Trials@uspto.gov
571-272-7822

Paper 9
Date: May 16, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TRILLER, INC.,
Petitioner,

v.

TIKTOK PTE. LTD.,
Patent Owner.

IPR2022-00181
Patent 9,294,430 B2

Before SALLY C. MEDLEY, JOHN D. HAMANN, and JULIET MITCHELL DIRBA, *Administrative Patent Judges.*

DIRBA, *Administrative Patent Judge*.

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

On November 10, 2021, Triller, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1, 19, 23, 24, and 28 of U.S. Patent No. 9,294,430 B2 (Ex. 1003, "the '430 patent"). Paper 1 ("Pet."). TikTok Pte. Ltd. ("Patent Owner") timely filed a Preliminary Response. Paper 8 ("Prelim. Resp.").

An *inter partes* review may not be instituted unless "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).

Having reviewed the parties' papers and the evidence of record, we determine that Petitioner has not shown a reasonable likelihood it will prevail in establishing the unpatentability of any of the challenged claims. Accordingly, we do not institute an *inter partes* review.

I. BACKGROUND

A. Related Matters

The parties state that the '430 patent is at issue in *Bytedance Inc. v. Triller, Inc.*, 4:20-cv-07572 (N.D. Cal.). Pet. 1; Paper 5, 1.

The parties identify no other PTAB proceedings involving the '430 patent. However, Petitioner identifies two proceedings challenging patents that are related to the '430 patent (Pet. 1)—IPR2022-00179 (challenging U.S. Patent No. 9,648,132 B2) and IPR2022-00180 (challenging U.S. Patent No. 9,992,332 B2). Concurrently with this Decision, we institute *inter partes* reviews in each of those proceedings.

B. The Petition's Asserted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 3):

Claim(s) Challenged	35 U.S.C. §[1]	Reference(s)/Basis
1, 19, 23, 24, 28	102	Knight[2]
1, 19, 23, 24, 28	103	Knight
1, 19, 23, 24, 28	103	Abrams,[3] Khedouri[4,5]
1, 19, 23, 28	103	Abrams, Partovi[6]

In support, Petitioner relies on the testimony of Michael Shamos, Ph.D (Ex. 1025).

[1] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102, 103 effective March 16, 2013. We apply the pre-AIA version of the statute in this Decision, but our analysis would be the same under the current version of the statute.

[2] US 2010/0031366 A1, published February 4, 2010 (Ex. 1012).

[3] US 2005/0021750 A1, published January 27, 2005 (Ex. 1009).

[4] US 2006/0008256 A1, published January 12, 2006 (Ex. 1011).

[5] For dependent claim 24, Petitioner also lists "the knowledge of a [person of ordinary skill in the art] about multitasking and multithreading (as evidenced by *Java Threads* (Ex. 1015) and expert testimony (Ex. 1025))." Pet. 3. Although we do not list such knowledge separately, we consider it as part of our obviousness analysis. *See Randall Mfg. v. Rea*, 733 F.3d 1355, 1362–63 (Fed. Cir. 2013). In addition, we view Petitioner's listing of Exhibit 1015 as evidencing the alleged knowledge of one of ordinary skill, rather than including Exhibit 1015 as part of an asserted combination for an asserted ground.

[6] US 8,572,169 B2, filed August 28, 2006, issued October 29, 2013 (Ex. 1010).

C. Summary of the '430 patent

The '430 patent is titled "Method of Enabling Digital Music Content to be Downloaded to and Used on a Portable Wireless Computing Device." Ex. 1003, code (54). The application leading to this patent was filed on August 5, 2013, claiming priority to applications filed on May 8, 2007, February 9, 2007, and May 5, 2006. *Id.* at codes (22), (30), (63).

The '430 patent "enables digital music content to be downloaded to and used on a portable wireless computing device." Ex. 1003, Abst. The portable wireless computing device (e.g., a smart phone) also allows for social network functionality, including allowing a user to create a profile, identify other users as friends, and interact with other users. *See id.* at 1:21–29, 75:6–77:54. More specifically, the '430 patent teaches that a user of the social network can create a profile so that they can partake in community features and communicate with other users. *Id.* at 75:6–11. In creating the profile, the user can select a unique member name, image, and catchphrase for their profile, which can be displayed to other users. *Id.* at 75:9–18. The '430 patent also teaches ways for a user to become a friend with another user by allowing the user to view other users' profiles, or search for them by name or phone number, and send a friend request—a list of a user's friends is maintained in the user's profile. *Id.* at 76:24–77:29. In accordance with the '430 patent, a user can make recommendations (i.e., recommend a music album, artist, playlist, or track) and send messages to other users that are their friends. *Id.* at 77:30–54.

D. Challenged Claims

Petitioner challenges claims 1, 19, 23, 24, and 28 of the '430 patent. Of these, claims 1 and 28 are independent, and for purposes of this Decision, claim 1 is representative. Claim 1 recites:

> [1.1] A portable wireless computing device comprising:
>
> [1.2] a hardware processor programmed with a software application embodied on a non-transitory storage medium, [1.3] that enables an end-user to interact with other users in which
>
> > [1.4] (a) the software application allows the end-user to, over a wireless HTTP connection, create on a remote server one or more user accounts with associated profiles for that end-user; and
> >
> > [1.5] (b) the software application allows the end-user to, over the wireless HTTP connection, view profiles created by other users of a service; and
> >
> > [1.6] (c) the software application allows the end-user to, over the wireless HTTP connection, interact with other users of the service; and
> >
> > [1.7] (d) the software application allows the end-user to, over the wireless HTTP connection, send and receive messages to and from other users of the service; and
> >
> > [1.8] (e) the software application allows the end-user to, over the wireless HTTP connection, link his or her user account on the remote server to user accounts on the remote server of other users of the service
>
> [1.9] wherein the software application is a music application and uses track meta-data that is formed as a separate meta-data layer and defines attributes of tracks, the meta-data being external to a music track to make sharing and browsing of track information possible without needing to distribute the related music track files.

