

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

OPENTV, INC.,
Patent Owner.

Case IPR2015-01031
Patent 7,900,229 B2

Before JAMES B. ARPIN, DAVID C. MCKONE, and SCOTT C. MOORE,
Administrative Patent Judges.

ARPIN, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Apple Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 14–16, 19, 21, 24, 26, 28, 30, and 31 of U.S. Patent No. 7,900,229 B2 (Ex. 1001, “the ’229 patent”). OpenTV, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). Pursuant to 35 U.S.C. § 314, in our Decision to Institute (Paper 10, “Dec.”), we instituted this proceeding as to each of the challenged claims.

Petitioner relies upon the following reference and declaration in support of its grounds for challenging the identified claims of the ’229 patent:

Exhibit No.	Reference and Declaration
1003	Patent Application Publication No. EP 1 100 268 A2 to Tomioka <i>et al.</i> (“Tomioka”)
1016	Declaration of Charles D. Knutson, Ph.D.

Petitioner asserts that all of the challenged claims are unpatentable on the following ground (Pet. 2–3, 11–33):

Claims	Ground	Reference
14–16, 19, 21, 24, 26, 28, 30, and 31	35 U.S.C. § 102(a)	Tomioka

After institution, Patent Owner filed a Patent Owner Response (Paper 14, “PO Resp.”), and Petitioner filed a Reply to the Patent Owner Response (Paper 15, “Reply”). A hearing was held on June 21, 2016, and a transcript of that hearing is part of this record. Paper 21 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b). This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the challenged claims. Based on the record before us, Petitioner has demonstrated, by a preponderance of the evidence, that challenged claims

14–16, 19, 21, 26, 28, and 30¹ of the '229 patent are unpatentable, but has not demonstrated, by a preponderance of the evidence, that challenged claims 24 and 31 of the '229 patent are unpatentable.

B. Related Matter

The parties indicate that the '229 patent is the subject of *OpenTV, Inc. v. Apple Inc.*, Civil Action No. 3:14-cv-01622-HSG (N.D. Cal. 2014). Pet. 1; Paper 5, 2. The parties identify additional cases involving the '229 patent, as well as other *inter partes* review proceedings involving the same parties, in their Joint Motion to Terminate. Paper 22, 3–4. Nevertheless, the parties indicate that the disputes in those additional cases have been settled and that the cases have been dismissed with prejudice. *Id.* at 3.

C. The '229 Patent

The '229 patent is directed to “[a] system and method for utilizing user profiles in an interactive television system.” Ex. 1001, Abstract. The system can create or update a user profile, or both, based on a user’s activity on a first device, and select data to transmit to a user on a second device based at least in part on the profile. *Id.*; *accord id.* at col. 6, l. 54–col. 7, l. 3. The Specification indicates that it was known in the art that interactive television systems could provide content other than television, and could allow for user input and personalization. *Id.* at col. 1, ll. 15–18, 30–45. It also was known that such systems frequently include “a set-top box connected to a television set and a recording device, but may consist of any number of suitable devices.” *Id.* For example, an interactive television system may include a broadcast station, a set-top box, and a remote unit,

¹ See *infra* note 2.

such as a mobile or fixed unit. *See id.* at col. 2, ll. 11–58, Abstract.

The Specification of the '229 patent teaches systems and methods in which a “user may access the system through various means,” and the system “creat[es] and maintain[s] a user profile which reflects activity of the user within the system.” *Id.* at col. 1, l. 63–col. 2, l. 1. A user’s activity “such as television viewing” may create or update “a user profile which reflects the user’s viewing activities,” and the user’s profile may reflect other activities such as “cell phone or other mobile unit activities and communications.” *Id.* at col. 2, ll. 1–6, col. 7, ll. 18–42; *see also id.* at col. 2, l. 59–col. 3, l. 2 (“The user may also input information into the user profile.”), col. 13, ll. 1–3 (“Web surfing”). Information is delivered to a user on a device based at least in part on a user profile available across devices. *See id.* at col. 6, l. 64–col. 7, l. 3, col. 10, ll. 47–60. For example, “a user’s cell phone activity may affect the information the user receives at home on their television, and vice versa.” *Id.* at col. 2, ll. 6–10.

