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Paper 62
Entered: December 6, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY INTERACTIVE ENTERTAINMENT LLC,
Petitioner,

v.

QUANTUM IMAGING LLC,
Patent Owner.

IPR2023-00954
Patent 8,458,028 B2

Before SCOTT A. DANIELS, KEVIN W. CHERRY, and JAMES J. MAYBERRY, *Administrative Patent Judges*.

MAYBERRY, *Administrative Patent Judge*.

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

ORDER
Dismissing Patent Owner's Motion to Exclude Evidence
37 C.F.R. § 42.64(c)

I. INTRODUCTION

Sony Interactive Entertainment LLC ("Petitioner") filed a Petition requesting *inter partes* review of claims 1 and 3–9 (the "Challenged Claims") of U.S. Patent No. 8,458,028 B2 (Ex. 1001, the "'028 patent"). Paper 2 ("Pet."), 1. Quantum Imaging LLC ("Patent Owner") owns the '028 patent. Paper 5, 2.

For the reasons provided below, we conclude that Petitioner has proven, by a preponderance of the evidence, that claims 1, 3, 4, and 7–9 of the '028 patent are unpatentable. We conclude that Petitioner has not proven, by a preponderance of the evidence, that claims 5 and 6 of the '028 patent are unpatentable. We dismiss Patent Owner's motion to exclude evidence as moot.

A. Procedural History

Upon review of the Petition, Preliminary Patent Owner Response (Paper 9), and evidence in the record, we instituted an *inter partes* review proceeding on all challenges in the Petition. Paper 11 ("Inst. Dec."); *see* 37 C.F.R. § 42.108(a) (2024) ("When instituting inter partes review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.").

After institution, Patent Owner filed a Response to the Petition. Paper 23 ("PO Resp."). Petitioner filed a Reply to the Patent Owner

Response. Paper 30 (Pet. Reply"). Patent Owner filed a Sur-reply to the Petitioner Reply. Paper 44 ("PO Sur-reply").[1]

An oral hearing was held on September 13, 2024, and a transcript is included in the record. Paper 60 ("Tr.").

Patent Owner also filed a Motion to Exclude Evidence. Paper 45 ("Motion" or "Mot."). Petitioner opposed the Motion. Paper 47 ("Opposition" or "Opp."). Patent Owner replied to the Opposition. Paper 50 ("Mot. Reply").

B. Real Parties-in-Interest

Petitioner identifies itself and Bluepoint Games, Inc., Sony Group Corporation, and Sony Corporation of America as real parties-in-interest. Pet. 1. Patent Owner identifies itself as real party-in-interest. Paper 5, 2.

C. Related Matters

The parties each identify the following district court litigation as a matter related to the '028 patent: *Quantum Imaging LLC v. Sony Group Corporation, et al.*, No. 6:22-cv-00573-ADA-DTG (W.D. Texas) (filed on June 3, 2022) (the "Litigation"). Pet. 2; Paper 5, 2. Petitioner indicates that Sony Group Corporation and Sony Corporation of America have been dismissed from the Litigation. Pet. 2 n.1. Patent Owner updated information regarding the Litigation, indicating that the case has been transferred to the Austin Division of the Western District of Texas and is

[1] Paper 44 is a corrected version of the Patent Owner's Sur-reply originally filed as Paper 35. *See* Paper 46 ("In an email correspondence, we ultimately authorized Patent Owner 'to file a corrected Sur-reply and exhibit list that Patent Owner initially intended to file on July 8.'" (citing Ex. 3006, the referenced email)).

now styled *Quantum Imaging LLC v. Sony Group Corporation, et al.*, No. 1:23-cv-01212-ADA-DTG (W.D. Texas). Paper 19, 2.

Patent Owner identifies U.S. Patent Numbers 10,255,724 (the "'724 patent"), 10,846,941 (the "'941 patent"), and 10,991,165 (the "'165 patent") as related to the '028 patent and as asserted in the Litigation. Paper 5, 2. Patent Owner also identifies U.S. Patent Numbers 11,195,333, 7,373,377, 8,228,325, and 8,225,220, and U.S. Application Number 15/817,815 as related to the '028 patent. *Id.* at 2–3.

The '724 patent, '941 patent, and '165 patent have been challenged in IPR2023-00959, IPR2023-00995, and IPR2023-00996, respectively. We terminated IPR2023-00959 in view of the parties' settlement with respect to the '724 patent. *See* IPR2023-00959, Paper 24.

D. The '028 Patent

The '028 patent, titled "System and Method for Integrating Business-related Content into an Electronic Game," issued June 4, 2013, from application US 10/272,408, filed October 16, 2002. Ex. 1001, codes (54), (45), (21), (22). The '028 patent relates to integrating business-related content into a computer game. Ex. 1001, 1:9–10. We reproduce Figure 2 from the '028 patent, below.

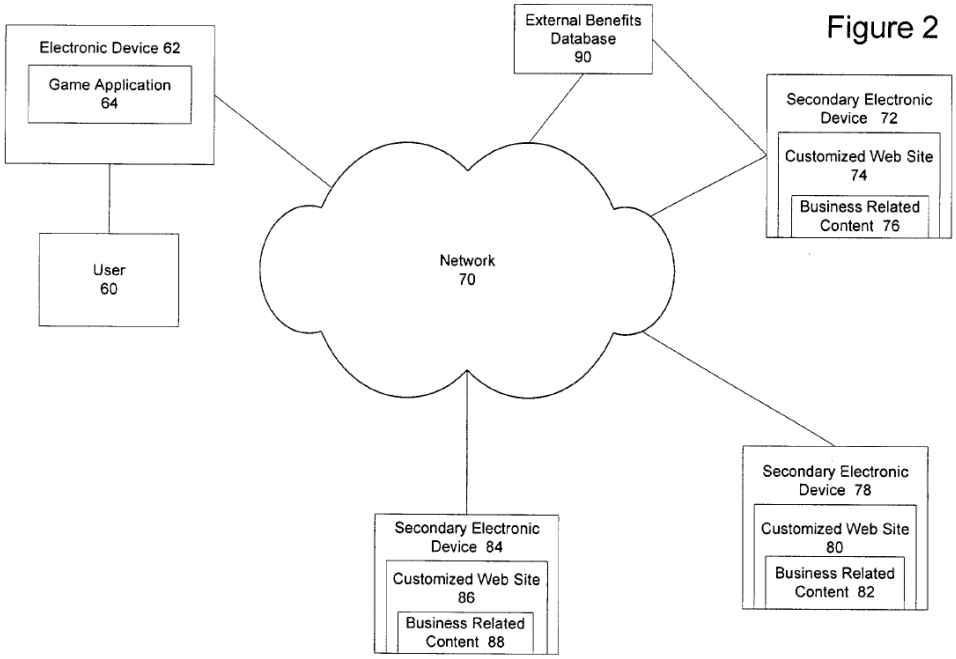


Figure 2 presents "a block diagram of an . . . environment suitable for practicing the illustrative embodiment of the present invention where a local device holds [a] game application." Ex. 1001, 2:53–56; *Compare id.*, Fig. 2, *with id.*, Fig. 1 (depicting an embodiment where a game application is remote from the user's electronic device). User 60 accesses game application 64 on local electronic device 62, such as a desktop or laptop computer, personal digital assistant ("PDA"), or cellular phone. *Id.* at 4:5–8. Device 62 and remote secondary electronic devices 72, 78, and 84 interface network 70. Secondary electronic devices 72, 78, and 84 each includes a customized web page 74, 80, and 86, which holds business-related content 76, 82, and 88. *Id.* at 4:9–14.

We reproduce Figure 3 below.

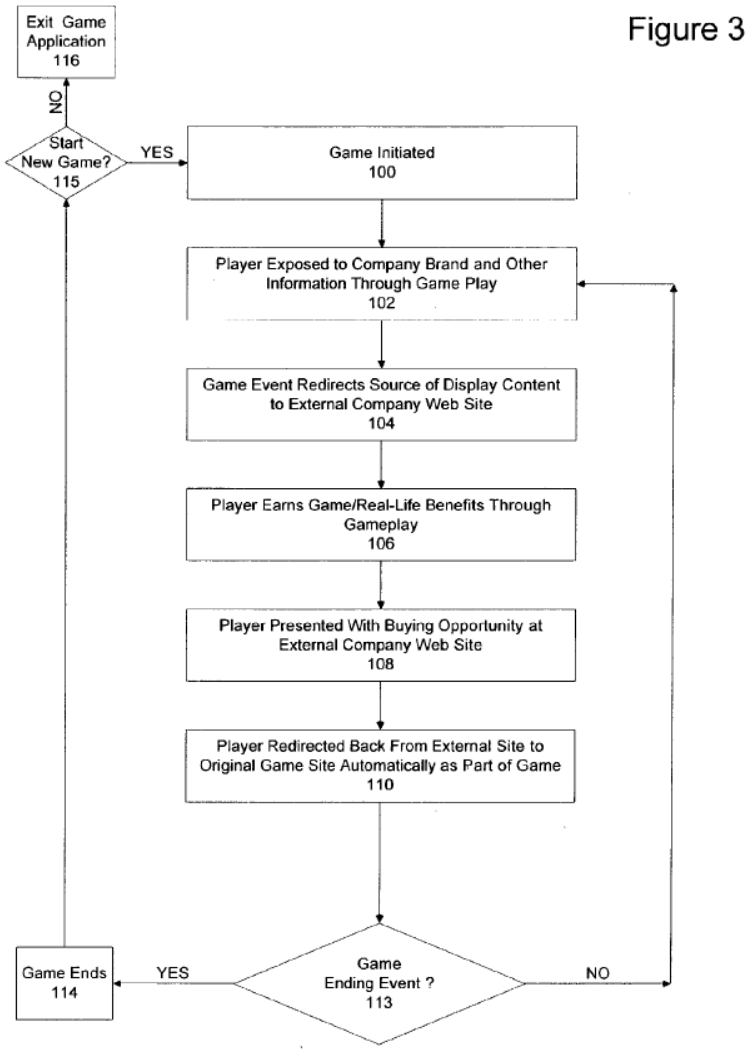


Figure 3 presents "a flowchart of the sequence of steps followed by the illustrative embodiment of the present invention to expose the player to business-related content while the player is playing the game." Ex. 1001, 2:57–60. During game play, at step 102, a player is exposed to company branding. *Id.* at 4:60–62. At step 104, a game event causes the player to be re-directed to an external company web site. *Id.* at 4:62–63. At step 106, the player may earn game or other rewards while at the external website. *Id.* at 4:64–65. Also, while at the external company web site, at step 108, the player may have the opportunity to purchase items. *Id.* at 5:1–5. At

step 110, a predetermined event causes the player to be returned to the original game site. *Id.* at 5:5–8. Back at the original game site, the player continues to be exposed to selected data through game play. *Id.* at 5:8–9.

E. Challenged Claims

The Petition challenges claims 1 and 3–9. Pet. 1. Claims 1 and 7 are independent claims, with claim 1 being representative. Claim 1 recites:

> 1. A method of integrating business-related content over a computerized network, into a primary electronic device that accesses a game application, from at least one secondary electronic device that accesses business-related content on a plurality of web pages, the method comprising:
>
> receiving a request at said primary electronic device to initiate a locally executed game application that is accessible at said primary electronic device, from a user interfaced with said network;
>
> initiating said game application at said primary electronic device;
>
> automatically integrating business-related content from at least one of said web pages of said secondary electronic device into said locally executed game application during execution of said game application;
>
> automatically re-directing said user to one of said web pages of said secondary electronic device from said primary electronic device, said re-direction being integrated into said game application and said re-direction occurring as part of the user executing said game application; and
>
> executing a user action on said business-related content from said secondary electronic device.

Ex. 1001, 7:13–35. Claim 7 differs from claim 1 in that claim 7 recites the step of providing at least one customized web page at a secondary electronic device, accessed over the computerized network by the primary electronic device. *See id.* at 8:17–21. Also, claim 7 requires the user to generate a benefit related to the content of the

customized web page. *Id.* at 8:33–34. Also, claim 7 does not recite a "game application." *Compare id.* at 7:18–19 (reciting "receiving a request at said primary electronic device to initiate a locally executed game application"), *with id.* at 8:12–14 (reciting "receiving a request from a user at a primary electronic device to initiate at least one of a plurality of locally executed applications").

F. Prior Art and Asserted Grounds

Petitioner asserts that the Challenged Claims are unpatentable based on three grounds:

Claims Challenged	35 U.S.C. §	References/Basis
1, 3–9	103(a)[2]	Angles[3] and knowledge of a person of ordinary skill in the art
1, 3–9	103(a)	Robinson[4] and knowledge of a person of ordinary skill in the art
6	103(a)	Angles, Robinson, and Ginter[5] and knowledge of a person of ordinary skill in the art

Pet. 4.

Petitioner relies on the declaration testimony of Mr. David Crane. Exs. 1004, 1025; *see also* Ex. 1005 (providing Mr. Crane's Curriculum

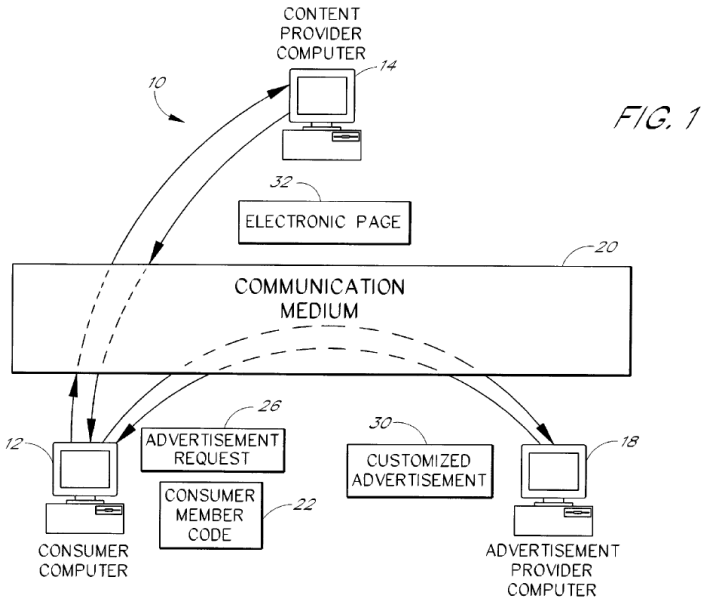
[2] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 296–07 (2011), took effect on September 16, 2011. The changes to 35 U.S.C. §§ 102 and 103 in the AIA do not apply to any patent application filed before March 16, 2013. Because the latest possible priority date for the '028 patent is before March 16, 2013, we refer to the pre-AIA version of the statute.
[3] US 5,933,811; issued Aug. 3, 1999 (Ex. 1007, "Angles").
[4] US 7,168,051 B2; issued Jan. 23, 2007, from an application filed Dec. 20, 2000 (Ex. 1008, "Robinson").
[5] US 5,949,876; issued Sept. 7, 1999 (Ex. 1009, "Ginter").

Vitae). Patent Owner supports its arguments with declaration testimony from Dr. Nenad Medvidović. Ex. 2005.

The following subsections provide brief descriptions of the asserted prior art references.

1. Angles (Ex. 1007)

Angles, titled "System and Method for Delivering Customized Advertisements within Interactive Communication Systems," issued August 3, 1999. Ex. 1007, codes (54), (45). Angles discloses systems and methods that provide an on-line advertising service that can customize advertisements to a particular consumer. *Id.* at 2:45–49. We reproduce Angles's Figures 1 and 9, below.