Ex. 1003, 85:54–86:11 (line breaks and reference numbers added).

II. ANALYSIS

A. The Level of Ordinary Skill in the Art

Petitioner submits that one of ordinary skill in the art would have had "a bachelor's degree in computer science, electrical engineering, or an equivalent discipline, or equivalent experience, including familiarity with multitasking and multithreading, wireless communications and client/server computing, and, in addition, familiarity with digital music distribution and DRM." Ex. 1025 ¶ 62; Pet. 61.

Patent Owner contends, for purposes of this proceeding, that the person of ordinary skill would have had "a Bachelor's degree in Computer Science, Computer Engineering, Human Factors, or an equivalent degree" as well as "two years of experience working in the fields of user interfaces, communications applications, networking applications, or media applications." Prelim. Resp. 3.

For purposes of this Decision, we adopt Petitioner's proposed level of skill, as articulated above. We note that the differences between Petitioner's and Patent Owner's proposals are not material for purposes of this Decision.

B. Claim Construction

We interpret claim terms using "the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b)." 37 C.F.R. § 42.100(b). Under the principles set forth by our reviewing court, the "words of a claim 'are generally given their ordinary and customary meaning,'" as would be understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

To analyze the parties' priority dispute (*see infra* § III.D), we must first address the construction of "track meta-data that is formed as a separate meta-data layer." This phrase is found in both challenged independent claims in the following context:

> wherein the software application is a music application and uses *track meta-data that is formed as a separate meta-data layer* and defines attributes of tracks, the meta-data being external to a music track to make sharing and browsing of track information possible without needing to distribute the related music track files.

Ex. 1003, 86:6–11 (claim 1; emphasis added); *see also id.* at 88:20–25 (same language in claim 28). The challenged claims of the '430 patent include no other references to the terms "meta-data"[7] or "layer."

According to Petitioner, the phrase is indefinite because "there is no 'reasonable certainty' about what [this] phrase covers." Pet. 13 n.2 (citing Ex. 1025 ¶¶ 67–75). However, Petitioner assumes that Patent Owner will contend that this phrase means: "(1) track meta-data that exists separately from the music track, (2) track meta-data that exists separately in any way from other forms of meta-data, or (3) track meta-data that is stored in a separate database." *Id.* at 24. To show that Khedouri and Partovi disclose this claim phrase, Petitioner applies each of these constructions (*id.* at 51–53, 68–69), but Petitioner maintains that each meaning "[is] clearly incorrect" (*id.* at 24 & n.4).

[7] "Metadata" includes "[i]ndividual items of data or collections of data, potentially hierarchically related, which describe the attributes or behaviour of," for example, "full music downloads." Ex. 1003, 8:58–9:3; *see also* Ex. 1025 ¶ 68 ("[T]rack meta-data is simply data about one or more tracks.").

Patent Owner does not directly address the meaning of this phrase. *See* Prelim. Resp.

We decline to express an opinion on whether this phrase is indefinite. "[T]he Board may not cancel claims for indefiniteness in an IPR proceeding." *Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342, 1350 (Fed. Cir. 2020). Rather, "the proper course for the Board to follow, if it cannot ascertain the scope of a claim with reasonable certainty for purposes of assessing patentability, is to decline to institute the IPR." *Id.* at 1353.[8]

For purposes of this Decision, we assume, like Petitioner does, that "track meta-data that is formed as a separate meta-data layer" has the following potential meanings: track metadata that (1) exists separately from the music track, (2) exists separately in any way from other forms of metadata, and/or (3) is stored in a separate database. The purpose of a decision on institution is to make a threshold determination of whether Petitioner has shown a reasonable likelihood of prevailing in showing at least one claim is unpatentable on the statutory grounds set forth in 35 U.S.C. § 311(a), and our rules require a petition to identify "[h]ow the challenged claim is to be construed" (37 C.F.R. § 42.104(b)(3)). As a result, in this Decision, we apply the only constructions identified in the Petition. Because we determine that Petitioner fails to make a sufficient showing, we need not (and do not) address the merits of these constructions.

[8] *But see Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 813 (Fed. Cir. 2021) ("The indefiniteness of a limitation . . . precludes a patentability determination only when the indefiniteness renders it logically impossible for the Board to reach such a decision.").

Moreover, based on the record before us, we do not find it necessary to expressly construe any other claim terms or phrases in this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that "we 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))).