D. Illustrative Claim

As noted above, Petitioner challenges claims 14–16, 19, 21, 24, 26, 28, 30, and 31 of the '229 patent. Claims 14 (an interactive television system) and 26 (a computer readable storage medium) are independent. Claims 15, 16, 19, 21, and 24 depend directly or indirectly from claim 14;

and claims 28, 30, and 31 depend directly or indirectly from claim 26.²

Claim 14 is illustrative and is reproduced below:

14. An interactive television system comprising:

a remote unit;

a set-top box; and

a broadcast station coupled to convey a programming signal to the set-top box;

wherein the system is configured to:

update a user profile responsive to a first user activity, the first user activity being initiated via a first device corresponding to one of the remote unit and the set-top box;

detect a second user activity, the second user activity being initiated via a second device corresponding to one of the

² Claim 21 depends from claim 14 via intervening claim 20, and claim 28 depends from claim 26 via intervening claim 27. Petitioner does not challenge claim 20 or 27 expressly. *See* Pet. 30, 53–54; Ex. 1016 ¶¶ 99. Because we did not institute review of claims 20 and 27, we do not now rule on the patentability of claims 20 and 27. Nevertheless, because we instituted on the asserted ground of anticipation by Tomioka, we necessarily consider the limitations of intervening claims 20 and 27 in our evaluation of claims 21 and 28, respectively. Rules of Practice for Trials Before the Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions, 77 Fed. Reg. 48612, 48619 (Aug. 14, 2012) (“To understand the scope of a dependent claim, the claims from which the dependent claim depends must be construed along with the dependent claim. Accordingly, for fee calculation purposes, each claim challenged will be counted as well as any claim from which a claim depends, unless the parent claim is also separately challenged.”); *see Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2154 (2016) (Alito, J., concurring in part and dissenting in part; “The problem for Cuozzo is that claim 17—which the petition properly challenged—incorporates all of the elements of claims 10 and 14. Accordingly, an assertion that claim 17 is unpatentable in light of certain prior art is necessarily an assertion that claims 10 and 14 are unpatentable as well.” (emphasis added)).

remote unit and the set-top box, the second device being different from the first device, wherein either

(i) the first user activity comprises an activity related to television viewing and the second user activity comprises an activity unrelated to television viewing, or

(ii) the first user activity comprises an activity unrelated to television viewing and the second user activity comprises an activity related to television viewing;

access the user profile in response to the second user activity; and

transmit data responsive to the second user activity, wherein the transmitted data is based at least in part on the user profile, and wherein the first user activity affects a content of said data transmitted to the user responsive to the second user activity.

Ex. 1001, col. 14, ll. 33–59.

E. Claim Construction

Consistent with the statute and the legislative history of the AIA, we interpret claims of an unexpired patent using the broadest reasonable interpretation in light of the specification of the patent. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs. LLC v. Lee*, 136 S.Ct. 2131, 2144–46 (2016). There is a presumption that claim terms are given their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art in the context of the specification. *See In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An applicant may rebut that presumption by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

Petitioner proposed constructions for various claim terms. Pet. 8–10. Although Patent Owner did not contest expressly Petitioner’s proposed claim constructions for the identified terms or present its own claim constructions for any terms (*see* Prelim. Resp. 7 n.1), Patent Owner reserved the right to provide claim constructions later, if review was instituted (*id.*). Nevertheless, Patent Owner proposed no claim constructions in its Patent Owner Response. Paper 11, 3 (“The patent owner is cautioned that any arguments for patentability not raised in the response are deemed waived.”); *see* PO Resp. i (“Table of Contents”). Further, during the hearing, Petitioner confirmed that “no claim constructions are necessary” (Tr. 14:14–22), and Patent Owner stated that it “didn’t find any claim constructions were necessary in this case, and we -- and the Patent Owner didn’t take a position on the claim construction there. We didn’t object to anything the Petitioner said about claim construction” (*id.* at 46:17–21). On this record, we remain persuaded that Petitioner’s proposed constructions of the identified terms are consistent with the broadest reasonable construction of those terms in light of the Specification. *See* Dec. 7. For purposes of this Final Written Decision, however, no claim terms require express construction.

II. ANALYSIS

A. Overview

Petitioner argues that claims 14–16, 19, 21, 24, 26, 28, 30, and 31 of the ’229 patent are anticipated by Tomioka. *See supra* Sec. I.A. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). The elements must be arranged as required by the claim, but this is not an

ipsissimis verbis test. See *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). “[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed, and thus, cannot anticipate under 35 U.S.C. § 102.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008); accord *Application of Arkley*, 455 F.2d 586 (CCPA 1972). Moreover, “it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” *In re Preda*, 401 F.2d 825, 826 (CCPA 1968).

For the reasons set forth below and on this record, we are persuaded that Petitioner demonstrates by a preponderance of the evidence that claims 14–16, 19, 21, 26, 28, and 30 of the ’229 patent are anticipated by Tomioka; but that Petitioner fails to demonstrate by a preponderance of the evidence that claims 24 and 31 of the ’229 patent are anticipated by Tomioka.