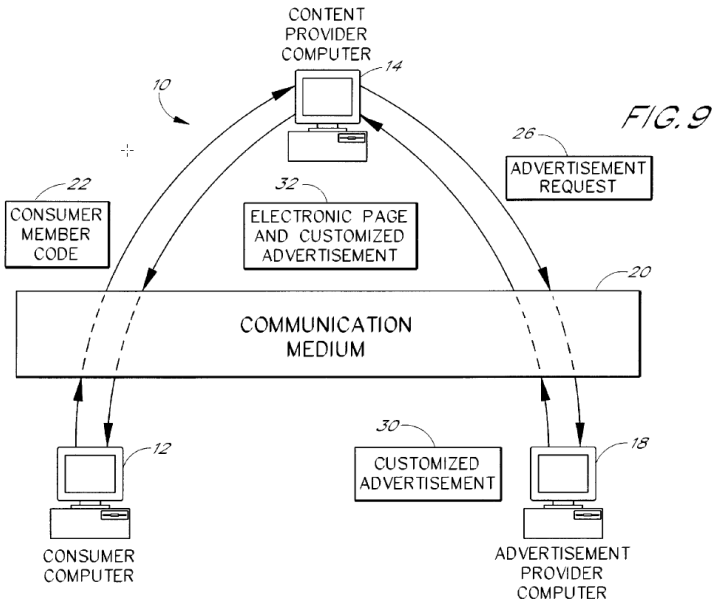


Figure 1 provides "a high level block diagram . . . [that] illustrates the interaction between the consumer computer, content provider computer, and advertisement computer." Ex. 1007, 4:50–53. In operation, a consumer establishes a communications link between consumer computer 12 and content provider computer 14 over communication medium 20. *Id.* at 7:53–55. Content provider computer 14 then transfers electronic page 32 to consumer computer 12, preferably having embedded advertisement request 26. *Id.* at 7:55–60. The consumer can execute embedded advertisement request 26, directing consumer computer 12 to establish a communications link with the advertisement provider computer 18. *Id.* at 7:61–65.

Figure 9 provides "a block diagram . . . where[] the customized advertisement is sent through the content provider computer prior to reaching the consumer computer." Ex. 1007, 5:10–13. Content provider 14 receives a customized advertisement 40 and incorporates it into electronic page 32. *Id.* at 21:34–40. Content provider computer 14 forwards electronic page 32, which includes customized advertisement 30, to consumer

computer 12. *Id.* at 21:40–42. Consumer computer 12 displays electronic page 32 to the consumer, with electronic page 32 appearing to the consumer like all other electronic pages 32 on Internet 33, except that it contains a customized advertisement pre-selected for that consumer. *Id.* at 21:43–52.

Content provider computer 14 can integrate customized advertisements 30 into offerings such as on-line games. In one example, provider computer 14 offers consumers on-line games such as interactive car races. *Id.* at 21:55–62. Content provider computer 14 can integrate customized advertisements 30 into signs and billboards that appear in the interactive car race. *Id.* at 21:63–65.

2. Robinson (Ex. 1008)

Robinson, titled "System and Method to Configure and Provide a Network-Enabled Three-Dimensional Computing Environment," issued January 23, 2007, from application US 09/745,257, filed December 20, 2000. Ex. 1008, codes (54), (45), (21), (22). Robinson's "technology enables users to interact fully, intuitively and far more easily 'in' a spatial 3D environment. This technology enables each user to create an intuitive 3D desktop environment tailored to their specific needs." *Id.* 1:55–59. We reproduce Robinson's Figure 9, below.

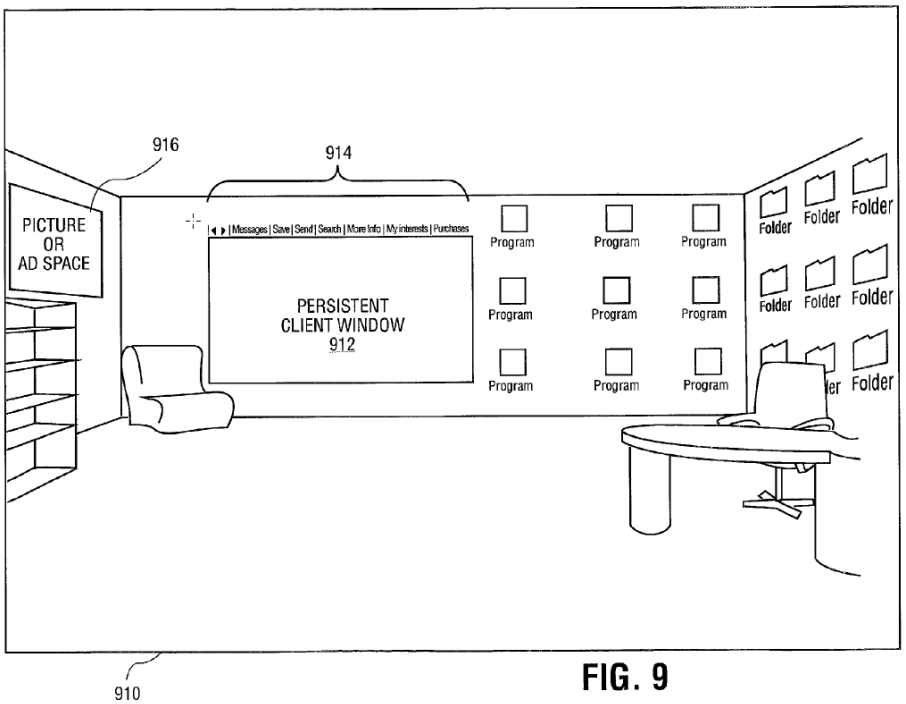


FIG. 9

Figure 9 depicts "an example of a user desktop [910] illustrating the presence of the Persistent Client Window [912]." Ex. 1008, 2:24–25. Persistent Client Window 912 includes toolbar 914, which provides features through which a user may interact with Persistent Client 565. *Id.* at 14:21–23. "Advertisements, messages, pictures, video and other information or data contained within Persistent Client Window 912 can be moved to the desktop and vice versa through conventional drag-and-drop procedures." *Id.* at 15:1–4.

Region 916 of the desktop allows for positioning two-dimensional or three-dimensional advertisements, pictures, promotions, or messages. Ex. 1008, 15:11–14. A user may select a portion of region 916, to expand the advertisement or be taken to a related website. *Id.* at 15:17–25.

Robinson's three-dimensional computing environment may be extended to include avatars that may be used with online games. Ex. 1008, 9:29–37.

3. Ginter (Ex. 1009)

Ginter, titled "Systems and Methods for Secure Transaction Management and Electronic Rights Protection," issued September 7, 1999. Ex. 1009, codes (54), (45). Ginter "relates to computer-based and other electronic appliance-based technologies that help to ensure that information is accessed and/or otherwise used only in authorized ways, and maintains the integrity, availability, and/or confidentiality of such information and processes related to such use." *Id.* at 1:13–18. Relevant to this proceeding, Ginter discloses secure handling and controlling disseminated information, such as a user profile. *See* Pet. 64 (referencing Ex. 1009, code (57), 36:10–43).

II. ANALYSIS

A. Legal Standards

In *inter partes* reviews, a petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to the patent owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail in this proceeding, Petitioner must support its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Accordingly, all of our findings and conclusions are based on a preponderance of the evidence standard.

Petitioner asserts three grounds of unpatentability under 35 U.S.C. § 103(a). Pet. 4. Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented 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." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S.

398, 406 (2007). The question of obviousness is resolved on the basis of 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) when available, evidence such as commercial success, long felt but unsolved needs, and failure of others.[6] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *see KSR Int'l Co.*, 550 U.S. at 407 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls."). The Court in *Graham* explained that these factual inquiries promote "uniformity and definiteness," for "[w]hat is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context." *Graham*, 383 U.S. at 18.

The Supreme Court made clear that we apply "an expansive and flexible approach" to the question of obviousness. *KSR Int'l Co.*, 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.*

[6] The parties do not direct us to any objective evidence of non-obviousness.

"[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" teachings from multiple references. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (emphasis added); *see also PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014) ("The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact."). 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 Int'l Co.*, 550 U.S. at 421.

B. Level of Ordinary Skill in the Art

The level of skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). "This reference point prevents . . . factfinders from using their own insight or, worse yet, hindsight, to gauge obviousness." *Id.* Factors pertinent to a determination of the level of ordinary skill in the art include: (1) educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of workers active in the field. *Env't Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–97 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case. *Id.* Moreover, these factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). In determining a level

of ordinary skill, we also may look to the prior art, which may reflect an appropriate skill level. *Okajima*, 261 F.3d at 1355.

Petitioner asserts that a person of ordinary skill in the art would have had

> a bachelor's degree in computer engineering, computer science, or a similar discipline, and/or two years of professional experience in the fields of networking and network-based systems or applications, such as client-server and web-based systems, in the specific context of console and gaming or an equivalent level of skill, knowledge, and experience.

Pet. 12. Petitioner adds that a person having ordinary skill in the art "would have at least a general knowledge of online and in-game advertising methods prevalent in the field, as well as at least a general knowledge of 3D rendering and virtual reality." *Id.* (referencing Ex. 1004 ¶ 43).

Patent Owner "accepts Petitioner's definition of" the level of ordinary skill in the art. PO Resp. 4.

For purposes of this Decision, based on the prior art, the sophistication of the technology at issue, and Mr. Crane's Declaration testimony, we adopt Petitioner's undisputed definition of the level of ordinary skill. We find that Petitioner's characterization is consistent with the '028 patent and the prior art of record. *See, e.g.*, Ex. 1001, 1:35–40 (describing that an exemplary embodiment is directed to a method for integrating business-related content into an electronic game, which is executed on a local device or over a network connection to a remote server); Ex. 1007, code (57) (providing, in the Abstract, that Angles's invention is directed to a system and method for delivering advertising in an interactive communication network, including computers linked over the Internet); Ex. 1008, code 57 ("A computer network-based system and method to

configure and provide network-enabled three-dimensional computing environments is disclosed."); Ex. 1009, code (57) ("The present invention provides systems and methods for secure transaction management and electronic rights protection.").

C. Claim Construction

We construe each 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). Under this standard, claim terms are generally given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc) ("We have frequently stated that the words of a claim 'are generally given their ordinary and customary meaning.'" (citations omitted)).

"Petitioner believes that no express constructions of the claims are necessary to assess whether the prior art reads on the challenged claims." Pet. 13. Patent Owner raises one claim construction issue. Patent Owner argues that the term "application" in claim 7 should be construed to mean "game application." PO Resp. 2. We address this claim construction issue and a separate issue—the meaning of "accessible"—below.

1. "Application" in claim 7

Patent Owner argues that the term "application" in independent claim 7 should be construed to mean "game application." Patent Owner argues that the Specification of the '028 patent describes the invention as directed to a game application, limiting the scope of the term "application" to mean "game application." PO Resp. 2–3 (citing *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) and *Chewy,*

Inc. v. Int'l Bus. Machines Corp., 94 F.4th 1354 (Fed. Cir. 2024)). Patent Owner argues that the Federal Circuit's decision in *Chewy* controls the analysis of this term. Patent Owner argues that "the '028 Patent describes four 'aspect[s] of the illustrative embodiment of the present invention,'" and all four of these aspects involve a game application. *Id.* at 3. Patent Owner adds that the word "application" does not appear in the Specification without the word "game." *Id.*

Petitioner replies that Patent Owner's proposed construction improperly imports a limitation into the claims from the Specification. Pet. Reply 22. Petitioner argues that such an importation from the specification "is presumptively improper even if the specification does not expressly illustrate specific applications that are not game applications." *Id.* at 22–23 (citing *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004)). Petitioner also argues that claim 1 uses the term "game application" and the claim drafter could have similarly limited claim 7. *Id.* at 23 (citing *Ancora Techs. v. Apple Inc.*, 744 F.3d 732, 733-34 (Fed. Cir. 2014)). Petitioner also argues that claim 7 recites "a plurality of locally executed applications," and none of the examples in the Specification on which Patent Owner relies describes a plurality of applications. *Id.* Finally, Petitioner adds that an express construction of the term is not necessary to resolve any controversy. *Id.* Patent Owner distinguishes *Ancora Techs.*, indicating that the '028 patent Specification narrows the scope of "application." PO Sur-reply 24–25.

In construing the term, we start with the language of the claims. *See, e.g.*, *Phillips*, 415 F.3d at 1314 ("[T]he context in which a term is used in the [claim at issue] can be highly instructive."). Claim 7 recites:

> 7. A method of automatically integrating content into an electronic device over a computerized network, comprising:
>
> receiving a request from a user at a primary electronic device to initiate *at least one of a plurality of locally executed applications* that are accessible to said primary electronic device interfaced with said network;
>
> initiating *said at least one of said plurality of applications* at said primary electronic device;
>
> providing at least one customized web page at a secondary electronic device, accessed over said computerized network by said primary electronic device, said web page being customized with content for use with *said one of said plurality of applications*;
>
> automatically integrating said content from said secondary electronic device into *said at least one of said plurality of locally executed applications* during execution of said at least one of said plurality of applications;
>
> automatically re-directing said user to one of said customized web pages at said secondary electronic device, from said primary electronic device, said re-direction being integrated into *said one of said plurality of applications* and said re-direction occurring as part of the user executing *said one of said plurality of applications*; and
>
> executing a user action on said content from said secondary electronic device, said user action generating a benefit for said user relating to said content.

Ex. 1001, 8:10–34 (emphasis added). As seen from the emphasized text above, claim 7 consistently recites "one of a [said] plurality of applications." Nothing in the ordinary language of claim 7 limits the application to a game application.

The language of other claims can also inform a construction. *See Phillips*, 415 F.3d at 1314 ("Other claims of the patent in question . . . can also be valuable sources of enlightenment as to the meaning of a claim term."). Claims 8 and 9 depend directly from claim 7, but neither of them recites subject matter that further defines "application." Independent claim 1

uses the phrase "game application." *See* Ex. 1001, 7:13–35. As Petitioner points out, neither claim 1 nor the claims that depend from claim 1 recite a "plurality" of game applications. *See id.* at 7:13–8:9. As such, the use of the term "game application" in claim 1 indicates that the patent drafter understood how to specifically claim a game application. Also, the use of the phrase "plurality of locally executed applications" in claim 7, at least suggests the drafter intended a different scope than the recitation of "a game application," as claim 7 expressly limits the scope to a *plurality* of applications.

"[T]he specification 'is always highly relevant to the claim construction analysis.'" *Phillips*, 415 F.3d at 1315. Patent Owner primarily relies on the four aspects of the "illustrative embodiment" described in the brief summary of the invention to support its position that the term "application" in claim 7 should be construed to mean "game application." PO Resp. 3. The description, however, expressly characterizes the embodiment as "illustrative." Similarly, the five figures in the '028 patent provide the illustrative embodiment of the invention. Ex. 1001, 2:50–67. Also, the concluding paragraph of the detailed description states that "it is intended that all matter contained in the . . . description or shown in the accompanying drawings be interpreted as illustrative and not in a literal sense," and "that the illustrations contained herein are singular examples of a multitude of possible depictions of the present invention." *Id.* at 6:65–67, 7:8–10. As such, the Specification does not appear to limit an "application" to a "game application."

Chewy is distinguishable. In *Chewy*, the Federal Circuit determined that the claim term at issue required "pre-fetching" because the specification of the asserted patent characterized its invention as including pre-fetching.

Chewy, Inc., 94 F.4th at 1359. The Court quoted two passages from the specification that expressly state that "*this invention*" or "*the present invention*" includes advertising that is "*pre-fetched*." *Id.* The Court determined that pre-fetching provides the solution to an identified problem in the patent. *Id.* at 1359–60. The Court concluded that "[in] light of these repeated descriptions of the present invention, a skilled artisan would understand the claimed invention requires pre-fetching of advertising objects." *Id.* at 1360. We do not discern, nor does Patent Owner persuasively identify in this proceeding, any portion of the Specification that limits the invention to game applications outside an illustrative example, in contrast to the facts in *Chewy*.

