

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TWITTER, INC.,
Petitioner,

v.

PALO ALTO RESEARCH CENTER INC.,
Patent Owner.

IPR2021-01458
Patent 8,489,599 B2

Before KARL D. EASTHOM, SHEILA F. McSHANE, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

OGDEN, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Petitioner Twitter, Inc. (“Twitter”)¹ filed a Petition (Paper 3, “Pet.”) under 35 U.S.C. §§ 311–319 requesting *inter partes* review of claims 1, 4, 6, 7, 9–12, 15, 17, and 18² of U.S. Patent No. 8,489,599 B2 (Ex. 1001, “the ’599 patent”). Patent Owner Palo Alto Research Center Inc. (“PARC”)³ filed a Preliminary Response (Paper 9, “Prelim. Resp.”).

Under the authority delegated to us by the Director under 37 C.F.R. § 42.4(a), we may institute an *inter partes* review when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a); *see also* 37 C.F.R. § 42.108(c) (2020). Applying that standard, we institute an *inter partes* review of all the challenged claims of the ’599 patent for the reasons explained below. This is a preliminary decision, and we will base our final written decision on the full trial record, including any timely response and evidence by PARC.

¹ Twitter identifies itself as the only real party in interest. Pet. 10.

² In its Petition, Twitter’s initial listing of challenged claims includes a dash between claims 1 and 4, suggesting that claims 2 and 3 are included. *See* Pet. 1. This appears to be a typographical error because Twitter does not include claims 2 or 3 in its Claim Appendix, and offers no arguments in its Petition regarding claims 2 or 3. *See* Pet. 12, 25–100, Claim Appendix i–iv. Also, in its Explanation of Parallel Petitions, Twitter states that this Petition “challenges claims 1, 4, 6, 7, 9–12, 15, 17–18.” Paper 2, 1; *see also id.* at 3 (a table of challenged claims that omits claims 2 and 3).

³ PARC identifies itself and its parent companies Xerox Corp. and Xerox Holdings Corp. as the real parties in interest. Paper 4, 2.

II. BACKGROUND

A. RELATED PROCEEDINGS

Both parties are involved in the following related U.S. district court case that involves the '599 patent: *Palo Alto Research Center Inc. v. Twitter, Inc.*, No. 2-20-cv-10754-AB (C.D. Cal. filed Nov. 25, 2020). Pet. 10; Paper 4, 2. According to Twitter, the court granted a stipulated stay of the district court proceeding. Pet. 100 (citing Ex. 1021 (granting joint request to stay proceedings)). The parties also identify the following related matters: *Palo Alto Research Center Inc. v. Facebook, Inc.*, No. 2:20-cv-10753-AB (C.D. Cal. filed Nov. 25, 2020); *Palo Alto Research Center Inc. v. Snap Inc.*, No. 2:20-cv-10755-AB (C.D. Cal. filed Nov. 25, 2020). Pet. 10–11; Paper 4, 2–3. We refer to the above three proceedings as the “related district court proceedings.”

The parties also identify the following *inter partes* reviews challenging the '599 patent: IPR2021-00987 (instituted Nov. 23, 2021), IPR2021-01294 (instituted Jan. 25, 2022), IPR2021-01459 (instituted concurrently with this decision), and IPR2021-01536 (institution denied Mar. 29, 2022). Pet. 10–11; Paper 4, 3; Paper 10, 1.

B. THE '599 PATENT (EX. 1001)

The '599 patent is directed to “a computing device that delivers personally-defined context-based content to a user.” Ex. 1001, code (57). The patent issued July 16, 2013, from an application filed December 2, 2008. *Id.*, codes (22), (45). In particular, the claimed invention “provide[s] a content management system for organizing and delivering packages of audio and visual content to a user in response to activities being performed by the

user, and in response to a number of environmental factors associated with the user.” *Id.* at 3:51–55. The system includes previously defined triggering conditions associated with the user’s context and activities, so that when a trigger is satisfied, a computing device selects relevant content to present to the user. *See id.* at 1:50–62. For example, the content management system can remind a user to buy groceries as the user is driving past a grocery store after work or can read specific items on a grocery list to a user when walking across a specific grocery store aisle. *Id.* at 5:28–32.

Figure 1, reproduced below, illustrates a content management system according to the claimed invention. *Id.* at 2:54–55.

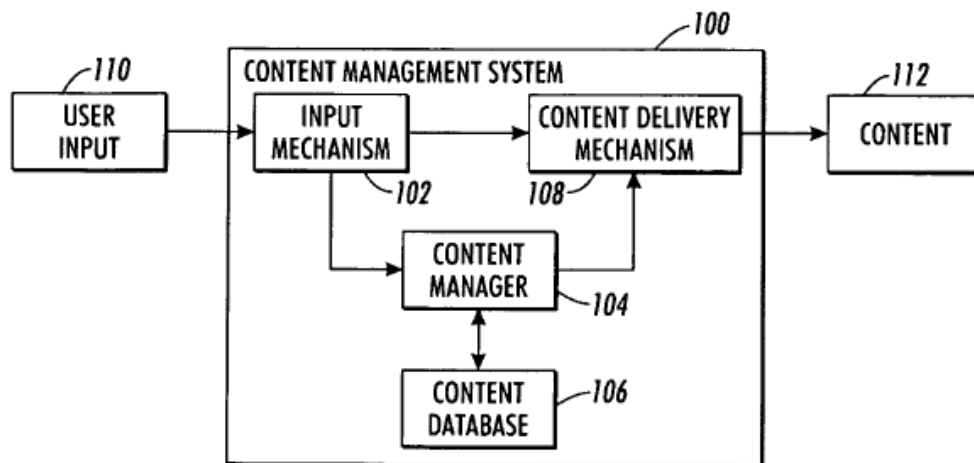


FIG. 1

As shown in Figure 1, above, context management system 100 includes input mechanism 102 that receives user input 110. Ex. 1001, 5:33–41. The user can provide input 110 through an input device such as a keyboard or touch screen, and can also “include contextual information gathered from a number of input sources (e.g., a microphone, a camera, a motion sensor, a global positioning mechanism, or an Internet server).” *Id.* at 5:36–41. Context manager 104 “creates content 112 by providing content database

106 with a content package to be stored, which includes content 112 and a corresponding user-defined context that describes when content 112 can be presented.” Ex. 1001, 5:45–49. “Content delivery mechanism 108 can control how content 112 is presented to the user.” *Id.* at 56–57.