B. Asserted Grounds

1. Anticipation by Tomioka

Petitioner provides a claim chart mapping the elements of challenged claims 14–16, 19, 21, and 24 of the ’229 patent onto the disclosure of Tomioka. Pet. 18–31. With respect to independent claim 26, Petitioner argues that independent claim 26 is “virtually identical” to independent claim 14, except that claim 26 recites “[a] computer-readable storage medium comprising program instructions, [or triggers to launch execution of program instructions,] wherein the program instructions are executable by a computing device.” *Id.* at 31 (quoting Ex. 1001, col. 15, ll. 39–42). Thus,

Petitioner relies largely on its textual explanation and claim chart with respect to claim 14 to demonstrate that Tomioka discloses each and every element of claim 26. *Id.* at 31–32.

Petitioner acknowledges that claim 26 recites program instructions stored on a computer readable medium, rather than system components, as in claim 14. *Id.* at 32. Petitioner argues, however, that “Tomioka also discloses software ‘schemes,’ ‘modules’ and ‘intelligent agents’ that will perform system steps, along with multiple options for storage.” *Id.* at 32 (citing Ex. 1003 ¶¶ 52–55, 58, 94, 104, and Fig. 2). Thus, Petitioner argues that Tomioka discloses the use of removable storage devices or servers storing software to perform the program instructions to accomplish the recited steps of claim 26. *Id.*

Patent Owner focuses its response to Petitioner’s arguments almost exclusively on recitations of independent claim 14. PO Resp. 2. Patent Owner notes that “[t]he instituted claims include two independent claims — claims 14 and 26. Claims 14 and 26 differ in scope but require similar functionality.” *Id.* Patent Owner relies on its contentions with respect to claim 14 to overcome Petitioner’s arguments. *Id.* at 5–13.

Similarly, Petitioner relies, in part, on its claim chart mapping claims 15, 19, and 24, which depend from claim 14, to Tomioka in order to demonstrate that Tomioka discloses the additional elements of claims 28, 30, and 31, which depend from claim 26. Pet. 32–33 (citing various paragraphs from Tomioka in support of Petitioner’s arguments with respect to each additional element). With the exception of claims 24 and 31, Patent Owner does not argue the patentability of any of the dependent claims separately. PO Resp. 2, 14.

2. Mapping Challenged Claim 14 onto Tomioka

As noted above, the parties focus their arguments on the recitations of independent claims 14 and 26 and, in particular, on independent claim 14. *See* Pet. 11–31; PO Resp. 2–13; Reply 2–14. Petitioner bears the burden of demonstrating that Tomioka anticipates the challenged claims. Therefore, we begin our analysis with Petitioner’s mapping of the challenged claims onto Tomioka.

a. Preamble and Specific Equipment Elements

Independent claim 14 recites that “[a]n interactive television system compris[es]: a remote unit; a set-top box; and a broadcast station coupled to convey a programming signal to the set-top box.” Ex. 1001, col. 14, ll. 33–37. Petitioner argues that Tomioka discloses an interactive television system. Pet. 11. In particular, Petitioner notes Tomioka’s disclosures that program 38 may originate from “broadcast television, cable television, satellite television, digital television, Internet broadcasts, world wide web”; that “video, image, and/or audio information is presented to the user from the system 12 (device), such as a television set or a radio”; and that “the user *interacts* both with the system (device) 12 to view the information 10 in a desirable manner and has preferences to define which audio, image, and/or video information is obtained in accordance with the user information 14.” Pet. 18–19 (quoting, e.g., Ex. 1003 ¶¶ 52, 41 (emphasis added)).³

Further, Petitioner argues that Tomioka discloses a “remote unit,” a “set-top box,” and a “broadcast station coupled to convey a programming signal to the set-top box,” as recited by claim 14. *Id.* at 12; *see id.* at 19–22

³ Because Tomioka clearly discloses an interactive television system, it is not necessary for us to determine here whether the preamble is limiting.

(Petitioner’s claim chart for claim 14). In particular, Petitioner argues that Tomioka discloses that a program displayed by its system “may originate at any suitable source, such as for example broadcast television, cable television, satellite television, digital television, Internet broadcasts, world wide web, digital video discs, still images, video cameras, laser discs, magnetic media, computer hard drive, video tape, audio tape, data services, radio broadcasts, and microwave communications.” *Id.* (quoting Ex. 1003 ¶ 52). Further, Petitioner argues that Tomioka discloses that “[t]he system 16 may include *any* device(s) suitable to receive any one or more of such programs.” *Id.* (quoting Ex. 1003 ¶ 52 (emphasis added)); *see* Ex. 1003, Fig. 2 (depicting system 16). In addition, Petitioner argues that Tomioka states, for example, that “the user information should be portable between and usable by different devices so that other devices may likewise be configured automatically to the user’s preferences.” *Id.* at 12–13 (quoting Ex. 1003 ¶ 40). Petitioner notes that Tomioka discloses examples of a “mobile terminal,” including “cellular telephones, devices for receiving internet and web browsing, remote controls, portable radio devices, handheld electronic devices, networked devices, car stereos, and other appliances.” *Id.* at 13; *cf.* Ex. 1001, col. 1, ll. 64–66 (“For example, the user may communicate within the system via a set-top box, cell phone, PDA, or other device.”). Petitioner cites various paragraphs from Tomioka identifying these examples. Pet. 13. Upon consideration of Petitioner’s evidence, we are persuaded that Tomioka discloses each of a “remote unit,” a “set-top box,” and a “broadcast station coupled to convey a programming