In addition to consulting the Specification, we "should also consider the patent's prosecution history, if it is in evidence." *Phillips*, 415 F.3d at 1317. Although in evidence, Patent Owner has not pointed us to, nor do we discern, anything in the prosecution history that sheds additional light on the meaning of the subject limitation. Claim 7 was originally filed as claim 21. *See* Ex. 1003, 20[7] (providing the numbering of the "Original" and "Final" claims). We do note, however, that independent claims 21, 25, 26, 27, and 28 were added through amendment, all of which recite "a plurality of applications." *See id.* at 651–654; *see also id.* at 472 (characterizing as-filed independent claims 1, 10, 15, and 16 concern "actions that are performed on the business-related content during execution of the game," and as-filed independent claims 21, 25, 26, and 28 concern an "incentive [that] is usable within at least one of the plurality of applications," without

[7] Ex. 1003 does not include page numbering. The numbering we reference is based on the first page of Exhibit 1003 being page 1.

mentioning games). Also, the Examiner characterized claim 21 as "*basically* deal[ing] with a method of automatically integrating content into an electronic device over a computerized network." *Id.* at 482. The Examiner does not mention a game application. *Id.* at 482–483.

Accordingly, we do not further limit the term "application" in claim 7 to mean "game application."

2. "Accessible" in claims 1 and 7

Neither party provides an express construction for the term "accessible." As an initial matter, we recognize that we "cannot, without notice and opportunity for the parties to respond, change theories midstream by adopting a claim construction in [this] final written decision that neither party requested *nor anticipated*." *Google LLC v. EcoFactor, Inc.*, 92 F.4th 1049, 1057 (Fed. Cir. 2024) (emphasis added). As we will discuss in greater detail below, both parties extensively argued their implicit construction of the term "accessible." So, our expressly construing the term and the ultimate construction at which we arrive should have been anticipated by each party. *Cf. id.* (stating that "[t]he Board's claim construction did not violate the [Administrative Procedure Act]" as "[t]he record establishes that the parties disputed the meaning and scope of the [1m] limitation during the IPR proceeding"). Also, the parties cited evidence in support of their implicit interpretations, and that evidence is relied upon below in our analysis.

Patent Owner implicitly construes the term "accessible" to require that the game application (or application, for claim 7) "be entirely held by the same primary electronic device." PO Resp. 20 (referencing Ex. 2005 ¶¶ 44, 49; and quoting Ex. 1001, 1:64–67). Patent Owner argues that Figure 2 of the '028 patent "comports with the claim language," and describes "a local

device [that] holds the game application." *Id.* at 21 (referencing Ex. 1001, 2:53–56). Patent Owner concludes that "per the '028 disclosure, 'a ***locally executed*** game application that is ***accessible at*** said primary electronic device' requires that the game application being run on the same device that holds the game application." *Id.* at 23 (relying on Ex. 1001, 3:36–52; Ex. 2005 ¶ 42). Patent Owner further explains that "the '***at***' preposition grammatically refers to the precise location of the game application." PO Sur-reply 13.

Patent Owner also argues that a person having ordinary skill in the art would regard the terms "held at" and "accessible at" to be synonymous. PO Sur-reply 14 (referencing Ex. 2005 ¶¶ 33–35).

Petitioner replies that the plain and ordinary meaning of the term "accessible" applies, and that Patent Owner's implicit construction contradicts the intrinsic record. Pet. Reply 4. Petitioner argues that, during prosecution of the application that matured into the '028 patent, Patent Owner provided a storyboard example of the invention—the "TerraZones storyboard." *Id.* at 5. Petitioner argues that "the applicant mapped the limitation 'a primary electronic device accesses a game application, to thereby locally execute the game application' to the TerraZones storyboard." Significant to our analysis here, Petitioner argues that the TerraZones storyboard illustrates a web browser accessing a website. *Id.* at 6–7; *see id.* at 7 (reproducing an image from the file history showing a web browser at a page labeled as "Website; visitor chooses game/genre"); 8 ("As the [person having ordinary skill in the art] would understand, the applicant described the web browser of TerraZones as an 'example of the invention' in which a primary electronic device '*accesses* a game application, to thereby *locally execute the game application*.'").

Patent Owner replies that TerraZones illustrates Cronos Demo, which is a game application resident locally on a user's computer. PO Sur-reply 7. Patent Owner argues that the TerraZones example illustrates the use of a browser to navigate local directories, such that the game is located locally on the computer. *Id.* at 8. Patent Owner argues that this configuration is seen from the Internet Explorer title bar in the storyboard images and the indication that Internet Explorer is working offline. *Id.* at 8–9.

We start our analysis with the language of the independent claims. *See Phillips*, 415 F.3d at 1314. Claim 1 recites, in relevant part, the step of "receiving a request at said primary electronic device to initiate a locally executed game application *that is accessible at said primary electronic device*, from a user interfaced with said network." Ex. 1001, 7:18–21. Similarly, claim 7 recites, in relevant part, the step of "receiving a request from a user at a primary electronic device to initiate at least one of a plurality of locally executed applications *that are accessible to said primary electronic device* interfaced with said network." *Id.* at 8:12–15. From this language, we can discern that the application must be accessible at the primary electronic device and the device is interfaced with a network.

We do not agree with Patent Owner that "at" refers to the precise location of the game application. *See* PO Sur-reply 13. The claim language does not recite a game application located at, or residing at, or even held at the primary device. Instead, the claim language requires that the game application be *accessible at* the primary electronic device.

We do not discern anything about the meaning of accessible from other claims. *See Phillips*, 415 F.3d at 1314.

We now turn to the Specification. Although we recognize, as Patent Owner argues, that the Specification uses the phrase "holds the game

application" when providing a brief description of Figure 2 (Ex. 1001, 2:53–56), we do not discern, nor does Patent Owner identify any portion of the Specification, that *limits* the plain and ordinary meaning of "accessible" to "entirely held by."

The prosecution history is instructive of how the applicant understood the plain and ordinary meaning of "accessible." First, we agree with Petitioner that the TerraZones storyboard demonstrates that the applicant considered the plain and ordinary meaning of the term "accessible" to encompass a method where a game application is accessible at a web page over the internet and run from a local browser. The prosecution history clearly shows that the applicant considered its invention to encompass a user visiting a website and choosing a game or game genre. Ex. 1003, 123 (showing an image of a webpage that expressly states "*Website*; visitor chooses game/genre" (emphasis added)); *see also id.* at 107–108 (arguing in a brief to the Board that in "[a] storyboard example of the invention entitled 'TerraZones Storyboard" . . . a primary device accesses a game application, to thereby locally execute the game application").

We recognize that the address bar on INTERNET EXPLORER in certain images of the storyboard shows a local file location. We do not agree with Patent Owner, however, that this local file location indicates that the inventors envisioned this program as entirely locally run on a computer. As we discuss above, the opening image of the storyboard clearly indicates that it is a landing page for a website. Ex. 1003, 123. Instead, we find, based on the evidence and arguments made to the Board, that the storyboard includes images taken from a local file for the purposes of presenting the storyboard to the Office during prosecution. That is, the local file address is merely an artifact of printing the storyboard to submit to the Office.

Second, the applicant expressly amended the claims to replace "held at" with "that is accessible at." Ex. 1003, 503; *see id.* at 503, 505, 506, 507, 508, 509, 510, 511 (replacing the word holding or held with "that access" or "accesses" or "that is accessible" or "that are accessible"). The applicant stated that "[s]elected claims are amended to clarify the invention and are not made to overcome the cited prior art." *Id.* at 513. The applicant, however, does not identify if replacing "held at" and "holding" are part of the clarifying amendments. Nor did the applicant explain how the amendments clarify the meaning of the claim. *Cf.* Pet. Reply 14 ("Nothing supports re-inserting 'held' into the claim.").

We do not credit Dr. Medvidović's testimony concerning the prosecution history and the amendment changing "held at" to "accessible at," testimony upon which Patent Owner relies to support its position. Specifically, Dr. Medvidović testifies that a person having ordinary skill in the art would have understood the two phrases to be *synonymous* because, 1) the amendment was not made to overcome a prior art reference, 2) the applicant did not make a statement disclaiming that "being accessible at" does not encompass "being held at," and 3) the examiner did not object to the amendment as exceeding the scope of the Specification. *See* Ex. 2005 ¶ 34. We find that Dr. Medvidović's conclusion is not supported by his reasoning. First, an amendment made not to overcome a prior art reference does not mean an amendment that does not change the scope of a claim. An applicant is free to amend a claim at any time during prosecution, even an amendment that may expand the scope of a claim (one made not to overcome a prior art rejection). Second, whether "being accessible at" encompasses "being held at" is not the issue—because the scope of one term encompasses the scope of another term does not make the two terms

synonymous. Third, the fact that the examiner did not object to an amendment as adding new matter merely means the examiner thought the amendment was within the scope of the disclosure. The fact that no objection was made does not mean the examiner considered the two phrases synonymous. Indeed, as Patent Owner's counsel stated at oral argument, the amendment "was made to capture what was already in the specification *and was not represented by [the phrase] held at*." Tr. 61:9–11 (emphasis added). That is, the term "accessible at" is not the same as "held at," but instead captures scope not captured by the term "held at."

Accordingly, we conclude that the plain and ordinary meaning of the term "accessible" does not require the game application to be entirely held at the primary electronic device as Patent Owner argues.

3. Other terms

We determine that we need not expressly construe any other terms to resolve the parties' disputes. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those 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)). To the extent that the scope of any particular claim term requires discussion, however, we provide it in our assessment of the challenges, which we turn to next.

D. Ground 1: Claims 1 and 3–9 as unpatentable over Angles

Petitioner contends that Angles, in view of the knowledge of a person having ordinary skill in the art, teaches or suggests each limitation of claims 1 and 3–9. Pet. 4, 14–39. Before we analyze the claims, we address an overarching argument made by Patent Owner directed to Ground 1.

1. Combining embodiments

Patent Owner argues that Petitioner improperly combines different embodiments from Angles, namely the embodiments of Angles's Figures 1 and 9. PO Resp. 5; *see id.* at 6 ("[N]either Petitioner nor its expert explains 'why a [PHOSITA][8] would have combined the separate embodiments of [Angles] on which Petitioner relies to prove the obviousness of the challenged claims.'" (quoting *Reactive Surfaces Ltd., LLP v. Toyota Motor Corp.*, IPR2019-00867, Paper 6, 8 (PTAB Sept. 18, 2019)), 10 ("Yet—and despite complete lack of evidentiary support—Petitioner improperly combines Angles's embodiments in its limitation-by-limitation analysis for the Challenged Claims."). We reproduce the figures below.

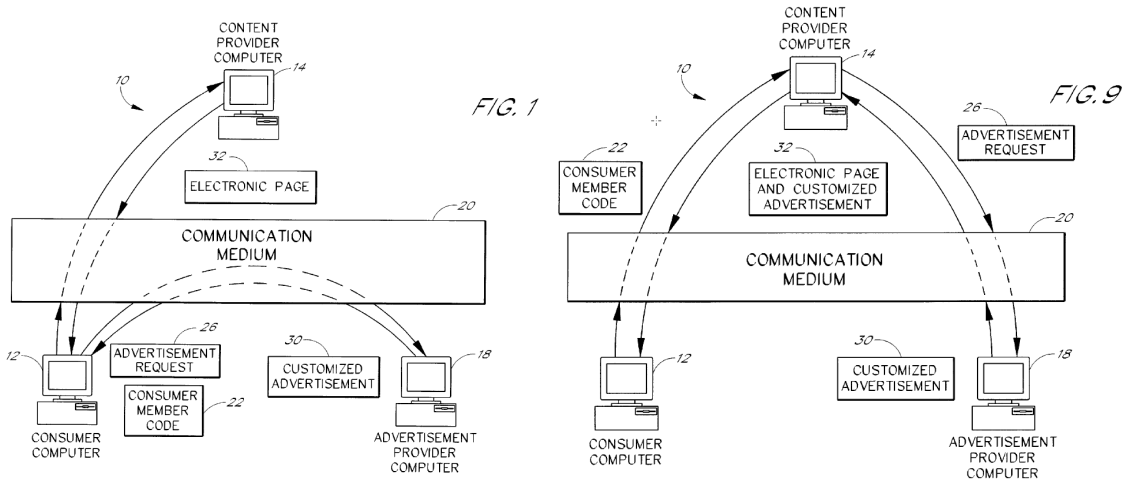


Figure 1 provides "a high level block diagram . . . [that] illustrates the interaction between the consumer computer, content provider computer, and advertisement computer." Ex. 1007, 4:50–53. Figure 9 provides "a block diagram . . . where[] the customized advertisement is sent through the content provider computer prior to reaching the consumer computer." *Id.*

[8] "PHOSITA" is a "Person Having Ordinary Skill in the Art."

at 5:10–13. We summarize these figures above, in connection with our brief overview discussion of Angles.

Patent Owner argues that Angles does not teach that these embodiments can be combined. PO Resp. 6. Patent Owner argues that "Angles's specification reveals fundamental differences between its two embodiments, where 'adoption of one teaches away from adoption of the other.'" *Id.* (referencing Ex. 2005 ¶¶ 147; 126–129); *see id.* at 6–9 (characterizing the differences in the two embodiments). Patent Owner concludes that "[a]s Dr. Medvidović explains, Angles's Figs. 1 and 9 embodiments are non-combinable given their inherent incompatibility." *Id.* at 9 (referencing Ex. 2005 ¶¶ 100–127).

Petitioner replies that the recited primary electric device recited in the Challenged Claims corresponds to Angles's consumer computer 12, and the embodiments of Figures 1 and 2 illustrate two ways of sending advertisement 30 to computer 12, directly or indirectly. Pet. Reply 1–2. Petitioner argues that the limitations are satisfied under either a direct or indirect communication. *Id.* at 3. Petitioner argues that it "is entitled to rely on a reference for all that it would have reasonably suggested to the [person having ordinary skill in the art] even if the reference has multiple embodiments," arguing that a person having ordinary skill in the art "is not an 'automaton.'" *Id.* at 3–4 (citing *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804 (Fed. Cir. 1989); *In re Applied Materials, Inc.*, 692 F.3d 1289, 1298 (Fed. Cir. 2012)).

Patent Owner replies that the "Petition exclusively relied on Angles's Fig.1 for limitation 1[d] and 1[e], ([PO Resp.], 11–12 (citing Petition, 27–28)), and on Fig. 9 for limitation 1[c] ([PO Resp.], 10 (citing Pet. 24–25))." PO Sur-reply 1; *see id.* at 1–2 (explaining how the Petition

relies on the embodiment of Figure 9). Patent Owner repeats that Petitioner does not explain why a person having ordinary skill in the art would have combined the embodiments of Figures 1 and 9, but Patent Owner provides evidence why there would not be a motivation to combine the embodiments.

We have considered Patent Owner's arguments and, on the complete trial record, we find that Petitioner has sufficiently demonstrated that a person having ordinary skill in the art would have viewed the embodiments of Angles's Figures 1 and 9 as "predictable variation[s]" that do not "require a leap of inventiveness." *See Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009). As Petitioner argues (and as seen in the images reproduced above), the two embodiments include mostly identical features. *See* Pet. Reply 1–3. As Angles describes, the primary difference is that, in the embodiment of Figure 9, "the customized advertisement is sent through the content provider computer prior to reaching the consumer computer." Ex. 1007, 5:10–13; *compare* 7:45–8:19 (describing the embodiment of Figure 1), *with* 21:34–22:8 (describing the embodiment of Figure 9). As Angles explains,

> [t]he embodiment shown in F[igure] 9 allows the customized advertisements 30 to be incorporated directly into the content provider's offerings. Thus, in addition to integrating the customized advertisements 30 in to an electronic page 32, the content provider computer 14 can integrate the customized advertisements 30 into offerings such as on-line games, video programming, internet radio, virtual reality environments and the like.