C. CHALLENGED CLAIMS AND ASSERTED GROUNDS OF
UNPATENTABILITY

Claims 1 and 12 of the ’599 patent are independent. Claim 12, representative of the challenged claims, reads as follows:

12. A computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for delivering context-based content to a first user, the method comprising:

- [12.1] receiving at least one content package, wherein the content package includes at least one content piece and a set of rules associated with the content package, wherein the set of rules includes a trigger condition and an expected response, and wherein the trigger condition specifies a context that triggers a presentation of the content piece;
- [12.2] receiving a set of contextual information with respect to the first user;
- [12.3] processing the contextual information to determine a current context for the first user;
- [12.4] determining whether the current context satisfies the trigger condition;
- [12.5] in response to the trigger condition being satisfied, presenting the content piece to the first user;
- [12.6] receiving a response from the first user corresponding to the presented content piece;
- [12.7] determining whether the received response matches the expected response; and

[12.8] performing an action based on an outcome of the determination.

Ex. 1001, 24:40–63 (Twitter’s reference numbers added in brackets).

Twitter argues four grounds for *inter partes* review, as summarized in the following table:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1, 6, 7, 9–12, 17, 18	103(a) ⁴	PALLAS, ⁵
1, 4, 6, 7, 9–12, 15, 17, 18	103(a)	PALLAS, Yau ⁶
1, 4, 6, 7, 9–12, 15, 17, 18	103(a)	PALLAS, Kim ⁷
1, 4, 6, 7, 9–12, 15, 17, 18	103(a)	PALLAS, Yau, Kim

Pet. 12.

D. DECLARATORY TESTIMONY

Twitter relies on the declaration of Dr. Don Turnbull (Ex. 1003). *See* Pet. 12. PARC does not challenge Dr. Turnbull’s qualifications to provide expert testimony, and does not submit rebuttal testimony at this stage.

⁴ 35 U.S.C. § 103 (2006), *amended by* Leahy–Smith America Invents Act, Pub. L. No. 112-29 § 103, sec. (n)(1), 125 Stat. 284, 287, 293 (2011) (effective Mar. 16, 2013). This version of § 103 applies because the effective priority date of the ’599 patent is before the effective date of the AIA amendments. *See* Ex. 1001, code (22) (filing date of December 2, 2008).

⁵ Sobah Abbas Petersen & Jan-Kristian Markiewicz, *PALLAS: Personalized Language Learning on Mobile Devices*, 5th IEEE Int’l Conf. Wireless, Mobile & Ubiquitous Tech. Educ. 52 (Mar. 23–26, 2008) (Ex. 1004).

⁶ Jane Yau & Mike Joy, *A Context-aware and Adaptive Learning Schedule Framework for Supporting Learners’ Daily Routines*, 2d Int’l Conf. Sys. (2007) (Ex. 1005).

⁷ InSu Kim et al., *CAST_{middleware}: Security Middleware of Context-Awareness Simulation Toolkit for Ubiquitous Computing Research Environment*, 344 Lecture Notes Control & Info. Sci. 506 (2006) (Ex. 1006).

Twitter also relies on declarations by Sayem Osman (Ex. 1013) and Michael F. Milea (Ex. 1015), to authenticate certain exhibits, and a declaration by Gordon MacPherson, Director of Board Governance and IP Operations of the IEEE (Ex. 1014) on the public availability of PALLAS. *See, e.g.*, Pet. 14, 22. At this stage, PARC does not contest this testimony.

III. GROUNDS OF THE PETITION

For the reasons below, we determine that there is a reasonable likelihood that Twitter would prevail in showing that at least one of claims 1, 4, 6, 7, 9–12, 15, 17, and 18 of the '599 patent is unpatentable under at least some of the grounds raised in the Petition. Before analyzing those grounds in detail, we first address the level of ordinary skill in the art, and whether we need to construe any claim terms explicitly for our analysis. We also provide an overview of the asserted prior art.

A. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the pertinent art at the time of the invention is relevant to how we construe the patent claims. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). It is also one of the factual considerations relevant to obviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

To assess the level of ordinary skill, we construct a hypothetical “person of ordinary skill in the art,” from whose vantage point we assess obviousness and claim interpretation. *See In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). This legal construct “presumes that all prior art references

in the field of the invention are available to this hypothetical skilled artisan.” *Id.* (citing *In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1993)).

Relying on Dr. Turnbull’s testimony, Twitter argues that a person of ordinary skill in the art “would at minimum have a bachelor’s in software, computer, or electrical engineering or computer science with at least two years’ experience in software development, including with respect to context-aware devices and systems, or the equivalent.” Pet. 13–14 (citing Ex. 1003 ¶ 24). Twitter also contends that “[a]dditional graduate education could substitute for professional experience, or significant experience in electronic messaging could substitute for formal education.” *Id.* at 14 (citing Ex. 1003 ¶ 24).

PARC does not dispute this proposed level of ordinary skill in its Preliminary Response. For this decision, we adopt Twitter’s proposed articulation because it is supported by testimonial evidence and appears reasonable in light of the subject matter of the ’599 patent. If PARC proposes a different articulation at trial, we will consider that proposal and any supporting evidence in light of the full trial record.

B. CLAIM CONSTRUCTION

In an *inter partes* review, we construe a patent claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2020). This includes “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.” *Id.* The ordinary and customary meaning of a claim term “is its meaning to the ordinary

artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313, 1321. We also consider “[a]ny prior claim construction determination concerning a term of the claim in a civil action . . . that is timely made of record” in this proceeding. 37 C.F.R. § 42.100(b). The parties have not identified any such prior claim construction determination.

Twitter argues, for the purpose of its Petition, that all of the terms in the challenged claims have their ordinary and customary meaning, except that the ’599 patent defines *contextual information* to mean “input data that is gathered by a computing device from a number of input sources, and reflects basic information associated with the user and/or the operating environment of the computer device.” Pet. 13 (emphasis omitted) (quoting Ex. 1001, 6:15–19). Twitter also argues that the ’599 patent defines *context* to mean “a set of data that describes an event or environmental factor associated with a user or the operational environment of content management system.” *Id.* (emphasis omitted) (quoting Ex. 1001, 7:36–39). Twitter provides little analysis for its proposed constructions apart from citing the location of the alleged definitions in the ’599 patent.

PARC does not agree that the terms *contextual information* or *context* need explicit constructions, but does not offer any evidence that Twitter’s proposed constructions are incorrect. *See* Prelim. Resp. 11. PARC also contends that Twitter incorrectly applies its proposed constructions to the asserted prior art by failing to recognize the distinction between those two terms. *See id.* at 11, 25. We address this argument below. *See infra* part III.D.1(d).