signal to the set-top box,” as recited in claim 14. Patent Owner does not dispute that Tomioka discloses these elements. *See* PO Resp. 5.⁴

b. “Update” Element

Independent claim 14 further recites that “the system is configured to: *update a user profile responsive to a first user activity*, the first user activity being initiated via a first device corresponding to *one of the remote unit and the set-top box.*” Ex. 1001, col. 14, ll. 38–42 (emphases added). Either the remote unit or the set-top box may be used to initiate the first user activity. Petitioner argues that Tomioka discloses a “user description scheme is generated by direct user input, and by using a software that watches the user to determine his/her usage pattern and usage history” (Pet. 13 (quoting Ex. 1003 ¶¶ 62–63)) and that the user description scheme can be “updated in a dynamic fashion by the user or automatically,” depending on user preferences (*id.* (citing Ex. 1003 ¶¶ 62–63, 90–91, 95, 122)). Thus, Petitioner argues that Tomioka’s “user description scheme” corresponds to the “user profile” recited in claim 14. *Id.* at 17 (citing Ex. 1003 ¶ 76); *see* Tr. 9:17–22. In particular, Petitioner argues that Tomioka discloses “storing the user’s usage history including facts that the user viewed and selected programs and browsing procedures thereof viewed, and utilizing a variety of algorithms, a machine may automatically prepare the user’s preferences.” *Id.* at 22 (quoting Ex. 1003 ¶ 90). Further, Petitioner argues that Tomioka discloses that

the system can store the user history and create entries in the user description scheme based on the user’s audio and video viewing habits. . . . [T]he user would never need to program the

⁴ Independent claim 26 does not recite these structural elements expressly. *See* Ex. 1001, col. 15, ll. 39–42; *cf. id.* at col. 16, ll. 17–20 (claim 27).

viewing information to obtain desired information. . . . [T]he user [description]⁵ scheme enables modeling of the user by providing a central storage *for the user's listening, viewing, browsing preferences, and user's behavior.*

Id. at 23 (quoting Ex. 1003 ¶ 58 (emphasis added)); *see also* Ex. 1003 ¶ 58 (“The average consumer has an ever increasing number of multimedia devices, such as a home audio system, a car stereo, several home television sets, web browsers, etc.”). Thus, Petitioner argues that “Tomioka discloses a ‘first user activity’ of *browsing audio content* on a ‘first device’ which is a ‘remote unit,’ a *car audio player.*” Reply 3 (citing Pet. 23 (citing Ex. 1003 ¶ 97)). Therefore, Petitioner argues that Tomioka discloses the “update” element, as recited in claim 14. *See* Reply 3–4; *see also* Tr. 9:3–4 (“Tomioka discloses the same sort of system with a common user profile across activities and devices.”).

Patent Owner contends that Petitioner’s citation to numerous paragraphs of Tomioka in support of Petitioner’s arguments with respect to this element of claim 14 is improper. PO Resp. 5–6; *see* Pet. 22. In particular, Patent Owner contends that Petitioner’s use of string citations and its reliance on the quotation of these paragraphs in its claim chart fails to identify the disclosures of Tomioka relied upon in the Petition with the necessary specificity. *Id.* at 6–7; *see id.* at 7 n.1; Tr. 48:18–25. We disagree. As noted above, we are persuaded that Petitioner has provided sufficient explanation (Pet. 13) and identified the portions of Tomioka (*id.* at

⁵ Tomioka refers to the “user descriptor scheme” once and to the “descriptors” of the program description scheme and the “user description scheme.” *See* Ex. 1003 ¶ 58. For the sake of consistency and clarity, we refer only to the “user description scheme.”

