Filed on behalf of: Sanderling Management Ltd. Filed: December 28, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SNAP INC.,
Petitioner,

v.

SANDERLING MANAGEMENT LTD.,
Patent Owner.

Case IPR2021-00779
U.S. Patent No. 9,639,866 B2

SANDERLING MANAGEMENT LTD.'S
NOTICE OF APPEAL

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
P.O. Box 1450
Alexandria, VA 22313-1450

Notice is hereby given that Sanderling Management Ltd. appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision and Judgment (Paper 38) in IPR2021-00779 entered on October 31, 2022, and from all underlying findings, determinations, orders, decisions, rulings, and opinions to that decision. A copy of the Final Written Decision and Judgment is attached hereto.

A copy of this Notice of Appeal is being concurrently filed with the Patent Trial and Appeal Board and Director of the U.S. Patent and Trademark Office. In addition, this Notice of Appeal is being filed with the Clerk's Office for the U.S. Court of Appeals for the Federal Circuit.

December 28, 2022

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that, in addition to being filed electronically through Patent Trial and Appeal Board End to End (PTAB E2E), the original version of this Notice of Appeal was served via USPS Priority Mail Express on December 28, 2022 with the Director of the United States Patent and Trademark Office, at the following address:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
P.O. Box 1450
Alexandria, VA 22313-1450

The undersigned also certifies that a copy of this Notice of Appeal was served on Petitioner by causing it to be sent by email to Petitioner's counsel at the following email address:

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December 28, 2022

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Paper 38
Date: October 31, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SNAP INC.,
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v.

SANDERLING MANAGEMENT LTD.,
Patent Owner.

IPR2021-00779
Patent 9,639,866 B2

Before BART A. GERSTENBLITH, ERIC C. JESCHKE, and RICHARD H. MARSCHALL, *Administrative Patent Judges*.

MARSCHALL, *Administrative Patent Judge*.

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

Petitioner, Snap Inc., challenges claims 1–11 (the "challenged claims") of U.S. Patent No. 9,639,866 B2 (Ex. 1001, "the '866 patent"), which is assigned to Patent Owner, Sanderling Management Ltd. We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons set forth below, we conclude that Petitioner has proven, by a preponderance of the evidence, that claims 1–11 of the '866 patent are unpatentable.

BACKGROUND

A. Procedural History

Petitioner filed a Petition seeking *inter partes* review of the challenged claims. Paper 2 ("Pet."). Patent Owner filed a Preliminary Response (Paper 15), Petitioner filed a Preliminary Reply to Patent Owner's Preliminary Response (Paper 17), and Patent Owner filed a Preliminary Sur-reply to Petitioner's Preliminary Reply (Paper 19). Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of claims 1–11 on all presented challenges. Paper 20 ("Institution Decision" or "Inst. Dec.").

After institution, Patent Owner filed a Response (Paper 27, "PO Resp."), Petitioner filed a Reply (Paper 30, "Pet. Reply"), and Patent Owner filed a Sur-reply (Paper 35, "PO Sur-reply"). An oral hearing in this proceeding was held on September 1, 2022, and a transcript of the hearing is included in the record (Paper 37, "Tr.").

Petitioner supports its challenges with two declarations from Mr. Kenneth Parulski. Ex. 1003 ("Parulski Decl."); Ex. 1078 ("Parulski Reply Decl."). Patent Owner supports its arguments with a declaration from Nathaniel Polish, Ph.D. Ex. 2011.

B. Related Proceedings

The parties identify a proceeding in the U.S. District Court for the Central District of California involving the '866 patent: *Sanderling Management Ltd. v. Snap Inc.*, No. 2:21-cv-02324-GW-JC (C.D. Cal.), transferred from No. 1:20-cv-04627 (N.D. Ill.), filed August 6, 2020 (the "District Court Litigation"). Pet. 80; Paper 5 (Patent Owner Mandatory Notices), 2. The District Court Litigation entered final judgment against Patent Owner on July 21, 2021. *See* Paper 11 (Petitioner's Updated Mandatory Notices), 1. Patent Owner has filed a notice of appeal to the United States Court of Appeals for the Federal Circuit. *See id.*

Petitioner also filed petitions for *inter partes* review of (1) claims 1–12 of the U.S. Patent No. 9,355,412 B2 in IPR2021-00778, (2) claims 1, 2, 4–6, 8–16, 18, 19, 21–23, and 25–33 of U.S. Patent No. 10,108,986 B2 ("the '986 patent") in IPR2021-00780, and (3) claims 1, 3, 7, 17, 18, 20, 24, and 34 of the '986 patent in IPR2021-00781. *See* IPR2021-00778, Paper 2; IPR2021-00780, Paper 2; IPR2021-00781, Paper 2.