Based on the parties’ arguments at this stage, our application of the claim limitations to the asserted prior art does not rely on Twitter’s proposed constructions, and no explicit construction is necessary for our decision to institute an *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). To the extent that the parties’ arguments touch on these or other particular claim terms, we discuss them below in the context of the asserted prior art.

C. OVERVIEW OF THE ASSERTED PRIOR ART

1. *PALLAS*

PALLAS is an article associated with the Fifth IEEE International Conference on Wireless, Mobile, and Ubiquitous Technology in Education, held from March 23–26, 2008. Ex. 1003 ¶ 70; Ex. 1004, 52; Ex. 1014 ¶ 11. According to Mr. MacPherson’s testimony, copies of the article were “made available no later than the last day of the conference.” Ex. 1014 ¶ 11. The article bears a copyright notice dated 2008 (Ex. 1004, 52) and Twitter argues that the article was available and searchable on the IEEE Xplore website on April 15, 2008. Pet. 14.⁸ At this stage, PARC does not contest the status of *PALLAS* as prior art.

⁸ Twitter does not clearly identify the source of this April 15, 2008 date, but it appears to be from an attachment to Mr. MacPherson’s declaration. *See* Ex. 1014, 5 (“Date Added to IEEE Xplore: 15 April 2008”).

PALLAS describes a system that “enables real life language learning scenarios by providing personalized and contextualised access to learning resources via a mobile device.” Ex. 1004, 52. The system includes a central server that communicates with students’ mobile devices and with various providers of language-learning content (such as teachers or publishing houses). *Id.* at 55, 58, Fig. 2. The mobile device includes a “mobile smart client” that is responsible for presenting the learning content to the student. *Id.* at 56. Content modules for the mobile client may include “[Point of Interest] Info,” “Task,” “MP Quiz,” “Word Fill-in,” “Glossary Training,” and “Text.” *See id.* at Fig. 3. An example of the mobile client application is shown below in Figure 4:



Figure 4. Mobile client: activities for the learner

Figure 4, above, “shows the main window of the PALLAS mobile client.” Ex. 1004, 57. It shows a menu with the following content items: “Perform Query,” “Tasks,” “Exercises,” “Texts,” “Results,” and “Dictionary.” Also, “[a] context bar is displayed on the top of the window, which displays the current learner.” *Id.* Immediately to the right of the context bar is a world

icon that “indicates if the current location is known” (shown here with a cross indicating that the location is unknown). *Id.*

The system allows the learning experience to be personalized based on the learner’s context, “using the profile of the learner and environmental parameters.” Ex. 1004, 54. “Environmental parameters include location, time and day and the mobile device that is used by the learner,” *Id.*; *see also id.*, Fig. 1 (including weather as an environmental parameter). “The mobile client also displays triggers that are fired based on the context information.” Ex. 1004, 57. For example, the system can include “[c]ontext triggers [that] provide automatic notifications to the learner if the learner is in the vicinity of a point of interest.” Ex. 1004, 57. This is illustrated below in Figure 6:



Figure 6. Mobile client: context trigger

The illustration in Figure 6 shows an example mobile client screen in which “the learner is in the vicinity of an exhibition that fits the profile of the learner.” Ex. 1004, 57. The world symbol next to the context bar is marked to indicate “that the location is known.” *Id.* A notice on the screen tells the learner that they are “in the vicinity of the French art exhibition held at the

ArtIt Gallery,” and provides the address of the exhibit. The notice also provides “Read more” button and states, “Press ‘Read More’ for information about French artists.” *Id.*

2. *Yau*

Yau is entitled “A Context-aware and Adaptive Learning Schedule Framework for Supporting Learners’ Daily Routines.” Ex. 1005, 1. Twitter contends that the authors presented Yau to the Second International Conference on Systems of IEEE in 2007, and that the article was published and searchable on the IEEE Xplore website on May 7, 2007. Pet. 19 (citing Ex. 1003 ¶¶ 78–82; Ex. 1016 (stating that the article was added to IEEE Xplore on May 7, 2007); Ex. 1017, 8, 24). At this stage, PARC does not contest the status of Yau as prior art.

Yau’s learning system “makes use of a learning schedule to support the students’ daily routines, adapts the activities to the student’s learning styles and then selects the appropriate activity for the learner based on their current learning context.” Ex. 1005, 1. Learning activities may include “[f]ormal assessments” which Yau describes as a type of “compulsory activit[y].” *Id.* at 4.

The contextual information comes from a “scheduled events database (such as the time available for learning and the type of location), and two sensors, namely GPS for location detection and a microphone for noise detection.” *Id.* at 3, Fig. 1; *see also id.* at 5 (suggesting the use of other sensors to detect light levels and temperature). From this contextual information, Yau’s system determines “the current context that the learner is situated in,” such as “the actual physical address of the location,” the type or

category of location, the time available for learning based on the student's schedule, and the noise level. *Id.* at 5.

Yau's system also includes "context-triggered actions," in which actions are "invoked automatically when a contextual element or a mixture of contextual elements are fulfilled." *Id.*

3. *Kim*

Kim describes a system for "captur[ing] virtual context information" from physical sensors and ensuring that this information can safely be shared with an application. Ex. 1006, 507. Twitter contends that it was published in 2006. *See* Pet. 22 (citing Ex. 1003 ¶¶ 88–89; Ex. 1015 ¶ 4, App'x A; Ex. 1023). At this stage, PARC does not contest the status of Kim as prior art.

D. CLAIM 12

Twitter begins its analysis with claim 12, which Twitter contends is unpatentable as obvious over PALLAS alone (Ground 1), in view of Yau (Ground 2), in view of Kim (Ground 3), or in view of both Yau and Kim (Ground 4). *See* Pet. 25–100. We discuss claim 12 first, followed by a discussion of the other claims.

A claim is unpatentable under § 103 for obviousness 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). For a combination of known elements that are not explicitly found together in the prior art, we consider "whether there was an apparent reason to

combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We base our obviousness inquiry on factual considerations 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 skill in the art, and (4) any objective indicia of obviousness or non-obviousness that may be in evidence.⁹ *See Graham*, 383 U.S. at 17–18.

Based on these factors, we conclude that Twitter has made a sufficient showing that claim 12 would have been obvious over PALLAS in view of Yau (Ground 2) or in view of the teachings of both Yau and Kim (Ground 4). Thus, for the reasons below, we determine that Twitter is reasonably likely to prevail on claim 12.

