrased as a ‘computer program portion,’ rather than ‘programmed to,’ causing the data to be transmitted,” and “[16(c)] more broadly recites game selection data transmission in place of a ‘game selection display’ in [1(h)], but adds retrieving game selection data from memory.” Pet. 40–41. Accordingly, we understand Petitioner’s arguments and evidence set forth for element [16(c)] (Pet. 40–43) as equally applicable to element [22(c)]. And, as discussed above, we are persuaded by Petitioner’s argument and evidence that element [16(c)] is at least obvious over Sparks. *See discussion supra*. For at least these reasons, contrary to Patent Owner’s argument, we are also persuaded by Petitioner that element [22(c)] is at least obvious over Sparks.

v. Wager Data and Web Server: [29(g)]–[29(i)]

Claim elements [29(g)]–[29(i)] recite:

- [29(g)] receiving at said website computing apparatus wager data from said remote player device via the Internet;
- [29(h)] transmitting said wager data from said website computing apparatus to said first gaming apparatus if said game selection data represents said first game; and
- [29(i)] transmitting said wager data from said website computing apparatus to said second gaming apparatus if said game Selection data represents said second game.

Ex. 1001, 24:41–49.

Patent Owner argues that the Petition (*see* Pet. 61–63) does not show that the combination of Sparks and Wiltshire renders obvious these claim elements for two reasons. PO Resp. 37–39.

First, Patent Owner argues that “Petitioner incorrectly alleges that Wiltshire discloses” these elements because “Wiltshire does not disclose a website computing apparatus, or even a ‘website host server.’” PO Resp. 38. This argument is not persuasive for reasons already discussed above. *See* discussion *supra*, Section II.D.3.b.i (addressing a similar argument made by Patent Owner).

Second, Patent Owner argues that—to the extent Petitioner’s argument is “it would have been obvious that, if Wiltshire’s game was implemented on Sparks’ architecture, the wager data would be transmitted through the web server of Sparks to satisfy these limitations”—“the Petition does not explain why Sparks’ architecture would require diverting the wager data through Sparks’ web server, on its way to and from the gaming server and the player device,” or “how a POSITA would handle the security risks introduced by such a combination.” *Id.* at 38–39. But, as Petitioner points out, in the “proposed combination of *Sparks*’ express architecture with *Wiltshire*’s games,” “[s]ince all *Sparks* data passes through the web server,”

so too would “the transmission wager data.” Pet. Reply 22–23 (citing Pet. 66, 80–81; Ex. 1003 ¶¶ 344–346, 360–361; Ex. 1004, Figs. 1, 4). Moreover, as we explained above, Petitioner has articulated multiple, valid, and persuasive reasons to combine the teachings of Sparks and Wiltshire. *See* discussion *supra* Section II.D.3.b.ii (explaining that Petitioner has shown it would have been obvious to a POSITA to combine the teachings of Sparks and Wiltshire).

5. Conclusion as to obviousness of claims 1, 2, 4, 8–10, 12, 16, 18, 22, 24, and 27–32

Considering all the arguments and evidence, including the disclosure and teachings in Sparks and Wiltshire as well as Dr. Chatterjee’s testimony, on the complete record before us we are persuaded that Petitioner’s arguments and evidence have shown by a preponderance of the evidence that the challenged claims 1, 2, 4, 8–10, 12, 16, 18, 22, 24, and 27–32 would have been obvious over Sparks and Wiltshire. *See, e.g.*, Pet. 23–66; Ex. 1003 ¶¶ 103–362.

E. Grounds 2–4: Claims 3, 5–7, 11, 13–15, 17, 19–21, 23, 25, and 26 – Obviousness over Sparks (Ex. 1004), Wiltshire (Ex. 1005), and one of Hawkins (Ex. 1006), Moody (Ex. 1007), and Schneier (Ex. 1008)

On the complete record before us, Petitioner has shown by a preponderance of the evidence that claims 3, 11, 17, and 23 would have been obvious over Sparks, Wiltshire, and Hawkins (Ground 2), claims 5, 13, 19, and 25 would have been obvious over Sparks, Wiltshire, and Moody (Ground 3), and that claims 6, 7, 14, 15, 20, 21, and 26 would have been obvious over Sparks, Wiltshire, and Schneier (Ground 4).