C. Law on Anticipation and Obviousness

"A single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation." *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375–76 (Fed. Cir. 2005). To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

The legal question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.[9] *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966). One seeking to establish obviousness based on more than one reference also must articulate sufficient reasoning with

[9] The current record does not include allegations or evidence of objective indicia of nonobviousness.

rational underpinnings to combine teachings. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

D. Anticipation and Obviousness Grounds Based on Knight

Petitioner contends that claims 1, 19, 23, 24, and 28 are anticipated by Knight, and Petitioner also contends that the subject matter of these claims would have been obvious over Knight. Pet. 3, 12–23. Patent Owner contends that Knight is not prior art because the challenged claims are entitled to their priority claim. Prelim. Resp. 4–21.

Having reviewed the parties' arguments and evidence, we determine that Petitioner has not demonstrated a reasonable likelihood that it will prevail in showing that Knight is prior art,[10] and as a result, Petitioner does not demonstrate a reasonable likelihood of success on these grounds.

1. Summary of the Issue

The application that led to the '430 patent was filed on August 5, 2013 and is a continuation of U.S. Application No. 12/299,505, filed as PCT/GB2007/001675 on May 8, 2007. Ex. 1003, codes (22), (63). U.S. Application No. 12/299,505 published as Knight on February 4, 2010 (Ex. 1012, codes (21), (43)), and PCT/GB2007/001675 published as WO

[10] "In an *inter partes* review, the burden of persuasion is on the petitioner to prove 'unpatentability by a preponderance of the evidence,' . . . and that burden never shifts to the patentee." *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (quoting 35 U.S.C. § 316(e)). Although the burden of production can shift to Patent Owner (*id.* at 1380), Petitioner has the ultimate burden to persuade us that Knight is prior art to the '430 patent (*see id.* at 1378).

2007/129081 ("the PCT application") (Ex. 1008, code (21); *see also* Ex. 3001).[11]

The '430 patent, Knight, and the PCT application have substantially similar specifications, but different claims. *Compare* Ex. 1003, *with* Ex. 1008, *with* Ex. 1012. According to Petitioner, a preliminary amendment (mailed on November 4, 2008) amended the claims in U.S. Application No. 12/299,505 after national stage entry to include "new matter." Pet. 13–14; *see* Ex. 1004, 838–846 (preliminary amendment canceling existing claims and adding new claims). As a result, Knight published with claims that differ from those found in the PCT application. *Compare* Ex. 1012, 51–52, *with* Ex. 1008, 163–168.

Petitioner contends that Knight qualifies as prior art because the challenged claims of '430 patent are not entitled to claim priority to the PCT application, but only are entitled to the August 5, 2013 filing date of the application that led to the '430 patent. Pet. 12–15. Specifically, Petitioner contends that the PCT application does not provide written description support for a limitation recited in both independent claims 1 and 28: "the software application . . . uses track meta-data that is formed as a separate meta-data layer." *Id.* at 12–13. Also, Petitioner contends that the PCT application fails to provide written description support for a limitation recited in dependent claim 24: "the software application uses a

[11] The version of the PCT application found in Exhibit 1008 includes typographical errors that appear to be the result of optical character recognition. *E.g.*, *compare* Ex. 1008, 148:2 ("*Uneup*"), *with* Ex. 3001, 148:2 ("*Lineup*"). Accordingly, we have added Exhibit 3001 to the record, and when there is a discrepancy, we have relied on the contents of this exhibit. However, for convenience, we consistently cite to Exhibit 1008.

multithreaded architecture to balance . . . the computational demands of . . . a DRM program." *Id.* at 13.

Patent Owner responds that Knight is not prior art because the PCT application provides written description support for the challenged claims. Prelim. Resp. 4–21. In support, Patent Owner identifies passages of the PCT application that disclose each of the limitations identified by Petitioner. *Id.*

2. Law on Written Description Support

"It is elementary patent law that a patent application is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the later application, as required by 35 U.S.C. § 112." *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008) (quoting *In re Chu*, 66 F.3d 292, 297 (Fed. Cir. 1995)). "To satisfy the written description requirement [in § 112,] the disclosure of the prior application must 'convey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventor] was in possession *of the invention*.'" *Id.* (second alteration in original) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991)).

"[T]he hallmark of written description is disclosure." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The sufficiency of written description support is based on "an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." *Id.* "Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed." *Id.* "The level of detail required to satisfy the written description requirement" necessarily "varies

depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology." *Id.* The invention need not be described *in haec verba*, but a disclosure that merely renders obvious the claims does not provide adequate written description support. *Id.* at 1352.

3. Analysis of Priority Dispute

a) Independent Claims 1 and 28

The challenged independent claims recite:

> wherein *the software application* is a music application and *uses track meta-data that is formed as a separate meta-data layer* and defines attributes of tracks, the meta-data being external to a music track to make sharing and browsing of track information possible without needing to distribute the related music track files.

Ex. 1003, 86:6–8, 88:20–22 (emphasis added to "the metadata limitation").