1. Challenge Based on PALLAS in View of Yau (Ground 2) or PALLAS in View of Yau and Kim (Ground 4)

For each ground in the Petition, Twitter relies primarily on PALLAS for teaching the preamble and every limitation of claim 12, and alternatively, Twitter argues that Yau, Kim, or the combination of Yau and Kim teaches limitations 12.1–12.4 and 12.6. *See* Pet. 31–66, 71–72. We first address Twitter’s arguments based on the combination of PALLAS and Yau, optionally including Kim (i.e., Grounds 2 and 4). As we discuss below, we

⁹ At this stage, the parties do not identify any objective indicia of obviousness or non-obviousness, so this does not factor into our decision to institute an *inter partes* review. *See* Pet. 100 (“[Twitter] is aware of no evidence from [PARC] of secondary considerations with a nexus to ’599, and reserves the right to address any [that PARC] may raise.”); *see generally* Prelim. Resp. (not alleging any evidence of objective indicia of nonobviousness).

do not need to reach Twitter’s Grounds 1 or 3, which do not rely on the teachings of Yau. *See infra* part III.D.2.

(a) Preamble

The preamble of claim 12 recites “[a] computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for delivering context-based content to a first user.” Ex. 1001, 24:40–43. Twitter contends that PALLAS discloses a computer-readable storage medium as recited, either as part of its server or its mobile device. *See* Pet. 25–30 & n.7 (citing Ex. 1001, 3:24–33, 3:42–49; Ex. 1003 ¶¶ 78, 94–121; Ex. 1004, 52, 55–58, Figs. 1–6).

At this stage, PARC does not dispute that PALLAS discloses the preamble of claim 12. Without deciding whether the preamble is limiting at this stage of the proceeding, we find Twitter’s arguments sufficiently persuasive.

(b) Limitation 12.1

Limitation 12.1 recites the step of “receiving at least one content package.” Ex. 1001, 24:44. The content package must include “at least one content piece and a set of rules associated with the content package, wherein the set of rules includes a trigger condition and an expected response, and wherein the trigger condition specifies a context that triggers a presentation of the content piece.” *Id.* at 24:44–49. Twitter contends that PALLAS discloses this limitation, at least in combination with Yau. *See* Pet. 31–45 & nn.8–10 (citing Ex. 1001, 4:61–5:8, 5:57–58, 10:8–9; Ex. 1003 ¶¶ 122–186; Ex. 1004, 53–58, Figs. 1–4, 6; Ex. 1005, 2–5).

In PALLAS, Twitter contends that the recited “content package” is the “set of ‘data’ including, *e.g.*, (a) ‘context trigger,’ (b) ‘exercise,’ ‘test,’ ‘MP Quiz,’ and (c) answers to ‘exercise,’ ‘test,’ or ‘MP Quiz.’” Pet. 31. Twitter identifies exercises, tests, or quizzes as the recited “content piece,” and identifies the recited “expected response” as the correct answers in response to an exercise, test, or quiz. Pet. 31, 38–39, 44–45. Twitter also argues that Yau discloses a content piece in the form of a formal assessment. Pet. 37 (citing Ex. 1003 ¶¶ 153–164).

At this stage, PARC does not contest Twitter’s contentions as to whether PALLAS and Yau teach the recited “content package,” “content piece,” or “expected response,” and we find Twitter’s arguments sufficiently persuasive.

Twitter also argues that Yau discloses a trigger condition with respect to its learning content (*e.g.*, its formal assessments), and that such triggering occurs when the system presents the content “automatically when a contextual element . . . [is] fulfilled.” Pet. 37 (alterations in original) (quoting Ex. 1005, 5) (citing Ex. 1003 ¶¶ 153–164; Ex. 1005, 2–5). According to Twitter, a person of ordinary skill in the art “would have understood [Yau’s disclosure of formal assessments] as a disclosure of tests with answers for comparing against learner’s responses to assess knowledge/performance/skill (contrasting ‘un-assessed’ exercises whose responses are unchecked).” Pet. 43. Twitter argues that an ordinarily skilled artisan would have had reason “to implement PALLAS’s context-trigger-based content display using Yau’s beneficial teachings of displaying assessments/questions based on context, and of particular context pattern triggers advantageously optimized for, *e.g.*, quiz taking.” *Id.* According to

Twitter, this modification “would have been a routine implementation choice” for which there would have been a reasonable expectation of success. *Id.* (citing Ex. 1003 ¶¶ 178–180).

In its Preliminary Response, PARC argues that the combination of PALLAS and Yau does not disclose a “trigger condition” as recited in limitation 12.1.¹⁰ Prelim. Resp. 22. PARC contends that, according to the language of claim 12, “the claimed trigger condition must relate to the specific content piece in the content package, and it must trigger presentation of that content piece (rather than different content).” *Id.* at 18 (citing Ex. 1001, 23:22–27, 24:44–49). But according to PARC, “Yau discloses a system where the student selects whether they want to engage in a learning activity, not a system that actually triggers the presentation of an exercise/test/quiz based on location or time.” *Id.* at 23 (citing Ex. 1005, 3–5). In other words, Twitter contends that “the combination of PALLAS and Yau is still a system that requires a student to actively select a learning activity rather than a system that triggers a learning activity.” *Id.*

Based on the preliminary record, we disagree. Although Yau teaches that students engage with the learning content at a time when they “would like to undertake some learning activities” (Ex. 1005, 4), Yau also states that it takes a “context-triggered approach” based on “IF-THEN rules, which are previously specified,” so that actions are “invoked automatically when a contextual element or a mixture of contextual elements are fulfilled.” Ex.

¹⁰ PARC also addresses Twitter’s argument (for Ground 1) that PALLAS alone teaches a trigger condition that triggers presentation of a content piece to the user. *See* Prelim. Resp. 18–22. As we discuss below, we do not need to reach this issue for our determination to institute an *inter partes* review. *See infra* part III.D.2.

1005, 5. Thus, we find Twitter’s arguments sufficiently persuasive that Yau teaches a trigger condition that triggers the presentation of a content piece such as a formal assessment.

PARC also contends that Twitter’s arguments in this regard are insufficiently cited and thus conclusory, and that Twitter improperly incorporates Dr. Turnbull’s declaration by reference. *See* Prelim. Resp. 23–24. We disagree, based on the present record, that Twitter’s arguments in the Petition lack sufficient support. A successful petition must “articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (citing *KSR*, 550 U.S. at 418); *see also* 35 U.S.C. § 322(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4). Although many of the quotations in Twitter’s claim charts are abbreviated and lack specific citations, Twitter adequately directs our attention to the passage in Yau with those quotations that indicate that context-triggered actions are automatic when a contextual element is fulfilled. *See* Pet. 37. Twitter also articulates specific reasoning, based on the disclosures in PALLAS and Yau, that would support the conclusion obviousness, including a motivation to combine the two references. *See* Pet. 43–44. We find these arguments sufficiently specific and persuasive, at this stage, to support Twitter’s contention that the combination of PALLAS and Yau teaches limitation 12.1.