C. The '866 Patent

The '866 patent "relates to promotional content distribution and, more specifically, but not exclusively, to systems, methods and a computer program product for dynamic promotional layout and image processing

functions management and/or distribution." Ex. 1001, 1:22–26. Figure 7 is reproduced below:

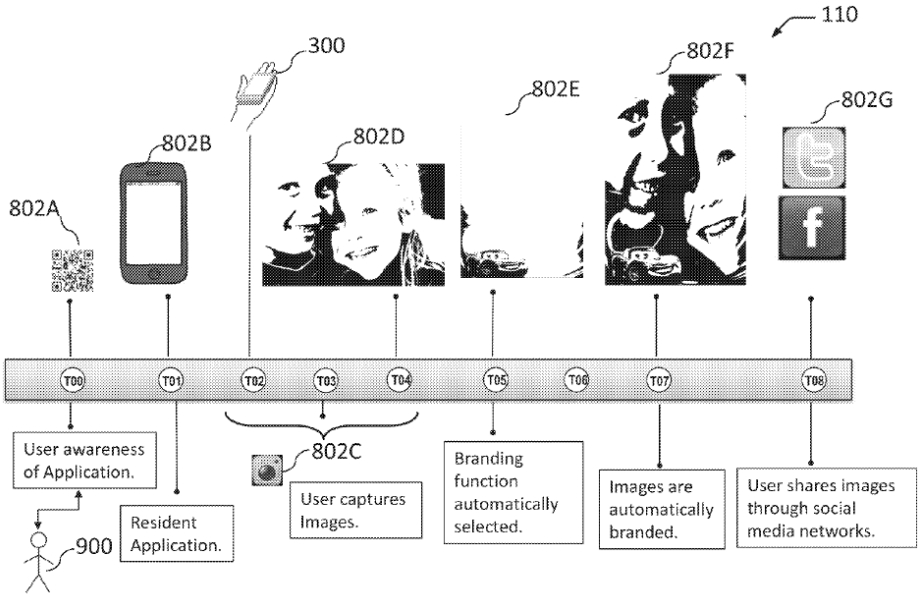

FIG. 7

Figure 7 is a "flowchart illustrating an exemplary sequence of events occurring during a creation of a branded digital image on a client terminal." Ex. 1001, 5:29–32. At T00, on the left, end user 900 becomes aware of a resident application via quick response ("QR") code 802A. *See id.* at 15:31–35. Then, at T01, end user 900 downloads the resident application to a client terminal 300. *Id.* at 15:36–37. Next, at T02 through T04, end user 900 uses client terminal 300 and integrated image sensor 802C to capture one or more digital images 802D. *See id.* at 15:38–40.

At T05, branding function 802E is selected, and then, at T07, the digital images are branded to create branded images 802F. *See* Ex. 1001, 15:41–46. One example of a branding function is adding an icon or altering the digital image layout. *See id.* at 6:7–11. Finally, at T08, end user 900 may share the branded images on social networks 802G. *See id.* at 15:47–51. In addition to branding, other image processing functions may be

selected to "improve the digital image sharpness, lighting, contrast and/or improve focus of one or more subjects," or provide "de blurring, color correction, auto focus, fill flash, cropping, de motion blurring, black and white, sepia, antique, overlay, pinch, zoom, Gaussian smoothing, rotation and/or the like." *Id.* at 16:47–17:3.

Figure 8 is reproduced below:

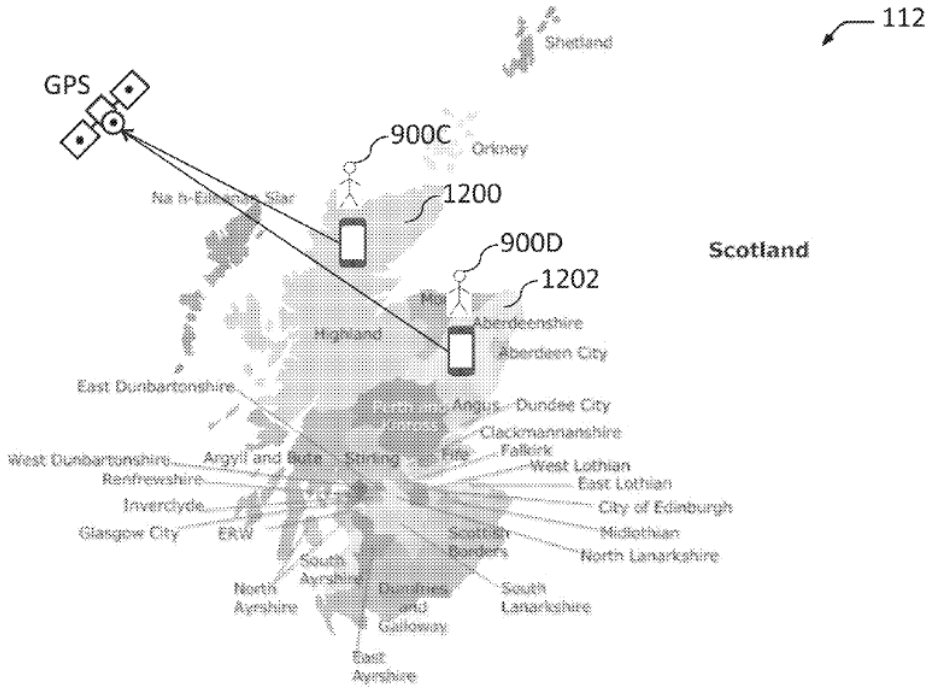

FIG. 8

Figure 8 "illustrates how end user information, such as a location, may be used in order to distribute a personalized branded image function." Ex. 1001, 5:33–36. The disclosed system "may utilize geo-localized information in order to manage a campaign that targets end users based on their location." *Id.* at 15:56–58. For instance, with reference to Figure 8, the '866 patent discloses that system 100 "determines that a first end user 900C

is located at Highland 1200 in Scotland and that a second end user 900[D] is located at Aberdeenshire 1202 also in Scotland." *Id.* at 15:66–16:2.