1. *Hawkins (Ex. 1006)*

Hawkins is titled “Networked Computer Game System With Persistent Playing Objects” and issued December 28, 1999. Ex. 1006, codes (54), (45).

Hawkins “relates to . . . a computer game system for use on a network, with Software playing objects which persist between instantiations of a game and/or from one game to another.” Ex. 1006, 1:7–11. Hawkins describes a computer architecture that allows data transfer and transactions between clients and central servers across a network. *Id.*, Abstract, Fig. 1, 5:40-64. Hawkins also describes suitable game server technical details, including the use of parallel processors. *Id.* at 15:1–34.

2. *Moody (Ex. 1007)*

Moody is titled “Electronic Video Poker Games” and issued August 8, 2000. Ex. 1007, codes (54), (45).

Moody “relates . . . to electronic video poker games that are based on poker hand rankings and that allow the player to discard and replace unwanted cards with replacement cards.” *Id.* at 1:25–28. Moody describes an electronic video poker game in which a player can play multiple hands of poker at the same time. *Id.*, Abstract, 2:43–54. Moody further describes that the game can be displayed on a video screen, and players can select which cards they wish to duplicate or discard and how much to wager using buttons or a touch screen. *Id.* at 2:54–61.

3. *Schneier (Ex. 1008)*

Schneier is titled “Method and Apparatus for Securing Electronic Games” and issued August 8, 2000. Ex. 1008, codes (54), (45).

Schneier “relates to electronic games, and particularly to methods and devices for Securing and ensuring the randomness of electronic or online

games.” Ex. 1008, 1:6–8. Schneier discloses “an electronic game system hardware and procedures to ensure that random numbers used to generate game results are truly random, independently-generated numbers.” *Id.* at 1:61–64. Schneier describes “an electronic game system comprising a game server and one or more player terminals.” *Id.* at 1:67–2:2. “The game server includes a random number generator and a first transmitting device for transmitting a first random number to the one or more player terminals” and “[t]he one or more player terminals includes a random number generator and a second transmitting device for transmitting a second random number to the game server.” *Id.* at 2:2–7. “The system also includes hardware and procedures for ensuring that the first random number is generated independently of the second random number.” *Id.* at 2:7–10.

4. Analysis

Considering the evidence in Sparks, Wiltshire, Hawkins, Moody, and Schneier, as well as Dr. Chatterjee’s testimony, on the complete record before us, we are persuaded that Petitioner’s arguments and evidence have shown by a preponderance of the evidence that

- (2) claims 3, 11, 17, and 23 would have been obvious over Sparks, Wiltshire, and Hawkins, Pet. 66–67 (citing Ex. 1001, 6:37–38, 7:5–6; Ex. 1003 ¶¶ 79, 365, 367, 375, 376; Ex. 1004, 1:66–2:2, 5:41–45, Ex. 1006, 15:30–33);
- (3) claims 5, 13, 19, and 25 would have been obvious over Sparks, Wiltshire, and Moody, *id.* at 68 (citing Pet. 23–50, 53–54; Ex. 1003 ¶¶ 380, 383; Ex. 1005, Fig. 7B; Ex. 1007, Abstract, 3:10–11); and
- (4) claims 6, 7, 14, 15, 20, 21, and 26 would have been obvious over Sparks, Wiltshire, and Schneier, *id.* at 68–72 (citing Pet. 23–50;

Ex. 1003 ¶¶ 386–387, 392–394, 397–399; Ex. 1004, 3:4–6; Ex. 1005, 2:22–25; Ex. 1008, 1:10–18, 4:6–10, 8:5–8, 12:50–52, 12:66–13:4, 14:14–15, 18:33–39).