(c) Limitation 12.2

Limitation 12.2 recites “receiving a set of contextual information with respect to the first user.” Ex. 1001, 24:50–51. Twitter contends that both PALLAS and Yau teach this limitation because both references disclose receiving GPS and other contextual data to determine the student’s location.

See Pet. 45–51 (citing Ex. 1003 ¶¶ 187–213; Ex. 1004, 54–58, Figs. 1–3, 6; Ex. 1005, 2–5). Twitter also argues that a person of ordinary skill in the art would “have found it at minimum obvious to implement PALLAS’s system using further contextual information including information about noise levels surrounding the first user, based on PALLAS in view of Yau.” Pet. 51. According to Twitter, “this combination would advantageously permit PALLAS’s smartphone and server to additionally receive contextual information regarding user/learner’s environmental noise level, and available learning time, enabling further-customized content most appropriate to learner’s context.” Pet. 51–52 (citing Ex. 1003 ¶¶ 214–218; Ex. 1005, 3, 4, Fig. 1).

At this stage, PARC does not specifically contest Twitter’s contentions regarding limitation 12.2, and we find Twitter’s arguments sufficiently persuasive at this stage.

(d) Limitations 12.3 and 12.4

Limitations 12.3 and 12.4 recite “processing the contextual information to determine a current context for the first user; [and] determining whether the current context satisfies the trigger condition.” Ex. 1001, 24:52–55. Twitter alleges that PALLAS and Yau each disclose contextual information such as GPS location data, and that Yau discloses processing this data to “identif[y] the current context that the learner is situated in.” Pet. 52–57 (quoting Ex. 1005, 5) (citing Ex. 1003 ¶¶ 225–239; Ex. 1004, 54–58, Figs. 1–3; Ex. 1005, 2–3, 5, Fig. 1).

According to Twitter, a person of ordinary skill in the art would have had reason “to implement PALLAS’s functions . . . using Yau’s advantageous teachings of receiving additional contextual information

(beyond that described in PALLAS), such as noise level, and using it in determining a current context.” Pet. 63. Twitter argues that this would “permit PALLAS to determine more details (beyond those PALLAS already collects) about [the] learner’s current context . . . and whether that context matches the specified trigger conditions to present, *e.g.*, tests/exercises, quizzes most relevant/appropriate for [the] learner’s context.” *Id.* (citing Ex. 1004, 54).

Twitter also argues that Kim discloses converting contextual information “into [a] high layer’s context information according to the inference policy.” Pet. 58–59 (quoting Ex. 1006, 510) (citing Ex. 1003 ¶¶ 240–246; Ex. 1006, 510–512, Figs. 1–3). In other words, Twitter argues that “Kim expressly discloses converting contextual information into a current higher-level context, and determines whether the current context satisfies the trigger condition.” Pet. 64 (citing Ex. 1006, 511–12, Fig. 3(a)). Twitter contends that an ordinarily skilled artisan would have had reason to incorporate Kim’s teachings into the combination of Pallas and Yau because Kim’s teachings “would advantageously permit the combined system to determine [the] learner’s current context using, *e.g.*, location and noise level contextual information, and whether that context (including a high-level context) matches the specified trigger conditions to present content most relevant to learner.” Pet. 65.

In its Preliminary Response, PARC argues that Twitter improperly fails to recognize the distinction between “context” and “contextual information,” which “are not synonymous.” Prelim. Resp. 24. PARC contends that *context* includes things like “that a user is cooking, getting ready for work, watching TV, asleep, talking, driving, etc.,” whereas

contextual information includes things like “where the user is located, how fast they are travelling, and traffic information available on the web.” *Id.* at 25 (citing Ex. 1001, 6:26–7:2, 7:46–59).

First, PARC contends that Twitter has not shown that PALLAS discloses a distinction between contextual information and context because in PALLAS, the trigger conditions are based on the raw contextual information such as location and time, without further processing that information to determine a more high-level context. Prelim. Resp. 25–28. Based on the preliminary record, we disagree. PALLAS appears to disclose higher-level processing of the raw contextual information by, for example, considering a variety of parameters that include both environmental parameters and manually entered profile data about the user. *See* Pet. 16 (citing Ex. 1004, 54); *see also* Ex. 1004, 54 (describing how the system is more adaptable “by using some knowledge about the learner in a system controlled way and by using knowledge provided by the learner manually”).

Twitter also points out that PALLAS discloses using “‘map data’ that ‘allow ‘add[ing] location context to content’” so the system can infer that the learner is in the vicinity of a particular location of interest. Pet. 61 (alteration in original) (quoting Ex. 1004, 55–56). PARC dismisses this argument as improper hindsight (see Prelim. Resp. 26), but we regard this disclosure as additional evidence that a person of ordinary skill in the art would have understood PALLAS’s system to make higher-level inferences from raw contextual information, such as a set of GPS coordinates.

Second, PARC argues that “Twitter’s reliance on Yau and Kim cannot save its Petition” because Twitter “does not explain what [Yau’s contextual] variables are or how they meet the ’599 Patent’s ‘context’ limitations outside

of the mention of ‘noise level,’” and because “Twitter mentions Kim’s teachings about location (*i.e.*, being near a sofa or in a living room), but explains nothing about receiving contextual information and processing it into higher-level context.” Prelim. Resp. 28 (citing Pet. 63–65). PARC also contends that Twitter’s explanation of why an ordinarily skilled artisan would have combined the references is insufficient because “Twitter has not explained how PALLAS’s ‘mobile smart client’ has or could achieve any additional contextual information inputs (including Twitter’s vaguely-referenced ‘noise’ from Yau) that could feasibly be used to determine context,” and has not “explained how such additional inputs would be processed to determine context, including on PALLAS’s ‘mobile smart client’ or its server.” *Id.* at 29.

Based on the preliminary record, we disagree that Twitter has been insufficiently specific in its explanation for how, or why, a person of ordinary skill in the art would have modified PALLAS in view of either Yau alone or both Yau and Kim. As we note above, we find the Petition sufficiently persuasive at this stage in showing that PALLAS alone discloses higher-level processing of raw contextual information. Yau adds other types of contextual information for consideration, such as a noise sensor, and teaches using “individual contextual factors” to determine “the current context that the learner is situated in.” Ex. 1005, 5. Kim also specifically describes converting contextual information from physical sensors into a higher-level form according to an inference policy. *See* Ex. 1006, 510. Finally, Twitter’s alleged motivation to combine is sufficiently specific and supported by testimonial evidence. *See* Pet. 63–66 (citing Ex. 1003 ¶¶ 253–261).