D. Challenged Claims

Petitioner challenges claims 1–11, of which only claim 1 is independent. Independent claim 1 is reproduced below, with bracketed numbers and letters added to identify each clause and with emphasis added to language particularly relevant to the discussion below:

> 1. [1a] A computerized method of distributing a digital image processing function, said computerized method comprising:
>
> [1b] using by at least one server having at least one hardware processor one or more digital image processing functions, each of said digital image processing functions associated with a geographic location;
>
> [1c] receiving, over a network, a *Global Positioning System (GPS[])] location indication* from each of a plurality of mobile devices, each said GPS location indication is determined according to a GPS module executed by one of said plurality of mobile devices; and
>
> [1d] *automatically forwarding, over said network at least one of said digital image processing functions to at least one of said plurality of mobile devices, based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device*;
>
> [1e] wherein said at least one image processing function is set to be used by an application executed on said at least one mobile device to process a digital image designated at said at least one mobile device to create an output digital image.

Ex. 1001, 23:43–24:12 (brackets and emphasis added).[1]

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 1–11 on the following grounds:

Claim(s) Challenged	35 U.S.C. §[2]	Reference(s)/Basis
1, 2, 4–10	103(a)	Hogeg[3]
3	103(a)	Hogeg, Arujunan[4]
11	103(a)	Hogeg, Svendsen[5]

ANALYSIS

A. Legal Standards

To prevail in its challenges, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

[1] We adopt Petitioner's designations for the elements of the challenged claims. *See* Pet. 82 (showing numerical designations for the language in the challenged claims). We apply these designations below.

[2] The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Pub. L. No. 112-29, §§ 3(c), 3(n)(1), 125 Stat. 284, 287, 293 (2011). Because Petitioner appears to contend that the challenged claims of the '866 patent have an effective filing date before March 16, 2013, we apply the pre-AIA version of this statute. *See* Pet. 13 n.1 ("Pre-AIA 35 U.S.C. §102 applies. MPEP § 2159.02."). We would reach the same outcome, however, under the AIA version of the statute.

[3] US 2014/0173424 A1, published June 19, 2014 (Ex. 1004, "Hogeg"). Petitioner assert that Hogeg is prior art to the '866 patent under pre-AIA 35 U.S.C. § 102(e)(1). *See* Pet. 13, 77–78. Patent Owner does not dispute this position. We determine that Petitioner has made an adequate showing that Hogeg is prior art.

[4] US 2012/0327265 A1, published Dec. 27, 2012 (Ex. 1005, "Arujunan").

[5] US 2012/0123830 A1, published May 17, 2012 (Ex. 1006, "Svendsen").

"Petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burdens of proof in an *inter partes* review).

Petitioner relies on obviousness in its challenges to the claims. A claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, so-called secondary considerations.[6] *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. The Level of Ordinary Skill in the Art

The level of ordinary skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art is a

[6] The parties do not introduce or rely upon any objective indicia of nonobviousness.

hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *Id.*

Petitioner contends, with accompanying declaration testimony, that a person having ordinary skill in the art "would have had at least a bachelor's degree, or the equivalent, in electrical engineering, computer science, or a related field, and 2–3 years of experience in research, design, or development of mobile imaging systems and related hardware, software, and firmware, or equivalent experience." Pet. 23–24. According to Petitioner, "[a] person with less education but more relevant practical experience, or more education and less experience, may also meet this standard." *Id.* (citing Parulski Decl. ¶¶ 186–187).

Patent Owner does not dispute Petitioner's proposed definition of the level of ordinary skill in the art. PO Resp. 7–8. We find Petitioner's proposal consistent with the level of skill reflected in the '866 patent and the prior art of record. *See GPAC Inc.*, 57 F.3d at 1579. We apply Petitioner's proffered level of ordinary skill in the art in this Decision.

C. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that standard,

we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19. We need only construe terms in controversy, and then only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Petitioner discusses the claim term "image processing function" in claim 1 but states that "the Board needn't construe 'image processing function' to determine patentability here." Pet. 25–27. Patent Owner also argues that we need not construe "image processing function," and argues that we should construe "a Global Positioning System (GPS) location indication from each of a plurality of mobile devices," and "automatically forwarding . . . based on a match between the geographical location associated with said at least one digital image processing and the GPS location indication of said at least one mobile device," all of which are found in claim 1. PO Resp. 8–15. We agree with the parties that we need not formally construe "image processing function" because no issue in this Decision turns on that construction. We address the three remaining claim construction issues below.

1. "Global Positioning System (GPS) location indication from each of a plurality of mobile devices"

Claim 1 requires "receiving, over a network, a *Global Positioning System (GPS) location indication from each of a plurality of mobile devices*." Ex. 1001, 23:49–51 (emphasis added) ("GPS location indication" limitation in italics). Patent Owner argues that we should construe the phrase to mean "an indication, determined by a Global Positioning System (GPS), for the location of each of a plurality of mobile devices *at the time of distribution*." PO Resp. 11 (citing Polish Decl. ¶¶ 39–45) (emphasis added).

