

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PLR WORLDWIDE SALES LIMITED,
Petitioner,

v.

FLIP PHONE GAMES, INC.,
Patent Owner.

IPR2024-00200
Patent 11,117,056 B2

Before DAVID C. McKONE, DANIEL J. GALLIGAN, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

GALLIGAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

In this *inter partes* review, PLR Worldwide Sales Limited (“Petitioner”) challenges the patentability of claims 1–16 of U.S. Patent No. 11,117,056 B2 (Ex. 1001 (“’056 patent”)), which is assigned to Flip Phone Games, Inc. (“Patent Owner”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during the trial in this *inter partes* review. For the reasons discussed below, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–16 of the ’056 patent are unpatentable. *See* 35 U.S.C. § 316(e) (“In an *inter partes* review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”).

A. Procedural History

Petitioner filed a Petition (Paper 2, “Pet.”) challenging claims 1–16 of the ’056 patent on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–16	103(a) ¹	Hays ²
1–16	103(a)	Hays, Choi ³
5, 13	103(a)	Hays, Chu ⁴
5, 13	103(a)	Hays, Choi, Chu

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. §§ 102 and 103, effective March 16, 2013. Petitioner asserts unpatentability under pre-AIA § 103(a). *See* Pet. 8–12 (contending that the asserted references are prior art under pre-AIA § 102 for use in pre-AIA 103(a)).

² US 2008/0102947 A1, published May 1, 2008 (Ex. 1005).

³ US 2007/0174490 A1, published July 26, 2007 (Ex. 1006).

⁴ US 7,698,178 B2, issued Apr. 13, 2010 (Ex. 1007).

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–16	103(a)	Levkovitz ⁵
5, 13	103(a)	Levkovitz, Chu
8, 16	103(a)	Levkovitz, Choi

Pet. 2. Patent Owner filed a Preliminary Response. Paper 6. Petitioner filed an authorized reply to Patent Owner’s Preliminary Response (Paper 7), and Patent Owner filed a sur-reply to Petitioner’s preliminary reply (Paper 8). We instituted trial on the asserted grounds of unpatentability. Paper 9 (“Inst. Dec.”) at 19.

During the trial, Patent Owner filed a Response (Paper 12, “PO Resp.”), Petitioner filed a Reply (Paper 21, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 22, “PO Sur-reply”).

An oral hearing was held on February 6, 2025, a transcript of which appears in the record. Paper 28 (“Tr.”).

Furthermore, the ’056 patent is a continuation of the application for U.S. Patent 10,617,958 B2, which is at issue in IPR2024-00171 and which is a divisional of the application for U.S. Patent 9,731,202 B2 (“’202 patent”), which is at issue in IPR2024-00132. Ex. 1001, code (60). We held an oral hearing for IPR2024-00132, which involves the same parties and some of the same issues, on January 28, 2025. The parties agreed to have the transcript from IPR2024-00132 entered in the record in this case (Tr. 4:10–5:10), and we have done so (Paper 29 (“132 Tr.”⁶)).

Petitioner relies on testimony from José Zagal, Ph.D. Ex. 1003. Patent Owner relies on testimony from Robert Akl, D.Sc. Ex. 2004.

⁵ US 2007/0088801 A1, published Apr. 19, 2007 (Ex. 1008).

⁶ When referring to arguments made in IPR2024-00132 in this Decision, we will indicate this by using the prefix “132,” e.g., “in the 132 oral hearing.”

Petitioner entered in the record a transcript of the deposition of Dr. Akl. Ex. 1020.

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), the parties identify various related matters. Pet. 61; Paper 3.

C. Real Parties in Interest

Petitioner identifies itself and Playrix Holdings Ltd. as the real parties in interest. Pet. 61. Patent Owner identifies itself as the real party in interest. Paper 3.

D. The '056 Patent and Illustrative Claim

The '056 patent relates to “providing updated video game content to a mobile communication device.” Ex. 1001, 1:13–15. Independent claim 9 is reproduced below with Petitioner’s limitation identifiers in brackets. *See* Pet. xi–xii.

9. A method for providing updated content associated with a mobile video game to a mobile communication device, the method comprising:

- [a] storing, on a storage medium, pre-selected in-game video game content for use in a video game;
- [b] receiving, at a server, a request from the mobile communication device for updated content from the mobile communication device;
- [c] identifying, by the server in response to receiving the request, what pre-selected in-game video game content to send;
- [d] sending a message relating to the in-game video game content from the server to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device, a service subscription associated with the mobile communication

device, or a service provider for the service subscription associated with the mobile communication device; and
[e] sending, from the server, the pre-selected in-game video game content to the mobile communication device as the updated content for the mobile video game.

II. ANALYSIS

A. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *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) any secondary considerations, if in evidence. *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner argues that a person of ordinary skill in the art “would have had an undergraduate degree in game design or development, computer science, computer engineering, or a related field, with at least two years of experience working with computer gaming systems or software application development.” Pet. 2 (citing Ex. 1003 ¶¶ 65–69). Petitioner also contends that “[l]ess work experience may be compensated by a higher level of education or vice versa.” Pet. 2–3 (citing Ex. 1003 ¶¶ 65–69).

Patent Owner, relying on the testimony of Dr. Akl, contends that a skilled artisan “would have a bachelor’s degree in electrical engineering, computer engineering, computer science, or a similar field, along with one to two years of experience developing or programming video games or video game systems, or similar types of computer systems,” but notes that a skilled artisan “may have additional education that might substitute for some of the experience, and additional substantial experience might substitute for some of the educational background.” PO Resp. 2 (citing Ex. 2004 ¶ 28). According to Patent Owner, Petitioner’s proposal does not require experience in programming video games. PO Resp. 3. However, Patent Owner states, “[t]his difference does not materially affect the analysis presented below.” PO Resp. 3.

We see very little difference between the parties’ respective proposals. We adopt Patent Owner’s more specific proposal because it is consistent with the level of skill evidenced in the ’056 patent and the applied prior art, but we agree with Patent Owner that this does not affect our analysis; we would reach the same conclusions under Petitioner’s proposal.

C. Claim Construction

We construe claims “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), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b) (2023); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

Petitioner “does not believe any terms require construction to resolve the patentability disputes because the challenged claims are rendered

unpatentable by the cited art under any reasonable interpretation of the claims,” and Petitioner “takes no position in this Petition as to whether the claims are indefinite.” Pet. 12 (citing Ex. 1003 ¶¶ 71–72).

Although Patent Owner does not expressly propose construing any claim term, Patent Owner’s arguments regarding the application of prior art to limitations reciting “for use” and “pre-selected” implicate claim construction disputes. We address these claim construction disputes below to the extent necessary and determine that no other terms require express construction.

1. “For use”

Independent claim 9 recites “storing, on a storage medium, pre-selected in-game video game content *for use* in a video game” (emphasis added). In this discussion, we refer to arguments made at the 132 oral hearing because the “for use” language was discussed at that hearing as well.

Patent Owner argues that “Hays does not disclose that its advertisements are ‘for use’ in the video game.” PO Resp. 20. Patent Owner characterizes Hays’s advertisements as “untethered from game functionality” and argues that they “merely represent ‘skins’ that are displayed within the gaming environment but that do not affect game play.” PO Resp. 20 (citing Ex. 2004 ¶¶ 64, 71–72, 176–177; Ex. 1005 ¶¶ 17–19).⁷ Patent Owner attempts to distinguish “for use in a video game” from what it characterizes as Hays’s texture maps and other graphical displays on pre-

⁷ Patent Owner makes similar arguments for Levkovitz. *See, e.g.*, PO Resp. 43 (“Levkovitz merely discloses ‘serv[ing] content items directed for presentation. . . .’ This is nothing more than the placement of content such as banner ads within the game, which are not usable in the video game as the claim requires.” (internal citations omitted)).

designated geometry within a game, such as billboards, storefronts, Jumbotron screens, posters, and T-shirts on game characters. PO Resp. 20 (citing Ex. 1005 ¶ 18). Patent Owner admits that Hays’s ad units may be interactive within the game but argues that they do not “alter the functionality of the game based on whether an advertisement is displayed, much less that the functionality is specific to an advertisement versus the preexisting placement location, i.e., the ‘ad unit.’” PO Resp. 20–21 (citing Ex. 2004 ¶¶ 71, 176–177; Ex. 1005 ¶¶ 19, 79). Such interactive ad units, Patent Owner argues, are not *for use* in the game because, “to the extent there is any game functionality associated with an ‘ad unit,’ that functionality is the same regardless of whether an advertisement is displayed on the ad unit.” PO Resp. 21 (citing Ex. 2004 ¶¶ 71–72, 176–177). Patent Owner also argues that Hays’s ad units do not relate to in-game purchases. PO Resp. 21 (citing Ex. 2004 ¶¶ 64, 71–72, 176–177).

From these distinctions, Patent Owner seeks to add several requirements for the language “for use in a video game,” including that the updated video-game content be an interactive object that is inserted into an existing game, or at least a new ad unit not already present in the game, and that the updated content alter the function of the game. PO Resp. 20–22. Patent Owner offers no persuasive support for these restrictions on the claim language.

The claim language itself suggests no such restrictions. Rather, all the claim language recites is video-game content that is for use in the video game. The claim language does not specify who or what must use the content or how it must be used. Thus, the claim language itself is broad and includes none of the restrictions Patent Owner would place on it.

As Petitioner points out (Pet. Reply 7–8), the specification of the '056 patent directly refutes Patent Owner's position. The '056 patent's Figure 2A below is instructive.