Id. at 21:53–60. Based on the descriptions in Angles, we find that a person having ordinary skill in the art would consider the embodiment of Figure 9 a predictable variation of the embodiment of Figure 1, providing a reason to combine the teachings associated with each embodiment. The stark

similarities between the two systems support a finding that combining the two embodiments does not require a leap of inventiveness. *Cf. KSR Int'l Co.*, 550 U.S. at 417 ("If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability."); *Boston Scientific Scimed*, 554 F.3d at 991 ("Combining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness."); *Paice LLC v. Ford Motor Co.*, 681 Fed. Appx. 904, 917 (2017) ("Like the combination of two side-by-side embodiments in *Boston Scientific*, we view the combination of elements from the optimal and sub-optimal embodiments as a 'predictable variation' that does not 'require a leap of inventiveness.'") (non-precedential).

We do not agree with Patent Owner that the two embodiments are incompatible. We have reviewed Dr. Medvidović's testimony and find that it does not support Patent Owner's position. Although Dr. Medvidović provides detailed descriptions of the differences between the two embodiments, we discern nothing in his testimony that indicates that the embodiment of Figure 9 is not a predictable variation of the embodiment of Figure 1. *See* Ex. 2005 ¶¶ 100–127. Dr. Medvidović's testimony amounts to identifying differences between the embodiments. *See id.* at ¶ 126. The testimony ignores what a person having ordinary skill in the art would understand from the teachings. *See* Pet. Reply 3 n.1 ("Patent Owner merely identified various alleged differences between the Figs. 1 and 9 embodiments, Response at 6, and did not address Angles' 'combined teachings.'").

For example, Dr. Medvidović testifies that a person having ordinary skill in the art would have "underst[ood] that the substantial latency associated with this scenario would render it impractical and infeasible."

Ex. 2005 ¶ 119. Even if we fully credit this testimony, "substantial" (whatever that means) latency does not mean that the two embodiments are "incompatible." Indeed, all Petitioner relies on from the embodiment of Figure 9 is advertisement provider computer 18 connecting directly with content provider computer 14 rather than with consumer computer 12. We find any testimony that such a difference makes the systems "incompatible" is not credible based on the express descriptions of the embodiments in Angles which recognizes that the two systems are mostly the same. *See* Ex. 1007, 7:45–8:19, 21:34–22:8.

We agree with Petitioner that, to the extent that Patent Owner argues that the embodiments are "inherently incompatible" because they cannot be physically combined, such an inquiry is not supported by fact or law for an obviousness analysis. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (cited at Pet. Reply 3 n.1).

Also, to the extent that Patent Owner argues that the disclosures of the two embodiments of Angles teach way from each other, we do not agree. *See* PO Resp. 6. Patent Owner provides no persuasive arguments or evidence that Angles discourages a person having ordinary skill in the art from combining teachings from the two embodiments or otherwise criticizes or discredits the possible combination. *See, e.g.*, *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (holding that, to teach away, the prior art must "criticize, discredit, or otherwise discourage the solution claimed"). On the contrary, we find that Angles discloses the compatibility of the embodiments. *Compare* Ex. 1007, 7:57–8:17 ("[C]ontent provider computer 14 transfers an electronic page 32 to the consumer computer 12. . . . Based on the consumer's profile, the advertisement provider computer 18 selects an appropriate customized advertisement 30 . . . [and]

sends the customized advertisement 30 to the consumer computer 12."), *with id.* at 21:53–60 ("The embodiment shown in FIG. 9 allows the customized advertisements 30 to be incorporated directly into the content providers offerings."). As Petitioner characterizes, the two embodiments merely represent direct versus indirect communication between advertisement provider computer 18 and consumer computer 12. *See* Pet. Reply 1–2; *see also* Ex. 1004 ¶¶ 74–86 (describing Angles).

We look at an express example to support our finding. In describing the embodiment of Figure 9, Angles states that "the content provider computer 14 can integrate the customized advertisements 30 into offerings such as on-line games, video programming, internet radio, virtual reality environments and the like. For example, assum[e] the content provider computer 14 offers consumers on-line games such as interactive car races." Ex. 1007, 21:55–65. We find nothing in Angles that would suggest that a person having ordinary skill in the art would not understand that content provider 14 could offer on-line games such as interactive car races in the embodiment of Figure 1, or that content provider 14 could integrate customized advertisements into the offering in the embodiment of Figure 1. Again, we base our findings on the similarities in the structure, including

Angles using the same reference numerals in both figures.[9] *See* 37 C.F.R. § 1.84(p)(4) (addressing patent drawings and stated that "the same reference character must never be used to designate different parts.").

To summarize, we find that the stark similarities between the embodiments of Angles's Figures 1 and 9 support a finding that combining the two embodiments does not require a leap of inventiveness. We now turn to an analysis of the claims.

2. Independent claim 1

We turn our analysis to the scope and content of the prior art and any differences between the prior art and the subject matter of independent claim 1, on a limitation-by-limitation basis.

a) Preamble

The preamble of claim 1 recites "[a] method of integrating business-related content over a computerized network, into a primary electronic device that accesses a game application, from at least one secondary electronic device that accesses business-related content on a plurality of web pages." Ex. 1001, 7:13–17. Petitioner contends that "Angles discloses that a consumer can direct 'one of the consumer computers to **access an offering** existing in one of the content provider computers' . . . , and the content

[9] This situation is similar to the situation in *Boston Scientific*. *See Boston Scientific Scimed*, 554 F.3d at 991 ("Figure 3B . . . shows a drug-eluting polymer stent, also represented by numeral 14, coated with "a second layer of polymer 15." One of ordinary skill would have been motivated to coat the metal stent of figure 4, including its layer 14 of drug-containing polymer, with a second layer of polymer, like layer 15 depicted in figure 3B, that is substantially free of an elutable material. Just as the stent in figure 3B benefits from the two layers, one containing a drug and the other limiting diffusion of the drug, so would the stent in figure 4 benefit from the same two coating layers.").

provider computer 'can integrate customized advertisements 30 into offerings such as online games, video programming, internet radio, virtual reality environments and the like.'" Pet. 20 (referencing Ex. 1007, code (57), 21:57–60). Petitioner adds that "the 'customized advertisements' in Angles constitutes the 'business-related content' . . . under the plain and ordinary meaning of the term." *Id.* (referencing Ex. 1004 ¶¶ 47–49). Also, Petitioner contends that "Angles . . . discloses that 'customized advertisements 30' [are] generated by an 'advertisement provider computer 18' where 'the advertisement provider computer 18 is a website connected to the World Wide Web.'" *Id.* (referencing Ex. 1007, 13:22–25). Petitioner contends that Angles's consumer computer corresponds to the recited primary electronic device, and Angles's content provider computer or advertisement provider computer corresponds to the secondary electronic device. *Id.* at 20–21.

Upon review of the information in the Petition and corresponding evidence, we find that Angles teaches or suggests the subject matter of the preamble. *See, e.g.*, Ex. 1007, 21:57–60 (indicating that customized advertisements can be integrated into on-line games); Ex. 1004 ¶ 102 ("Angles teaches integrating business-related content into an electronic game, as well as teaching connecting and navigating to an advertiser's website mirroring fundamental elements of the alleged invention of the '028 [p]atent."). In view of this determination, we need not decide whether the preamble is limiting.

Patent Owner does not dispute Petitioner's contentions with respect to the subject matter of the preamble.

b) Limitation 1[a]

Claim 1 also recites the step of "receiving a request at said primary electronic device to initiate a locally executed game application that is accessible at said primary electronic device, from a user interfaced with said network." Ex. 1001, 7:18–21 (limitation "1[a]").

(1) Petitioner's contentions

Petitioner contends that a consumer computer receives instructions from a consumer to initiate or access an offering, which may include an online game, mapping Angles's consumer computer 12 to the recited primary electronic device, and communication medium 20 to the recited network. Pet. 21–22 (referencing Ex. 1007, 7:49–52, 9:5–7, 10:21–23). Petitioner contends that the consumer accesses the online game using a browser running on the consumer's computer. *Id.* at 22 (referencing Ex. 1007, 10:46–50). Petitioner contends that a person having ordinary skill in the art would have understood that a browser residing on a local computer makes the accessed game application locally executed. *Id.* (referencing Ex. 1004 ¶¶ 72, 84, 109, 112).

Mr. Crane testifies that

> a Web Browser is a computer program that resides locally on a player's personal computer. The Shockwave and/or Flash plug-ins were downloaded from Macromedia and automatically installed as part of the browser program functionality. Prior to the priority date of the '028 Patent, the Shockwave plug-in was installed in the browser programs on millions of computers, turning each browser program into a game-playing program. The playing of browser-based games was well known in the art, and a [person having ordinary skill in the art] would have recognized that a browser program that resides on a game player's computer served as a locally executed game application.

Ex. 1004 ¶ 72; *see also id.* ¶¶ 70–71 (testifying about gaming using a web browser), ¶ 109 ("Angles'[s] user**,** while **interfaced with said network,** requests that the **primary electronic device initiate a locally executed game application** by pointing his browser (**locally executed game application**) to the content provider's website" (citing Ex. 1007, 8:37–43)). Mr. Crane adds that an online game would be initiated once it is downloaded onto a browser. *Id.* ¶ 112.

(2) Patent Owner's counter arguments and our analysis of those arguments

Patent Owner argues that Petitioner equates the terms "locally executed" and "accessible," improperly rendering the term "accessible" redundant. PO Resp. 19 (citing Pet. 21–22; Ex. 1004 ¶ 109; *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119-20 (Fed. Cir. 2004); *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1354 (Fed. Cir. 2012)). Patent Owner argues that Mr. Crane testifies that a locally executed game "***by definition***" would be accessible at the primary electronic device.

Patent Owner argues that claim 1 requires the recited "game application" to be both locally executed and accessible at the primary electronic device. PO Resp. 20. Patent Owner argues that both experts agree that a locally-executed game application is an application that is running on a local computer. *Id.* Patent Owner also argues that the requirement that the game application is accessible at the primary electric device does not mean that the game application is merely accessible from the primary electronic device. *Id.* Instead, Patent Owner argues that claim 1 requires "that the game application be *entirely held* by the same primary electronic device at which it is locally executed." *Id.*; *see id.* at 21

(explaining that only the embodiment of Figure 2 of the '028 patent "comports with the claim language," and reproducing Figure 2) (emphasis added).

Patent Owner argues, with respect to the embodiment of Figure 1 of the '028 patent, that the user (User 12) cannot access the game application (Game Application 4). PO Resp. 22. Patent Owner explains that, in this embodiment, the game application is accessible at a server, not the local electronic device. *Id.*

Patent Owner distinguishes Angles from the claimed embodiment. PO Resp. 23–25. Patent Owner argues that Angles's online-gaming disclosure, which is described with respect to Angles's Figure 9, does not disclose that the game application is "*held* at a user's computer" that has connectivity to secondary computers. *Id.* at 24 (referencing Ex. 1007, 21:61–65; Ex. 2005 ¶ 151) (emphasis added).

Petitioner replies that Patent Owner's arguments are based on an incorrect construction of the limitation requiring the game application to be entirely held by the primary electronic device. Pet. Reply 4–5. Petitioner argues that the TerraZones storyboard evidence supports Petitioner's position that a browser, when interacting with an online game at a website, is a locally executed game application. *Id.* at 5–8. Petitioner argues that the applicant's position taken during prosecution with respect to the Terra Zones storyboard "undercuts Patent Owner's" position. *Id.* at 8. Petitioner adds that the position taken by the applicant during prosecution supports Mr. Crane's testimony. *Id.* at 8–9.

With respect to Patent Owner's arguments directed to the requirement that the game application be "accessible at the user's device," Petitioner argues that these arguments are based on Patent Owner's improper

narrowing of the claim scope by requiring the game application to be entirely held at the user's device. Pet. Reply 13–15.

Patent Owner replies that Figure 1 of the '028 patent identifies a game application as different from a web browser. PO Sur-reply 4–5. Patent Owner argues that the Petition never contends that a browser is a game application. *Id.* at 5–6. Patent Owner also replies that its position is that an online game, executed in a browser on a user's device is not accessible at the user's device. *Id.* at 6.

Patent Owner also argues that Petitioner improperly uses the TerraZones storyboard to broaden the claim scope. PO Sur-reply 6–7. Patent Owner argues that the storyboard shows that it is locally executed, referencing the address bar of the browser on the images of the storyboard. *Id.* at 7–9.

We have considered Patent Owner's arguments and find, on the complete record, that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[a]. We agree with Petitioner that a browser locally executed at Angles's computer 12 operating an online game is a locally-executed game application—the game is being executed within the browser at the consumer's computer. We credit Mr. Crane's testimony in support of this contention. *See* Ex. 1004 ¶¶ 70–72. As Mr. Crane testifies, a web browser is a computer program that resides locally on a user's computer, which would include certain plug-ins to run online computer games. *Id.* ¶ 72. We credit Mr. Crane's testimony, in part, because it is consistent with how the applicant characterized the invention with respect to the TerraZones storyboard. As Petitioner argues, the applicant characterized a browser selecting and running a game at a website as an example of the invention.

See Ex. 1003, 107 (providing page 26 of the applicant's appeal brief to the Board, and stating that the TerraZones storyboard provided "[a] storyboard example of the invention").

As we discussed above in connection with our claim construction analysis of the term "accessible," we do not find persuasive Patent Owner's argument that the TerraZones storyboard reflects a game application *intended to be* operated entirely locally on a computer. We find that the opening image of the storyboard clearly indicates that it is a landing page for a *website*—that is, a site on the World Wide Web that would host the online games and game genres identified on the landing page. *See* Ex. 1003, 123 (providing the image of the landing page); Ex. 1025 ¶ 19 ("The [person having ordinary skill in the art] would understand these to be examples of games/genres that the visitor can select and play."). The fact that the images of the browser show that it is working offline on a local file merely indicates that the files that the applicant chose for the storyboard that was presented to the Office to characterize the invention during appeal were located locally on a computer, not that the invention was *intended to be* operated locally. Again, the landing page image clearly indicates that it is a *website*.

We also agree with Petitioner that the plain and ordinary meaning of the term "accessible at" is broad enough to encompass Angles's disclosure of a browser that downloads webpages from a website to execute an online game application at the user's computer. Through the use of a browser, the game application is accessible at the user's computer through that computer's connection to the content provider computer over a network, such as the internet. *See, e.g.*, Pet. 22 ("[T]he 'consumer computer 12' and the 'content provider computer 14' 'communicate with each other by use of a communication medium 20.'" "As Angles explains, 'the presently preferred

computer medium includes the Internet 33 which is a global network of computers.'"); Ex. 1004 ¶¶ 106 ("Angles teaches **a primary electronic device that accesses a game application** in the form of a consumer computer equipped with a Web Browser."), 109 ("Angles' user**,** while **interfaced with said network,** requests that the **primary electronic device initiate a locally executed game application** by pointing his browser (**locally executed game application**) to the content provider's website . . . ." "A [person having ordinary skill in the art] would understand that a user's invocation of the browser will cause the consumer computer to receive a request to initiate the browser, which then works in conjunction with the consumer control module to support the user's access or playing of on-line games."); Ex. 1007, 8:37–43 ("[T]he consumer computer 12 requests an electronic page 32 from the content provider computer 14 . . . [, and] uses internet browsing software . . . to access the content provider's URL address. The consumer browser software then accesses an electronic document 32 stored on the content provider computer 14."), 9:65–10:19 (describing using a web browser to access content on the internet). Again, the position taken by the applicant concerning the TerraZones storyboard is consistent with Petitioner's position—a browser resident on a primary electronic device executing a game from a website makes the game application accessible at the primary electronic device.