Petitioner contends that the PCT application does not include "anything that could reasonably be characterized" as disclosing the metadata limitation. Pet. 12–13 (citing Ex. 1025 ¶ 81). Petitioner, however, does not elaborate or address any aspect of the PCT application's disclosure. *See id.*

Patent Owner argues that the PCT application discloses the metadata limitation. Prelim. Resp. 6–12. According to Patent Owner, the PCT application describes a mobile device receiving and displaying "descriptive information" about a track (such as the song title, artist, and duration) without downloading the track itself, and this "descriptive information" discloses the "track meta-data" recited in the claim. *Id.* at 8–11 (citing Ex. 1008, 4:27–5:9, 11:6–16, 13:14–21, 51:7–13, 91:7–10, 105:16–18, 116:1–10, 133:2–3, 134:10–15, 149:21–23, 149:25–150:3, 150:12–26, 152:1–9, 153, 156). In support, Patent Owner notes that the PCT application describes "[m]etadata" as "[i]ndividual items of data or collections of data,

potentially hierarchically related, which describe the attributes or behaviour of," among other things, mobile content such as "full music downloads." *Id.* at 7 (citing Ex. 1008, 13:14–21) (emphasis omitted). Patent Owner further explains by asserting that "[t]he fact that the track metadata is provided as a search result, but not the music file itself, demonstrates" disclosure of the metadata limitation. *Id.* at 9. In addition, Patent Owner submits that the PCT application discloses "sharing" track information because users can send their playlists and recommendations to other users. *Id.* at 11–12 (citing Ex. 1008, 5:21–22, 7:2–4, 59:10–14, 61:15–28, 65:1–17, 66:18–9, 67:7–9, 101:17–102:13, 130:8–17, Figs. 84, 97, 106).

On this record, we are persuaded that the PCT application discloses the metadata limitation, which (for purposes of this Decision) requires a software application that uses "track meta-data" that (1) exists separately from the music track, (2) exists separately in any way from other forms of metadata, and/or (3) is stored in a separate database. *See supra* § II.B (claim construction). In particular, Patent Owner persuasively shows that the PCT application discloses a mobile device application that uses "track meta-data" (e.g., attributes of music tracks, such as the song's title, artist, and duration) stored on the mobile device while the corresponding track and its metadata remain separately stored on a remote server.

For example, the PCT application states that a user's mobile device displays a "Lineup," which "is the current playlist of tracks a user has queued for listening." Ex. 1008, 148:1–4; *see also id.* at 127:11–16, Figs. 157–159. The Lineup lists the song title and artist for each upcoming track, and it includes tracks that have not yet not been downloaded. *E.g.*, *id.* at 148:14–20, Fig. 159; *see also id.* at 150:1 ("Tracks, which have not been downloaded, are added to the Lineup before they are downloaded."), 152:1–

9 (describing option that allows user to insert a track "which **has not** been downloaded into the Lineup"). On the Lineup, "[t]racks which are currently downloading or waiting to download are shown in a grey font" to differentiate from downloaded tracks. *Id.* at 148:14–16. The PCT application explains that if the play sequence reaches a song that has not finished downloading, that track will temporarily be skipped (*id.* at 148:18–20), as "[o]nly downloaded tracks can be played" (*id.* at 149:19–20).

An exemplary Lineup is shown in Figure 159 (reproduced below).

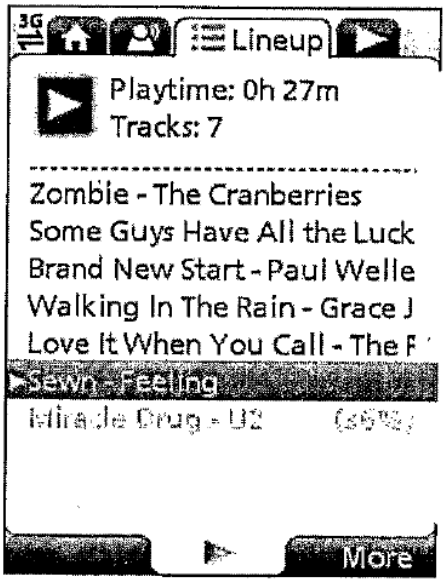

Figure 159

As shown above, Figure 159 includes an exemplary Lineup that lists six downloaded tracks and one partially-downloaded track.

As another example, the PCT application states that the user's mobile device provides an interface that allows the user to search for music on the remote server. *E.g.*, Ex. 1008, 4:27–5:1, 136:8–11, *see also id.* at 45:6–51:26 (describing search function in detail), 129:10–11 ("Search" can be found on the "Home" tab of the user interface). The search results from the server consist of information about music tracks, but not the tracks

themselves. *See*, *e.g.*, *id.* at 51:8–13 (search for a track returns "Track Name – Artist Name (Track Length)"), 136:8–11, 152:2–4, Fig. 123. The user may add a result to the Lineup, in which case the corresponding music track will be scheduled for download. *See*, *e.g.*, *id.* at 149:21–26, 150:1–3, 152:1–9, 156 (identifying options for a track "in search results" (emphasis omitted)).

Figure 123 (reproduced below) shows an exemplary search.