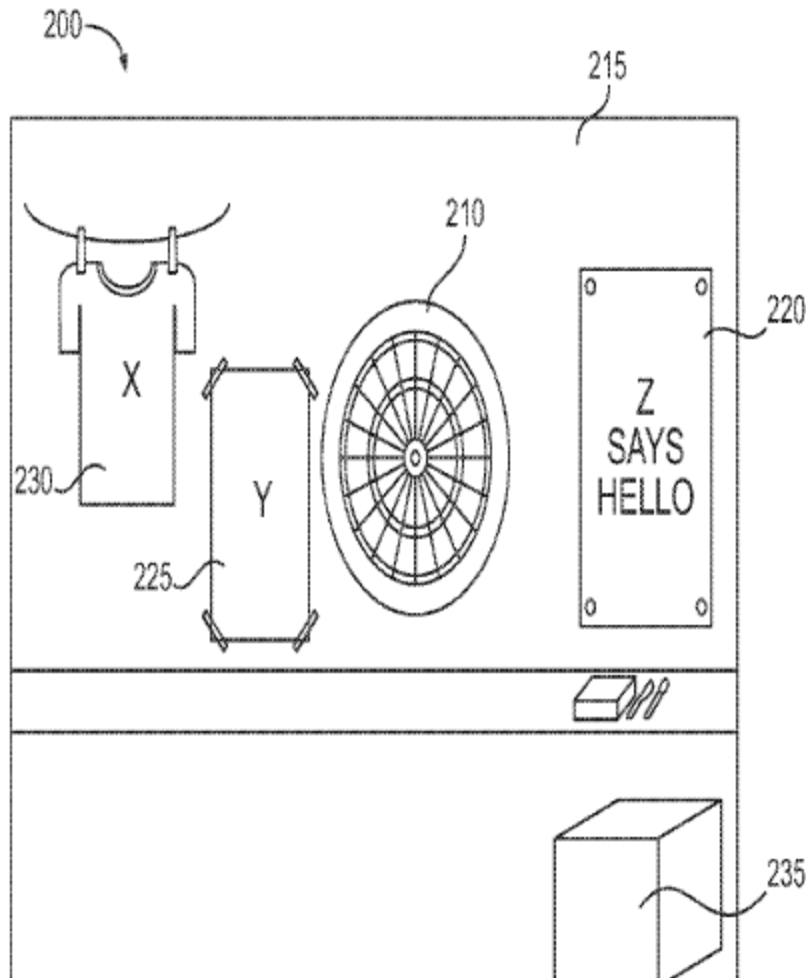


FIG. 2A

Figure 2A above from the '056 patent is an exemplary scene in a mobile video darts game. Ex. 1001, 6:36–40. In this example, “several items 210, 220, 225, 230, and 235 are shown within scene 200,” and

virtually any of these items may be changed by receiving updated content on the mobile communication device. For instance, the shirt 230 might be updated to include a logo

associated with third party X (as shown). The poster 225 might advertise an upcoming movie for third party Y, and chalk board 220 may contain a handwritten advertisement for third party Z (as shown).

Ex. 1001, 6:44–52. When an advertising contract changes, “the mobile communication device may thereafter download updated content reflecting a new graphic, shirt, or entirely new object, to place at 230.” Ex. 1001, 6:55–59. These are examples of updated video-game content (updated advertisements on posters, T-shirts, and chalk boards) that are for use (e.g., by the game or mobile communication device executing the game) in a video game that already exists on the mobile communication device. These are also examples of what Patent Owner argues are “skins” that correspond to existing ad units and that do not alter any function of the game. Patent Owner’s construction, then, would exclude the ’056 patent’s preferred embodiment. “Such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

In response, Patent Owner argues that these examples are “unrelated sections of the ’056 Patent’s specification” and that “neither the logo nor poster are actually used in the game.” PO Sur-reply 6 (citing Ex. 1001, 6:60–61). Instead, Patent Owner argues (PO Sur-reply 7), we should consider the ’056 patent’s disclosure that “[i]n another example, newer mobile communication devices may be able to display a[n] elaborate content, so distinguishing among types of mobile communication devices may allow a game provider to maximize the experience on each type of

mobile communication device.” Ex. 1001, 11:42–47.⁸ Patent Owner does not explain how this passage provides evidence of what the claims mean by “for use” in a video game, and we find it inapposite. Specifically, we find that this passage does not contradict the preferred embodiment at column 6, lines 44–52, discussed above in relation to Figure 2A, provide lexicography for the phrase “for use,” or purport to exclude anything from the phrase “for use.”

At the 132 oral hearing (132 Tr. 32:16–33:3), Patent Owner pointed to the following disclosure in the ’056 patent:

Other content of the mobile video game, such as the shape, design, coloring of dartboard 210 or the texture or coloring of background 215 may be updated. In other games, new weapons, interactive characters, levels, hot spots, and other items may be provided as part of the update. In short, any content element used in the mobile video game may be updated, depending on the embodiment.

Ex. 1001, 7:9–15.⁹ Instead of supporting Patent Owner’s position, this passage makes clear that “[o]ther content of the mobile video game, such as the shape, design, coloring of dartboard 210 or the texture or coloring of background 215” falls within “any content element used in the mobile video game.” Ex. 1001, 7:9–15. Thus, the specification does not support Patent Owner’s position that “for use in a video game” requires an interactive object or a new ad unit that is inserted into an existing game that alters the function of the game.

⁸ Although Patent Owner cites column 10, lines 41–45, the disclosure appears at column 11, lines 42–47.

⁹ At the 132 oral hearing, Patent Owner referred to the disclosure at column 7, lines 7–13 of the ’202 patent, which is the same as the cited disclosure in the ’056 patent. 132 Tr. 32:19–20.

Patent Owner also argues that the related '202 patent's prosecution history supports limiting "for use in a video game." Specifically, Patent Owner argues that "the applicant expressly distinguished during prosecution the concept of a link to content used in a separate application, which is similar to Hays's ad unit in with a skin that is provided by an ad server, from that application's claimed 'in-game advertising *for use* in a video game.'" PO Resp. 23 (citing Ex. 2004 ¶¶ 67–68, 176–177). During prosecution of the '202 patent, the applicant distinguished the Gatto reference from the pending claims in an office action response and in a pre-appeal brief. Ex. 2002, 166, 188–89. According to the applicant, Gatto teaches downloading promotional items in response to a user clicking on a hyperlink included in an email lottery ticket. Ex. 2002, 166, 187. The applicant distinguished Gatto by arguing that an email is not a video game and that promotional items available for download via hyperlinks are not usable in the email. Ex. 2002, 166, 188. For example, the applicant argued:

Nothing in Gatto discloses that these "promotional items" "update" the email ticket when downloaded; in fact, it appears that the email ticket is not updated once it is sent to a user to "play." A "hyperlink" is not updated content for the email ticket, but instead causes the download of an entirely separate program or Internet page.

Ex. 2002, 166 (emphasis omitted).

Petitioner argues that the prosecution history is inapposite, as the applicant was not arguing that the hyperlinks were updated content but that the updated content was the promotional items that were linked to, but not used, in the email. Pet. Reply 9. "In other words, the problem with Gatto was that the updated content was not itself displayed within the email but instead linked by the email's hyperlinks." Pet. Reply 9. We agree with

Petitioner. The applicant did not distinguish Gatto because the promotional content was akin to “skins” that did not alter game play. Rather, the applicant distinguished Gatto because Gatto’s promotional content did not appear in the email that the Examiner alleged was a video game. In response, Patent Owner also agrees with this statement by Petitioner but argues that “the distinction with Gatto is the same as Hays, which as noted, provides ‘ad units,’ which are ‘pre-designated geometry within the game,’ at which linked advertising may be displayed.” PO Sur-reply 8 (citing Ex. 1005 ¶ 18). In fact, Gatto appears to have very little similarity to Hays in this regard. We find that the prosecution history of the ’202 patent does not suggest the limitations on “for use in a video game” advanced by Patent Owner.

On the complete record, including the plain language of claim 1, the specification, and the prosecution history of the related ’202 patent, we conclude that the phrase “for use in a video game” does not require an interactive object or new ad unit that is inserted into an existing game that alters the function of the game. Furthermore, as discussed below in Section II.D.2.c, we find that Hays teaches the “for use” limitations even under Patent Owner’s interpretation.

2. “Pre-selected”

Independent claim 9 recites “storing, on a storage medium, *pre-selected* in-game video game content for use in a video game” (emphasis added). Claim 9 further recites “identifying, by the server in response to receiving the request, what pre-selected in-game video game content to send.” Claims 1 and 9 recite that a message that is sent to the mobile communication device “is pre-selected by the server based on” certain criteria.

In the Institution Decision, we advised that “the parties may wish to address the interpretation of the phrase ‘pre-selected in-game video game content’” and that the parties may wish to address what it means for a message to be “pre-selected.” Inst. Dec. 9.

Patent Owner argues that interpreting “pre-selected” to encompass any message that is selected before it is sent “is an overly broad interpretation of the claim” that “gives no meaning to pre-selected.” PO Resp. 11. Patent Owner further argues that “merely ‘selecting’ a message from stored data does not give effect to the claim because all data is stored before selection and selecting that data does not show pre-selection of a message.” PO Resp. 11.

Thus, we understand Patent Owner’s position to be that a pre-selection requires some sort of selection that is more than merely storing data before an eventual selection of data to send in response to receiving a request for updated content. This is generally consistent with Patent Owner’s oral argument, in which its counsel argued as follows:

I don’t think it’s just as simple as saying, well, anytime you store anything, it’s been pre-selected, because again, that kind of reads out pre-selection, as well. And the same thing with indexing. I think that’s simply too broad. There must be some pre-selection of, you know, kind of narrowed down content, if you will, but then when the request comes in, you choose among that pre-selected content for the final selection.

Tr. 31:18–23; *see also* Tr. 31:2–5 (Patent Owner’s counsel’s argument that “there must be a pre-selection of certain content that will be available from which to select once the request is received, and then the checking step is performed in the various claims here”), 34:23–24 (Patent Owner’s counsel’s argument that “[t]here still must be a pre-selection, which we don’t think is simply, you know, the act of storing”).