We do not credit Dr. Medvidović's testimony, because it is based on a construction we do not adopt. *See, e.g.*, Ex. 2005 ¶¶ 33 ("A [person having ordinary skill in the art] reading the '028 Patent would recognize that a game is accessible at a device if it is held by the device."); 39 ("A game may be both locally executed and accessible at an electronic device. This is when the

user plays a game application that is held by the user's device on the user's device.").

Accordingly, upon review of the complete trial record, including Patent Owner's counter arguments, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[a].

c) Limitation 1[b]

Claim 1 also recites the step of "initiating said game application at said primary electronic device." Ex. 1001, 7:22–23 (limitation "1[b]"). Petitioner contends that a consumer invoking a browser and accessing an online game initiates the game application. Pet. 23 (referencing Ex. 1007, 9:65–10:4; Ex. 1004 ¶¶ 111–113).

Upon review of the complete trial record, and in consideration of our analysis of limitation 1[a] under this Ground, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[b].

Patent Owner does not dispute Petitioner's contentions directed at this limitation.

d) Limitation 1[c]

Claim 1 also recites the step of "automatically integrating business-related content from at least one of said web pages of said secondary electronic device into said locally executed game application during execution of said game application." Ex. 1001, 7:24–27 (limitation "1[c]").

(1) Petitioner's contentions

Petitioner contends that Angles discloses directly incorporating customized advertisements into a content provider's offering. Pet. 24

(referencing the embodiment of Angles's Figure 9). Petitioner explains that Angles describes an online game, such as an interactive car race, where customized advertisements are shown on billboards that appear in the game. *Id.* at 24–25 (referencing Ex. 1007, 21:53–22:2); *see also* Ex. 1004 ¶ 117 ("Angles teaches . . . integrating customized advertisements into signs and billboards which appear in an interactive car racing game during its execution.").

Mr. Crane testifies that Angles's description of integrating "customized advertisements into the signs and billboards [of an interactive racing car game] happens automatically without human initiation or intervention, since 'the content provider computer 14 can integrate the customized advertisements 30 into signs and billboards which appear in the interactive game.'" Ex. 1004 ¶ 117 (referenced at Pet. 24 and quoting Ex. 1007, 21:63–65).

(2) Patent Owner's counter arguments and our analysis of those arguments

Patent Owner argues that Petitioner fails to understand the scope of limitation 1[c], which "expressly requires that business-related content being integrated into the locally executed game application 'during execution of said game application.'" PO Resp. 26. That is, Patent Owner argues that the phrase "during execution of said game application" requires the integration while the user runs the game. *Id.* (referencing Ex. 2005 ¶¶ 50, 53).

Patent Owner argues that, because Angles's advertisement is integrated into a webpage by the content provider, and the content is then sent to the user, the integration does not take place during execution of the game application. PO Resp. 27. Patent Owner argues that "because Angles's content provider computer integrates the advertisements into online

offerings and electronic pages before sending them to the consumer, and because the consumer computer cannot execute such online offerings and electronic pages before first receiving them, Angles does not teach" the subject matter of limitation 1[c]. *Id.* at 28 (referencing Ex. 2005 ¶¶ 152–154).

Petitioner replies that we previously rejected Patent Owner's argument in the Decision on Institution. Pet. Reply 15. Petitioner argues that "[t]he timing of the content provider integrating the content is . . . irrelevant." *Id.* Patent Owner replies that the claim language establishes the timing, which is during the execution of a game application. PO Sur-reply 15.

We have considered Patent Owner's arguments and find, on the complete record, that Petitioner proves, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[c]. As discussed above in connection with limitation 1[b], we find that Angles teaches or suggests initiating the game application at the primary electronic device. The game is then executed at consumer computer 12. As the game executes, content is continually sent from content provider computer 14 to consumer computer 12. Angles discloses:

> Upon receiving the customized advertisement, the content provider incorporates the customized advertisement 30 into an electronic page 32. The content provider computer 14 then forwards the electronic page 32, combined with the customized advertisement 30 to the consumer computer 12. The consumer computer 12 then displays the electronic page 32 and customized advertisement 30 to the consumer. Because transferring the customized advertisement 30 from the advertisement provider computer 18 to the content provider computer 14 happens prior to sending the electronic page 32 to the consumer, the electronic page 32 appears to the consumer like all other electronic

> pages 32 on the Internet 33, except that it contains the customized advertisement 30 which has been pre-selected for that consumer.
>
> The embodiment shown in F[igure] 9 allows the customized advertisements 30 to be incorporated directly into the content provider's offerings. Thus, in addition to integrating the customized advertisements 30 in to an electronic page 32, the content provider computer 14 can integrate the customized advertisements 30 into offerings such as on-line games, video programming, internet radio, virtual reality environments and the like.
>
> For example, assuming the content provider computer 14 offers consumers on-line games such as interactive car races. In this example, the content provider computer 14 can integrate the customized advertisements 30 into signs and billboards which appear in the interactive game.

Ex. 1004, 21:38–65 (quoted, in part, at Pet. 24–25). In the interactive car race example, the content provider sends content to the consumer computer interactively, that is, as the game is being played. This content includes an integrated advertisement. For example, the advertisement appears on a virtual billboard or sign as the game is being executed. That is, during execution of the interactive car racing game, advertisements (the business-related content) are integrated into the game, by appearing in a billboard or sign that is part of the racing game.

Our understanding is consistent with Mr. Crane's testimony, which we credit. *See* Ex. 1004 ¶ 117 ("Note that such integration of customized advertisements into the signs and billboards happens automatically without human initiation or intervention, since 'the content provider computer 14 can integrate the customized advertisements 30 into signs and billboards which appear in the interactive game.'" (citing Ex. 1007, 21:63–65)); *see also id.* ¶ 109 ("A [person having ordinary skill in the art] would understand that a

user's invocation of the browser will cause the consumer computer to receive a request to initiate the browser, which then works in conjunction with the consumer control module to support the user's access or playing of on-line games."). We credit the testimony, in part because it is consistent with Angles.

We do not credit Dr. Medvidović's testimony concerning the subject matter "during execution of said game application." *See* Ex. 2005 ¶ 53. His testimony is based on a certain disclosure in the '028 patent. *See id.* He does not testify as to how this disclosure comports with how a person having ordinary skill in the art would understand the plain and ordinary meaning of the phrase *in the claim*. Instead, Dr. Medvidović's testimony effectively reads into the claim an illustrative embodiment.

Upon review of the complete trial record, and Patent Owner's counter arguments, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[c].

e) Limitation 1[d]

Claim 1 also recites the step of "automatically re-directing said user to one of said web pages of said secondary electronic device from said primary electronic device, said re-direction being integrated into said game application and said re-direction occurring as part of the user executing said game application." Ex. 1001, 7:28–33 (limitation "1[d]").

(1) Petitioner's contentions

Petitioner contends that Angles discloses in the embodiment of Figure 9, that customized advertisements are integrated into the offering, such as an online game, accessed by the consumer computer. Pet. 26 (referencing Ex. 1007, 21:35–44, 21:53–60). Petitioner explains that these

advertisements may include embedded hyperlinks that the consumer can click on to go to an external website. *Id.* at 27 (referencing Ex. 1007, 4:6–16); *see also* Ex. 1004 ¶¶ 78, 119–122 (providing Mr. Crane's testimony related to this limitation).

Petitioner contends that a person having ordinary skill in the art would have understood "that re-directing a user to a web page means displaying the web page to the user on a computer associated with the user, e.g., the consumer computer 12 associated with a consumer as shown in F[igures] 1 and 9," relying on Mr. Crane's testimony. Pet. Reply 25–26; Ex. 1004 ¶ 119. Petitioner contends that Angles discloses that customized advertisements 30 are incorporated into the content provider's offering, such as an online game. Pet. Reply 26–27 (quoting Ex. 1007, 21:53–60). Petitioner explains that Angles discloses that the advertisements may include hyperlinks included in the content, such as an online game during execution of the game. *Id.* at 27 (quoting Ex. 1007, 4:6–16). Angles provides:

> The invention also supports custom advertisements which can contain hyper-links to other information. The hyper-links typically direct the user's Internet browser to access different websites on the Internet. For example, if a consumer wishes to obtain additional information about an advertised product or service, the consumer may simply use a mouse to select an embedded hyper-link in the custom advertisement and be immediately transported to an advertiser's website. At the advertiser's website, the user may receive a directed sales pitch, more information or a purchase order request form.

Ex. 1007, 4:6–16. Angles also provides

> in addition to integrating the customized advertisements 30 in to an electronic page 32, the content provider computer 14 can integrate the customized advertisements 30 into offerings such as on-line games, video programming, internet radio, virtual reality environments and the like.

> For example, assuming the content provider computer 14 offers consumers on-line games such as interactive car races. In this example, the content provider computer 14 can integrate the customized advertisements 30 into signs and billboards which appear in the interactive game.

Id. at 21:55–65. Mr. Crane testifies that "[i]t was well known in the art that in the context of viewing a web page or operating a Web Browser, 're-directing' simply meant to direct the user's electronic device to display a different web page - basically re-directing the attention of the user, through the computer's display, to a different page. As stated, this was well known, also referred to as 'linking' such as when activating a 'hyperlink.'" Ex. 1004 ¶ 119; *see id.* ¶ 121 (describing Angles's disclosure on embedded hyperlinks).

We understand from Petitioner's contention that the act of manually actuating a hyperlink, which then automatically causes a re-direction to a website, satisfies the "automatically" recitation. *See* Pet. 27 (quoting Angles's disclosure on selecting an embedded hyperlink); *see also* Tr. 30:22–26 (Petitioner's counsel stating that a user "manually click[s] on the hyperlink from the web browser. But then what happens under the hood in response to that clicking is what's automatic. That is, the user clicks on the hyperlink. The web browser automatically redirects the user to the target of that hyperlink").

(2) Patent Owner's counter arguments and our analysis of those arguments

Patent Owner argues that Angles does not include a re-direction that occurs automatically nor a re-direction that is integrated into the game application. PO Resp. 29. Patent Owner argues that the actuating of a

hyperlink does not satisfy the "automatically" requirement, as it requires a manual actuation of the link. PO Resp. 32–33.

Next, Patent Owner argues that the re-direction, that is, the actuating of a hyperlink, is not integrated into the game. Patent Owner argues that Angles's hyperlinks allow a consumer to actuate the hyperlink and visit a website if the consumer so chooses. PO Resp. 33. Patent Owner argues that the requirement that the re-direction be integrated into the game application requires the re-direction to occur as part of the normal game play. That is, it is a user's "game related actions" that must cause the re-direction. *Id.* at 31 (referencing Ex. 1001, 3:7–10, 4:14–24; Ex. 2005 ¶¶ 51–52).

Patent Owner argues that the examiner and the Board recognized this requirement that the re-direction was based on game-related action, where the user is automatically forced to visit a web page of a secondary electronic device. PO Resp. 30–31, 31 n.8. Patent Owner bases this argument on the examiner's and Board's statements concerning the Czepluch[10] prior art reference, which was the subject of rejections during prosecution. *See id.* (referencing Ex. 1003, 33,[11] 147–148; Ex. 2005 ¶¶ 56–58).

Petitioner replies that Patent Owner improperly narrows the scope of the limitation by reading the "forcing" aspect into the claims from the Specification. Pet. Reply 17. Petitioner also argues that the treatment of Czepluch during prosecution supports Petitioner's position, as the game related action was a user manually clicking on a puzzle piece, which re-directed the user to a website of an advertiser. *Id.* at 17–18. Petitioner argues that "Czepluch's clicking the puzzle item 'implies the activation of

[10] US 2003/0069832 A1, published Apr. 10, 2003. *See* Ex. 1003, 30.
[11] Patent Owner cites to Exhibit 1003, page 6. Patent Owner refers to page 6 of the Board's appeal decision, which is at page 33 of Exhibit 1003.

[a] hyperlink,' analogous to the user's clicking on a hyperlink in the browser integrated in Angles." *Id.* at 17.

Patent Owner replies that the claim language and Specification supports Patent Owner's interpretation that the re-direction must be caused by a user's action made as part of the user executing the game. PO Sur-reply 18–19 (quoting Ex. 1001, 3:7–10, 5:43–49). Patent Owner reiterates that the Board agreed with the Examiner's characterization that Czepluch automatically forced a game player to visit a website. *Id.* at 19.

We have considered Patent Owner's arguments and supporting evidence and find, on the complete trial record, that Petitioner proves, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[d]. We first note that the claim language requires "automatically re-directing said user to one of said web pages of said secondary electronic device from said primary electronic device" where the "re-direction [is] integrated into said game application and said re-direction occurring as part of the user executing said game application." The phrase "game related" does not appear in limitation 1[d]. *Compare* Ex. 1001, 7:28–33 (providing limitation 1[d]), *with id.* at 8:2–3 (providing limitation 5[a], discussed *infra*, which expressly recites "game-related").

With respect to whether manual clicking on a hyperlink may teach or suggest an automatic re-direction, we find that it does. There seems to be no dispute that, once a hyperlink is selected, the application automatically re-directs the user to a web page. Even if the re-direction occurs after some manual action, the *re-direction* is automatic. Angles supports this finding. *See* Ex. 1007, 2:6–12 ("A hyper-link is an . . . emphasized portion of text which, when selected using an input device such as a mouse, activates a software connection module which allows the user to jump between

documents (i.e., within the same website or to other websites). Hyper-links are well known in the art . . ."), 4:11–14 ("[T]he consumer may simply use a mouse to select an embedded hyper-link in the custom advertisement and be immediately transported to an advertiser's website."), 15:49–55 ("[I]f after viewing a customized advertisement 30, a consumer wishes to obtain additional information about an advertised product or service, the consumer can simply select the hyper-link in the custom advertisement 30 and be immediately transported to a different content provider computer 14 which contains more advertising information."); Ex. 1004 ¶ 119.

The Board's previous appeal decision during prosecution of the application that matured into the '028 patent is consistent with our finding. The Board found "that the act of clicking on the puzzle item activates the associated link (as part of a game related action-puzzle assembly) redirecting the user from the catalog page to the game page." Ex. 1003, 33.

But this analysis does not end the inquiry. The claim recites that the "re-direction [is] integrated into [the] game application and [the] re-direction occur[s] as part of the user executing said game application." Ex. 1001, 7:30–33. We find, in the context of Angles disclosing an interactive racing game, that Angles discloses this requirement. Angles discloses that signs and billboards appear in the game with advertising, and these advertisements may include hyperlinks. Ex. 1007, 4:6–9, 21:61–65. These signs and billboards appear during game play, that is, as part of a user executing the game application. For example, as the user is at consumer computer 12, executing an interactive car racing game, the user will see the billboards and signs during the race—the advertising is integrated into the game application by being placed on billboards or signs that appear *in* the game. The user can select a hyperlink that is embedded in one of these billboards or signs,

perhaps to shop for racing merchandise. So, during the race (that is, during the execution of the game application), the user is immediately re-directed to a web page that offers racing merchandise. *Cf.* Ex. 1004 ¶ 121 ("An interaction (such as a mouse click) with a hyper-linked billboard encountered during game play would cause a player to be 'immediately transported' (automatically redirected) to an advertiser's website (a web page containing business-related content)."). Key to our finding is that the signs and billboards are part of the game—the signs and billboards make up a portion of the racing thematic environment. Our finding may be different if the advertisements appeared in a window separate from the game environment.