22–24), upon which it relies, with sufficient specificity for us to understand and evaluate Petitioner’s arguments.⁶

For the reasons explained by Petitioner, we are persuaded that Tomioka discloses updating a user profile responsive to a first user activity, as recited in claim 14. Further, we are persuaded that Tomioka discloses that this first user activity may be initiated via a first device that may correspond to either a remote unit or to a set-top box, “such as a personal video recorder, a TiVo player, a RePlay Networks player, a car audio player, *or other audio and/or video appliance.*” *See id.* at 23 (quoting Ex. 1003 ¶ 97 (emphasis added)).

c. “Detect” Element

Independent claim 14 further recites that “the system is configured to: . . . *detect a second user activity, the second user activity being initiated via a second device corresponding to one of the remote unit and the set-top box, the second device being different from the first device.*” Ex. 1001, col. 14, ll. 43–46 (emphases added). Claim 14 also recites that one of the first user activity, referenced in the preceding element, and the second user activity, referenced in this element, is “related to television viewing”; and the other is “unrelated to television viewing.” *Id.* at col. 14, ll. 47–52. Petitioner argues

⁶ Patent Owner contends that Petitioner’s arguments with respect to other elements of claim 14 are deficient for substantially the same reasons. PO Resp. 8 (“For this requirement, the Petition provides a claim chart block quoting and string citing *twelve* paragraphs and *three* figures of Tomioka.”), 9 (“For this requirement, the Petition provides a claim chart block quoting and string citing *fourteen* paragraphs and *four* figures of Tomioka.”), 10 (“For this requirement, the Petition provides a claim chart block quoting and string citing *nine* paragraphs and *two* figures of Tomioka.”). For the reasons noted above, we find Patent Owner’s contentions unpersuasive with respect to those elements. *See* Reply 1, 4–5; Tr. 54:16–56:10.

that Tomioka discloses that “[v]ideo, image, or audio information may be presented to the user using a device *such as a television or radio.*” Pet. 14 (quoting Ex. 1003 ¶ 42); *see id.* at 24 (Petitioner’s claim chart for claim 14); *see also* Ex. 1003 ¶ 41, Figs. 1, 2 (depicting the video, image, and/or audio information (program) provided or otherwise made available to a user and/or a system); *cf.* Ex. 1001, Figs. 1, 2 (depicting information provided by satellite based system 23, cable based system 24, and terrestrial or multiple multi-point distribution service based system 25 and/or remote source 13). Petitioner argues that Tomioka further discloses that three components of its system: program 10, user 14, and system 12, interact to create information “that can be used in enabling browsing, filtering, searching, archiving, and *personalization.*” Ex. 1003 ¶ 42 (emphasis added). Specifically, preferences are created “to define which audio, image, and/or video information is obtained in accordance with the user information.” Pet. 14 (quoting Ex. 1003 ¶ 41).

In addition, Petitioner argues that Tomioka discloses creation of its user description scheme based on a user’s various activities whether “related to television viewing” or “unrelated to television viewing,” as recited by claim 14. *Id.* at 15; *see id.* at 24–26 (Petitioner’s claim chart for claim 14). In particular, Petitioner argues that Tomioka discloses receiving programming from various sources, including television, Internet broadcasts, the world-wide-web, tape, data services, and radio broadcasts. *Id.* at 15 (citing Ex. 1003 ¶ 52); *see also* Ex. 1003, Fig. 2 (referring to audio visual programs and data and services). For example, Petitioner argues that Tomioka discloses that “a user may watch basketball games, review ‘web-based textual information’ regarding particular basketball games, and ‘read

the news.” Pet. 15 (citing Ex. 1003 ¶ 57). Thus, a person of ordinary skill in the art would understand that at least “read[ing] the news” is an activity “unrelated to television viewing.” Ex. 1016 ¶ 73; *see Preda*, 401 F.2d at 826.

For the reasons explained by Petitioner, we are persuaded that Tomioka discloses detecting a second user activity, such as on a device different from that used with respect to the first activity, as recited in claim 14. Further, either the first or the second user activity is an activity “unrelated to television viewing,” and the other activity is an activity “related to television viewing.”

d. “Access” Element

Independent claim 14 further recites that “the system is configured to: . . . access the user profile *in response to the second user activity*.” Ex. 1001, col. 14, ll. 53–54 (emphasis added). Petitioner argues that Tomioka discloses *accessing* the user description scheme to deliver *personalized* content to the user on multiple devices. Pet. 14; *see id.* at 26 (Petitioner’s claim chart for claim 14). For example, Petitioner argues that Tomioka discloses that “the user information should be portable between and usable by different devices *so that other devices may likewise be configured automatically to the particular user’s preferences upon receiving the viewing information*.” *See id.* (quoting Ex. 1003 ¶ 40 (emphasis added)). In particular, the “user [description] scheme enables modeling of the user by providing a central storage for the user’s listening, viewing, browsing preferences, and user’s behavior” and this “enables devices to be quickly personalized, and enables other components, such as intelligent agents, to communicate on the basis of a standardized description format, and to make

smart inferences regarding the user’s preferences.” *Id.* (quoting Ex. 1003 ¶ 58). Petitioner argues that “such devices ‘access content from different sources’ including the ‘web, terrestrial or cable broadcast,’ and ‘access multiple or different types of media.’” *Id.* at 15 (quoting Ex. 1003 ¶ 60).