Patent Owner's argument regarding the pre-selected message recitations of claims 1 and 9 is similar:

In the message -- the message elements, so in other words, the messaging elements of the '056 patent, Claims 1 and 9, it does say that the pre-selection is based on one of these factors. So that is what -- the point at which it's pre-selected for -- with respect to the message element. So they're just slightly different, I think, based on the, you know, the plain meaning of the claim and the clear structure of the claim. But in no case do we believe it's appropriate to say, you know, with all due respect, that merely storing something first and then selecting from storage is pre-selection.

Tr. 35:14–21.

We note that, during oral argument, Patent Owner argued that pre-selection cannot be met by indexing data. Patent Owner, however, does not mention indexing in its papers at all, much less explain why indexing should be excluded from pre-selection. To the extent this is an argument directed to Petitioner's contentions (Pet. 18) regarding Hays's disclosure that data are "keyed upon the unique client identifier" of a device that requests ads (Ex. 1005 ¶ 41), it is untimely. As discussed below in Section II.D.2.d, Patent Owner in its Response did not address Petitioner's contentions regarding data that are keyed to a client identifier. In any event, we find Patent Owner's untimely argument about indexing to be inconsistent with the '056 patent, which states that "the updated content may be organized or *indexed* by a database of pre-selected content." Ex. 1001, 5:54–56 (emphasis added). Thus, the '056 patent discloses that indexing is a way to pre-select content, which makes sense given that an index would show that certain data are selected ahead of time to be associated with certain devices based on the device identifier.

As explained below in Sections II.D.2.b. and II.D.2.d, Petitioner’s contentions based on Hays show that Hays teaches pre-selected in-game video game content, as recited in claim 9, and a pre-selected message, as recited in claims 1 and 9, according to Patent Owner’s understanding of the term as requiring more than mere storage, with the exception of Patent Owner’s “indexing” argument. Therefore, we apply Patent Owner’s interpretation (except its “indexing” argument) in our patentability analysis, and we need not provide a full claim interpretation, nor do we need to resolve whether pre-selecting can be met by merely storing data. *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))).

*D. Asserted Obviousness over Hays
(Claims 1–16)*

Petitioner asserts that claims 1–16 are unpatentable as obvious over Hays. Pet. 2, 13–32. Patent Owner opposes. PO Resp. 10–29; PO Sur-reply 2–12. For the reasons explained below, Petitioner has shown unpatentability of claims 1–16 on this ground by a preponderance of the evidence.

1. Prior Art Status of Hays

Hays is a U.S. patent application publication that discloses targeted advertising for video games. Ex. 1005, code (57). Additional pertinent details of Hays are discussed in the analysis below.

In an *inter partes* review, a petitioner “may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting

of patents or printed publications.” 35 U.S.C. § 311(b). Patent Owner argues that Hays “is only a ‘printed publication’ under § 311(b) as of the date it became available to the public—*i.e.*, after the June 26, 2007, priority date of the ’056 Patent,” and, therefore, that Hays is “ineligible to be prior art in an IPR.” PO Resp. 56–58.

The Federal Circuit has rejected this argument, holding that a published patent application is, by its literal terms, a “printed publication.” So, when § 311(b) permits IPR challenges based upon “prior art . . . printed publications,” it includes within its literal scope challenges based upon a published patent application. And, by virtue of § 102(e)(1), a published patent application—this *specific* type of “printed publication”—is deemed prior art as of its filing date. Therefore, the plain language of §§ 311(b) and 102(e)(1) permits IPR challenges based upon published patent applications, and such published patent applications can be deemed prior art in IPRs as of their filing date.

Lynk Labs, Inc. v. Samsung Elecs. Co., 125 F.4th 1120, 1127 (Fed. Cir. 2025). Thus, Petitioner asserts a permissible ground of unpatentability under 35 U.S.C. § 311(b) by arguing that claims 1–16 are unpatentable under 35 U.S.C. § 103(a) on the basis of Hays, which is a prior art printed publication.

2. *Claim 9*

We begin our analysis with claim 9 because it recites disputed subject matter that is not present in claim 1. Petitioner’s contentions for claim 9 refer to similar subject matter recited in claim 1.

a) Overview of Petitioner’s contentions

Claim 9 is directed to a “method for providing updated content associated with a mobile video game to a mobile communication device.” Petitioner argues that Hays discloses the preamble. Pet. 13–14 (citing

Ex. 1005 ¶¶ 17, 21, 28, 51; Ex. 1003 ¶¶ 88–91); *see* Ex. 1005 ¶¶ 21 (disclosing that “specific advertisements may be presented in the appropriate available ad units at the appropriate time during game play”), 51 (“Those skilled in the relevant art will appreciate that the invention can be practiced with other system configurations, including Internet appliances, hand-held devices, wearable computers, [or] cellular or mobile phones . . .”).

Claim 9 recites “storing, on a storage medium, pre-selected in-game video game content for use in a video game” (limitation 9a). Petitioner argues that Hays’s advertisement and media servers are in communication with storage devices that store advertisements that are usable in a video game. Pet. 14–15 (citing Ex. 1005 ¶¶ 20–21, 28, 52, 55, 79, 98, Fig. 1A; Ex. 1003 ¶¶ 92–93). Petitioner cites Hays’s disclosure of ad targeting in support of its argument that “Hays discloses that the advertisements are *pre-selected*.” Pet. 20 (citing Ex. 1005 ¶ 22; Ex. 1003 ¶¶ 106–107). We discuss Petitioner’s contentions for “pre-selected in-game video game content” in more detail below.

Claim 9 recites “receiving, at a server, a request from the mobile communication device for updated content from the mobile communication device” (limitation 9b). Petitioner argues that Hays discloses that a mobile communication device requests advertisements. Pet. 16 (citing Ex. 1005 ¶¶ 32, 37, 51, Fig. 1A; Ex. 1003 ¶¶ 95–97); *see* Ex. 1005 ¶¶ 32 (“The game playing device 126 may request and receive advertisements from the advertisement management service system 108 and may be configured to establish communication via a communication link, such as the Internet 129.”), 29 (“[T]he advertisement server 114 may fulfill requests received from the advertisement recipient client 104 for advertisements and

associated media, including supporting advertisement requests from the advertisement recipient client 104.”).

Claim 9 recites “identifying, by the server in response to receiving the request, what pre-selected in-game video game content to send” (limitation 9c). Petitioner argues that Hays discloses checking for content to send for display based on the type of requesting device using an “advertising matching and weighting system.” Pet. 16–17 (citing Ex. 1005 ¶¶ 37, 40, 43, Figs. 1A, 2; Ex. 1003 ¶¶ 98–100); *see* Ex. 1005 ¶ 43 (“The advertising matching and weighting system 220 then selects one or more advertisements from the weighted advertisement set . . .”).

Claim 9 recites

sending a message relating to the in-game video game content from the server to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device, a service subscription associated with the mobile communication device, or a service provider for the service subscription associated with the mobile communication device

(limitation 9d). Petitioner argues that the recited message need not be displayed to the user, that Hays’s data and metadata associated with an ad are examples of a message, and that Hays’s disclosure of retrieving data “keyed upon the unique client identifier” of the requesting device (Ex. 1005 ¶ 41) teaches a message that is “pre-selected by the server based on a model type associated with the mobile communication device.” Pet. 18 (citing Ex. 1005 ¶ 41; Ex. 1003 ¶¶ 101–106; Ex. 1001, 10:6–8). Petitioner identifies other examples of messages in Hays. Pet. 19–21 (citing Ex. 1005 ¶¶ 22, 23, 40, 41, 43, 44, 51, 79; Ex. 1001, 9:67–10:3).

Claim 9 recites “sending, from the server, the pre-selected in-game video game content to the mobile communication device as the updated content for the mobile video game” (limitation 9e). Petitioner argues that Hays discloses that selected ads are sent back to the requesting device. Pet. 21–22 (citing Ex. 1005 ¶¶ 21, 32, 43; Ex. 1003 ¶¶ 108–110); *see* Ex. 1005 ¶ 43 (“The selected advertisements are then sent back to the requesting advertising request handler 210 and transmitted back to the advertisement recipient client for display.”).

Patent Owner argues the following: (1) Petitioner does not address claim 9’s requirement that the in-game video game content be “pre-selected” (PO Resp. 18–19); (2) Hays does not disclose “in-game video game content” that is “for use in a video game” (PO Resp. 19–23); and (3) Hays does not disclose a message that is pre-selected based on any of the factors recited in limitation 9d (PO Resp. 10–18).

We address these arguments below.

b) Pre-selected content

Patent Owner argues that Petitioner does not address limitation 9a’s recitation that the in-game video game content be “pre-selected,” noting that “the phrase ‘*pre-selected* in-game video game content’ never appears in the body of the Petition, and instead only appears in the heading on page 30.” PO Resp. 18–19. This argument stems from the fact that claim 1 recites “a storage medium for storing in-game video game content” (limitation 1a), and claim 1 does not recite “pre-selected in-game video game content.” Thus, Patent Owner’s argument is that the Petition’s reference to limitation 1a to show how Hays teaches limitation 9a is insufficient. PO Resp. 18–19.

We disagree that the Petition is insufficient in this regard because, as we pointed out in the Institution Decision, “[i]n its contentions for claim 1,

Petitioner asserts that Hays teaches pre-selected advertisements by its disclosure of targeting advertisements.” Inst. Dec. 14 (citing Pet. 20; Ex. 1005 ¶ 22). Petitioner asserts that Hays’s “advertisements stored on the media server are *in-game video game content*.” Pet. 15 (citing Ex. 1005 ¶ 21). Petitioner elsewhere argues that “Hays discloses that the advertisements are *pre-selected*.” Pet. 20 (citing Ex. 1005 ¶ 22; Ex. 1003 ¶¶ 106–107). Patent Owner even acknowledges that Hays’s “advertisements” are “the *alleged* pre-selected in-game video game content.” PO Resp. 10 (emphasis added). Thus, the contentions in the Petition account for claim 9’s recital of “pre-selected in-game video game content,” notwithstanding Petitioner’s imprecise cross-reference to claim 1.