Patent Owner argues that "information simply identifying where visual content data may have been captured by a particular user," as in the prior art, does not satisfy the limitation when read "in the context of the '866 patent." PO Resp. 9. Patent Owner argues that the '866 patent discloses "dynamic loading of digital image branding functions" and uses distribution rules to target a group of users "based on the location of the party." *Id.* at 9–10 (citing Ex. 1001, 15:41–43, code (57); Ex. 2016, 9; Polish Decl. ¶ 41). According to Patent Owner, the system can target end users at a specific geographic location based on their location. *Id.* at 10 (citing Ex. 1001, 7:50–53, 14:13–15, 15:56–58; Polish Decl. ¶ 42). Patent Owner argues that these teachings indicate that the claim phrase "'GPS location indication from each of a plurality of mobile devices' refers to the current location for each of a plurality of mobile devices at the time when the distribution rule is applied to determine if the GPS location indication matches the geographic location defined by the distribution rule." *Id.* (citing Polish Decl. ¶ 42). Patent Owner also argues that claim 1's language supports its position because after receipt of the GPS location indication from each device, the function is automatically forwarded "based on a match between the geographical

location associated with the said at least one digital processing function and the GPS location indication of said at least one mobile device." *Id.* at 10–11 (citing Polish Decl. ¶ 43).

Petitioner argues that Patent Owner's inclusion of "at the time of distribution" in its proposed construction lacks support in the claim language and intrinsic record. Pet. Reply 3 (citing Parulski Reply Decl. ¶ 20). Petitioner argues that the claim language requires receipt of the GPS location indication before using the indication for matching and before forwarding the image processing function, but imposes no further temporal restriction on when the mobile device obtains the GPS location information. *Id.* (citing Parulski Reply Decl. ¶ 22). Petitioner also argues that Patent Owner's inclusion of "at the time of distribution" makes no sense given that some time must pass between each successive step in the claim, and "the location indication received by the server cannot be restricted to a later location indication 'at the time of distribution.'" *Id.* at 4 (citing Ex. 1077, 90:12–92:13, 92:16–93:23; Parulski Reply Decl. ¶¶ 23–24). As to Patent Owner's reliance on the specification of the '866 patent, Petitioner argues that it also discloses identifying location information before any "time of distribution." *Id.* at 5–6 (citing PO Resp. 10; Ex. 1001, Fig. 7; Ex. 1077, 51:9–52:15; Parulski Reply Decl. ¶¶ 26–28). As to Patent Owner's argument that the last step of claim 1 refers to forwarding "based on a match between" the geographic location and the GPS location indication, Petitioner argues that the limitation merely requires forwarding the image processing function to the same mobile device from which the location indication was received. *Id.* at 6 (citing PO Resp. 10–11; Parulski Reply Decl. ¶ 29). Petitioner contends

that we should apply the ordinary meaning to the claim limitation. *Id.* at 8 (citing Parulski Reply Decl. ¶ 40).

As to Petitioner's argument that the server cannot receive a location indication restricted to a later indication at the time of distribution, Patent Owner argues that "the indication itself is determined ***just once***—during the 'receiving' step," and the server uses the same indication to automatically forward the image processing function. PO Sur-reply 5–6 (citing Ex. 1001, 23:49–24:7). Patent Owner also argues that Petitioner improperly conflates the concepts of "forwarding" and "distributing" in its argument, while the claim makes clear that it is a method of "distributing" a function that requires multiple steps, including "forwarding" the function. *Id.* at 6 (citing Pet. Reply 3–6; Ex. 1001, 23:43–24:7). As to Petitioner's argument that the claim does not address the timing of when the device obtains the location information, Patent Owner argues that Petitioner ignores the requirement that the location indication must be obtained from multiple devices, and a single picture cannot provide that information. *Id.* (citing Pet. Reply 3).

We agree with Petitioner that we should not construe "receiving, over a network, a Global Positioning System (GPS) location indication from each of a plurality of mobile devices" to mean "an indication, determined by a Global Positioning System (GPS), for the location of each of a plurality of mobile devices *at the time of distribution*," as Patent Owner argues. *See* PO Resp. 11 (emphasis added). Patent Owner's construction requires receiving a GPS location of a plurality of devices at a specific time—at the time of distribution. This attempt to read in a temporal limitation lacks support for several reasons. First, and most importantly, the claim limitation at issue does not suggest any temporal limitation tied to the generation or receipt of

GPS location indications. Instead, the claim requires receiving a GPS "location indication from each of a plurality of mobile devices" without addressing when each device acquires the GPS location indication in any way. Ex. 1001, 23:50–51. Further, the limitation merely requires receiving location indications "from" the devices, not "of" the devices as Patent Owner proposes in its construction. *See id.* Patent Owner does not adequately address or support this second deviation from the claim language in its proposal. *See* PO Resp. 9–11.

Second, none of the other language in the claim addresses when the mobile devices acquire a GPS location indication. Patent Owner relies on later claim language in support of its construction that requires automatically forwarded "based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device," but that limitation does not address when the device acquires the GPS location indication. *See* Ex. 1001, 24:1–7. The "GPS location indication" refers back to one of the plurality of devices providing a GPS location indication without further modifying that limitation, and "the geographic location" refers back to a "processing functions associated with a geographic location," which does not refer to when a device acquires a GPS location indication. *See id.* at 23:47–51, 24:1–7.

Third, the specification of the '866 patent does not require reading the limitation as Patent Owner proposes. As Petitioner points out, the '866 patent depicts several steps in its process and suggests that the devices may acquire GPS location indications at the time a user captures images, which occurs prior to any time of distribution. *See* Pet. Reply 5–6 (referring to

Ex. 1001, Fig. 7) (citing Parulski Reply Decl. ¶¶ 26–28). This disclosure conflicts with Patent Owner's construction, and shows that the specification lacks any clear disclosure tying the device GPS location indication to the time of distribution. Patent Owner does not respond to this argument in its Sur-reply. *See* PO Sur-reply 5–6.