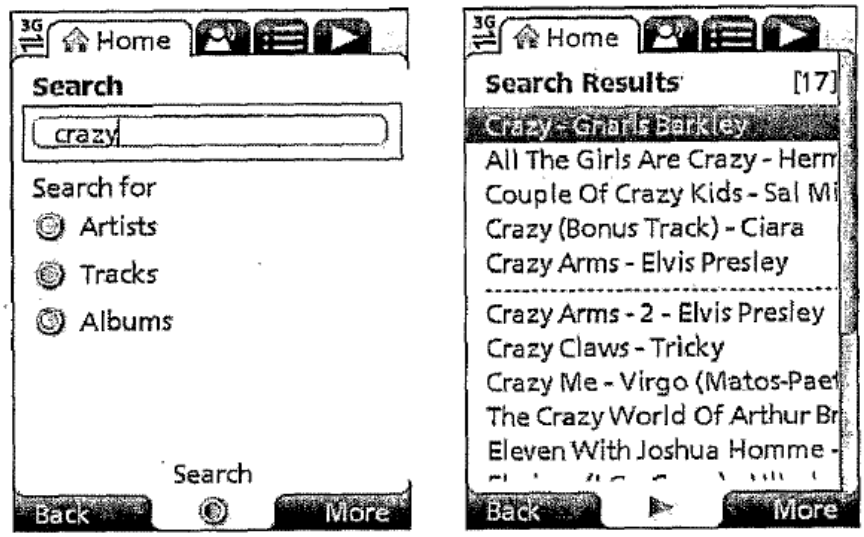

Figure 123

As shown above, Figure 123 shows an example search of music tracks with the term "crazy," as well as the song titles and artist names associated with the results.

We are persuaded that, for purposes of this decision, these aspects of the PCT application disclose the metadata limitation. In particular, the Lineup and search interface both display data describing the attributes of tracks (e.g., the song title and artist name), and this data qualifies as "track meta-data." *See*, *e.g.*, Ex. 1008, 13:14–21 (stating that metadata includes data that describes the attributes of mobile content, e.g., music tracks); Ex. 1025 ¶ 68 (testifying that "track meta-data is simply data about one or

more tracks"). The PCT application states also that this data is stored on the mobile device (*e.g.*, Ex. 1008, 91:8–9), and it exists separately from other forms of metadata (*e.g.*, *id.* at 108:13–18 (identifying metadata relating to the mobile phone)). As a result, this track meta-data exists separately from the music track, exists separately from other forms of metadata, and is stored in a separate database.

As noted above, Petitioner does not address the disclosure of the PCT application. *See* Pet. 12–13. Instead, Petitioner simply relies on Dr. Shamos's testimony that the PCT application includes no relevant disclosure, but Dr. Shamos does not provide any analysis or evidence to explain his conclusion. *See* Ex. 1025 ¶ 81. Accordingly, we assign little weight to that testimony. *See TQ Delta, LLC v. CISCO Sys., Inc.*, 942 F.3d 1352, 1358 (Fed. Cir. 2019) ("Conclusory expert testimony does not qualify as substantial evidence.").

Finally, on this record, we are also persuaded that the PCT application discloses the remaining limitations of independent claims 1 and 28, as well as the additionally recited limitations of dependent claims 19 and 23. *See*, *e.g.*, Prelim. Resp. 7 (addressing limitation requiring "software application [to be] a music application"), 8, 11–12 (addressing limitation requiring metadata "to make sharing and browsing of track information possible without needing to distribute the related music files"); *cf.* Pet. 15–23 (alleging that Knight's substantially similar specification discloses all limitations of these claims except for the metadata limitation).

Accordingly, for purposes of this Decision, we are persuaded that claims 1, 19, 23, and 28 of the '430 patent are entitled to claim priority to the PCT application.

b) Dependent Claim 24

Claim 24 depends from claim 1 and further recites that "*the software application uses a multithreaded architecture to balance* the computational demands of network access; and *the computational demands of* one or more of: a user interface of the application; *a DRM program*; media operations." Ex. 1003, 87:51–55 (emphasis added to "the multithreaded limitation").

Petitioner contends that the PCT application does not disclose the multithreaded limitation, but Petitioner does not elaborate on this contention. Pet. 13 (citing Ex. 1025 ¶ 82).

Patent Owner responds that the PCT application "describes in-depth the use of a multitasking / multithreading architecture to perform the tasks of the claimed invention." Prelim. Resp. 13–16 (citing Ex. 1008, 18:1–15, 19:5–27, 20:18–21, 21:11–12, 27:5–8, 27:10–15, Figs. 2, 3). Patent Owner contends that the PCT application also describes use of this architecture to handle tasks including digital rights management (DRM). *Id.* at 16–18 (citing Ex. 1008, 4:14–16, 104:10–31, 105:10–28, 105:30–106:10, 118:4–6).

On this record, Patent Owner's arguments are persuasive. The PCT application states that its mobile device software has a multithreaded architecture, which is "[a] key aspect" of its invention. Ex. 1008, 18:5–7; *see also id.* at 18:5–24:16 (section labeled "*1.1 Multi-threading*"). For example, it describes a Scheduler, which "is a facility for threads to schedule tasks for immediate or future execution in a background thread." *Id.* at 19:5–6, Fig. 2; *see also id.* at 20:19–20 ("A large number (thousands) of scheduled tasks should present no problem."). It also describes a "Task Thread" that "handles loading data." *Id.* at 27:12–13.

The PCT application also states that its software performs DRM "to control and facilitate the legitimate distribution and use of digital media."

Ex. 1008, 104:12–19; *see also id.* at 4:14–16 (noting that DRM "enables . . . tracks stored on the device to be played so long as a subscription service has not terminated"), 104:10–123:3 (detailed description of DRM). In particular, the software includes a DRM Agent that is "responsible for enforcing permissions and constraints for DRM Content on the device, controlling access to DRM Content on the device, and so on." *Id.* at 105:21–23. For example, the DRM Agent receives and accesses Rights Objects (*e.g.*, *id.* at 105:24–28, 106:14–16), verifies the integrity of DRM Content Format (a secure content package for DRM content) (*e.g.*, *id.* at 105:30–106:10), and uses the corresponding Rights Object to unlock the content (*e.g.*, *id.* at 118:7–119:4).