Petitioner argues that Hays teaches that ads are pre-selected by its disclosure that

advertisers can target the delivery of their advertisement campaign specifically to a sub-channel as that sub-channel relates to their campaign or may subtarget by time of day (e.g., deliver advertising to all gaming devices playing at 8 p.m. on Thursday) or by game play date (e.g., once the game has been played for 45 minutes—air the Domino’s ad campaign, or in the fourth inning of the sports title, air the XYC campaign).

Ex. 1005 ¶ 22, *quoted in* Pet. 20. Thus, according to Petitioner, “Hays teaches that advertisers can *pre-select* which advertisements to deliver to which genre of games or which time of the day or which event within the game.” Pet. 20.

Patent Owner argues that Hays discloses a matching and weighting system that selects ads in real time and that “[t]his ‘real time’ ad targeting ‘through matching and optimization’ says nothing of ‘pre-selected’ advertisements.” PO Resp. 12 (citing Ex. 2004 ¶¶ 55, 152).

We agree with Patent Owner that Hays discloses a matching and weighting system to select ads, but Petitioner relies on this disclosure for the identifying step in limitation 9c (“identifying, by the server in response to receiving the request, what pre-selected in-game video game content to send”). See Pet. 16–17 (for limitation 1d, which recites “identify, in response to receiving the request, what in-game video game content to send,” arguing that, when a mobile device sends a request for an ad, “‘advertising request handler 210’ forward[s] the request ‘to an advertising matching and weighting system,’ which ‘calculate[s] [a] weight of each advertisement based on several factors’” (quoting Ex. 1005 ¶¶ 40, 43; second and third alterations by Petitioner)), 30 (referring to contentions for limitation 1d).

Hays discloses that an advertiser can target particular ads at particular times, such as “air[ing] the Domino’s ad campaign” after a “game has been played for 45 minutes.” Ex. 1005 ¶ 22. Thus, an advertiser selects ads to run, and those ads become part of the pool from which the advertising matching and weighting system selects ads. See Ex. 1005 ¶ 22 (“Based on information associated with each of the available ad units (e.g., current game environment, game title genre, predicted player demographic information for current available ad unit, player geography, time of day, etc.), the *advertisement server may then (through matching and optimization) distribute and deliver targeted advertisements* to players’ gaming devices, where the advertisements may be integrated into the relevant game areas in real time.” (emphasis added)). Thus, we agree with Petitioner that the ad targeting described in Hays’s paragraph 22 happens before the matching and weighting system determines which ads to serve. Pet. Reply 3–4 (referring to Hays’s paragraph 22 and arguing that the “pre-selection plainly happens

before the weighting system determines which ads and associated data to serve to a particular mobile device”). In other words, ads are pre-selected before they are ultimately selected by the matching and weighting system.

Petitioner’s contentions and Hays’s disclosures are consistent with the ’056 patent’s written description, which states the following:

The pre-selected content may be stored on a storage medium accessible by the server. Updated content may be chosen from pre-selected content based on at least one of the factors including a type of the mobile communication device, a telecommunication service, a subscription associated with the mobile communication device, and a service provider of the telecommunication service.

Ex. 1001, 11:34–40. Thus, the ’056 patent discloses that content is selected from pre-selected content. Claim 9 similarly requires identifying “what pre-selected in-game video game content to send,” meaning that content is selected from pre-selected content. *See* Tr. 31:2–5 (Patent Owner’s counsel’s argument that “there must be a pre-selection of certain content that will be available from which to select once the request is received, and then the checking step is performed in the various claims here”), 31:21–23 (Patent Owner’s counsel’s argument that “[t]here must be some pre-selection of, you know, kind of narrowed down content, if you will, but then when the request comes in, you choose among that pre-selected content for the final selection”). On this record, we find that Petitioner’s contentions and Hays’s disclosure of selecting ads to serve from a pool of ads that are selected ahead of time are consistent with the written description of the ’056 patent and show how Hays teaches the pertinent claim limitations.

Patent Owner argues that Hays’s disclosure in paragraph 22 of sub-channels “is irrelevant to whether a particular advertisement is ‘pre-selected’” because “these ‘sub-channels’ have to do with the target for a

particular advertisement, e.g., in a particular game or at a particular time of day.” PO Resp. 13 (citing Ex. 1005 ¶ 22). Patent Owner further argues that “Hays’s sub-channels are sub-channels for advertisement *spaces* within a game—not sub-channels (or sub-selections or sub-groupings) of the advertising content itself.” PO Sur-reply 4 (citing Ex. 1005 ¶ 21).

We disagree with these arguments because, as noted above, Hays expressly discloses that “advertisers can target the delivery of their advertisement campaign,” such as a “Domino’s ad campaign,” “by time of day” or by how long the game has been played. Ex. 1005 ¶ 22. Thus, Hays’s ad campaign targeting involves selecting the advertising content itself ahead of time, i.e., pre-selecting it. *See* Ex. 1005 ¶ 30 (“[A]n advertisement campaign may include one or more advertisements, along with related targeting or presentation parameters specified for flight during a specified date range.”).

Thus, we find that Hays discloses “pre-selected in-game video game content” as recited in limitation 9a.

c) Content for use in a video game

Claim 9 recites “pre-selected in-game video game content *for use* in a video game” (emphasis added). Claim 1 does not recite that the content is “for use” in a video game, and Patent Owner argues that Petitioner’s reliance on its claim 1 contentions for claim 9 therefore fails because “the words ‘for use’ do not appear anywhere in the analysis of the Hays grounds.” PO Resp. 19. We disagree with this argument because, for claim 1, Petitioner asserts that Hays’s “advertisements (*i.e. updated video-game content*) are *usable in the game* by being ‘pass[ed] on to the game code’ and ‘presented in the appropriate available ad units at the appropriate time during game play.’ (*i.e., in-game*).” Pet. 15 (quoting Ex. 1005 ¶ 21; alterations by Petitioner);

see Pet. 30 (referring to this contention for limitation 9a). Thus, the Petition clearly alleges that Hays’s ads are usable, i.e., “for use,” in a video game. *See* Tr. 44:8–17 (Patent Owner’s counsel confirming that “usable” and “for use” have the same meaning); *see also* PO Resp. 43 (arguing that certain banner ads in Levkovitz “are not usable in the video game as the claim requires,” referring to claim 9).

Patent Owner contends that Hays does not teach advertisements that are “for use” in a video game that already exists on the communications device. PO Resp. 19–23; PO Sur-reply 6–9. Patent Owner argues that Hays’s advertisements are not for use in the video game because they are merely “skins” that are displayed within the gaming environment and do not affect game play, alter the functionality of game play based on whether the advertisements are displayed, or relate to in-game purchases. PO Resp. 19–22 (citing Ex. 1005, Abstract, ¶¶ 17–19, 58, 79; Ex. 2004 ¶¶ 61–74, 176–177); PO Sur-reply 6–9.

As explained in Section III.C.1 above, the phrase “for use in a video game” does not require an interactive object or new ad unit that is inserted into an existing game that alters the functionality of the game. Hays describes uploading advertisements to a mobile communications device within an existing video game and presenting those advertisements in ad units within that game during game play. Ex. 1005 ¶¶ 18, 21, 32, 43, 79. These advertisements are for use in the video game, at least by the video game itself and also by the player. *See, e.g.*, Ex. 1005 ¶ 18 (“items *used* by game characters (e.g., a brand name soft drink or energy bar)” (emphasis added)).

Patent Owner also admits that “Hays describes pre-designated ad units that may be ‘interactive within the game.’” PO Resp. 21 (quoting Ex. 1005 ¶ 19; citing Ex. 1005 ¶ 79). For example,

[s]ome available ad units may be interactive within the game (e.g., a game character eating a brand name energy bar to boost her power in the game, a brand-related “minigame” presented between levels, a click through advertisement, etc.) and may bring aspects of the real world into the game (e.g., a player can enter a code from a product to provide advantages in the game).

Ex. 1005 ¶ 19. We find that this disclosure teaches video-game content that is for use when the video game operates, here, usable by the game player.

Moreover, even if we were to agree with Patent Owner’s construction of these terms, Hays describes advertisements that alter the functionality of game play based on whether the advertisements are displayed. For example, game play is altered when a player eats a brand name energy bar. Ex. 1005 ¶ 19. Similarly, game play is altered when a bot is inserted into the video game to offer the player a brand name drink. Ex. 1005 ¶ 79 (“[T]he advertisement management service system may send bots or electronic agents into the game as advertising units or real characters in the game, which advertise or promote a product (e.g., a game character may move around a screen holding a can of Pepsi and ask player if they would like a drink).”). Patent Owner stated at the 132 oral hearing that “I don’t dispute that if, if Hays were to disclose, which it does not, sending the brand name energy bar itself, the available ad unit as the updated content and then a player character eats it to boost their energy, I would not dispute that that is content usable when the videogame operates.” 132 Tr. 36:3–6. However, this is, in essence, what Hays describes. Ex. 1005 ¶¶ 18, 19, 79.

As to the Pepsi can example, Patent Owner responds that Hays describes this as no more than a “skin” on “pre-designated geometry” that is already in the game. PO Resp. 21–22 (citing Ex. 1005 ¶¶ 18, 58); PO Sur-reply 7 (“[T]hese ‘bots’ are not received from a server, but rather are ‘advertising units,’ which are already part of the game, as Hays describes.” (citing Ex. 1005 ¶ 18)). According to Patent Owner, “the game described in Hays operates in the same way whether the can is blank or says Pepsi, and similarly the user does not experience any differences in the game based on the Pepsi skin being applied to the can versus there being no or a different advertisement.” PO Resp. 22 (citing Ex. 2004 ¶¶ 71–72, 176–177); PO Sur-reply 7 (“Hays does not describe that inclusion of an advertisement—i.e., the specific brand of energy bar—as modifying any functionality for use in the game. Rather, the game operates in the same way whether the energy bar is blank, shows the branding of a known brand, or includes a fictional in-game brand.” (citing Ex. 2004 ¶¶ 61–74, 176–178)).