We need not decide if the act of selecting a hyperlink is a game-related action, as the claim is broader than that. *See* PO Resp. 33 ("Angles never discloses that the game application automatically re-directs the user because *of a game event or the user's game-related actions*." (emphasis added)). The claim recites "during execution of [the] game application," and in Angles's interactive car racing examples, the user is executing the game application—that is the only way the user would see the advertisements on the billboards or signs.

We credit Mr. Crane's testimony, which is consistent with our understanding of Angles's disclosure and the proper scope of the claims. *See* Ex. 1004 ¶¶ 119–121.

We do not agree with Patent Owner that the Board and the examiner determined the claim language *requires* a user to be forced to visit a website to satisfy the language of limitation 1[d]. We do agree that Czepluch works that way. Czepluch is a virtual jigsaw puzzle game. A user selects a puzzle piece during game play in order to reposition that piece to a location that

furthers the completion of the puzzle and, unknown to the user, the piece includes a hyperlink that forces the user to a website. However, just because a prior art reference's disclosure falls within the scope of a claim limitation does not mean that the scope is so limited. We conclude that the language of limitation 1[d] is broad enough to encompass situations where the user is forcibly re-directed to a website (Czepluch) or chooses, within the play of the game, to visit a website (Angles). Similarly, even if the example of game play in the Specification forcibly re-directs the user, it is not proper, without express indications in the Specification, to limit the claim language to this example. *See SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004); *see also Luminara Worldwide, LLC v. Liown Elecs. Co.*, 814 F.3d 1343, 1353 (Fed. Cir. 2016) ("The standards for finding lexicography and disavowal are 'exacting.'").

We do not credit Dr. Medvidović's testimony upon which Patent Owner relies for support. His testimony is based on how a person having ordinary skill in the art would understand the example in the Specification, not the plain and ordinary meaning of the claim language. *See* Ex. 2005 ¶¶ 56–58. We note, however, that Dr. Medvidović testifies that "the act of re-direction is built in the game play." *Id.* ¶ 56. This is the same functionality in Angles—the hyperlinks are built into the scenery of the interactive racing game.

Upon review of the complete trial record, including Patent Owner's counter arguments, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[d].

f) Limitation 1[e]

Claim 1 also recites the step of "executing a user action on said business-related content from said secondary electronic device." Ex. 1001, 7:34–35 (limitation "1[e]"). Petitioner contends that Angles discloses that the consumer can select the embedded hyperlink to be transported out of the game and to the advertiser's website, such as to obtain additional information about a product. Pet. 28 (referencing Ex. 1007, 4:9–14, 5:49–55; Ex. 1004 ¶¶ 123–125). Mr. Crane testifies that "Angles teaches that the advertiser webpage accessed by hyperlink from within the game application would itself be equipped with hyperlinks, offering additional information, as well as links to other content providers." Ex. 1004 ¶ 123.

Upon review of the complete trial record, and in consideration of our analysis of limitation 1[d] under this Ground, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 1[e].

Patent Owner does not dispute Petitioner's contentions directed at this limitation.

g) Conclusion, independent claim 1

For the reasons discussed above, we conclude that Petitioner has proven, by a preponderance of the evidence, that claim 1 is unpatentable under 35 U.S.C. § 103(a) over Angles.

4. Independent claim 7

Independent claim 7 recites similar subject matter as claim 1. For much of the subject matter, Petitioner relies on its contentions with respect to claim 1. *See* Pet. 34–38. Patent Owner relies on its arguments against Petitioner's positions for this common subject matter in arguing that claim 7 was not proven unpatentable. *See* PO Resp. 41 ("Thus, in light of Patent

Owner's proposed construction for the term 'application,' Petitioner's limitation-by-limitation analysis of Claim 7 fails for the same reasons discussed in" the section addressing claim 1."). We address the unique subject matter below (limitations 7[a], 7[c], and 7[f]).

For the preamble and limitations 7[b], 7[d], and 7[e], we cross-reference our analysis of claim 1. Upon review of the complete trial record, and in consideration of our analysis of claim 1 under this Ground, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitations 7[b], 7[d], and 7[e]. Patent Owner does not dispute Petitioner's contentions directed at these three limitations other than the arguments we address in our analysis of claim 1, above.

a) Limitation 7[a]

Claim 7 recites the step of "receiving a request from a user at a primary electronic device to initiate at least one of a plurality of locally executed applications that are accessible to said primary electronic device interfaced with said network." Ex. 1001, 8:12–15. Petitioner contends that "Angles discloses providing a plurality of interactive communication offerings (e.g., on-line games)" accessible to a user using a consumer computer. Pet. 34. Petitioner explains that a user "'directs one of the consumer computers,' meaning the consumer sends and the computer receives a request from the consumer, 'to access an offering existing in one of the content provider computers.'" *Id.* (referencing Ex. 1007, code (57)). Petitioner contends that the primary electronic device, consumer computer 12, receives a request from the user of that computer as recited in limitation 7[a]. *Id.* (referencing Ex. 1004 ¶ 156; cross-referencing analysis for claim 1).

Mr. Crane identifies the interactive communication offers disclosed in Angles as online games and non-gaming applications. *See* Ex. 1004 ¶ 156.

Upon review of the complete trial record, and in consideration of our analysis of claim 1 under this Ground, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 7[a].

Patent Owner does not dispute Petitioner's contentions directed to this limitation other than the arguments we addressed in our analysis of claim 1. We note that, in our claim construction analysis, we did not agree with Patent Owner's limiting "application" to "game application." As such, we consider Angles plurality of offered content to include non-gaming applications. Our overall finding would not change if the limitation was limited to game applications.

b) Limitation 7[c]

Claim 7 also recites the step of "providing at least one customized web page at a secondary electronic device, accessed over said computerized network by said primary electronic device, said web page being customized with content for use with said one of said plurality of applications." Ex. 1001, 8:17–21. Petitioner contends that Angles teaches that a customized advertisement is incorporated into an electronic page. Pet. 35 (referencing Ex. 1007, 21:38–44; cross-referencing analysis for claim 1 in the Petition); *see also* Ex. 1004 ¶¶ 158–60 (cited at Pet. 36).

Upon review of the complete trial record, and in consideration of our analysis of claim 1 under this Ground, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 7[c].

Patent Owner does not dispute Petitioner's contentions directed at this limitation other than as we address in our analysis of claim 1.

c) Limitation 7[f]

Claim 7 also recites the step of "executing a user action on said content from said secondary electronic device, said user action generating a benefit for said user relating to said content." Ex. 1001, 8:32–34. Petitioner contends that "Angles discloses that an advertisement provider tracks a consumer's response to a customized advertisement generated by the advertisement provider computer and the consumer receives credit each time the consumer views the customized advertisement." Pet. 37–38 (referencing Ex. 1007, code (57), 16:35–37, 21:25–29; Ex. 1004 ¶¶ 164–165; cross-referencing analysis of claim 1 in the Petition).

Upon review of the complete trial record, and in consideration of our analysis of claim 1 under this Ground, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of limitation 7[f].

Patent Owner does not dispute Petitioner's contentions directed at this limitation other than as we address in our analysis of claim 1.

d) Conclusion, independent claim 7

For the reasons discussed above, including our analysis of claim 1, we conclude that Petitioner has proven, by a preponderance of the evidence, that claim 7 is unpatentable under 35 U.S.C. § 103(a) over Angles.

5. Dependent claims 3–6, 8, and 9

a) Dependent claim 3

Dependent claim 3 depends from independent claim 1 and recites "wherein said game application displays branded business-related content to said user." Ex. 1001, 7:39–40. We note that the '028 patent expressly

defines "branded" to mean "business-related content [that] uniquely identifies the goods and services of a particular company." *Id.* at 1:40–42.

Petitioner cross-references its analysis for limitation 1[d]. Pet. 28. In that analysis, Petitioner contends that the business-related content corresponds to customized advertisements 30. *Id.* at 26. As Mr. Crane testifies, "[a]dvertisements are a form of branded content." Ex. 1004 ¶ 127 (referenced at Pet. 28). Mr. Crane testifies that a person having ordinary skill in the art "would have been familiar with in-game advertising that had been prevalent for more than a decade as seen in, for example, Advergames. Such in-game advertising was well known to include a company's branded content such as logos, characters, and mascots." *Id.* ¶ 128; *see also id.* ¶¶ 67–68 (discussing games with branded content).

Patent Owner argues that "this limitation is not taught by merely showing that 'business-related content' integrated 'into said locally executed game application during execution of said game application' is displayed to the user playing the game." PO Resp. 34 (referencing Ex. 2005 60–62). Patent Owner adds that "[t]here must be a showing that the game application—standing alone—displays branded business-related content to the user," and Petitioner does not make this showing. *Id.* Patent Owner argues that, without such a showing, the recitation of claim 3 would be rendered redundant in offense of the principles of claim differentiation. *Id.* (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314–15 (Fed. Cir. 2005); *see also id.* at 35 (presenting claim differentiation argument).

Patent Owner argues that Mr. Crane's testimony is conclusory and improperly incorporated by reference. PO Resp. 35–36. Patent Owner also argues that Mr. Crane improperly considers the customized advertisement as both business-related content and branded business-related content. *Id.*

at 36. Patent Owner argues that Mr. Crane "fails to address how two separately recited claim elements are met by the same prior art feature, i.e., customized advertisement." *Id.* (citing *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249 (Fed. Cir. 2010)).

Patent Owner also argues that "Angles never discloses, and Petitioner cannot identify a single example, that the game application—stand-alone without the integration process—displays customized advertisements, as required by this limitation." PO Resp. 37 (referencing Ex. 2005 ¶ 160).

Finally, Patent Owner argues that Angles teaches away from custom advertisement being branded content, as the custom advertisement is based on a customer's interest. PO Resp. 37–38.

Petitioner replies that the claim language of claims 1 and 3 do not restrict the same content from satisfying the limitations. Pet. Reply 18. Petitioner argues that Mr. Crane testifies that advertisements are a type of branded content. *Id.* Petitioner argues that Patent Owner disregards what Angles's teachings would suggest to a person having ordinary skill in the art. Petitioner argues that the unrebutted characterization of the level of ordinary skill includes a person with "general knowledge of online and in-game advertising methods." *Id.* at 19. Petitioner adds that such a person would have understood that Angles's advertisements teach branded content. *Id.* (citing Pet. 12, 28; referencing Ex. 1004 ¶¶ 127–128).

Petitioner argues that Patent Owner's reliance on *Tyco Healthcare*[12] is misplaced. Petitioner argues that, unlike *Tyco Healthcare*, the claim

[12] We use *Tyco Healthcare* rather that *Becton, Dickinson* as Petitioner uses to avoid confusion with our precedential decision in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (December 15, 2017).

language does not recite business-related content and branded business-related content as separate structures. Pet. Reply 19 (citing *Mfg. Res. Int'l, Inc. v. Civiq Smartscapes, LLC*, 397 F. Supp. 3d 560, 570 (D. Del. 2019) (distinguishing *Tyco Healthcare* where one limitation can be included in another)).

Patent Owner replies that, as Dr. Medvidović testifies, claim 3 requires that the "game application by and of itself" displays the branded content. PO Sur-reply 20. Patent Owner argues that "Angles never teaches game applications that ***display*** branded content; nor does Petitioner explain or offer evidence on how '***general knowledge*** of online and in-game advertising methods' would help with ***creating game applications that standalone display branded content***." *Id.* at 21.

We have considered Patent Owner's arguments and find, on the complete trial record, that Petitioner proves, by a preponderance of the evidence, that Angles at least suggests the subject matter of claim 3. We credit Mr. Crane's testimony that a person having ordinary skill in the art would have understood that an advertisement included into an offering such as an on-line game would have included branded content, that is, content that uniquely identifies the goods or services of a particular company. *See* Ex. 1004 ¶¶ 126–128. We do not agree with Patent Owner that Mr. Crane's testimony is conclusory. It specifically cites to paragraphs 67 and 68 of his declaration, the subject of which are examples of branded content in games prior to the critical date of the '028 claims. *See id.* ¶¶ 67–68. Also, as Petitioner argues, the level of ordinary skill includes a general knowledge of online and in-game advertising. We also do not agree that Petitioner improperly incorporates this testimony by reference. This testimony provides an understanding of how a person having ordinary skill in the art

would understand Angles's disclosure of customized advertisements, a disclosure upon which the Petition relies. *See* Pet. 25–27.

We do not credit Dr. Medvidović's testimony upon which Patent Owner relies. The testimony is based on Angles not using the term "branded" or a synonym of the term "branded." *See* Ex. 2005 ¶ 161. Nowhere does Dr. Medvidović testify how a person having ordinary skill in the art would understand what Angles's customized advertisements included. Indeed, we find nothing in Dr. Medvidović's testimony that rebuts Mr. Crane's testimony as to how a person having ordinary skill in the art would understand the content of Angles's customized advertisements. *See id.* ¶¶ 90–91, 160–161.

We illustrate our finding using Angles interactive racing example. Based on Mr. Crane's testimony, we understand that the billboards and signs into which Angles integrates customized advertisements that would include the brand of the advertised good or service. Although we appreciate that Angles does not provide specific examples of branded content and, based on the disclosure, it is possible for the billboard or sign to say "Cars," a person having ordinary skill in the art would understand that Angles at least suggests an advertisement to say "TESLA cars," with an image of a black TESLA. *See* Ex. 1004 ¶¶ 67–68, 126–128; *see also KSR Int'l Co.*, 550 U.S. at 421 ("A person of ordinary skill is also a person of ordinary creativity, *not an automaton*." (emphasis added)); PO Resp. 41 (discussing an example of a billboard with a black TESLA as branded business-related content).

We agree with Petitioner that Patent Owner's argument based on claim differentiation and *Tyco Healthcare* is misplaced. Claim 3 further limits claim 1, and requires the business-related content of claim 1 to be branded business-related content. As Petitioner argues, the same disclosure

can satisfy both the broader and more narrow subject matter. *See* Pet. Reply 19. Because a person having ordinary skill would understand Angles's customized advertisements would include branded business-related content, this disclosure would also include the broader recited "business-related content."

We do not agree that Angles teaches away from branded business-related content. Patent Owner provides no persuasive arguments or evidence that Angles discourages a person having ordinary skill in the art from using branded custom advertisements. *See In re Fulton*, 391 F.3d at 1201. Indeed, Angles contemplates advertisements directed to specific products. *See, e.g.*, 15:32–39 (providing an example about fruit juice), 15:43–55 (discussing providing additional information, such as through a hyperlink, for specific products or services).

We also do not agree with Patent Owner or Dr. Medvidović that claim 3 requires the branded content to be somehow part of a stand-alone game such that it would exclude customized advertisements that are integrated into the game during game play. The language of the claim requires the game application to *display* the branded content. As Angles discloses in its interactive racing example, content is *displayed* on billboards or signs during execution of the game application seen by a user with the user's browser. Neither Patent Owner nor Dr. Medvidović sufficiently explain why the claim should be limited as argued.