Petitioner does not address these aspects of the PCT application. *See* Pet. 13. Instead, Petitioner relies on Dr. Shamos, who testifies that "[he] can see no disclosure of multithreading or multitasking to balance the computational demands of a DRM program" in the PCT application. Ex. 1025 ¶ 82. However, we assign little weight to that conclusion because it is not sufficiently explained or substantiated. *See TQ Delta*, 942 F.3d at 1358. For example, Dr. Shamos agrees that the PCT application describes a multithreaded architecture and identifies DRM as one of the processes performed by that architecture, but he fails to explain why this discussion is insufficient to disclose the multithreaded limitation. *See* Ex. 1025 ¶ 82.

In addition, Dr. Shamos's other testimony appears to be in tension with his conclusion on this point. For example, he testifies that "the major and conventional objective of multitasking and multithreading" was "to balance computational demands," and that a person of ordinary skill in the art would have been familiar with multithreading and its use. Ex. 1025 ¶ 125. This testimony tends to indicate that an ordinary artisan would have

understood a multithreaded architecture that performs certain processes—such as disclosed in the PCT application—to disclose a multithreaded architecture that balances the computational demands of those processes. *See also id.* ¶ 123 (defining "multithreading" as "the running of multiple processes within the same application"). As a result, Dr. Shamos's other testimony appears to support Patent Owner's argument.

For these reasons, we are persuaded that the PCT application discloses the multithreaded limitation, which requires the software application to use a multithreaded architecture to balance the computational demands of a DRM program. Moreover, on this record, we are persuaded that the PCT application discloses the remaining limitations of claim 24. *See*, *e.g.*, Prelim. Resp. 13–14, 19–20 (addressing "a user interface of the application"); *id.* at 14, 19 (addressing "network access"); *id.* at 18–19 (addressing "media operations"); *see also supra* § II.D.3.a (addressing limitations of independent claim 1, from which claim 24 depends).

Accordingly, for purposes of this Decision, we are persuaded that claim 24 of the '430 patent is entitled to claim priority to the PCT application.

4. Conclusion

Petitioner's contention that Knight qualifies as prior art is premised on its contention that the challenged claims of '430 patent are not entitled to the PCT application's priority date. On this record, we do not agree. Thus, Petitioner fails to show a reasonable likelihood that it will prevail in showing that Knight is prior art to the challenged claims.

Consequently, we determine that Petitioner has not shown a reasonable likelihood that it will prevail in showing that any of challenged claims 1, 19, 23, 24, and 28 are unpatentable over Knight.

E. Obviousness Grounds Based on Abrams and Khedouri

Petitioner contends that the subject matter of claims 1, 19, 23, 24, and 28 would have been obvious over Abrams and Khedouri. Pet. 3, 23–62. Patent Owner contends that Petitioner fails to articulate a sufficient rationale to combine Abrams and Khedouri. Prelim. Resp. 46–48.

Having considered the parties' arguments, we determine that Petitioner has not sufficiently shown that it would have been obvious to combine the teachings of Abrams and Khedouri. As a result, Petitioner has not shown a reasonable likelihood that it will prevail on this ground.

1. Petitioner's Contentions

Petitioner contends that the subject matter of representative claim 1 would have been obvious over the combination of Abrams and Khedouri (Pet. 40–55) and relies on Abrams for most claim limitations (*id.* at 40–49). Petitioner maps Abrams's web browser to the "software application" recited in the claim. *Id.* at 40. Petitioner submits that Abrams discloses that its web browser executes on user devices (e.g., cellular telephones) and "facilitates interaction among people connected through a social network." *Id.* at 40–41 (quoting Ex. 1009 ¶ 98). Petitioner argues Abrams discloses that the web browser allows the user to enter "profile data," view other users' profiles, exchange messages with other users, and identify friends. *Id.* at 42–48.

Petitioner points to Khedouri for the final limitation of claim 1 (Pet. 49–53), which recites:

> wherein the software application is a music application and uses track meta-data that is formed as a separate meta-data layer and defines attributes of tracks, the meta-data being external to a music track to make sharing and browsing of track information possible without needing to distribute the related music track files.

Ex. 1003, 86:6–11 ("limitation 1.9"). In particular, Petitioner contends that Khedouri discloses the required "music application" because Khedouri describes "a portable device with an application . . . that allows a user to search for and browse music content and then listen to that music if desired." Pet. 50. Petitioner further contends that Khedouri discloses that a server provides track meta-data (e.g., song title, artist name, length of track) to the application separately from the corresponding music track file. *Id.* at 50–53.