As recited in claim 14, the accessing of the user profile is “in response to the second user activity.” As recited in the “detect” element, the *second* user activity may be related or unrelated to television viewing and must be from a device different from that used in the *first* user activity. Petitioner argues that the user description scheme provides “central storage for the user’s *listening, viewing, browsing* preferences, and user’s behavior” to enable devices to be personalized and share information. *Id.* (quoting Ex. 1003 ¶ 58 (emphasis added)); *see* Tr. 15:9–16:24. Thus, a person of ordinary skill in the art would understand that “listening, viewing, [and] browsing preferences” disclose activities on different devices and, consequently, accessing those preferences on different devices. Pet. 15–18, 26 (citing Ex. 1003 ¶¶ 60, 63); *see* Ex. 1016 ¶¶ 70–72.

For the reasons explained by Petitioner, we are persuaded that Tomioka discloses accessing the user profile in response to the second user activity, as recited in claim 14. Further, the second user activity is an activity related to or unrelated to television viewing.

e. “Transmit” Element

Independent claim 14 further recites that “the system is configured to: . . . transmit data responsive to the second user activity, *wherein the transmitted data is based at least in part on the user profile, and wherein the first user activity affects a content of said data transmitted to the user responsive to the second user activity.*” Ex. 1001, col. 14, ll. 55–59

(emphases added). Petitioner argues that Tomioka discloses that the system “records and presents to the user *audio and video information* based upon the user’s prior viewing and listening habits, preferences, and personal characteristics, generally referred to as user information.” Pet. 14–15 (quoting Ex. 1003 ¶ 40 (emphasis added)); *see id.* at 26–28 (Petitioner’s claim chart for claim 14). Specifically, Petitioner argues that Tomioka discloses an “‘intelligent software agent’ [that] tracks user preferences (indicated by their activities) and uses those preferences to distribute user-targeted content.” Reply 13 (citing Ex. 1003 ¶ 93). Moreover, Petitioner argues that Tomioka discloses that this agent can “consult with the user description scheme and obtain information that it needs for acting on behalf of the user” and that the system can “discover programs that fit the taste of the user, alert the user about such programs, and/or record them autonomously.” Pet. 15 (quoting Ex. 1003 ¶ 63); *see also* Reply 13 (“Specifically, ‘[t]he data may be used for any purpose, such as for example, providing targeted advertising or programing on the device **based on** such data.’”; quoting Ex. 1003 ¶ 93 (emphasis added by Petitioner)). Thus, Petitioner argues that Tomioka discloses that information from various devices may be combined in a user description scheme to tailor the programming subsequently provided to users on those devices.

Patent Owner contends that “recording, presenting, and discovering differ from a singular claim requirement of ‘transmitting.’ And the claim also requires that the transmission be effected *responsive* to the second user activity.” PO Resp. 12 (emphasis added). We disagree. For the reasons noted above, we determine that Tomioka discloses that, “since the machine contains the user’s viewing history informations and user’s preference

informations . . . the following program or content *may be automatically provided to the user for viewing*, and a new program may be recommended based on the preference information.” Pet. 27 (quoting Ex. 1003 ¶ 92); Reply 10. Further, Tomioka discloses that its system “records and *presents* to the user audio and video information based upon the user’s prior viewing and listening habits, preferences, and personal characteristics, generally referred to as user information.” Reply 10 (quoting Ex. 1003 ¶ 40 (emphasis added by Petitioner)); *see* Tr. 9:23–12:10. “Additionally, Tomioka explicitly discloses that ‘the user preferences may be stored in a server and the content adaptation can be performed according to user descriptions at the server and then the preferred content is *transmitted* to the user.’” *Id.* (quoting Ex. 1003 ¶ 104 (emphasis added by Petitioner)). Because the user preferences are the result of the user’s activities on all of the various devices linked to Tomioka’s system, we are persuaded that Tomioka discloses that information is transmitted based at least in part on the user description scheme and that user activity on a first device affects a content of the information transmitted to the user responsive to user activity on a second device. *See* Pet. 27 (citing Ex. 1003 ¶¶ 63, 93); Reply 11.

Thus, we are persuaded that Tomioka discloses transmitting data or information responsive to the second user activity, as recited in claim 14. Further, the data transmitted is based at least in part on the user profile or user description scheme, and the first user activity on a first device affects a content of the data or information transmitted to the user responsive to the user activity on a second device.

f. Single Embodiment

In order for Tomioka to anticipate claim 14, each and every element

of claim 14 must be found within the four corners of Tomioka and all of the elements must be “arranged or combined in the same way as recited in the claim.” *Net MoneyIN*, 545 F.3d at 1371. Patent Owner contends that

the Petition never points to any embodiment disclosing using both activities “related to television viewing” and “unrelated to television viewing” with regard to the user profile. Instead of identifying a single embodiment disclosing *both* activities, the linchpin of Petitioner’s argument is the empty assertion that “Tomioka discloses description schemes that may be used across such services. *Id.* ¶ 0065.”