Patent Owner and Dr. Akl misunderstand Hays. In the soft drink can example, “the advertisement management service system may send bots or electronic agents into the game as advertising units or real characters in the game.” Ex. 1005 ¶ 79. Thus, the service system inserts more than a skin; it inserts a bot or agent that was not part of the game before it was inserted. Because Dr. Akl’s testimony (Ex. 2004 ¶¶ 63–64, 71–72) is inconsistent with Hays’s disclosure, we do not credit it. *See Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1378 (Fed. Cir. 2017) (“[W]e must disregard the testimony of an expert that is plainly inconsistent with the record . . .”).

In the Sur-reply, Patent Owner argues that “nowhere does Hays include any suggestion that the player’s character has the option to drink any

advertised product *in the game*, as opposed to suggesting the player do so in real life.” PO Sur-reply 7. Patent Owner argues that “Hays never describes any interaction by the user with these ‘bots or electronic agents.’ Instead, they act as non-interactive mobile advertisements.” PO Sur-reply 7. Patent Owner, however, already admitted that “Hays describes pre-designated ad units that may be ‘interactive within the game.’” PO Resp. 21 (quoting Ex. 1005 ¶ 19; citing Ex. 1005 ¶ 79). In addition to undermining Patent Owner’s credibility, Patent Owner’s about face is tantamount to a new argument, not presented in the Patent Owner Response, that has been forfeited. In any case, it is incorrect. The implication of Hays’s disclosure of a bot offering the player a branded soft drink is that the player’s character drinks it. Ex. 1005 ¶ 79. This is bolstered by Hays’s description of the player’s character eating a brand name energy bar to boost her power in the game. Ex. 1005 ¶ 19.

In sum, we find that Hays teaches “in-game video game content for use in a video game,” even under Patent Owner’s reading of the term.

d) Pre-selected message

Limitation 9d recites “sending a message relating to the in-game video game content from the server to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device” or other factors. As noted above, Petitioner identifies Hays’s metadata and data used to display an ad as examples of messages and argues that Hays’s disclosure of retrieving data “keyed upon the unique client identifier” of the requesting device (Ex. 1005 ¶ 41) teaches a message that is “pre-selected by the server based on a model type associated with the mobile communication device.” Pet. 18 (citing Ex. 1005 ¶ 41; Ex. 1003 ¶¶ 101–

106; Ex. 1001, 10:6–8). For example, Hays discloses “delivering the files *and data* that the advertisement recipient client 104 uses to display the advertisement” and also discloses that “the delivery of the content for advertisements may be separated from the *metadata* concerning the advertisement.” Ex. 1005 ¶ 41 (emphasis added).

In its Response, Patent Owner does not address Petitioner’s contentions about data that are keyed to a client identifier (model type), arguing instead that Hays’s weighting and matching system selects advertisements and that Hays’s disclosure of ad targeting does not teach pre-selected content. PO Resp. 10–14, 15–16 (citing Ex. 1005 ¶¶ 22, 43; Ex. 2004 ¶¶ 54–55, 57–58, 152–162); *see also* Pet. Reply 3 (noting that Patent Owner does not address Hays’s disclosure of retrieving data based on a unique client identifier). Not until its Sur-reply does Patent Owner address Petitioner’s “unique client identifier” argument for the “pre-selected” message subject matter of limitation 9d. PO Sur-reply 3 (citing Ex. 1005 ¶ 41). Patent Owner argues that “a unique client identifier does not indicate that any message or advertisement was preselected” but, rather, shows “merely selecting an advertisement or message.” PO Sur-reply 3 (citing Ex. 1005 ¶ 41). According to Patent Owner, Petitioner “ignores that the claim requires ‘pre-select[ing]’ a message relating to in-game video game content.” PO Sur-reply 3.

Patent Owner forfeited these arguments by not presenting them in its Response. *See* Paper 10 (Scheduling Order) at 9 (“Any arguments not raised in the response may be deemed forfeited.”). Notwithstanding Patent Owner’s forfeiture, we explain here why we do not agree with these arguments. Hays discloses that a “set of advertising for each request may be extracted from the advertisement serving database 122 based on data

retrieved from a[n] advertisement recipient database 120 *keyed upon the unique client identifier.*” Ex. 1005 ¶ 41 (emphasis added). Hays discloses that an advertising “request contains a data structure that includes a unique identifier to indicate the client type” of the requesting client and that the “client type . . . includes a type of game console.” Ex. 1005 ¶ 40; *see* Pet. 20 (discussing this disclosure). As Petitioner notes (Pet. 20–21), Hays further explains that the term “game console” refers to various devices including “cellular or mobile phones.” Ex. 1005 ¶ 51.

Based on these disclosures, we find that Hays’s client type is a “model type” as recited in the claim and that keying data to the unique client identifier, which indicates the model type, teaches a pre-selection of the data based on the model type. Indeed, this is consistent with the ’056 patent’s disclosure that “the updated content may be organized or *indexed* by a database of pre-selected content.” Ex. 1001, 5:54–56 (emphasis added); *see also* Section II.C.2 above (rejecting Patent Owner’s untimely argument that pre-selection does not include indexing). Patent Owner’s argument that “a unique client identifier does not indicate that any message or advertisement was preselected” (PO Sur-reply 3) ignores the operative phrase “keyed upon” the identifier (Ex. 1005 ¶ 41), which is the basis for Petitioner’s contention. *See* Pet. 18 (quoting the “keyed upon” language in asserting that the message is pre-selected).

We also agree with Petitioner (Pet. 18) that the claimed “message” need not be displayed, consistent with the ’056 patent’s disclosure that an “initial message may also include information for use by the mobile communication device that is not displayed to the user” (Ex. 1001, 10:6–8); *see also* Tr. 51:12–16 (Patent Owner’s agreement that the message need not be displayed). We also agree with Petitioner (Pet. 18), and we find, that

“metadata concerning the advertisement” (Ex. 1005 ¶ 41) is a message as claimed, a point Patent Owner does not dispute. *See* PO Resp.; PO Sur-reply.

As to Patent Owner’s argument that Hays’s disclosure of “extract[ing]” “[a] set of advertising for each request” (Ex. 1005 ¶ 41) shows “merely selecting an advertisement or message,” not pre-selecting (PO Sur-reply 3), we read Hays differently. Hays discloses that a “set of advertising for each request may be extracted from the advertisement serving database 122 based on data retrieved from a[n] advertisement recipient database 120 keyed upon the unique client identifier.” Ex. 1005 ¶ 41. Hays then explains that “[t]he advertisements retrieved from the advertisement serving database 122 by the advertising matching and weighting system 220 are assigned a weight by the advertising matching and weighting system 220.” Ex. 1005 ¶ 43. Hays further explains that “[t]he advertising matching and weighting system 220 *then selects* one or more advertisements from the weighted advertisement set” and that “[t]he selected advertisements are *then sent back* to the requesting advertising request handler 210 and transmitted back to the advertisement recipient client for display.” Ex. 1005 ¶ 43 (emphasis added). Thus, in Hays, ads are selected from the “set of advertising,” which includes “metadata concerning the advertisement” (Ex. 1005 ¶ 41), as discussed above. That “set of advertising” is “extracted from the advertisement serving database 122 based on data retrieved from a[n] advertisement recipient database 120 keyed upon the unique client identifier.” Ex. 1005 ¶ 41. In other words, Hays discloses a pre-selection before the ultimate selection of ads and files to return to the requesting client.

Patent Owner also argues that a person of ordinary skill in the art would have understood that the pre-selected message subject matter “would

have required checking for compatibility of the message with the mobile device and service provider, which operated on different platforms.” PO Resp. 17–18 (citing Ex. 2004 ¶¶ 159–161).

We disagree that a compatibility check is required. Patent Owner and Dr. Akl point us to nothing (and we find nothing) in the language of the claims or the specification to limit the claims to a compatibility check. But even if one were required, Hays discloses it. *See* Pet. Reply 5–7 (citing Ex. 1005 ¶¶ 41–42). In particular, Hays discloses that

advertisement recipient database 122 contains information about the technical media formats accepted by each advertising destination within an advertisement recipient client and about which advertising has been specifically approved for each advertisement recipient client by a game publisher/developer. Only advertisements that can provide the correct media format for the requested destination and that have been specifically approved to be displayed within the client may be included in the set of advertising.

Ex. 1005 ¶ 42. Referring to Hays’s paragraph 42, Patent Owner argues that “Hays describes whether the advertisement ‘has been specifically approved,’ which is determining technical compatibility of an advertisement with a client and whether an advertisement can be sent.” PO Sur-reply 5. Thus, Patent Owner acknowledges that Hays discloses a compatibility check.

For the reasons discussed above and based on Petitioner’s persuasive contentions and evidence, summarized above, we find that Hays teaches limitation 9d.

e) Conclusion as to the teachings of Hays

For the reasons discussed above and based on Petitioner’s persuasive contentions and evidence, summarized above, we find that Hays teaches the subject matter of claim 1.

3. *Claim 1*

Independent claim 1 recites a system comprising “a storage medium for storing in-game video game content” and “a server in communication with the storage medium,” “wherein the server is configured to” perform operations that are similar to the steps of claim 9. Patent Owner’s arguments for claim 1 have been fully addressed in our discussion of claim 9. We note that claim 1 does not recite “storing, on a storage medium, *pre-selected* in-game video game content *for use in a video game*” (emphasis added). Thus, Patent Owner’s arguments regarding “pre-selected” content that is “for use in a video game” do not apply to claim 1. For the reasons discussed above for claim 9 and based on Petitioner’s persuasive contentions and evidence, we find that Hays teaches the subject matter of claim 1.

4. *Claims 2 and 10*

Claims 2 and 10 depend, respectively, from claims 1 and 9 and recite that “the updated content [comprises/is] promotional content.”