Upon review of the complete trial record, including Patent Owner's counter arguments and our analysis of claim 1, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of claim 3. Accordingly, we conclude that Petitioner has

proven, by a preponderance of the evidence, that claim 3 is unpatentable under 35 U.S.C. § 103(a) over Angles.

b) Dependent claims 4 and 8

Dependent claim 4 depends from claim 3 and recites "wherein said branded business-related content is dynamically updated." Ex. 1001, 7:41–42. Claim 8 depends from independent claim 7 and recites "wherein said content includes dynamic content." *Id.* at 8:35–36. With respect to claim 4, Petitioner contends that Angles discloses that dynamically updating the customized advertisement a consumer sees. Pet. 28–29 (referencing Ex. 1007, 20:11–17; Ex. 1004 ¶¶ 130–132); *see* Ex. 1007, 20:11–17 ("[I]f the consumer continues to view the electronic page 32, the advertising module 62 continues to update the customized advertisements 30 that are seen on the consumer's computer 12. For example, if a consumer views a particular electronic page 32 for more than a minute, the advertising module 52 can send a new customized advertisement 30."). Mr. Crane testifies that "[b]ecause the customized advertisement [is] not static, but rather continuously update, they are 'dynamically updated.'" Ex. 1004 ¶ 131.

Patent Owner argues that Angles does not disclose dynamically updating the branded business-related content. Patent Owner repeats its argument made with respect to claim 3 that the "'branded business-related content' should stand alone within the game application." PO Resp. 39. Patent Owner also argues that the updating of the branded business-related content must be for the same company. *Id.* (referencing Ex. 2005 ¶¶ 65–68). Patent Owner argues that "the essence" of the dynamically updated recitation "lies in the continual evolution and modification of the same branded content displayed by the game application." *Id.* (referencing Ex. 2005 ¶¶ 65–68).

Patent Owner directs us to testimony from Petitioner's declarant, Mr. Crane. PO Resp. 41. Mr. Crane testified that a billboard advertising a black TESLA that changed to advertise a pink TESLA would be an example of dynamic updating. *Id.* (referencing Ex. 2010 (322:17–22). Patent Owner argues that replacing one advertisement with another is not updating, as it does not "promot[e] a single branded product of service." *Id.* at 41–42.

Petitioner argues that claim 4 is not as limited as Patent Owner argues. Pet. Reply 20 (including a criticism of Dr. Medvidović's Honda Civic example). Petitioner also argues that Angles contemplates having different ads for the same product, thus teaching the subject matter of the claim to a person having ordinary skill in the art. *Id.* (referencing Ex. 1007, 15:32–42).

Patent Owner replies that the testimony from Dr. Medvidović that Petitioner criticizes (replacing one image of a HONDA CIVIC with another image of a HONDA CIVIC) is an example of dynamically updating the same product. PO Sur-reply 21–22. Patent Owner also argues that Petitioner "fails to explain how" the knowledge of a person having ordinary skill in the art "would help to ***create game applications that standalone display branded content, which can be updated dynamically***." *Id.* at 22.

We have considered Patent Owner's arguments and find, on the complete trial record, that Petitioner proves, by a preponderance of the evidence, that Angles at least suggests the subject matter of claim 4. As we discussed above in connection with our analysis of claim 3, from which claim 4 depends, the scope of the claim is not limited to branded business-related content that is in a stand-alone game application, that is, that cannot be integrated into the game play from a content provider.

We do not credit Dr. Medvidović's testimony that the updated branded content must be for the same product or service. Dr. Medvidović

bases his opinion on the definition of branded business-related content that appears in the Specification—"business-related content which uniquely identifies the goods and services of a particular company." *See* Ex. 2005 ¶ 66. Dr. Medvidović opines that because this definition includes the phrase of "of a particular company," a person having ordinary skill in the art would understand this definition to require that the same product or service is the subject of the updated advertisement as compared to the advertisement prior to updating, that is, that there can be only one particular company. *See id.*

Neither Patent Owner nor Dr. Medvidović persuasively explains why the plain and ordinary meaning of claim 4 should be so limited. *See* PO Resp. 2 ("Except for the term 'application' in [c]laim 7, Patent Owner agrees that no other express claim constructions are required for this" *inter partes* review.). Going back to our interactive racing game from Angles, during game play, the consumer experiences a billboard showing a customize advertisement for TESLA. After some time passes and the consumer does not click on the billboard, Angles's system updates the billboard to show a customized advertisement for HONDA. *See* Ex. 1007, 20:11–17 (including the disclosure that "if the consumer continues to view the electronic page 32, the advertising module 62 continues to update the customized advertisements 30 that are seen on the consumer's computer 12"); Ex. 1004 ¶ 131. This update is dynamic, because it changes during the game play. So, branded business-related content is updated. The initial advertisement has branded business-related content, identifying goods from a particular company—TESLA (the "said branded business-related content" of the claim). The updated advertisement also includes branded business-related content, identifying goods from a particular company—HONDA. This example is consistent with the definition provided in the Specification upon

which Dr. Medvidović relies. Each example of content includes a product from a particular company.

Patent Owner would have us rewrite the claim to recite "wherein said branded business-related content is dynamically updated with branded business-related content from the same company." Patent Owner provides no support for such a rewriting of the claim.

For claim 8, Petitioner relies on the same contentions as for claim 4. *See* Pet. 38. Patent Owner argues that claim 8 is unpatentable for the reasons it put forth for claim 7, which we address above in connection with our analyses of claims 1 and 7. PO Resp. 53

Upon review of the complete trial record, including Patent Owner's counter arguments and our analysis of claims 1, 3, and 7, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of claims 4 and 8. Accordingly, we conclude that Petitioner has proven, by a preponderance of the evidence, that claims 4 and 8 are unpatentable under 35 U.S.C. § 103(a) over Angles.

c) Dependent claim 5

Claim 5 depends from independent claim 1 and recites the additional steps of "executing game-related user actions in said game application as a result of user choices; and generating a player profile based on said user choices made during said game application; wherein the player profile is specific to said user." Ex. 1001, 8:1–6.

(1) Limitation 5[a]

With respect to the step of executing game-related user actions in said game application as a result of user choices (limitation "5[a]"), Petitioner contends that Angles discloses that a consumer can execute offerings such as on-line games. Pet. 29 (referencing Ex. 1007, 9:65–10:4). Petitioner

contends that "a [person having ordinary skill in the art] would understand that **executing game-related user actions in said game application as a result of user choices** is inherent in playing any game." *Id.* at 30 (referencing Ex. 1004 ¶ 135).

In support, Mr. Crane uses a racing game as an example. Ex. 1004 ¶ 135. Mr. Crane explains that "the player is making user choices throughout the game: steering, accelerating, braking, passing to the left or right, choosing to take a pit stop, etc. Every user choice made during play determines what future game-related actions will be required in the game." Mr. Crane adds that Angles describes its car racing game as "interactive." *Id.* (citing Ex. 1007, 21:53–22:8).

Patent Owner, citing Dr. Medvidović's declaration, argues that limitation 5[a] requires three things: "(1) the user actions should be 'game-related;' (2) these game-related actions are executed while the user is 'in said game application;' and (3) these game-related actions are directly tied to 'choices' made by the user during gameplay, which lead to executing these game-related user actions." PO Resp. 43 (referencing Ex. 2005 ¶¶ 70–74). Patent Owner adds that actions on business-related content is outside the scope of the limitation. *Id.* Patent Owner also argues that the "game-related actions not directly tied to the user's volition during gameplay also fall outside the scope of" the limitation. *Id.* (referencing Ex. 2005 ¶¶ 72–73).

Patent Owner argues that Petitioner improperly incorporates Mr. Crane's declaration by reference. PO Resp. 44. Patent Owner argues, with respect to Mr. Crane's testimony, that a refining of advertisements based on game actions is not the result of game-related action. *Id.* at 45.

Patent Owner also criticizes Mr. Cranes reliance on disclosure about a user asking for more information about an advertisement. *Id.*

Petitioner replies that Patent Owner does not adequately support its claim-narrowing arguments. Pet. Reply 21. Petitioner also argues that "[u]ser actions taken in a game application are game-related, as set forth in the Petition at 29–30." *Id.* at 22. Patent Owner replies that the application being used is a web browser, and actions such as bookmarking and minimizing a window is not a game-related action.

We have considered Patent Owner's arguments and find, on the complete trial record, that Petitioner proves, by a preponderance of the evidence, that Angles at least suggests the subject matter of limitation 5[a]. As an initial point, we do not agree that Petitioner incorporates Mr. Crane's declaration by reference. Petitioner plainly contends that "**executing game-related user actions in said game application as a result of user choices** *is inherent* in playing any game." Pet. 30 (italicized emphasis added). Mr. Crane then provides support for this inherency contention, including clear examples of user actions, using an interactive car racing example. Ex. 1004 ¶ 135 (cited at Pet. 30). These examples of game-related user actions include "steering, accelerating, braking, passing to the left or right, choosing to take a pit stop"—actions a user would take during execution of the game, even a browser-based game. *Id.* Mr. Crane also testifies that "[e]very user choice made during play determines what future game-related actions will be required in the game." *Id.* We understand this testimony to mean, taking a simple example, if a user chooses to apply the brakes of the race car, the car will take the game-related action, based on that choice, to slow down.

We credit Mr. Crane's testimony, based, in part, on a fundamental understanding of electronic game play. Patent Owner does not address the examples of user choices we discuss above.

Although we find that Petitioner proves, by a preponderance of the evidence, that Angles inherently discloses the subject matter of limitation 5[a], we make certain additional observations to inform our analysis of limitation 5[b], below. Our findings and conclusion with respect to limitation 5[a] focuses on user choices made in a game, such as choosing to accelerate or brake a race car or make a pit stop, with the game taking responsive actions (making the car go faster, or slower, or enter the pits). The parties make other arguments outside of these choices and actions. Our observations are directed to the additional arguments.

Mr. Crane also testifies that "certain [user] choices will expose a player to a different set of billboards," based on Angles's game being "interactive." Ex. 1004 ¶ 135. Mr. Crane also testifies that "Angles teaches that, if he wishes, a consumer can choose (a **user choice**) to enter demographic information that will be used to refine what advertisements may be served in his online game." *Id.* ¶ 136 (citing Ex. 1007, 3:19–21[13]). Mr. Crane adds that, "[b]ased on [these] user choices, the advertiser will serve customized advertisements relating to the user's demographic." *Id.* ¶ 137 (citing Ex. 1007, 3:55–65). Mr. Crane opines that "any game-related user actions in said game application relating to a particular advertisement will be made based on the specific advertisement resulting from said user choice." *Id.* ¶ 138. We understand this testimony to mean that the recited

[13] The citation in the declaration is to Ex. 1007, 4:6–16. This citation is clearly a typographical error. Mr. Crane provides the language from Angles, which corresponds to column 3, lines 19–21.

"user choices" includes choices a user makes, outside the game environment, that inform the system that the user prefers certain advertising subject matter. And the recited "game-related" user actions are actions a user takes on customized advertisements that are based on the user choices. We go back to the persuasive contention in the Petition—a person having ordinary skill in the art would have understood "that executing game-related user actions in said game application as a result of user choices is *inherent* in playing any game." Pet. 30 (Petitioner's emphasis omitted and additional emphasis added).

We note that the "user choices" about which Mr. Crane testifies directed to advertisement preferences are choices made outside the gaming environment. *See* Ex. 1007, 3:19–25. The description in Angles upon which Mr. Crane relies, and the descriptions before and after the cited material make no reference to actions that take place when a user is executing provided content, such as a game application. *See id.* at 3:6–40. Mr. Crane does not testify how these actions outside of game play are inherent in playing any game.

We also note that the phrase "user actions" is modified by the phrase "game-related." This recitation differs, at least in language used, from the recitation "as part of the user executing the game application," recited in limitation 1[d]. We concluded that the language in limitation 1[d] is broad enough to encompass user actions that are taken during execution of the game application, such as selecting a hyperlink that is part of the game environment, but otherwise may not be an action that is part of the game play (such as moving within a game or causing a car to accelerate, or brake).

With this backdrop, we turn to limitation 5[b].

(2) Limitation 5[b]

With respect to the limitation reciting generating a player profile based on said user choices made during said game application (limitation 5[b]), Petitioner contends that "Angles discloses tracking consumer responses to the customized advertisements while accessing an offering and to update the consumer profile accordingly." Pet. 30 (referencing Ex. 1007, 3:7–17). Petitioner contends that a user profile is generated and maintained in a database. *Id.* at 30–31 (referencing Ex. 1007, 3:18–24). Petitioner adds that Angles discloses an interaction profile that tracks advertisements viewed by a specific customer. *Id.* at 31 (referencing Ex. 1007, 3:66–4:5). Petitioner contends that, because "consumers can only view the advertisements while accessing an offering, e.g., a game application, a player profile detailing which advertisements were viewed or interacted with is created based on choices the user made during said game application." *Id.*; *see also* Ex. 1004 ¶¶ 142–144 (cited at Pet. 31 and addressing limitation 5[b]).

Patent Owner argues that limitation 5[b] "expressly requires that a profile be generated based on 'said user choices'—that is, choices made by the user during game play that lead to executing game-related user actions." PO Resp. 46. Patent Owner also argues that "[c]haracter profiles 6 are records which track the game choices a player makes while playing the game application 4." *Id.* (quoting Ex. 1001, 3:39–41). Patent Owner adds that the character profiles are tied to a character, not an actual individual. *Id.* (referencing Ex. 1001, 5:62–64; Ex. 2005 ¶ 76). Patent Owner argues that the player profile recited in limitation 5(b) is specific to a user and is tied to a character representing the player. *Id.* Patent Owner argues that "unlike the

[profile of limitation 5[b]], Angles's profiles are *tied to the actual individual* playing the game." *Id.* at 47 (referencing Ex. 1007, 8:8–15; Ex. 2005 ¶ 172).

Patent Owner also argues that the "'demographic' profile" upon which Petitioner relies is not based on choices made during the game application. PO Resp. 47. Patent Owner argues that Petitioner's reliance on a user's choice to select a hyperlink of an advertisement to get additional information, does not result in a profile created based on a game-related user choice.

Petitioner replies that "player profile" is not in the Specification, and Patent Owner's argument about the recited profile being tied to a game character is based on disclosure in the Specification for a "character profile." Pet. Reply 21. Petitioner argues that a person having ordinary skill in the art would have understood that a "player profile" refers to a player who plays the game. *Id.*

Petitioner also replies that, "[t]o the extent Patent Owner's position is that 'user choices made during said game application' requires more than just user choices made concurrently with executing the game application, Patent Owner offers no support for this proposed restriction." Pet. Reply 21. Petitioner argues that an action that a user takes in a game application is "game-related." *Id.* at 21–22.

Patent Owner replies that Petitioner ignores the "[S]pecification's clear definition of profile." PO Sur-reply 23. Patent Owner also argues that Petitioner's position that any action taken by a player during executing the game is "game-related." *Id.*

We have considered Petitioner's contentions, and Patent Owner's and Petitioner's responsive arguments and find, on the complete trial record, that Petitioner fails to prove, by a preponderance of the evidence, that Angles

teaches or suggests the subject matter of limitation 5[b]. We agree with Patent Owner that "said user choices made during said game application" are user choices made to play the game. That is, choices that are made to advance game play. And Petitioner fails to persuasively prove that Angles teaches or suggests generating a player profile based on such choices.

Turning to the words of limitation 5[b], the recited "player profile" must be "based on *said* user choices made during said game application." Ex. 1001, 8:4–5 (emphasis added). The "said" user choices are the user choices recited in limitation 5(a). These choices result in the executing of "game-related user actions." *See id.* at 8:1–3. We conclude that the plain and ordinary meaning of "game-related" is "related to the game"—that is, playing the game. Our conclusion is based on the plain meaning of the words of the claim. Also, as Patent Owner argues, this conclusion is consistent with the Specification. *See* PO Resp. 46; Ex. 1001, 3:39–41 ("Character profiles 6 are records which track the *game choices a player makes while playing the game application 4*." (emphasis added)).