PO Resp. 9; *see* Tr. 7:2–5.

We addressed this requirement in our Decision to Institute. Dec. 11–12. Specifically, we noted that we read Figures 22–27 and the accompanying text to describe variations of the embodiment of Figure 1, rather than alternative embodiments. *Id.*; *see* Tr. 18:4–19:22. Petitioner has asserted that its arguments rely on a single embodiment of Tomioka. Reply 1, 8–9. Patent Owner does not point to anything in the disclosure of Tomioka that demonstrates that the paragraphs relied upon by Petitioner describe separate and unrelated embodiments. PO Resp. 9. As discussed above, Tomioka’s Figures 1 and 22 are directed to the same user preference description scheme 20; and Petitioner’s mapped citations relate to this common embodiment. Pet. 18–31, Reply 1, 8; *see* Tr. 18:18–19:22 (citing *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015) (“[A] reference can anticipate a claim even if it ‘d[oes] not expressly spell out’ all the limitations arranged or combined as in the claim, if a person of skill in the art, reading the reference, would ‘at once envisage’ the claimed arrangement or combination.”)); *Nelson Products, Inc. v. Bal Seal Engineering, Inc.*, Case IPR2014-00572, slip op. 22 (PTAB Sept. 24,

2015) (Paper 55). Based on this record, we remain persuaded that the cited disclosures of Tomioka relate to a single embodiment.

Therefore, Petitioner has demonstrated by a preponderance of the evidence that Tomioka anticipates independent claim 14.

3. Independent Claim 26 and Dependent Claims 15, 16, 19, 21, 28, and 30

As noted above, although Petitioner maps each element of challenged claims 15, 16, 19, 21, 26, 28, and 30 onto Tomioka (Pet. 17–18, 28–33), Patent Owner limits its response to Petitioner’s anticipation arguments to independent claim 14 (PO Resp. 2). Patent Owner contends, however, that “[c]laims 14 and 26 differ in scope but require similar functionality.” PO Resp. 2; *see* Dec. 9–10 (“Petitioner relies largely on its claim chart with respect to claim 14 to demonstrate that Tomioka discloses each and every element of claim 26.”). Nevertheless, as we noted in the Decision to Institute, Petitioner acknowledges that claim 26 recites program instructions stored on a computer readable medium, rather than system components, as recited in claim 14. Dec. 9 (citing Pet. 32). Given the near identical language of claims 14 and 26 used to recite the instructions performed by the system (claim 14) and stored on the computer readable storage medium (claim 26), we agree with Petitioner that the mapping of challenged claim 14 onto Tomioka is equally applicable to challenged claim 26. Pet. 31–32; Reply 2–3; *see* Ex. 1003 ¶¶ 52–55 (describing Tomioka’s use of a storage unit or storage device in its system), Fig. 2 (depicting Data Storage Unit 50 of System 16); Ex. 1016 ¶ 95. Therefore, on this record, we are persuaded that Petitioner has demonstrated by a preponderance of the evidence that Tomioka anticipates independent claim 26.

Patent Owner does not contest separately Petitioner’s mapping of the

additional elements recited in dependent claims 15, 16, 19, 21, 28, and 30 onto Tomioka. *See* PO Resp. 2, 13. Further, as noted in our Decision to Institute,

[c]laim 21 depends from claim 14 via intervening claim 20, and claim 28 depends from claim 26 via intervening claim 27. Petitioner does not challenge claim 20 or 27 expressly. *See* Pet. 30, 53–54. Nevertheless, because we institute on the asserted ground of anticipation by Tomioka, we consider the limitations of claims 20 and 27 in our evaluation of claims 21 and 28, respectively.

Dec. 5 n.2. Claims 20 and 27 merely *specify* that the first user activity is performed via a set-top box and that the second user activity is performed via a remote unit. Ex. 1001, col. 15, ll. 16–20 (claim 20), col. 6, ll. 17–20 (claim 27). These specific recitations are encompassed within the recitations of claims 14 and 26, respectively (*id.* at col. 14, ll. 47–52 (claim 14), col. 16, ll. 4–9 (claim 26)); and Petitioner has demonstrated that this specific configuration is disclosed by Tomioka (Pet. 18–21, 32). Having weighed the evidence presented by Petitioner regarding the mapping of the elements of these dependent claims onto Tomioka (*see* Pet. 17–18, 28–30, 32–33; Ex. 1016 ¶¶ 80–88, 90, 98–100) and in the absence of any arguments by Patent Owner directed specifically to claims 15, 16, 19–21, 27, 28, and 30 (Paper 11, 3), we are persuaded that Petitioner has demonstrated by a preponderance of the evidence that Tomioka anticipates each of dependent claims 15, 16, 19, 21, 28, and 30.