Petitioner contends that it would have been obvious to combine Abrams and Khedouri. Pet. 53–54. The Petition provides the following analysis in support:

> [1] Both [Abrams and Khedouri] are drawn to computerized social networks accessible from wireless devices; both permit users to establish profiles; both permit users to establish "friend" relationships; and both permit users to message one another. (Ex. 1025, pp. 120-123, ¶170.) Abrams discloses that a user profile can contain information about a user's favorite music. (Ex. 1009, Fig. 2, ¶91.) Khedouri expands on the "music theme" by providing an architecture specially adapted to music sharing. (Ex. 1025, ¶170.)
>
> [2/3] In other words, it would have been obvious to a POSITA to use Khedouri's music sharing functions in combination with Abrams' social networking functions in order to provide users of Abrams' social network the ability to not only identify and publicize information about their favorite music on their profiles (and learn about others' favorite music from others' profiles) but to actually search for that music and be able listen to it. (*Id.*) The state of the art in 2006 or 2007 shows that music and information about music was a desirable feature at

> the time, and a POSITA would have recognized that the use of Khedouri's features could predictably improve Abrams' social network in a desirable way. (*Id.*) This would have amounted to the use of a known technique (disclosed in Khedouri) to improve a similar system (Abrams) in a similar way to achieve predictable results. (*Id.*)
>
> [4] At the same time, it would have been obvious to a POSITA to use Abrams' social networking functions (e.g., profiles, messaging, interaction, friend linking) to improve and further enhance Khedouri's social networking functions. (*Id.*) A POSITA would have recognized that the use of Abrams' social networking features could predictably improve the social networking features associated with Khedouri's music distribution functions in a desirable way. (*Id.*) This would have amounted to the use of a known technique (disclosed in Abrams) to improve a similar system (Khedouri) in a similar way to achieve predictable results. (*Id.*)

Pet. 53–54 (line breaks and reference numbers added). Dr. Shamos agrees with Petitioner, and his testimony is substantially identical to the Petition. *Compare id.*, *with* Ex. 1025 ¶ 170 (only adding quote from Ex. 1011 ¶ 41).

2. Analysis

Having considered the relevant portions of the Petition, we determine that Petitioner has not sufficiently shown that it would have been obvious to combine the teachings of Abrams and Khedouri to arrive at limitation 1.9.

Claim 1 requires a "software application" that allows the end-user to perform various steps, and Petitioner contends that Abrams's web browser discloses these claimed aspects. Pet. 40–49. Claim 1 also requires "the software application [to be] a music application" (Ex. 1003, 86:6), and Petitioner contends that Khedouri's music application discloses this claimed aspect (Pet. 50). Thus, according to Petitioner, part of the claimed "software application" is taught by Abrams's web browser, and the other part is taught

by Khedouri's music application. However, Petitioner does not sufficiently connect these dots. For example, it is unclear whether Petitioner proposes a combination of Abrams's web browser and Khedouri's music application, or whether it instead proposes that one be replaced with the other. *See id.* at 53–54. Petitioner also does not address whether a person of ordinary skill in the art would have had a reasonable expectation of success in combining a web browser and a music application. *See id.* Rather, Petitioner simply refers to combining "Khedouri's music sharing functions" with "Abrams' social networking functions" (*id.* at 54), which does not address the requirement that "a software application" meet these limitations.

Moreover, Petitioner does not sufficiently explain *why* a person of ordinary skill in the art would have combined the functionality of Abrams and Khedouri. *See KSR*, 550 U.S. at 418 (obviousness requires analysis of "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue"); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) ("[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention."). Liberally interpreting the relevant portion of the Petition, Petitioner contends that a motivation to combine is established because: (1) the references themselves provide the motivation to combine, (2) the proposed combination was desirable and predictable, (3) an ordinary artisan would have been motivated to add music to Abrams, and/or (4) an ordinary artisan would have been motivated to add Abrams's social networking functions to Khedouri. *See* Pet. 53–54; *see also supra* § II.E.1 (reproducing relevant portion of Petition with corresponding reference numbers). We are not persuaded.

First, we disagree with Petitioner's contention that the references themselves provide the requisite motivation. *See* Pet. 53. Abrams is directed to "connecting users in an online computer system based on their relationships within social networks." Ex. 1009 ¶ 1; *see also id.* ¶ 36 ("What is needed is a system that allows individuals to replicate the process of developing personal relationships through social networks, using a computer system and database."). Khedouri, on the other hand, is directed to "selecting, requesting, downloading, and playing audio" files on a user's portable audio player device from a content delivery service. Ex. 1011, Abst., ¶ 3. Petitioner identifies (and we perceive) no disclosure in either reference that suggests their combination. *See* Pet. 53–54. Petitioner incorrectly implies that Khedouri "expands on [Abrams's] 'music theme.'" *Id.* at 53. Abrams states that a user can identify the user's interests as well as favorite music, books, tv, and movies (Ex. 1009 ¶ 91, Fig. 2), and each of these are stored as a text field in Abrams's database (*id.* ¶¶ 89, 91, Fig. 2). This is a passing reference to music, not a music theme. Petitioner also contends that both Abrams and Khedouri teach most limitations of the claim (Pet. 53 (citing Ex. 1025, 120–123)), but even if that were true, it does not explain why a person of ordinary skill in the art would have combined them.

Second, Petitioner's assertions that the proposed combination would have been "desirable" and "predictable" are conclusory and entitled to little weight. *See* Pet. 54. Petitioner relies on Dr. Shamos's testimony in support, but it similarly fails to provide analysis or evidence to support his conclusions. *See* Ex. 1025 ¶ 170. Accordingly, we assign little weight to that testimony. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *see also TQ Delta*, 942 F.3d at 1358.