Mr. Crane provides a number of examples of game-related user actions based on user choices in the context of an interactive racing car game—"steering, accelerating, braking, passing to the left or right, [and] choosing to take a pit stop." Ex. 1004 ¶ 135. Petitioner, however, does not rely on these user choices in contending that Angles discloses the subject matter of limitation 5[b]. Instead, Petitioner relies on actions taken outside of executing and playing a game application (entering demographic information) or actions taken during the execution of the game, but that do not advance game play (clicking on a hyperlink for an advertisement). Although the later choice takes place as part of the user executing the game application, the action is not "game-related." Using the interactive racing

car game example, the choice of clicking on a billboard advertisement does not serve to steer, accelerate, brake, or otherwise cause the racing car to do anything. And Petitioner does not provide any analysis why the scope of the term "game-related" should be so broad as to cover any action a user takes in executing the game.

Our analysis of limitation 1[d] is consistent with (and instructive of) our analysis here. For limitation 1[d], we found that the scope of the claim language "integrated into said game application and said re-direction occurring as part of the user executing said game application" was broad enough to cover selecting a hyperlink on a billboard within the racing car environment, as that would (indeed, must) occur as the user executes the game application, as the language of the claim provides. In contrast, the language of claim 5 specifically recites "game-related user actions." So, the game is not merely being executed and the user choices result in any action. Instead, the user actions based on the user choices must be related to the game.

Independently, we find Petitioner's position deficient because Petitioner fails to adequately explain how the user choices of selecting an advertisement or providing information to a demographic database are inherent to the playing of a game, such that these user actions satisfy limitation 5[a]. Said another way, Petitioner relies on inherency to satisfy limitation 5[a], but then relies on certain user choices and actions that would result in generating a user profile based on Angles teaching, without explaining persuasively how these certain user choices are inherent to game play. Petitioner treats limitations 5[a] and 5[b] as not interrelated.

For the reasons above, we find that Petitioner fails to prove, by a preponderance of the evidence, that Angles teaches or suggests the subject

matter of limitation 5[b]. Based on this finding, we need not determine of a "player profile" is tied to an actual player or to a game character. We also need not address the wherein clause of claim 5.

Accordingly, we conclude that Petitioner has not proven, by a preponderance of the evidence, that claim 5 is unpatentable under 35 U.S.C. § 103(a) over Angles.

d) Dependent claim 6

Claim 6 depends from claim 5 and recites "wherein said player profile is disseminated to providers of business-related content used in said game application." Ex. 1001, 8:7–9. Because we determine that Petitioner fails to prove, by a preponderance of the evidence, that claim 5 is unpatentable, claim 6 is not proven unpatentable for at least the reason that it depends from a patentable claim. Accordingly, we conclude that Petitioner has not proven, by a preponderance of the evidence, that claim 6 is unpatentable under 35 U.S.C. § 103(a) over Angles.

e) Dependent claim 9

Claim 9 depends from independent claim 7 and recites the additional step of "providing a virtual reality platform interfaced with said primary electronic device, said virtual reality platform providing a three-dimensional visualization in which the user interacts." Ex. 1001, 8:37–41. Petitioner contends that "Angles discloses providing a three-dimensional virtual reality environment to the consumer." Pet. 38 (referencing Ex. 1007, 21:55–22:8).

Upon review of the complete trial record, we find that Petitioner has proven, by a preponderance of the evidence, that Angles teaches or suggests the subject matter of claim 9. Accordingly, we conclude that Petitioner has proven, by a preponderance of the evidence, that claim 9 is unpatentable under 35 U.S.C. § 103(a) over Angles.

Patent Owner does not provide any arguments directed to this subject matter. *See* PO Resp. 51.

6. Conclusions, Ground 1

We conclude that Petitioner has proven, by a preponderance of the evidence, that claims 1, 3, 4, and 7–9 are unpatentable under 35 U.S.C. § 103(a) over Angles. We conclude that Petitioner has not proven, by a preponderance of the evidence, that claims 5 and 6 are unpatentable under 35 U.S.C. § 103(a) over Angles.

E. Ground 2: Claims 1 and 3–9 as unpatentable over Robinson and Ground 3: Claim 6 as unpatentable over Angles, Robinson, and Ginter

Petitioner contends that Robinson, in view of the knowledge of a person having ordinary skill in the art, teaches or suggests each limitation of claims 1 and 3–9. Pet. 4, 39–62. Petitioner also contends that the combination of Angles, Robinson, and Ginter, in view of the knowledge of a person of ordinary skill in the art teaches or suggests the subject matter of claim 6.

1. Claim 1

a) Petitioner's positions

Petitioner's position with respect to claim 1, relevant to our analysis, is that Robinson discloses that a client machine can install and execute a 3D persistent client kernel. Pet. 46–47. The persistent kernel is locally executed on the client machine and provides a three-dimensional computing environment, which can be configured to play online games. *Id.* at 47 ("[S]aid locally executed software being the 3D computing environment that can be configured to play online games."), *id.* ("[T]he 3D persistent client

kernel 465 can support a game application in a 3D computing desktop environment.”).

To support its contention that the computing environment can support online game-play, Petitioner directs us to the following disclosure:

> The network-enabled 3D computing environment of the present invention has several extensions, including: the introduction of real-time avatars. Avatars are virtual representations of users, allowing them to interact with other users across a network. The ability to create an interactive online community is very powerful. Such a utility would allow for intra- and inter-company meetings, the extension of the online communities which exist today, virtual concerts, **online games**, etc.

Ex. 1008, 9:29–39 (emphasis added) (cited at Pet. 45–46).

Petitioner also contends that “Robinson discloses that business-related content, e.g., advertisements, can be transferred from a server to a client machine/computer of the user.” Pet. 48 (referencing Ex. 1008, 12:59–62). Petitioner contends that “business-related content retrieved from the server in Robinson is then automatically integrated/displayed within a Persistent Client Window on the client machine to the user.” *Id.* at 49 (referencing Ex. 1008, 12:59–62). Petitioner explains, in the context of Robinson’s Figure 9, that “client desktop environment 910 (e.g., the locally executed game application) using a window within the desktop window, where ‘[a]dvertisements, messages, pictures, video and other information or data’ can be presented ‘within the Persistent Client Window 912.’” *Id.* at 49–50 (referencing Ex. 1008, 15:1–3). We understand Petitioner to argue that desktop environment 910 can be a game application (when operating an online game) and advertisements would appear in Persistent Client Window 912. *Id.* (contending that desktop environment 910 is an example

of a locally-executed game application); *but see* Pet. Reply 27 (seeming to indicate that the game application is a program accessible from the 3D desktop environment). We address both of these possibilities below.

Petitioner also contends that Persistent Client Window 912 can include embedded hyperlinks that would re-direct a user to a 3D virtual reality environment based on the advertisement, or the user can drag and drop an advertisement to a region of the desktop. Pet. 50–52 (referencing Ex. 15:1–25, 15:31–40).

b) Patent Owner's counter arguments and our analysis of those arguments

Relevant to our analysis, Patent Owner argues that Petitioner fails to prove that Robinson's 3D computing environment can be a locally-executed game application. PO Resp. 58–59. Patent Owner argues that "Robinson's '3D computing environment' is merely a 3D desktop." *Id.* at 59 (referencing Ex. 1008, 5:11–27, Ex. 2005 ¶¶ 203, 181–188).

Patent Owner also argues that Robinson does not disclose how the Persistent Client Window is integrated into a game application. PO Resp. 64. Similarly, Patent Owner argues that selecting a hyperlink or dragging and dropping an advertisement from the Persistent Client Window would not be integrated into the game application. *Id.* at 65.

Petitioner replies that "Robinson's 3D computing environment is used for online games; and its client kernel is installed on the user's desktop environment, assisting in the performance of such online games." Pet. Reply 25 (citing Pet. 47). With reference to Robinson's Figure 9, Petitioner highlights the program icons, which can include game applications. *Id.* at 27.

Patent Owner replies that "Robinson's Kernel does not *support* any game application, and Petitioner offers no such evidence." PO Sur-reply 26. Patent Owner argues that "Robinson never states, nor does Petitioner provide citation, the kernel assists with running programs. Robinson's programs are run independently of the kernel—not in it." *Id.* at 27 (referencing Ex. 1008, 13:11–18).

We have considered Petitioner's contentions, and Patent Owner's and Petitioner's responsive arguments and find, on the complete trial record, that Petitioner fails to prove, by a preponderance of the evidence, that Robinson teaches or suggests the subject matter of claim 1. Specifically, we find that Petitioner has not persuasively proven that Robinson discloses that its 3D desktop environment can be a game application or otherwise support a game application. The sole reference to online gaming is in connection with avatars. Robinson states, in a section labeled "Extensions of the Present Invention," that the 3D computing environment can be extended to include "real-time avatars." Ex. 1008, 9:29–31. Robinson explains that "Avatars are virtual representations of users, allowing them to interact with other users across a network." Robinson continues: "The ability to create *an interactive online community is very powerful*. Such a utility would allow for intra- and inter-company meetings, the extension of the online communities which exist today, virtual concerts, online games, etc." *Id.* at 9:29–38. That is, Robinson discloses that its 3D computing environment may be extended to include avatars. These avatars can be used in interactive online communities, virtual concerts, and online games. We find nothing in this disclosure that even suggests that Robinson's 3D desktop environment itself could be a game application or support a game application.

Even if Robinson's 3D desktop environment itself could be a game application, Petitioner fails to persuasively explain how the Persistent Client Window would operate within an online gaming environment, such that is would provide advertisements. *See* Pet. 48–50. The disclosures in Robinson on which Petitioner relies merely states that advertisements can be displayed in Persistent Client Window 912 on user desktop 910, which is a 3D desktop, not a gaming environment. *See id.*; Ex. 1008, Fig. 9.

To the extent that Petitioner argues that Robinson's 3D desktop can allow the user to run programs and one of those programs can access an online game, Petitioner fails to persuasively explain how such a configuration satisfies the other requirements of claim 1. For example, claim 1 requires automatically integrating business-related content *into* a game application during execution of the game application. Robinson expressly discloses that the advertisement would appear in the Persistent Client Window, which is outside the running application. *See* Ex. 1008, 12:62–13:20. Specifically, Robinson discloses:

> The computer will periodically display a different advertisement or message within the Persistent Client Window per a predefined cycling period for rotating the advertisements or messages that are being displayed. When the computer system detects that the user does not have an application window open that covers the user's viewing of the Persistent Client Window or that only the user's computer desktop is being displayed, it will continue to display advertisements or messages within the Persistent Client Window that are being cycled from its buffer. In this way, when the user first turns the computer on, the computer will automatically display an advertisement or message in the Persistent Client Window and it will periodically display other advertisements or messages to the user as long as the Persistent Client Window can be displayed or while the enter desktop is being displayed. When the user opens an application program that overlaps and covers the display of the Persistent Client

> Window, the advertisement or message that is currently being displayed will remain in the Persistent Client Window until the user closes the application software and returns back to the desktop (or reduces the display of the application software so that the Persistent Client Window can be viewed) and at that time a new advertisement or message will appear in the Persistent Client Window to be viewed by the user.

Id. Petitioner fails to persuasively explain how such a configuration would integrate business-related content *into* the game application, when a game application would run, covering the Persistent Client Window. Even if the game application was repositioned to allow viewing of both the game and the Persistent Client Window within the 3D desktop, the advertisement would not be business-related content integrated *into* the game.

We do not credit Mr. Crane's supporting testimony. Mr. Crane testifies that

> Robinson explicitly describes that its 3D computing environment can serve existing online communities such as online games (Ex. 1008, 9:29–37), and can support real-time avatars (*id.*) - an element in common use in online games. Even without such specific game-related disclosures, a [person having ordinary skill in the art] would have been motivated to apply the teachings of Robinson to well-known, existing in-game advertising methods.

Ex. 1004 ¶ 173. This testimony recognizes that Robinson does not have game-related disclosures and, instead, essentially states that a person having ordinary skill in the art could fill in the recited structure to satisfy the claims. This testimony is unsupported.

We also do not credit Mr. Crane's testimony that "[s]hown in Fig[ure] 9, Robinson discloses the 'Persistent Client Window 912' integrated into the whole of the '3D computing environment' (the **locally**

executed game application) using a window within the desktop window." Ex. 1004 ¶ 188. This testimony does not adequately explain how Persistent Client Window 912 would exist in a 3D computing environment, such as one supporting an online gaming community, different from desktop 910. The testimony supposes, from one statement about avatars and online games that 3D desktop 910 can be converted to a game application, with Persistent Client Window 912 existing in that game to provide advertising content. Mr. Crane provides no support for this supposition.

For the reasons above, we conclude that Petitioner fails to prove, by a preponderance of the evidence that independent claim 1 is unpatentable under 35 U.S.C. § 103(a) over Robinson.

2. Independent claim 7 and dependent claims 3–6, 8, and 9

For independent claim 7, Petitioner relies on the same positions as in claim 1 for the relevant subject matter discussed above. *See* Pet. 56–61. Accordingly, for the reasons above in connection with our analysis of claim 1 under this Ground, we conclude that Petitioner fails to prove, by a preponderance of the evidence that independent claim 7 is unpatentable under 35 U.S.C. § 103(a) over Robinson. Dependent claims 3–6, 8, and 9 depend, directly or indirectly, from either claim 1 or claim 7. For at least the reason that these claims depend from claims not proven unpatentable, we conclude that Petitioner fails to prove, by a preponderance of the evidence, that dependent claims 3–6, 8, and 9 are unpatentable under 35 U.S.C. § 103(a) over Robinson.

3. Ground 3

We conclude that Petitioner fails to prove, by a preponderance of the evidence that claim is unpatentable under 35 U.S.C. § 103(a) over Angles, Robinson, and Ginter. Specifically, Petitioner fails to persuasively explain

how Ginter remedies the deficiencies we identify in Petitioner's position for claim 5 (from which claim 6 directly depends) under Ground 1 or claim 1 (from which claim 6 ultimately depends) under Ground 2. As such, claim 6 is not proven unpatentable for at least the reason that it depends from a claim that is not proven unpatentable.

4. Conclusions, Grounds 2 and 3

We conclude that Petitioner fails to prove, by a preponderance of the evidence that claims 1 and 3–9 are unpatentable under 35 U.S.C. § 103(a) over Robinson, or that claim 6 is unpatentable under 35 U.S.C. § 103(a) over Angles, Robinson, and Ginter.

III. MOTION TO EXCLUDE EVIDENCE

Patent Owner moves to exclude Exhibits 1017–1020, 1026, and 1027, certain paragraphs of Exhibits 1004 and 1025, and certain portions of Exhibit 1023. Papers 45, 50. Petitioner opposes. Paper 47. Because we do not rely on any of the evidence Patent Owner seeks to exclude, we dismiss the Motion as moot.

IV. CONCLUSION

We conclude that Petitioner has proven, by a preponderance of the evidence that claims 1, 3, 4, and 7–9 are unpatentable. [14] We conclude that Petitioner has not proven, by a preponderance of the evidence, that claims 5 and 6 are unpatentable. We dismiss Patent Owner's Motion to Exclude Evidence as moot.

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 3–9	103(a)	Angles	1, 3, 4, 7–9	5, 6
1, 3–9	103(a)	Robinson		1, 3–9
6	103(a)	Angles, Robinson, and Ginter		6
Overall Outcome			1, 3, 4, 7–9	5, 6

V. ORDER

Accordingly, it is:

ORDERED that claims 1, 3, 4, and 7–9 of U.S. Patent No. 8,458,028 B2 are proven unpatentable;

[14] 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).

FURTHER ORDERED that claims 5 and 6 of U.S. Patent No. 8,458,028 B2 are not proven unpatentable;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 318(b), upon expiration of the time for appeal of this decision, or the termination of any such appeal, a certificate shall issue canceling claims 1, 3, 4, and 7–9 of U.S. Patent No. 8,458,028 B2; and

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

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