Petitioner argues Hays teaches this because, for example, it discloses a player being offered a can of Pepsi. Pet. 20 (citing Ex. 1005 ¶ 79; Ex. 1003 ¶ 111). Patent Owner does not dispute this contention. We agree with Petitioner’s contention and find that Hays teaches the subject matter of claims 2 and 10. *See* Ex. 1005 ¶ 79 (disclosing that “the advertisement management service system may send bots or electronic agents into the game as advertising units or real characters in the game, which advertise or promote a product (e.g., a game character may move around a screen holding a can of Pepsi and ask player if they would like a drink)”).

5. *Claims 3 and 11*

Claims 3 and 11 depend, respectively, from claims 2 and 10 and recite “wherein the promotional content [comprises/is] localized promotional

content based on a location of the mobile communication device.”

Petitioner argues that Hays teaches this subject matter because it discloses selecting ads based on location. Pet. 22–23 (citing Ex. 1005 ¶¶ 30, 44; Ex. 1003 ¶¶ 112–114). Patent Owner does not dispute this contention. We agree with Petitioner’s contention and find that Hays teaches the subject matter of claims 3 and 11. *See* Ex. 1005 ¶¶ 30 (disclosing that “the advertisement server 114 may select advertisements based upon a variety of factors, including location”), 44 (disclosing that “advertising can be further targeted based on specific demographic characteristics of a game player,” such as “geographic location”).

6. *Claims 4 and 12*

Claims 4 and 12 depend, respectively, from claims 1 and 9 and recite wherein identifying what in-game video game content to send is based on a model type associated with the mobile communication device, a service subscription associated with the mobile communications device, a service provider for the service subscription associated with the mobile communication device, or a location of the mobile communications device.

Petitioner argues that Hays teaches three of the four options—model type, service provider, and location. Pet. 24 (citing Ex. 1005 ¶¶ 40, 43–44; Ex. 1003 ¶¶ 115–120). We focus only on the location criterion, which Petitioner says is met for the reasons given for claim 3. Pet. 24.

Patent Owner argues that Petitioner’s contentions do not account for the “***additional*** requirement of claims 4 and 12” and that “Petitioner, apparently, ascribes the identical meaning to pre-selecting a message and ‘identifying . . . in-game video game content,’ but offers no explanation at all for how the same component could perform both operations at exactly the same time.” PO Resp. 23–24.

We disagree with Patent Owner because claims 4 and 12 recite identifying content based on “a location of the mobile communications device,” which is not recited in the independent claims. For this criterion, Petitioner refers to its claim 3 contentions, which we find persuasive and are undisputed by Patent Owner. As noted above for claim 3, Hays discloses that “the advertisement server 114 may select advertisements based upon a variety of factors, including location.” Ex. 1005 ¶ 30; *see also* Ex. 1005 ¶ 44 (disclosing that “advertising can be further targeted based on specific demographic characteristics of a game player,” such as “geographic location”). We agree with Petitioner that the location of the player is the location of the mobile communications device used by the player. Pet. 23 (citing Ex. 1003 ¶ 113). Patent Owner does not dispute this.

In its Sur-reply, Patent Owner argues that Petitioner’s reply argument referencing GPS location is a new argument that should be rejected. PO Sur-reply 9 (citing Pet. Reply 10; Pet. 24). We disagree because the Petition asserts that “[t]argeting may also be based on the location of the mobile communication device” and specifically cites the discussion of claim 3 (“*See supra* Claim 3”), which argues that it would have been obvious to use the GPS location of the mobile device as the geographic location of the player. Pet. 23–24. Patent Owner does not respond to these assertions. We need not rely on Petitioner’s GPS arguments because Hays expressly discloses using location to target ads, and the claims do not require the use of GPS location.

For the above reasons, we find that Hays teaches the subject matter of claims 4 and 12.

7. Claims 5 and 13

Claims 5 and 13 depend, respectively, from claims 1 and 9 and recite “send[ing] information [from the server] to the mobile communication

device regarding the in-game placement location of in-game video game content.”

Petitioner contends that Hays’s advertisement server identifies and sends to the client pre-designated geometry within a game (e.g., billboards and storefront signs) and advertisements to place in the locations specified by the geometry. Pet. 25 (citing Ex. 1005 ¶¶ 18, 19, 29; Ex. 1003 ¶¶ 119–123). Petitioner argues that advertisement server 114 specifies which advertisements are for which specific ad units. Pet. 25 (citing Ex. 1005 ¶ 29). Specifically, Hays states that

the advertisement server 114 may fulfill requests received from the advertisement recipient client 104 for advertisements and associated media, including supporting advertisement requests from the advertisement recipient client 104. This may include handling initial connections, providing requested lists of advertisements for specific available ad units, serving media, etc.

Ex. 1005 ¶ 29. According to Dr. Zagal, “[b]ecause the server sends a list of multiple advertisements, the client device would need to know which ad units those advertisements were intended to be used on.” Ex. 1003 ¶ 121.

Petitioner (Pet. 25–26) also points to Hays’s description that advertisers use insertion orders to contract with the advertisement management service to place advertisements within a game, a game zone, or specific available ad unit for a defined period of time and view frequency. For example, a company may request its logo to be placed on any panel trucks in Zone 7 of the game “Driving Frenzy” (a fictional game) for the next three weeks but no more than three times per game session for a total of 1 million impressions.

Ex. 1005 ¶ 57. Dr. Zagal testifies that “the ad unit requested by the advertiser is also sent to the mobile communication device because that is the only way for the device to know which ad unit (*i.e.* the claimed ‘in-game

placement location’) the advertiser chose for its advertisement.” Ex. 1003 ¶ 122.

Patent Owner admits that Hays’s advertisements are placed in specific ad units or pre-designated geometry within a game. PO Resp. 24–25 (citing Ex. 1005 ¶ 18). Nevertheless, Patent Owner argues, Hays does not disclose transmitting any information regarding the placement location of an ad unit. PO Resp. 25 (citing Ex. 2004 ¶¶ 77, 165). Patent Owner (PO Resp. 25) relies on disclosure in Hays that

advertisement opportunities may be offered to advertisers based on standardized available ad units, which may include, for example signs (e.g., a billboard, poster, or other form of static sign regardless of its location), structure (e.g., an image mapped onto a building, such as a branded fast food storefront (McDonald’s, Dunkin’ Donuts, Baskin Robbins, Dominos Pizza), retail store (Gap, Target, Foot Locker, Blockbuster), a bank (Citibank, Chase), or other location (movie theatre, etc.)), logos (e.g., a logo placed on clothing worn by game characters (T-shirts, hats, sports gear) or on objects interacted within the game context (logo on car, on skateboard, on computer monitor, or on a cell phone used by character) or other smaller environments where branding is more appropriate), packaging (e.g., packaging for products within the game such as cans, wrappers, bags, etc. (for example, a pizza box, vending machine, etc.)), and menus/loading pages (e.g., an image that appears on the loading page of a game (the loading page is the screen that appears while the gamer waits for a game to load in the console or PC or on any menu pages in the game, such as at the start of a game)).

Ex. 1005 ¶ 73. Patent Owner argues that Hays makes clear that standardized ad units are not related to any specific in-game placement location. PO Resp. 21 (citing Ex. 1005 ¶¶ 73–74; Ex. 2004 ¶¶ 77–78, 175).

This description does not support Patent Owner’s argument that advertisement server 114 does not send in-game placement locations for the

advertisements it serves. Rather, we agree with Petitioner that Hays describes that advertisers can create advertisements for ad units of standardized type. Pet. Reply 11 (citing Ex. 1005 ¶¶ 73–74). For example, an advertiser can create an advertisement intended for a poster in the game, without knowing at the time of ad creation which poster in the game it might appear on. *See, e.g.*, Ex. 1005 ¶ 74 (“The use of standardized available ad units facilitates the sale of advertising that spans across multiple games/titles because one advertisement can fit into many available ad units of a standard advertisement unit type.”), *cited in* Pet. Reply 11. We also agree with Petitioner that, when the advertisement server sends the advertisement to the mobile device, “the device still needs to know the in-game location to display the advertisement.” Pet. Reply 11. Moreover, advertisers can specify specific ad units via insertion orders. Ex. 1005 ¶ 57. Thus, Hays’s statement that advertisers can create standardized advertisements does not suggest that advertisers do not specify precisely where their advertisements will be displayed. In any case, Hays describes sending lists of advertisements for specific available ad units. Ex. 1005 ¶ 29. The logical implication is that the lists specify which ad unit each advertisement is assigned.

Thus, we find that Hays teaches the subject matter of claims 5 and 13.

8. *Claims 6 and 14*

Claims 6 and 14 depend, respectively, from claims 1 and 9 and recite “check[ing] whether the mobile communication device should receive the updated content before sending the updated content to the mobile communication device.” Petitioner argues, *inter alia*, that Hays’s disclosure of limiting the number of times an ad is presented through frequency caps teaches this subject matter. Pet. 27 (citing Ex. 1005 ¶ 45; Ex. 1003 ¶ 127).

Patent Owner does not dispute this contention. We agree with Petitioner's contention and find that Hays's disclosure of limiting the number of times an ad is presented teaches checking whether the mobile device should receive the content before it is sent, as recited in claims 6 and 14. *See* Ex. 1005 ¶ 45 (disclosing that the advertising matching and weighting system may "allow frequency caps (e.g. a limit as to a number of times a particular advertisement is displayed in a single game session or level/location in the game)," which "may prevent a gamer from being presented with advertisements from the same campaign in excess of a number of times specified within the campaign data").

9. Claims 7 and 15

Claim 7 depends from claim 1 and recites that "the server is further configured to track the distribution of updated content," and claim 15 depends from claim 9 and recites "tracking the distribution of updated content at the server." Petitioner contends that Hays describes an active session database that tracks and records all communications and data sent to and received from the client. Pet. 27–28 (citing Ex. 1005 ¶¶ 25, 38, 45; Ex. 1003 ¶¶ 128–131).

In one example, Hays describes that

the advertisement recipient client 104 begins by establishing or joining a session with the advertisement server 114.

Establishing this session may create a record in the active session database 124, which registers the game player as the first member of the new session and is used to track and record all communications and data sent to and received from the advertisement recipient client 104.