Thus, for the above reasons, we determine that Twitter has sufficiently shown, at this stage, that the combination of PALLAS and Yu, with or without Kim, teaches or suggests limitations 12.3 and 12.4.

(a) Limitation 12.5

Limitation 12.5 recites the step of, “in response to the trigger condition being satisfied, presenting the content piece to the first user.” Ex. 1001, 24:56–57. Twitter’s arguments for this limitation mirror its arguments for limitation 12.1, which we discuss above in part III.D.1(b). *See* Pet. 66–71 (citing Ex. 1003 ¶¶ 262–279; Ex. 1004, 55–57, Figs. 2, 3, 6).

In response, PARC reiterates the arguments it made for limitation 12.1 that the combination of PALLAS and Yau does not disclose a trigger condition that triggers presentation of the actual content piece. *See* Prelim. Resp. 29–30.

For the reasons given above in the context of limitation 12.1, we determine that Twitter has sufficiently shown that Yau teaches a trigger condition that triggers the presentation of its formal assessments. *See supra* part III.D.1(b). Twitter has also sufficiently shown that a person of ordinary skill in the art would have had reason to incorporate Yau’s teachings into PALLAS’s system such that PALLAS’s presentation of a test, exercise, or quiz is automatically triggered by the trigger condition. *See id.* Thus, we determine that Twitter has sufficiently shown that the combination of PALLAS and Yu teaches limitation 12.5.

(b) Limitations 12.6–12.8

Limitations 12.6–12.8 recite the following steps: “receiving a response from the first user corresponding to the presented content piece;

determining whether the received response matches the expected response; and performing an action based on an outcome of the determination.” Ex. 1001, 24:58–63. Twitter contends that PALLAS discloses these limitations in light of the teachings of Yau, and in particular that PALLAS presents a test, exercise, or quiz to the learner and receives and validates a response to the presented material, ultimately performing follow-up actions based on the results of the text, exercise, or quiz. *See* Pet. 66–74 & n.12 (citing Ex. 1003 ¶¶ 280–294, 297; Ex. 1002, 360, 414, 450; Ex. 1004, 53–55, 57). Twitter’s arguments are along the lines of its arguments for limitation 12.1, which we discuss above. *See supra* part III.D.1(b).

At this stage, PARC does not specifically contest Twitter’s contentions regarding limitations 12.6–12.8, and we find Twitter’s arguments sufficiently persuasive.

(c) Conclusion as to claim 12

For the above reasons, we determine that Twitter has shown that there is a reasonable likelihood it would prevail in an *inter partes* review with respect to at least claim 12 based on the combination of PALLAS and Yau (Grounds 2) or the combination of Pallas, Yau, and Kim (Ground 4).

2. *Challenge to Claim 12 Based on PALLAS Alone (Ground 1) or PALLAS in View of Kim (Ground 3)*

Because we determine that Twitter is reasonably likely to prevail in showing that claim 12 is obvious over the combination of PALLAS and Yu, with or without Kim (Grounds 2 and 4), we do not need to decide whether Twitter is reasonably likely to prevail on Grounds 1 and 3, which do not take Yu’s teachings into consideration. *See PGS Geophysical AS v. Iancu*, 891

F.3d 1354, 1360 (Fed. Cir. 2018) (holding that 35 U.S.C. § 318(a) “require[s] a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Nevertheless, we find at least some merit to PARC’s argument that Twitter has failed to show that PALLAS, alone or only in combination with Kim, teaches the recited “trigger condition [that] specifies a context that triggers a presentation of the content piece.” Ex. 1001, 24:48–49. Twitter contends that the “triggering condition” in PALLAS is the step of displaying a content piece (e.g., a test, exercise, or quiz) in response to triggers such as location, time, or other environmental parameters. *See* Pet. 31–33, 36, 39–42. Twitter also contends that, to the extent that a test, exercise, or quiz is not automatically displayed in response to a trigger condition, a person of ordinary skill in the art would have been motivated to modify PALLAS to add such automatic display, which would “advantageously permit teachers to set up a test/exercise/quiz to be displayed if [the] learner is at a site of interest,” and would “further[] PALLAS’s goal of, *e.g.*, providing ‘personalized[,] contextualized’ resources.” Pet. 42 (alteration in original) (quoting Ex. 1004, 54). Twitter contends that this modification “would work, predictably yielding the expected functionality with [a reasonable expectation of success].” *Id.* (citing Ex. 1003 ¶¶ 174–177).

But according to PARC, PALLAS does not disclose that any of its content triggers result in presentation of an exercise, test, or quiz. Prelim. Resp. 19. Rather, PARC contends that in the example shown in PALLAS’s Figure 6, the presented content is a notification that there is a nearby French Art Exhibition, which “is decidedly not an exercise, test, and/or MP Quiz, and thus is not the claimed ‘content piece.’” *Id.* Thus, according to PARC,

“PALLAS’s alleged trigger condition does not trigger the content piece as required by the claims. *Id.*

In light of PARC’s arguments, we question whether PALLAS, alone, is sufficient to teach the triggering of exercises, tests, or quizzes in response to the student’s context. But because we are instituting trial on other grounds, we need not decide at this stage whether Twitter is reasonably likely to prevail on this issue.

E. CLAIMS 15, 17, AND 18

Claims 15, 17, and 18 depend from independent claim 12. Claim 15 further recites “defining a context by: creating one or more context entries in a context manager; and associating a respective context entry with a set of contextual information.” Ex. 1001, 25:29–34. Twitter contends that PALLAS, Yau, and Kim each teach creating a context entry in a context manager and associating it with contextual information. *See* Pet. 74–83 & nn.13–15 (citing Ex. 1001, 7:30–58, 10:26–41, 11:11–26; Ex. 1002, 23–24, 415; Ex. 1003 ¶ 295–333; Ex. 1004, 54–58, Figs. 1–3; Ex. 1005, 4–5; Ex. 1006, 510–511, Figs. 1, 2). This showing is along the lines discussed above in the context of limitations 12.3 and 12.4. *See supra* part III.D.1(d).

In particular, Twitter identifies the recited “context manager” in each of the three references as the “Context Engine” and “Adaptivity Engine” (Ex. 1004, Fig. 3) in PALLAS, as the “Context Adaptation Module” (Ex. 1005, Fig. 1) in Yau, and as the “Context Manager” (Ex. 1006, Fig. 1) in Kim. *See* Pet. 75–78. Twitter also argues that it would have been obvious to perform the functions of PALLAS’s context and activity engine “using Yau’s beneficial teachings of assigning context patterns, including ones appropriate

for test-taking, to associate context with particular contextual information.” Pet. 80. According to Twitter, this combination “would beneficially allow reuse of patterns for different content.” Pet. 80–81 (citing Ex. 1003 ¶¶ 323–324).