Fourth, based on our reading of the claim and specification, it remains unclear when "the time of distribution" occurs, and inclusion of that phrase in a construction of the limitation would fail to add any clarity to the scope of the limitation. Patent Owner contends that the location indication "is determined . . . during the 'receiving' step," but the receiving step does not refer to the time of distribution. *See* PO Sur-reply 5; Ex. 1001, 23:49–53. The preamble of claim 1 refers to a "method of *distributing* a digital image processing function," which arguably suggests that all of the steps of the method occur at the time of distribution. *See* Ex. 1001, 23:43–44 (emphasis added). In addition, as noted above, the mobile devices disclosed in the specification obtain GPS location indications prior to any distribution or any of the claimed steps, further confusing the timing of any distribution in connection with obtaining location indications. *See id.* at Fig. 7. The ambiguity surrounding the "time of distribution" provides a further reason not to adopt that phrase as part of a claim construction, which would provide less clarity than the claim language standing alone.

Finally, Petitioner supports its interpretation of the claims and specification with persuasive testimony from the vantage point of one of ordinary skill in the art. *See* Pet. Reply 3–6; Parulski Reply Decl. ¶¶ 20–30. Mr. Parulski testifies that "other than this order of operations, claim 1 imposes no temporal limitation on when the received GPS location

information was actually obtained by the mobile device (before it is sent to the server)." Parulski Reply Decl. ¶ 22. Mr. Parulski also testifies that the '866 patent specification discloses obtaining location indications prior to any distribution of the processing function. *Id.* ¶¶ 26–28. We find Mr. Parulski's testimony credible and persuasive because it finds support in the claim language and '866 patent specification.

Based on the foregoing, we decline to adopt Patent Owner's proposed construction. Instead, we apply the ordinary meaning of the limitation, which does not require a location indication of each device at the time of distribution.[7]

2. "automatically forwarding"

Claim 1 requires "*automatically forwarding*, over said network at least one of said digital image processing functions to at least one of said plurality of mobile devices, based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device." Ex. 1001, 24:1–7 (emphasis added) ("automatically forwarding" limitation in italics). In the Institution Decision, we preliminarily construed "automatically" in this limitation to mean "performing the forwarding without a separate user input immediately before forwarding" and invited the parties to further address this issue. Inst. Dec. 36–37.

Patent Owner argues that we should construe "automatic" to mean "performing the process of forwarding the digital image processing function

[7] Although we do not adopt Patent Owner's proposed construction, even if we did we would still conclude that Hogeg discloses the limitation, for the reasons we discuss below.

based on a match between the geographical location associated with the digital image processing function and the GPS location indication of at least one mobile device without manual involvement or initiation by a user." PO Resp. 12–15 (citing Polish Decl. ¶¶ 46–55). Patent Owner contends that the ordinary meaning of "automatically" in the computer art means without intervention by a human operator, with no temporal limitation as part of that ordinary meaning. *Id.* at 12 (citing Paper 17, 5; www.dictionary.com; Ex. 2014, 67; Polish Decl. ¶¶ 47–48). Patent Owner contends that "in the context of the '866 patent, a POSITA would understand claim 1 to require that the image processing function be forwarded without action by the user, such as manually initiating the image processing function, requiring the retrieval of those functions." *Id.* at 12–13 (citing Polish Decl. ¶ 48). According to Patent Owner, this reading of the claim finds support in the specification, which discloses a system that seeks to target a group of people without any people in that group initiating a request. *Id.* at 13 (citing Ex. 1001, code (57), 15:56–58; Polish Decl. ¶¶ 49–51). Patent Owner argues that any attempt to narrow the limitation to automatically *forwarding* alone fails to recognize that every step in claim 1 relates to steps performed by a server, such that inclusion of "automatically" in the forwarding limitation clarifies "that the whole process of forwarding a digital image processing function must be automatic." *Id.* at 13–14 (citing Polish Decl. ¶¶ 52–53). Patent Owner also contends that "what differentiates an 'automatic' process from a manual one is that in the automatic process the user does not initiate the action." *Id.* at 15 (citing Ex. 1001, 11:34–43; Polish Decl. ¶ 54).

Petitioner argues that Patent Owner's construction lacks support because it seeks to extend the "automatically" limitation to other operations in the claim, such as the "receiving" and making a match, and even to unclaimed operations, such as "whatever sends the location indication such that it may be 'received.'" Pet. Reply 7 (citing Parulski Reply Decl. ¶¶ 33–38). Petitioner contends that the word "automatically" only modifies "forwarding" in the "automatically forwarding" limitation and "does not modify any other word in the claims" or "appear in any other claim element." *Id.* (citing Parulski Reply Decl. ¶¶ 40–41). Petitioner also contends that the "'866 patent's specification is consistent with this." *Id.* (citing Ex. 1001, 11:57–62, 14:56–59, 15:41–46, 17:9–15, 21:4–6.; Parulski Reply Decl. ¶ 41). Petitioner views our preliminary construction in the Institution Decision as correct and consistent with the plain and ordinary meaning. *Id.* at 8 (citing Parulski Reply Decl. ¶¶ 41–42). Petitioner also states that if "a more complete construction of this term is required (it isn't)," another construction may be adopted that makes clear that the automatic forwarding occurs after the receiving and matching steps, "without a separate user input immediately before forwarding." *Id.* (citing Parulski Reply Decl. ¶¶ 43–44).