For the reasons set forth above and on this record, Petitioner has established by a preponderance of the evidence that claims 14–16, 19, 21, 26, 28, and 30 of the '229 patent are anticipated by Tomioka.

4. *Dependent Claims 24 and 31*

Claims 24 and 31 depend from independent claims 14 and 26, respectively. Claim 24 recites that “the system is further configured to update the user profile in response to *detecting* a physical location of a user’s location trackable mobile unit” (Ex. 1001, col. 15, ll. 32–35 (emphasis added)) and claim 31 recites that “the program instructions are executable to select the data to be transmitted at least in part on the *detected* physical location of the second device” (*id.* at col. 16, ll. 37–40 (emphasis added)). With respect to claim 24, Petitioner argues that Tomioka discloses the use of mobile terminals and cellular telephones, which allegedly “were well-known to have location tracking *capabilities*.” Pet. 18 (emphasis added) (citing Ex. 1016 ¶¶ 91–95); *see* Ex. 1003 ¶¶ 46 (describing “a handheld electronic device”), 91 (describing “a mobile terminal”), 106 (describing “a cellular telephone”). With respect to claim 31, Petitioner refers to its discussion of claim 24, and argues that “Tomioka discloses that a user can specify different preferences based on ‘different locations’ and these may become part of the user references that determine the data that will be sent to the user.” Pet. 33.

Patent Owner contends that, even if mobile terminals and cellular telephones were capable of being tracked, Petitioner fails to demonstrate that Tomioka discloses *detecting* the location of the user’s mobile unit and *updating* the user profile in response to the detected location of the user’s mobile unit, as recited in claim 24, or *transmitting* data to the user’s mobile unit based in part on the detected location of the user’s mobile unit, as recited in claim 31. PO Resp. 14. Patent Owner also contends that, even assuming that the physical location of Tomioka’s mobile terminals and

cellular telephones *could* be detected and that their locations then *could* be used for updating the user profile or for transmitting data, that would be an obviousness-type assertion, not an anticipation argument. *Id.*

Petitioner disagrees (Reply 15), but Petitioner fails to identify where Tomioka discloses *detecting* a mobile device's location. Petitioner only provides the unsupported assertion that “[t]he user’s location [in Tomioka] is determined using the location of the cellular telephone, which is calculated with the cellular telephone’s GPS unit and is stored in the user description scheme, as described above.” *Id.* at 16. During the hearing, we asked Petitioner specifically: “where does Tomioka teach detecting as opposed to receiving from the user’s device a physical location?” Tr. 20:10–12. Petitioner again argued that a person of ordinary skill in the art would understand that Tomioka’s mobile devices, including cellular telephones, “were known to be -- have *detectable* locations or location *trackability*.” *Id.* at 20:15–19 (emphases added). This, however, merely describes a capability, not an action. We are not persuaded that Petitioner has shown that Tomioka expressly discloses *detecting* the location of the user’s unit or device, as recited in both claims 24 and 31.

Further, during the hearing, Petitioner argued for the first time that Tomioka *inherently* discloses the detecting of the location of the user’s mobile device. *Id.* at 25:7– 26:7. Nevertheless, it is too late to present such an argument at the hearing. *See Dell, Inc. v. Acceleron, LLC*, 818 F.3d 1293, 1301 (Fed. Cir. 2016) (“In this case, the Board denied Acceleron its procedural rights by relying in its decision on a factual assertion introduced into the proceeding only at oral argument, after Acceleron could meaningfully respond.”).

On this record, we are not persuaded that Petitioner has demonstrated by a preponderance of the evidence that claims 24 and 31 are anticipated by Tomioka.

III. CONCLUSION

For the reasons set forth above and on this record, we are persuaded that Petitioner has demonstrated by a preponderance of the evidence that claims 14–16, 19, 21, 26, 28, and 30 of the '229 patent are anticipated by Tomioka. Nevertheless, for the reasons set forth above and on this record, we are not persuaded that Petitioner has demonstrated by a preponderance of the evidence that claims 24 and 31 of the '229 patent are anticipated by Tomioka.

IV. ORDER

For the reasons given, it is

ORDERED that claims 14–16, 19, 21, 26, 28, and 30 of the '229 patent are unpatentable under 35 U.S.C. § 102(a) as anticipated by Tomioka;

FURTHER ORDERED that claims 24 and 31 of the '229 patent are not unpatentable under 35 U.S.C. § 102(a) as anticipated by Tomioka; and

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

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