Claim 17 recites “wherein the contextual information includes one or more of: time, date, location, proximity to a system-detectable tag, device orientation, velocity, direction, distance, vibration, altitude, temperature, pressure, humidity, sound, luminous intensity, camera image, and video stream.” Ex. 1001, 25:40–45. Twitter contends that PALLAS discloses that contextual information may include time, date, location, distance, temperature, and humidity. *See* Pet. 83 (citing Ex. 1003 ¶¶ 334–343).

Claim 18 recites “wherein the content piece includes one or more of: audio clip, image, video stream, language lesson, e-mail, weather report, calendar reminder, news feed, rich site summary (RSS) feed, information update from a Web 2.0 application, and Internet blog.” Ex. 1001, 25:46–51. Twitter contends that PALLAS discloses that a content piece may include a language lesson in the form of a language-related exercise. *See* Pet. 83–84 (citing Ex. 1003 ¶¶ 344–352; Ex. 1004, 53–58, Fig. 4).

At this stage, PARC does not dispute Twitter’s specific showing for claims 15, 17, and 18, and we find them sufficiently persuasive. Thus, we determine that Twitter is reasonably likely to prevail on these claims, at least as to Grounds 2 and 4 of the Petition. As we discuss above in the context of claim 12, we need not decide whether Twitter is likely to prevail under Grounds 1 and 3. *See supra* part III.D.2.

F. CLAIMS 1, 4, 6, 7, 9–11

Independent claim 1 is directed to a “method for delivering context-based content to a first user” and it includes essentially the same steps as claim 12. *Compare* Ex. 1001, 23:20–41, *with id.* at 24:40–63. Claims 4, 10, and 11 depend from claim 1 and mirror claims 15, 17, and 18, respectively. *Compare id.* at 24:4–9, 24:29–39, *with id.* at 25:29–35, 25:40–51. For claims 1, 4, 10, and 11, Twitter relies on its showing for claims 12, 15, 17, and 18, respectively. Pet. 84.

Claim 6 depends from claim 1 and further recites “wherein the context is defined as a combination of at least a high-level abstraction which corresponds to one or more low-level contextual information values, wherein the low-level contextual information values can correspond to one or more measurable parameters.” Ex. 1001, 24:15–19. Similarly, claim 7 depends from claim 1 and further recites “wherein a respective rule is defined with one or more high-level abstractions.” *Id.* at 24:20–21. For the recited “high-level abstraction,” Twitter identifies the parameter of “Leisure Time” in PALLAS and the context pattern of “learner is at the university’s computer lab, has 30 minutes, and is quiet” in Yau. *See* Pet. 84–95 & nn.16–20 (citing Ex. 1001, 6:26–57, 10:41–55; Ex. 1002, 30, 416; Ex. 1003 ¶¶ 660–700; Ex. 1004, 53–58, Figs. 1, 6; Ex. 1005, 3–5).

Claim 9 depends from claim 1 and further recites “wherein presenting the context piece comprises sharing the content piece with a remote device.” Ex. 1001, 24:26–28. Twitter contends that PALLAS discloses this limitation because its server communicates with mobile devices. *See* Pet. 95–100 (citing Ex. 1003 ¶¶ 701–720; Ex. 1004, 53–58, Figs. 2, 4, 6).

At this stage, PARC does not dispute Twitter’s specific showing for claims 1, 4, 6, 7, 9–11, and we find it sufficiently persuasive at this stage for us to determine that Twitter is reasonably likely to prevail on these claims, at least as to Grounds 2 and 4 of the Petition. For the reasons we discuss above the context of claim 12, we need not decide whether Twitter is likely to prevail under Grounds 1 and 3. *See supra* part III.D.2.

IV. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314(a)

PARC argues that the Board should discretionarily deny Twitter’s Petition. *See* Prelim. Resp. 11–18. Under 35 U.S.C. § 314(a), the Director has discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”). As with other non-dispositive factors considered for institution under § 314(a), the Board weighs factors as part of a “balanced assessment of all relevant circumstances in the case, including the merits.” Patent Trial and Appeal Board Consolidated Trial Practice Guide 58 & n.2 (Nov. 2019), <https://go.usa.gov/xpvPF> (“CTPG”) (discussing follow-on petitions and parallel proceedings).

In *General Plastic Co., Ltd. v. Canon Kabushiki Kaisha*, the Board articulated a non-exhaustive list of factors to be considered in determining whether to exercise discretion under § 314(a) to deny a petition that challenges the same patent as a previous petition. IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017) (precedential), slip op. 9–10. The *General Plastic* factors follow:

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
3. whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition;
4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
6. the finite resources of the Board; and
7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

Id. (footnote omitted).

A. FACTOR 1

PARC contends the first factor weighs in favor of denial because Twitter allegedly coordinated its Petition with Snap and Facebook, who filed their own petitions challenging the '599 patent in May 2021 and July 2021, respectively. Prelim. Resp. 13–14. PARC also contends that “Facebook, Snap, and Twitter coordinated their invalidity contention work and served overlapping invalidity contentions in the parallel district court cases.” *Id.* at 14 (citing the related district court proceedings); *see supra* part II.A (identifying these proceedings).

As PARC recognizes, the first factor examines whether the same petitioner or a related petitioner previously filed a petition directed to the same claims of the same patent, and can also apply in some circumstances when “when different petitioners submit multiple petitions to challenge the same patent.” Prelim. Resp. 12 (citing *Valve Corp. v. Electronic Scripting Products, Inc.*, IPR2019-00062, Paper 11 (PTAB Apr. 2, 2019) (precedential) (“*Valve I*”); see also *Valve Corp. v. Electronic Scripting Products, Inc.*, IPR2019-00064, Paper 10 (PTAB May 1, 2019) (precedential) (“*Valve II*”). *Valve II* held that “when different petitioners challenge the same patent, [the Board] consider[s] any relationship between those petitioners while weighing the *General Plastic* factors.” *Valve II* at 10. In weighing this factor against the second petitioner Valve in *Valve II*, the Board noted that “Valve and HTC were co-defendants in the District Court litigation and were accused of infringing the [challenged] patent based on the same product, namely HTC’s VIVE devices that incorporate technology licensed from Valve.” *Id.* at 11. Also, Valve joined the previous petition as a party and the later-filed petitions challenged the same claims as the previous petition. See *id.* (noting a “complete overlap in the challenged claims”).