Ex. 1005 ¶ 38. Hays continues:

The data in the active session database 124 records the advertisements that have been delivered to a session, and may

serve multiple purposes. For example, the advertising matching and weighting system 220 may use this data along with impression data, also stored in the active session data base 124, to allow frequency caps (e.g. a limit as to a number of times a particular advertisement is displayed in a single game session or level/location in the game).

Ex. 1005 ¶ 45.

Patent Owner argues that Hays does not teach tracking the distribution of updated content because the tracking and recording described by Hays “at most only represent a portion of any data uploaded to a mobile communications device” and “would not represent all of the uploaded content that was uploaded to a mobile communications device in its entirety.” PO Resp. 26 (citing Ex. 1005 ¶ 45; Ex. 2004 ¶¶ 93–97, 166, 181). Patent Owner contends that data recorded for an active session only includes data for a period the user is playing a game. PO Resp. 26–27 (citing Ex. 1005 ¶¶ 38, 45; Ex. 2004 ¶ 93, 166). Dr. Akl testifies that “Hays’s tracking and recording is based on a session and not the content that has been distributed to the mobile communications device, which may not be used and thus not tracked in a single session.” Ex. 2004 ¶ 93; *see also* PO Sur-reply 10–11 (“This is not met by a session, which would at most only represent a portion of any data sent to a mobile communications device.” (citing Ex. 1005 ¶ 45; Ex. 2004 ¶ 93–97, 166)).

We do not agree with Patent Owner’s arguments. First, Patent Owner’s argument assumes that claims 7 and 15 require tracking everything that is uploaded to the mobile communication device. Tr. 49:18–22 (Patent Owner argues that “Hays is only tracking an active session database” and that “a session is not the full scope of content”); *see also* 132 Tr. 55:9–22 (Patent Owner argues that “tracking what has been uploaded to the mobile

communication device” in claim 5 of the ’202 patent requires tracking “all of what’s been uploaded over time”). The claim language, however, merely recites that the server tracks the distribution of updated content. On its face, this language only requires tracking some of the content distributed to the mobile communication device. Patent Owner admits that Hays describes tracking at least “a portion of any data uploaded.” PO Resp. 26; PO Sur-reply 10–11. We find this sufficient to teach “track[ing] the distribution of updated content.”

Second, as Petitioner observes (Pet. Reply 12), Hays expressly describes “track[ing] and record[ing] all communications and data sent to and received from the advertisement recipient client 104” in an active session. Ex. 1005 ¶ 38. Petitioner argues that “the session begins when the player logs in and ends when they log-out” and that, “[a]s a result, all ‘updated content’ would necessarily be distributed to the player’s device during a ‘session,’ and would thus be tracked.” Pet. Reply 12–13 (citing Ex. 1005 ¶¶ 38–39). We agree with Petitioner. Even if claims 7 and 15 require tracking everything that is uploaded to the mobile communication device, Hays teaches it. Specifically, Hays “track[s] and record[s] *all communications and data* sent to and received from the advertisement recipient client 104.” Ex. 1005 ¶ 38 (emphasis added).

Third, we find no support in Hays for Patent Owner’s argument that session data represent only a portion, rather than all, of data sent to a device. PO Resp. 26. Hays’s paragraph 38 discusses tracking communications in a session, but it does not disclose any communications sent outside of a session, and Patent Owner directs us to no disclosure in Hays of this happening. Even when Hays discloses “offline play” and downloads “in the

background,” a session is created. For example, Hays discloses the following:

For “offline play” the advertisement recipient client 104 is not constantly communicating with the advertisement management service system 108. In such a scenario, the advertisement recipient client 104 connects to the advertisement management service system 108, *starts a session*, requests and retrieves flights and media, and caches this information locally. . . . Later, when the advertisement recipient client 104 reconnects to the advertisement management service system 108, it contacts the impression server 116, flushes all cached view and impression data, and then *ends the session*.

Ex. 1005 ¶ 33 (emphasis added); *see also* Ex. 1005 ¶ 34 (“With an offline play scenario, advertisements may be downloaded ‘in the background’ during times when the advertisement recipient client 104 *is connected to the advertisement management service system 108*, including when the gaming device is performing other tasks, such as executing a different game, operating a web browser, etc.” (emphasis added)). Thus, we see nothing in Hays to support Patent Owner’s argument that any communications with the mobile communication device happen outside a session.

In sum, we find that Hays teaches the subject matter of claims 7 and 15.

10. Claims 8 and 16

Claims 8 and 16 depend, respectively, from claims 1 and 9 and recite that server “check[s] for availability of bandwidth before sending the updated content to the mobile communication device.” Petitioner argues that Hays’s disclosure that “advertisements may be downloaded ‘in the background’ during times when the advertisement recipient client 104 is connected to the advertisement management service system 108, including when the gaming device is performing other tasks” (Ex. 1005 ¶ 34) teaches

checking for available bandwidth over which to send updated content. Pet. 28–29 (citing Ex. 1003 ¶¶ 132–134). Petitioner also argues that Hays’s disclosure of “sporadically” or “periodically” sending content also teaches checking for available bandwidth. Pet. 29 (citing Ex. 1005 ¶ 21).

Patent Owner argues that these cited disclosures in Hays “simply describe transmitting when a connection is made,” not “checking for the availability of bandwidth, as the claims require.” PO Resp. 28 (citing Ex. 1005 ¶¶ 21, 34; Ex. 2004 ¶¶ 168–173, 182).

We find Petitioner’s contentions persuasive because claims 8 and 16 merely require checking for the availability of bandwidth before sending content, and Hays teaches that downloads may happen when the client is connected to the system. Ex. 1005 ¶ 34 (“With an offline play scenario, advertisements may be downloaded ‘in the background’ during times when the advertisement recipient client 104 is connected to the advertisement management service system 108, including when the gaming device is performing other tasks, such as executing a different game, operating a web browser, etc.”). At the very least, Hays’s disclosure shows that there is bandwidth sufficient to send the advertisements.

We further credit Dr. Zagal’s testimony that a person of ordinary skill in the art would have understood

that the server of Hays checks for the availability of bandwidth in order to download updated content to the mobile communication device, including check for the availability of a connection with the mobile device or the availability of unused bandwidth that would allow advertisements to be downloaded “in the background” without interfering with other tasks.

Ex. 1003 ¶ 133 (citing Ex. 1005 ¶¶ 21, 34). In particular, Dr. Zagal’s testimony about unused bandwidth is consistent with Hays’s disclosure that

items can, in fact, be downloaded because there is available bandwidth in the connection. Ex. 1005 ¶ 34.

Dr. Akl's rebuttal testimony misses the mark. In particular, Dr. Akl testifies that a person of ordinary skill in the art would have understood that "Hays downloads items in the background without any action from the user" but "do[es] not describe monitoring bandwidth or checks for availability of bandwidth." Ex. 2004 ¶ 171. Dr. Akl also testifies that a person of ordinary skill in the art "would have understood that Hays simply describes download[ing] data in the background when the user may not be actively using the game or application or that the data may be sent periodically, sporadically, or constantly. Hays, however, does not describe that the manner of sending the data is based on availability of bandwidth." Ex. 2004 ¶ 172. The claims, however, do not recite any particular manner in which data must be sent based on the availability of bandwidth. Rather, checking that there is any bandwidth suffices to meet the claims, and Hays's disclosure of downloading when there is a connection shows that there is at least some bandwidth or "unused bandwidth" as Dr. Zagal testifies. Ex. 1003 ¶ 133.

For the foregoing reasons, we find that Hays teaches the subject matter of claims 8 and 16.

11. Objective Indicia of Non-obviousness

Patent Owner argues that, before June 2007, there was a long-felt need for the '056 patent's invention. PO Resp. 52–55. "Evidence of a long-felt but unresolved need can weigh in favor of the non-obviousness of an invention because it is reasonable to infer the need would not have persisted had the solution been obvious." *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1056 (Fed. Cir. 2016).

Patent Owner argues that “real-world evidence, including evidence cited by Petitioner, shows that mobile phone developers experienced difficulty with creating new features or levels in game that would not require significant space associated with downloading an entire new game.” PO Resp. 52–53 (citing Ex. 2004 ¶¶ 231–238). Patent Owner argues that app stores were not available and that each wireless carrier had to manage its own offering of mobile games. PO Resp. 53 (citing Ex. 2004 ¶¶ 232–233). According to Patent Owner, in the context of mobile gaming, “the only way in which games could be ‘updated’ was to download a new version of the game in its entirety.” PO Resp. 53 (citing Ex. 2004 ¶ 233). Patent Owner argues that the ’056 patent “solved this problem by sending updated content without requiring that the game be downloaded anew and in its entirety” and that the claims provide the nexus between the long-felt need and the claimed invention because “the claim itself provides the solution ‘for providing updated content associated with a mobile video game to a mobile communication device.’” PO Resp. 53 (citing Ex. 2004 ¶¶ 39–51). Patent Owner also argues that, at the time of the invention, “programmers could not update content in a game on a mobile device without re-downloading an entire application.” PO Resp. 55 (citing Ex. 2004 ¶¶ 47–51, 232–233).

As to the evidence Petitioner included in its discussion of the background of the technology, Patent Owner argues that this evidence confirms that, prior to the ’056 patent’s June 26, 2007, priority date, the ’056 patent’s invention was novel. PO Resp. 54 (citing Ex. 1015, 1; Ex. 2004 ¶ 237). Patent Owner also cites to Exhibits 1016, at 2 (“This paper suggests advertisers should experiment with in-game advertising to gain skills that could become vital in the near future.”), and 1017, at 1 (“In the near future, mobile in-game advertising will become increasingly attractive for providers

of mobile phones.”), arguing that they suggest the novelty of and long-felt need for the ’056 patent’s invention. PO Resp. 54. Patent Owner also cites Exhibit 1018, at 50 (“The biggest change between the current game technologies and the future ones is that in the future it will be possible to offer also games with real-time interactivity.”) and 52 (“A life cycle of a certain game will [be] quite short, and will be replaced by more trendy games very promptly.”) as evidence that in-game content updates were needed before the claimed invention of the ’056 patent. PO Resp. 54–55 (citing Ex. 2004 ¶ 237).