Petitioner further argues that we should not adopt Patent Owner's construction because its "blanket prohibition on ***any*** manual initiation" of the claimed process makes little sense given that the claims are written from the standpoint of a server and do not address what initiated the location indication transmission from the device. *Id.* at 9 (citing Ex. 1077, 18:12–22, 101:13–20; Parulski Reply Decl. ¶¶ 45–48). Petitioner also relies on the specification of the '866 patent as allegedly illustrating manual user

involvement in a number of steps prior to the matching/forwarding steps, including downloading the application, signing up for services, and taking photographs. *Id.* at 9–10 (citing Ex. 1001, 3:27–40, 8:40–46, 13:58–14:12, 15:15–23, 15:35–43, 20:53–61, Figs. 2, 7; Parulski Reply Decl. ¶¶ 49–52). Petitioner argues that Patent Owner's reading of the specification that precludes manual initiation, even if accurate, would not justify limiting the claims in that manner. *Id.* at 10 (citing Parulski Reply Decl. ¶¶ 53–55). As to Patent Owner's argument that "automatically forwarding" indicates the entire process must be performed automatically, Petitioner argues that such a reading effectively places "automatically" before every claim step, and even unclaimed steps the user performs, in a manner inconsistent with the claim language. *Id.* at 10–12 (citing Ex. 1077, 18:2–22, 96:4–24, 101:13–20; Parulski Reply Decl. ¶¶ 56–59).

In its Sur-reply, Patent Owner states that Petitioner "agrees that the Board's preliminary construction is correct—'performing the forwarding without a separate user input immediately before forwarding,'" but that the prior art fails to disclose the limitation using that construction. PO Sur-reply 6 (citing Pet. Reply 8; Institution Decision 37). At oral argument, counsel for Patent Owner stated that Patent Owner still asserts that its proposed construction should be adopted, and was merely indicating that the prior art fails to disclose the limitation even using our construction from the Institution Decision, which Petitioner supports. Tr. 56:3–19.

Based on our review of the arguments and evidence, we see no reason to depart from the construction we applied in the Institution Decision, and we adopt it here. Pursuant to that construction, we construe "automatically" in the "automatically forwarding" limitation to mean "performing the

forwarding without a separate user input immediately before forwarding." Inst. Dec. 37. This construction finds direct support in the claim language, which only uses the term "automatically" in the "automatically forwarding" limitation. *See* Ex. 1001, 23:43–24:12. The "without a separate user input" aspect of the construction also comports with the plain and ordinary meaning of "automatic" in a computer context. *See* PO Resp. 12 ("The plain and ordinary meaning of 'automatic,' in computer applications, is: '[p]ertaining to a function, operation process, or a device that, under specified conditions, functions without intervention by a human operator.' Ex. 2014 at 67; *see also* www.dictionary.com ('by a device or process requiring no human intervention')"); Pet. Reply 8 (stating that our construction "is consistent with" the "plain and ordinary meaning").

Our construction does not require forwarding the GPS location indication "without manual involvement *or initiation* by a user" as Patent Owner proposes. *See* PO Resp. 15 (emphasis added). There are several reasons why we disagree with Patent Owner's arguments in favor of that construction. First, Patent Owner's construction directly conflicts with the claim language, which only places the "automatically" modifier before "forwarding," which generally means that we should not read the "automatically" limitation into any other limitations. Patent Owner argues that inclusion of "automatically" in the forwarding limitation clarifies "that the whole process of forwarding a digital image processing function in response to receiving a GPS location indication must be automatic," but that reading lacks any support in the claim language. *See* PO Resp. 14 (citing Polish Decl. ¶¶ 52–53). Such an approach would effectively import

limitations in one claim step to all other claim steps in the claimed method, and Patent Owner provides no authority for such an approach. *See id.*

Second, even if we were to import the "automatically" aspect to all of the claimed steps, that would not necessarily support Patent Owner's construction, which requires "without manual involvement *or initiation* by the user." *See id.* at 15 (emphasis added). None of the claim limitations address initiation of the process by a user or otherwise—i.e., the server may automatically receive GPS location indications whether those location indications are manually sent to the server by a user or otherwise. *See* Pet. Reply 7, 9–12; Parulski Reply Decl. ¶¶ 37, 48–59. Patent Owner fails to provide any persuasive argument and authority that would support reading the "automatically" limitation into all of the claim steps and the unclaimed steps that occur prior to the claimed steps, such as the manner in which the mobile device acquires the GPS location indication.

Third, Petitioner relies on persuasive declarant testimony in support of its arguments. Mr. Parulski testifies that one ordinary skill in the art would view the claim as not excluding any particular method of initiating the process, such as manual initiation, and would not interpret "automatically forwarding" as requiring automatic receiving or matching. Parulski Reply Decl. ¶¶ 37, 40–42. Mr. Parulski also testifies that the '866 patent specification acknowledges manual user initiation of certain actions, contrary to Patent Owner's reading of the claims. *Id.* ¶¶ 48–57. In addition, according to Mr. Parulski, "automatic responses by servers to manual user requests from clients" are common in "client-server based computing systems" and "[a]rguing that a user-based system would perform automatically without user initiation of some type is nonsense." *Id.* ¶ 58.

We find Mr. Parulski's testimony credible and persuasive because it finds support in the claim language and '866 patent specification.