Similar considerations do not exist here. Twitter did not previously file a petition challenging the ’599 patent,¹¹ nor did Twitter seek to join the

¹¹ Concurrently with this Petition, Twitter filed another petition on the same grounds, challenging claims of the ’599 patent that Twitter thought might be indefinite and thus not amenable to an *inter partes* review. See IPR2021-01459, Paper 3; Paper 2, 2. Because Twitter ranks this Petition above that in IPR2021-01459 (see Paper 2, 3), we address the parallel-petition issue in the decision instituting trial in the other proceeding.

earlier Snap or Facebook petitions. *See generally* IPR2021-00987, IPR2021-01294, IPR2021-01536.

There is also no evidence in the record that Twitter coordinated with Snap or Facebook in their respective petitions: Twitter represents that they “are unrelated companies; if anything, they are direct competitors.” Pet. 102. Twitter also represents that “Twitter has not coordinated its IPR with Snap or Facebook; and the attorneys substantively preparing Twitter’s IPR did not use Snap’s or Facebook’s petitions as a roadmap *or even consult them*.” *Id.*

Therefore, this factor favors not exercising discretionary denial.

B. FACTORS 2, 4, AND 5

PARC contends that “Twitter, Snap, and Facebook knew, or should have known, about the prior art the others asserted in their respective petitions because of the art’s alleged public availability and Twitter’s, Snap’s, and Facebook’s pre-trial coordination by at least the May 7, 2021 Joint Scheduling Conference filing in the District Court.” Prelim. Resp. 14 (citing Ex. 2006). According to PARC, on June 15, 2021, the three companies “served the exact same invalidity charts for the ’599 Patent” for two references that Snap later asserted. *Id.* at 14–15 (citing Exs. 2007–2012). PARC argues that these charts “even us[e] the same labels (A23 and A25).” *Id.* at 15.

Some Board decisions—including *General Plastic*—indicate that a petitioner bears some responsibility to provide a reasonable explanation about when it learned of the references in its petition. *See General Plastic*, Paper 9 at 10 (“Petitioner provided no meaningful explanation for the delay in filing the follow-on petitions.”). *General Plastic* also reasons

that “[c]onsidering other factors (i.e., factors 2, 4, and 5) allows us to assess and weigh whether a petitioner should have or could have raised the new challenges earlier.” *General Plastic* at 18.

But in this case, Factor 2 of *General Plastic*, “whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it,” is of little probative value. Twitter did not file the earlier petitions and there is no evidence of a significant relationship between Twitter and prior petitioners Snap and Facebook. Hence, the issue of whether Twitter could have raised the prior art at issue here in the first petition is not relevant. *General Plastic* at 19–20.

Factors 4 and 5 involve the length of time between when Twitter learned of PALLAS, Yau, and Kim and when it filed the Petition, and whether Twitter has adequately explained this time period between its Petition and the earlier petitions.

Again, unlike Twitter’s Petition, Snap’s petition and Facebook’s petitions do not rely on PALLAS, Yau, or Kim. *See* IPR2021-00987, Paper 1; IPR2021-01294, Paper 2; IPR2021-01536, Paper 3. Therefore, as to factor 5, even assuming Twitter knew of Snap’s and Facebook’s prior art and challenged claims, that does not indicate that Twitter had knowledge of this Petition’s prior art combinations at the earlier time. And even if Twitter became aware of PALLAS, Yau, or Kim around the time it filed its initial invalidity contentions, the time gap between that awareness and the filing of its Petition does not reflect an unreasonable delay in view of time typically required for preparing a petition.

Accordingly, these factors favor not exercising discretionary denial.

C. FACTOR 3

The filing date of this Petition precedes both PARC's preliminary response to Snap's petition, PARC's preliminary response to Twitter's petition, and the institution decision in the two prior cases. *See* IPR2021-00987, Papers 11, 13; IPR2021-01294, Papers 12, 13. PARC does not specifically address the third factor other than to argue any factor it did not discuss is "neutral." *See* Prelim. Resp. 17.

Accordingly, this factor favors not exercising discretionary denial.

D. FACTORS 6 AND 7

Regarding factor 6, PARC contends that, given that Twitter, Snap, and Facebook each "have filed petitions for the '599 Patent . . . , those petitions were filed months apart, and they allege a total of 11 different grounds . . . supported by 10 different alleged prior art references, the Board's resources will inevitably be stretched thin." Prelim. Resp. 16–17. For factor 7, PARC contends that Twitter "explains neither its failure to file its Petition closer in time to Snap's or Facebook's petitions, nor why it declined to join Snap's or Facebook's earlier-filed petitions," and Twitter "does not explain why it was unable to coordinate with Snap or Facebook here just as it has in the District Court." *Id.* at 17.

Twitter contends factors 6 and 7 are "neutral" because "[t]hese factors consider the Board's finite resources and requirement to issue a final determination within a year of institution." Pet. 105. According to Twitter, these proceedings challenging the '599 patent are independent, yet they "will create efficiencies for the Board in terms of understanding the background in the art and the '599 [patent] itself." *Id.* "Further," Twitter argues, "there is no

risk that the Board could not issue a final determination within a year of institution” of Twitter’s Petition. Pet. 106.

Given the differences between this Petition and the Snap and Facebook petitions, joinder is not possible under current precedent. *See Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1336 (Fed. Cir. 2020) (“We therefore conclude that the unambiguous meaning of § 315(c) is that it allows the Director discretion to join a person *as a party* to an already-instituted IPR but does not permit the joined party, by virtue of the joinder decision alone, to bring new issues from a second proceeding into the existing proceeding.”). Also, we agree with Twitter that any similarities in the prior art teachings as applied to the challenged claims will provide some basis for efficiency in timely resolving the issues of this review.

Accordingly, these factors are neutral or favor not exercising discretionary denial.

E. CONCLUSION ON DISCRETIONARY DENIAL

Under a holistic analysis and under the particular circumstances of this case, the interests of efficiency and integrity of the patent system tilt toward not exercising discretionary denial of the Petition under § 314(a).

V. CONCLUSION

Based on the evidence available on the preliminary record, Twitter has demonstrated a reasonable likelihood of success in showing that at least one of the challenged claims of the ’599 patent is unpatentable on at least one of the grounds raised in the Petition. Thus, as directed by *SAS Inst., Inc. v.*

Iancu, 138 S. Ct. 1348 (2018), we institute an *inter partes* review on all grounds raised in the Petition. And under the circumstances, we decline to exercise our discretion to deny institution under § 314(a).

VI. ORDER

In consideration of the foregoing, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 4, 6, 7, 9–12, 15, 17, and 18 of the '599 patent is instituted with respect to all the grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, *inter partes* review of the '599 patent commences on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2021-01458
Patent 8,489,599 B2

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