See Pet. 66–72; Ex. 1003 ¶¶ 363–399.

For example, claim 3 depends directly from independent claim 1 and recites “[a] gaming system as defined in claim 1 wherein said controller of said first gaming server comprises a plurality of processors capable of parallel operation.” Ex. 1001, 20:37–39. For claim 3 Petitioner argues that “[a] POSITA would know that parallel processors were a routine well-known design choice in computer systems long before the filing date of the ’473 patent.” Pet. 66 (citing Ex. 1003 ¶¶ 365, 376). Dr. Chatterjee points out that “*Hawkins* discloses ‘a computer system structure can include one or more CPUs and/or other processors, can include parallel processors, distributed processors distributed locally or across a network, and so on.’” Ex. 1003 ¶ 366 (quoting Ex. 1006, 15:30–33). And, Dr. Chatterjee’s testimony on this point is unrebutted, namely “that *Hawkins* discloses parallel processors which can be used to execute multiple instances of a game in parallel which discloses parallel operation.” *Id.* ¶ 367.

Patent Owner does not directly address claims 3, 5–7, 11, 13–15, 17, 19–21, 23, 25, and 26 challenged in the second through fourth obviousness grounds, other than asserting that these claims are non-obvious for the same reasons as argued for the first ground. PO Resp. 40. We are not persuaded by Patent Owner’s arguments for the same reasons as those discussed above for the first obviousness ground. See discussion *supra* Section II.D.4. Having considered the entire record now before us, including the arguments and evidence presented by both parties, we adopt and incorporate Petitioner’s showing as to claims 3, 5–7, 11, 13–15, 17, 19–21, 23, 25, and

26, as set forth in the Petition and summarized above, as our own. *See* Pet. 66–72. Accordingly, we are persuaded by Petitioner’s arguments and evidence that claims 3, 5–7, 11, 13–15, 17, 19–21, 23, 25, and 26 would have been obvious over Sparks, Wiltshire, and one of Hawkins, Moody, and Schneier.

F. Ground 5: Obviousness of Claims 33–37 over Sparks, Wiltshire, Joshi, and Schneier

On the complete record before us, Petitioner has shown by a preponderance of the evidence that claims 33–37 would have been obvious over Sparks, Wiltshire, Joshi, and Schneier (Ground 5).

1. Joshi

Joshi is titled “Method of Transferring Gaming Data on a Global Computer Network” and issued December 30, 2008. Ex. 1009, codes (54), (45).

Joshi “relates generally to gaming machines and, more particularly, to a method of transferring data from a gaming establishment to a player at a remote site via a global computer network.” Ex. 1009, 1:8–11. Joshi discloses “a method by which data can be transferred from a gaming establishment to a gaming player disposed in a remote location from the gaming establishment.” *Id.* at 2:24–27. “Generally, a player accesses the host gaming establishment by use of a global computer network” and “[t]he host gaming establishment engages in gambling-type activities (e.g., a slot machine play) and reports the outcomes to the remote player.” *Id.* at 2:27–31.

2. Analysis

Petitioner provides a detailed analysis of each element of independent claim 33 and dependent claims 34–37. Pet. 72–82 (citing Pet. 25–30, 61–63,

69–72; Ex. 1003 ¶¶ 340–347, 407–408, 410, 412, 414–416, 418, 420, 422, 424, 434, 439–440, 445–446, 451–452, 454; Ex. 1004, 1:58–60, 4:4–14, 5:14–16, 5:46–48; Ex. 1005, Abstract, 7:8–15, 7:41–45, 8:59–61, Figs. 2, 9B–9D; Ex. 1009, 3:42–49. Petitioner reasons that “[a] POSITA would . . . be motivated to combine Sparks, Wiltshire, and Joshi with Schneier because all four patents solve related issues specific to remote gaming,” and “[t]he network gambling games taught by this combination would benefit from the data security methods disclosed in Schneier, especially where wager and financial information are involved.” *Id.* at 83 (citing Ex. 1003 ¶ 459); *see also id.* at 82–83 (citing Ex. 1003 ¶¶ 457–458; Ex. 1005, 1:26–44; Ex. 1009, 5:49–64).