Based on the foregoing, we construe "automatically" in the "automatically forwarding" limitation to mean "performing the forwarding without a separate user input immediately before forwarding."

D. Asserted Obviousness of Claims 1, 2, and 4–10 Based on Hogeg

Petitioner asserts that claims 1, 2, and 4–10 of the '866 patent would have been obvious under 35 U.S.C. § 103(a) based on Hogeg. Pet. 11, 27–62; Pet. Reply 12–21. Patent Owner provides arguments specifically addressing this asserted ground. PO Resp. 16–32; PO Sur-reply 7–19. We first summarize aspects of Hogeg and then turn to the parties' contentions.

1. Hogeg

Hogeg "relates to image processing" and to "systems and methods of selectively adjusting visual content on client terminals." Ex. 1004 ¶ 1.

Figure 1 of Hogeg is reproduced below:

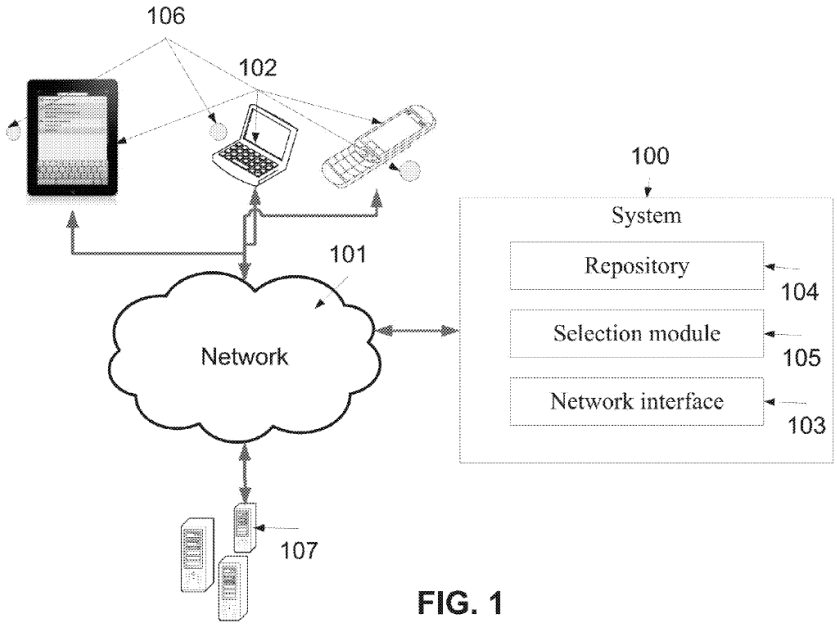

FIG. 1

Figure 1 is "a schematic illustration of a system, which is connected via a communication network, to client terminals and provides thereto a list of functions for editing visual content." Ex. 1004 ¶ 33. As shown in Figure 1, system 100 is connected, via communication network 101 (such as the Internet) to various client terminals 102, each of which host a local module 106. *Id.* ¶¶ 40, 44. Hogeg discloses that system 100 may provide client terminals 102 with "a list of functions for editing visual content, such [as] one or more images or video files." *Id.* ¶ 40. Using a graphical user interface (GUI), a user can edit images or video on client terminal 102 using the functions provided. *Id.* ¶¶ 40, 41, 44.

Figures 2A and 2B are reproduced below:

FIG. 2A

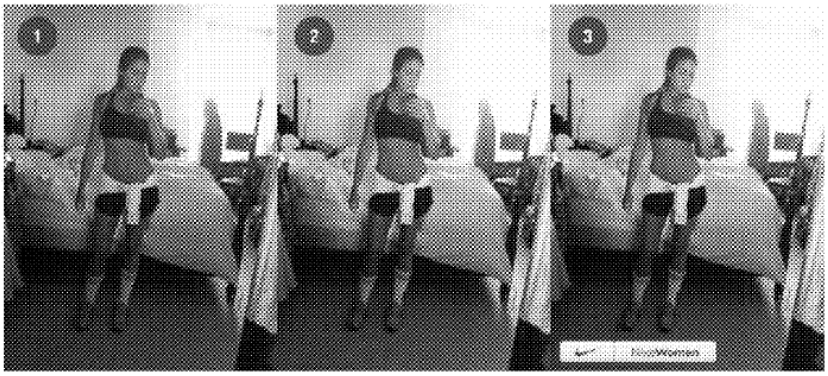

FIG. 2B

Figures 2A and 2B "are sets of images where each set includes an original image, a color filtered image, and a color filtered image with an overlay addition of the Nike™ logo." Ex. 1004 ¶ 34. Hogeg discloses possible characteristics of the functions using these Figures:

> The generated functions may be customized overlays with selected graphic, color filter with selected colors, and/or any other filters which are planned by the user. For example, each one of FIGS. 2A and 2B depicts a set of images the first, marked with (1) is the original, the second, marked with (2) is when a color filter is applied, and the third, marked with (3) is when a color filter is applied with an overlay addition of the Nike™ logo.

Id. ¶ 45.