These arguments are unpersuasive of a long felt but unsolved need. As Patent Owner admits, “[g]ame development in other contexts (e.g., console games) did not face the same issues.” PO Resp. 53 (citing Ex. 2004 ¶ 233). Patent Owner’s argument depends on limiting “mobile communication device” to cellular phones. However, mobile communication devices are not limited to cellular phones and can include “PDAs, and other handheld devices capable of communicating with a server.” Ex. 1001, 1:19–22. Moreover, Hays expressly describes uploading updated video-game content (rather than an entire new game) to cellular phones. *See, e.g.*, Ex. 1005 ¶ 23 (“In general, the advertisement delivery scheme enables an advertiser to deliver advertising across a range of electronic mediums including consoles (such as Sony Play Station and Microsoft Xbox), PC and Macintosh computers, wireless equipment (cellular phones and other wireless gaming devices) and ultimately electronic billboards and televisions.”). Patent Owner acknowledges that mobile ad updates were already in the prior art by arguing that “Choi is directed to sending advertisements in ‘pre-existing mobile applications.’” PO Resp. 34 (citing Ex. 2004 ¶ 197; Ex. 1006, Title). Thus, the record

shows that the alleged long-felt need identified by Patent Owner was already met by Hays. *See Geo. M. Martin Co. v. All. Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1305 (Fed. Cir. 2010) (“The record shows, however, that this ‘need’ had been met by prior art machines such as the Pallmac and the Visy that could break more than one bundle at a time.”); *Yita LLC v. MacNeil IP LLC*, 69 F. 4th 1356, 1364 (Fed. Cir. 2023) (“[O]bjective evidence of nonobviousness lacks a nexus if it exclusively relates to a feature that was known in the prior art” (emphasis, quotations, and citations omitted)).

Moreover, we agree with Petitioner that Patent Owner’s evidence (Exs. 1015–1018) shows no more than the industry’s desire for more in-game advertising. Pet. Reply 25. None of these references suggests a long-felt but unmet need for “providing updated content associated with a mobile video game to a mobile communication device” (PO Resp. 53) or provides a nexus between such a need and the claimed invention.

In sum, we find that Patent Owner’s evidence of objective indicia of non-obviousness, specifically, a long-felt but unmet need, is weak and entitled to little weight.

12. Weight of Petitioner’s Expert’s Testimony

Patent Owner argues that the testimony of Dr. Zagal, Petitioner’s technical declarant, “adds nothing to the Petition—which as discussed is insufficient” and “should be afforded no weight” because it largely copies portions of the Petition. PO Resp. 14–15 (citing *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 18 (PTAB Aug. 24, 2022) (precedential)), 18, 19, 25, 27, 29.

We disagree. *Xerox* stands for the proposition that a declaration is entitled to little weight when it restates a petition’s unsupported, conclusory assertions without any additional supporting evidence or reasoning.

IPR2022-00624, Paper 9 at 15 (“Dr. Jones does not cite to any additional supporting evidence or provide any technical reasoning to support his statement. Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”). For the reasons discussed above in the Hays ground, we find that the assertions in the Petition are supported by the teachings of Hays and thus are not conclusory, thus distinguishing this situation from the one described in *Xerox*.

13. Conclusions of Obviousness

In sum, as detailed above, Hays teaches the subject matter of claims 1–16. Patent Owner’s evidence of objective indicia of nonobviousness is particularly weak. Upon consideration of all the evidence, we conclude that Petitioner has proven by a preponderance of the evidence that claims 1–16 would have been obvious over Hays.

E. Asserted Obviousness over Hays and Choi (Claims 8, 16)

Petitioner asserts that claims 1–16 are unpatentable as obvious over Hays. Pet. 2, 32–40. Although we conclude that the subject matter of claims 1–16 would have been obvious over Hays, we additionally conclude that claims 8 and 16 would have been obvious over the combination of Hays and Choi for the reasons stated below. We do not address Petitioner’s arguments for other claims in this ground.

Choi discloses “[m]ethods and systems for managing distribution and retrieval of data (for example advertising content and viewing statistics) and insertion of control logic (for example display of advertising content) into pre-existing mobile applications.” Ex. 1006, code (57).

As with Hays, Patent Owner argues that “Choi is only a ‘printed publication’ under § 311(b) as of the date it became available to the public—*i.e.*, after the June 26, 2007, priority date of the ’056 Patent.” PO Resp. 56. For the reasons explained above in Section II.D.1, we disagree with this argument and find that Petitioner asserts a permissible ground of unpatentability under 35 U.S.C. § 311(b) on the basis of Hays and Choi, which are prior art printed publications. *See Lynk Labs*, 125 F.4th at 1127.

For claims 8 and 16, Petitioner argues that Choi discloses selecting ads based on capabilities such as network bandwidth. Pet. 39 (citing Ex. 1006 ¶ 89; Ex. 1003 ¶ 158). For example, Choi discloses an ad system that “select ads based on ad targeting objectives as described above but selects creatives from within an ad collection based on the capabilities of the device environment to which the ad is to be served,” which capabilities include “network transport capabilities (such as TCP vs WAP) and speed (bandwidth and latency).” Ex. 1006 ¶ 89.

Petitioner argues that a person of ordinary skill in the art “would know for instance, that advertisements requiring more bandwidth would not be appropriate for mobile devices operating with low bandwidth” and that applying Choi’s teaching of selecting ads based on bandwidth would be “the application of a known technique (checking available bandwidth) to a known device ready for improvement (Hays’s system for targeted advertisements) to yield predictable results.” Pet. 36 (citing Ex. 1003 ¶¶ 145–146).

Patent Owner does not address Petitioner’s reliance on Choi’s bandwidth teachings at all and does not address Petitioner’s reasons to combine for claims 8 and 16. PO Resp. 29–34; PO Sur-reply 12–14. Rather, Patent Owner asserts generally that “Hays provides a method for

sending advertisements regardless of the specific game in which it may be used,” that “Choi is directed to sending advertisements in ‘pre-existing mobile applications,’” and that a person of ordinary skill in the art “seeking to apply advertisements broadly to many different games would not look to combine Hays with Choi due to Choi’s focus on a specific game and the technical limitations of mobile applications at this time.” PO Resp. 34 (citing Ex. 1006, Title; Ex. 2004 ¶¶ 196–198). Patent Owner also asserts that a person of ordinary skill in the art “would not have sought to combine a browser-based system like Hays with an application-specific system like Choi.” PO Resp. 34 (citing Ex. 2004 ¶¶ 196–198).

These arguments are not responsive to the proposed combination and require more than the law requires to show obviousness. The Federal Circuit has

consistently held . . . that “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”

MCM Portfolio LLC v. Hewlett-Packard Co., 812 F.3d 1284, 1294 (Fed. Cir. 2015) (quoting *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Thus, Petitioner is not required to show how to combine the entirety of two systems, and Petitioner’s contentions are not based on such a wholesale combination.

We find persuasive Petitioner’s contentions that applying Choi’s bandwidth capability teachings for ad selection to Hays’s ad selection system teachings would have been nothing more than applying a known technique to address a known problem. *See* Pet. 36 (citing Ex. 1003 ¶ 146).

“This is the so-called ‘known-technique’ rationale. And if there’s a known technique to address a known problem using ‘prior art elements according to their established functions,’ then there is a motivation to combine.” *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023) (citing *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 799–800 (Fed. Cir. 2021)). Dr. Akl’s testimony confirms that, as of the priority date of the ’056 patent, mobile devices had “much more limited processing, storage, and data bandwidth capabilities.” Ex. 2004 ¶ 44. Thus, Choi’s disclosure of selecting content based on capabilities such as network bandwidth (Ex. 1006 ¶ 89) specifically addresses this known issue.

For the foregoing reasons, we conclude that the subject matter of claims 8 and 16 would have been obvious over the combined teachings of Hays and Choi.

F. Remaining Grounds

In view of our determination that all challenged claims are unpatentable as obvious over Hays, we need not separately assess Petitioner’s remaining challenges. 35 U.S.C. § 318(a) (“If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).”); *Bos. Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. 2020) (nonprecedential) (“We agree that the Board need not address issues that are not necessary to the resolution of the proceeding.”).

III. CONCLUSION¹⁰

For the reasons discussed above, we determine that Petitioner has proven, by a preponderance of the evidence, that claims 1–16 of the '056 patent are unpatentable, as summarized in the following table:

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–16	103(a)	Hays	1–16	
1–16	103(a) ¹¹	Hays, Choi	8, 16	
5, 13	103(a) ¹²	Hays, Chu		
5, 13	103(a) ¹³	Hays, Choi, Chu		
1–16	103(a) ¹⁴	Levkovitz		

¹⁰ 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).

¹¹ As explained above, because we determine that challenged claims 1–7 and 9–15 are unpatentable over Hays, we decline to address these claims in this ground.

¹² As explained above, because we determine that challenged claims 5 and 13 are unpatentable over Hays, we decline to address this ground.

¹³ As explained above, because we determine that challenged claims 5 and 13 are unpatentable over Hays, we decline to address this ground.

¹⁴ As explained above, because we determine that challenged claims 1–16 are unpatentable over Hays, we decline to address this ground.

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
5, 13	103(a) ¹⁵	Levkovitz, Chu		
8, 16	103(a) ¹⁶	Levkovitz, Choi		
Overall Outcome			1–16	

IV. ORDER

Accordingly, it is

ORDERED that claims 1–16 of the '056 patent have been shown to be unpatentable; 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.

¹⁵As explained above, because we determine that challenged claims 5 and 13 are unpatentable over Hays, we decline to address this ground.

¹⁶As explained above, because we determine that challenged claims 1–16 are unpatentable over Hays, we decline to address this ground.

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