Considering the evidence in Sparks, Wiltshire, Joshi, and Schneier, as well as Dr. Chatterjee’s testimony, on the complete record before us, we are persuaded that Petitioner’s arguments and evidence have shown by a preponderance of the evidence that claims 33–37 would have been obvious over Sparks, Wiltshire, Joshi, and Schneier. Pet. 72–82; Ex. 1003 ¶¶ 400–459.

Patent Owner argues (1) it would not have been obvious to combine Sparks, Wiltshire, Joshi, and Schneier and that (2) Sparks, Wiltshire, Joshi, and Schneier do not teach the “game display data” elements [33(a)]–[33(c)] and the “wager data” and “web server” element [33(b)]. PO Resp. 40–44. Patent Owner argues specifically that “Petitioner’s arguments that a POSITA would be motivated to combine the four references of Ground 5 suffer from the same deficiencies as Petitioner’s argument that a POSITA would have been motivated to combine Sparks and Wiltshire.” *Id.* at 41. Also, Patent Owner’s arguments as to the “game display data,” elements [33(a)] and [33(c)] are substantively the same as Patent Owner argued with respect to

limitations [1(a)] and [29(d)]. *Id.* at 41–43. And, as for the “wager data” and “web server” elements of limitation [33(b)], Patent Owner again argues that Petitioner fails to explain how this limitation is met where Wiltshire fails to disclose a website server. *Id.* at 44. Finally, Patent Owner argues that Sparks, Wiltshire, Joshi, and Schneier fail to show that dependent claims 34–37 are non-obvious for the same reasons as independent claim 22.

We are not persuaded by these arguments with respect to motivation to combine and for “game display data” limitations in method claims [33(a)] and [33(c)], which are similar limitations as in system claims [1(a)] and [29(d)], for the same reasons as those discussed above for the first obviousness ground. *See* discussion *supra* Sections II.D.3.a.ix, II.D.4.c.i. Also, Patent Owner’s arguments as to “wager data” and “web server” are substantively the same as argued previously with respect to Wiltshire’s asserted failure to disclose a web server, and are similarly unpersuasive. *See* discussion *supra* Section II.D.4.c.v.

Having considered the entire record now before us, including the arguments and evidence presented by both parties, we adopt and incorporate Petitioner’s showing as to claims 33–37, as set forth in the Petition and in Petitioner’s Reply, and summarized above, as our own. *See* Pet. 72–83; Pet. Reply 22–24; Ex. 1003 ¶¶ 400–459. Accordingly, we are persuaded by Petitioner’s arguments and evidence that claims 33–37 would have been obvious over Sparks, Wiltshire, Joshi, and Schneier.

III. . CONCLUSION¹¹

For the reasons discussed above, we determine Petitioner meets its burden of establishing, by a preponderance of the evidence, that the challenged claims are unpatentable, as summarized in the following table:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 4, 8–10, 12, 16, 18, 22, 24, 27– 32	103(a)	Sparks, Wiltshire	1, 2, 4, 8–10, 12, 16, 18, 22, 24, 27–32	
3, 11, 17, 23	103(a)	Sparks, Wiltshire, Hawkins	3, 11, 17, 23	
5, 13, 19, 25	103(a)	Sparks, Wiltshire, Moody	5, 13, 19, 25	
6, 7, 14, 15, 20, 21, 26	103(a)	Sparks, Wiltshire, Schneier	6, 7, 14, 15, 20, 21, 26	
33–37	103(a)	Sparks, Wiltshire, Joshi, Schneier	33–37	

¹¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3),(b)(2).

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
Overall Outcome			1–37	

IV. ORDER

For the reasons given, it is

ORDERED that, based on a preponderance of the evidence claims 1–37 of the '473 patent have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, any party to the proceeding seeking judicial review of this Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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