Third, we are unpersuaded by Petitioner's arguments that "music was a desirable feature" and the combination would provide users "the ability to not only identify and publicize information about their favorite music on their profiles (and learn about others' favorite music from others' profiles) but to actually search for that music and be able to listen to it." Pet. 54 (citing Ex. 1025 ¶ 170). Although this identifies vague benefits of a combination (i.e., sharing information and facilitating access to music), it fails to explain why an ordinary artisan would have been motivated to incorporate these benefits in Abrams's social network. Petitioner also provides no evidence that an ordinary artisan would have had reasonable expectation of success in making this proposed combination. *See id.* at 53–54. Given the specific facts and circumstances of this case, we are concerned that this rationale suffers from improper hindsight bias. *See KSR*, 550 U.S. at 421 ("A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning."); *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068 (Fed. Cir. 2018) ("We have observed that the prejudice of hindsight bias often overlooks that the genius of invention is often a combination of known elements which in hindsight seems preordained." (internal quotation marks omitted)).

Finally, Petitioner's fourth argument is a rationale to make a *different* proposed combination, one which adds Abrams to Khedouri (*see* Pet. 54); however, Petitioner does not provide sufficient support or explanation for this proposal. For example, Petitioner does not identify which aspects of Abrams would be incorporated into Khedouri, which aspects of Khedouri's social networking features would be improved, or how the references would be combined.

Accordingly, on this record, we determine that Petitioner has not sufficiently shown that it would have been obvious to combine Abrams and Khedouri, and as a result, Petitioner fails to show a reasonable likelihood that independent claim 1 is unpatentable as obvious in light of Abrams and Khedouri. Because Petitioner's challenge to claims 19, 23, 24, and 28 relies on the same faulty analysis, Petitioner also fails to show a reasonable likelihood that any of these claims are unpatentable as obvious in light of Abrams and Khedouri.

F. Obviousness Ground Based on Abrams and Partovi

Petitioner contends that the subject matter of claims 1, 19, 23, and 28 would have been obvious over Abrams and Partovi. Pet. 3, 63–71. For this ground, Petitioner relies on its prior analysis of Abrams (*id.* at 65) and points to Partovi for limitation 1.9 (*id.* at 65–69). Petitioner asserts that it would have been obvious to combine Abrams and Partovi (*id.* at 69–70), and in support, Petitioner relies on substantially the same analysis discussed above with respect to the Abrams-Khedouri ground (*compare id.* at 53–54, *with id.* at 69–70 (citing Ex. 1025 ¶ 166)).

Patent Owner contends that Petitioner fails to provide a sufficient rationale to combine Abrams and Partovi. Prelim. Resp. 48–50. We agree.

On this record, we determine Petitioner has not shown a reasonable likelihood of establishing that it would have been obvious to combine the teachings of Abrams and Partovi to arrive at the limitation 1.9. Specifically, Petitioner does not sufficiently explain *why* a person of ordinary skill in the art would have combined the references in this way. *See* Pet. 69–70; *see also supra* § II.E.2 (identifying similar deficiencies in Abrams-Khedouri ground). Petitioner asserts that both Abrams and Partovi teach most

limitations of the claim (Pet. 69 (citing Ex. 1025, 101–105)), but this does not explain why an ordinary artisan would have been motivated to combine them. Petitioner also contends:

> [I]t would have been obvious to a POSITA to use Partovi's music sharing functions in combination with Abrams' social networking functions *in order to provide users of Abrams' social network the ability* to not only identify and publicize information about their favorite music on their profiles (and learn about others' favorite music from others' profiles) but *to actually get recommendations from the system about music and recommendations about other users that have similar musical interests*.

Id. at 69–70 (emphases added). Although Petitioner identifies a vague benefit (i.e., getting music recommendations from the system and other users), it does not explain why an ordinary artisan would have been motivated to incorporate this benefit in Abrams's social network. In addition, Petitioner provides no evidence that an ordinary artisan would have had a reasonable expectation of success (*see id.*), and Petitioner's assertions that the proposed combination would have been "desirable" and "predictable" are conclusory and entitled to little weight (*id.* at 70).

Petitioner relies on Dr. Shamos's testimony, which mirrors the Petition (*see* Ex. 1025 ¶ 166), but we assign little weight to this evidence because Dr. Shamos fails to identify analysis or evidence to support his conclusions. *See* 37 C.F.R. § 42.65(a); *see also TQ Delta*, 942 F.3d at 1358.

Accordingly, on this record, we determine that Petitioner has not sufficiently shown that it would have been obvious to combine Abrams and Partovi, and as a result, Petitioner fails to show a reasonable likelihood that independent claim 1 unpatentable as obvious in light of Abrams and Partovi. Because Petitioner's challenge to claims 19, 23, and 28 relies on the same

faulty analysis, Petitioner also fails to show a reasonable likelihood that any of these claims are unpatentable as obvious in light of Abrams and Partovi.

III. CONCLUSION

As explained above, Petitioner has not shown a reasonable likelihood that it will prevail on any of the grounds asserted in the Petition. Accordingly, we do not institute an *inter partes* review.

IV. ORDER

It is ORDERED that the Petition is denied and no *inter partes* review is instituted.

FOR PETITIONER:

Chad E. Nydegger
Brian N. Platt
David R. Todd
WORKMAN NYDEGGER
cnydegger@wnlaw.com
bplatt@wnlaw.com
dtodd@wnlaw.com

FOR PATENT OWNER:

W. Karl Renner
Dan Smith
Patrick J. Bisenius
Craig A. Deutsch
Kim H. Leung
FISH & RICHARDSON P.C
IPR50048-0017IP1@fr.com
PTABInbound@fr.com