Figure 3 is reproduced below:

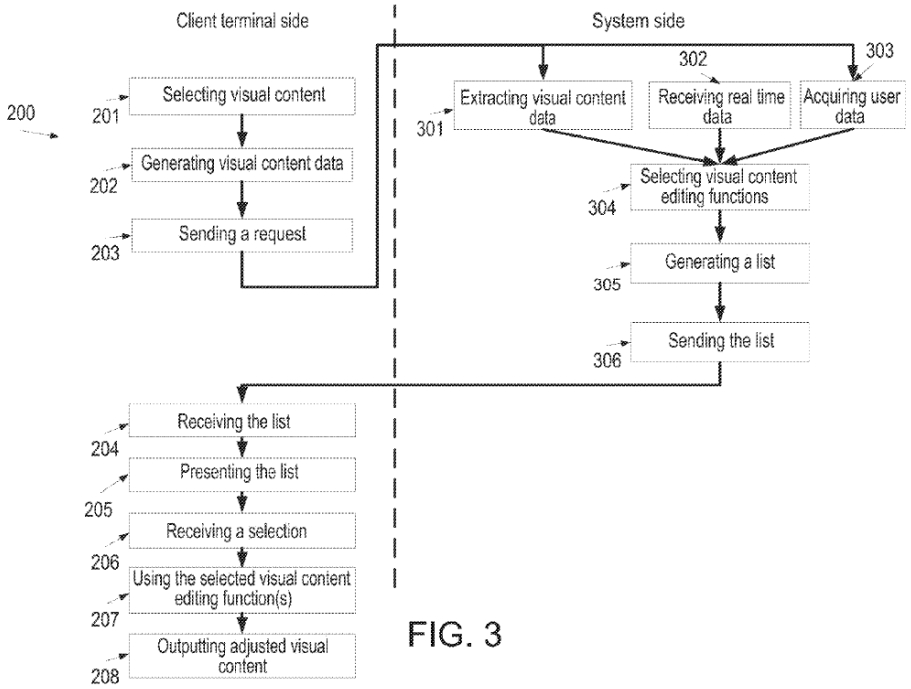

FIG. 3

Figure 3 is "a flowchart of a method for processing visual content using one or more visual content editing functions." Ex. 1004 ¶ 35. After a user selects visual content on the client terminal side (at step 201), the visual content, which may include GPS data from the terminal, is generated (at step

202). *Id.* ¶¶ 47–49. A request is then sent from the client terminal side (on the left of the dotted vertical line) to the system side (on the right of the dotted vertical line) (at step 203), which culminates in the selection of various "visual content editing functions" (at step 304), and the generation and sending of a list of those functions back to the client terminal (at steps 305 and 306). *Id.* ¶¶ 53–54, 75. If the visual content includes location data, the visual content editing functions selected may be based on the location data. *Id.* ¶¶ 55–63, 73, 74. For example, "if the positional data is indicative that the visual content was captured in Australia, a visual content editing function which provides an overlay of the Australian flag and/or a sound overlay of the Australian anthem and/or Australian popular music may be selected." *Id.* ¶ 58. After the client terminal receives and presents the list of visual content editing functions (at steps 204 and 205), a user selects and adjusts the content with the editing function (at steps 206 and 207) before outputting the adjusted content (at step 208). *Id.* ¶¶ 40, 76–79.

2. Discussion of Independent Claim 1

For independent claim 1, Petitioner contends that Hogeg, when modified as Petitioner proposes, satisfies each limitation. Pet. 27–52. To support its arguments, Petitioner identifies certain passages in Hogeg and explains the significance of each passage with respect to the corresponding claim limitation, and articulates reasons to modify Hogeg. *See id.*; *see also* Pet. Reply 12–21. Petitioner supports its arguments with the testimony of Mr. Parulski. *See* Pet. 27–52 (citing Parulski Decl.); Pet. Reply 12–21 (citing Parulski Reply Decl.). Petitioner argues that Hogeg teaches, suggests, or renders obvious every limitation of claim 1. *See* Pet. 27–52. For each limitation of claim 1, Petitioner identifies where Hogeg teaches

each limitation of claim 1 and also asserts, in the alternative, that it would have been obvious to modify Hogeg to meet several claim limitations. *See id.* at 34, 42, 45, 50, 52–53. Those alternative obviousness arguments are generally not in dispute, and we do not discuss them unless relevant to one of the disputed limitations below. For Petitioner's obviousness arguments that are not disputed by Patent Owner, we adopt Petitioner's arguments as to motivation and reasonable expectation of success as our own for the reasons provided by Petitioner and we focus our discussion on the limitations of the claim that are in dispute.

Patent Owner argues that Hogeg discloses a fundamentally different system compared to that claimed in the '866 patent. *See* PO Resp. 19–25. Patent Owner also argues that Hogeg, as modified, fails to disclose three limitations of claim 1: (1) a GPS "location indication from each of a plurality of mobile devices" (in clause 1c); (2) forwarding "based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device" (in clause 1d); and (3) "*automatically* forwarding" the processing function to a device (in clause 1d). *Id.* at 26–37. We address Patent Owner's arguments in turn below.

a. General Arguments as to the Claimed Invention

Patent Owner first presents several arguments as to why the processes of Hogeg and the '866 patent are "fundamentally different" and how they "offer different advantages." PO Resp. 17–23. As to the allegedly different processes, Patent Owner argues that "[t]he process and logic (temporal) flow of Hogeg starts with and depends on user designation of content" and that "all steps of Hogeg for identifying and providing editing functions must be

performed each time the user selects an image or other content," whereas, the '866 patent "provides a method of using a distribution rule that targets a group of end-users in order to automatically distribute image processing functions to end users based on their present GPS location." PO Resp. 17–18.[8] As to the alleged different benefits, Patent Owner argues that Hogeg "is simply not a workable solution for real-time large-scale marketing and promotional campaigns" and that,

> [i]nstead of providing a tailored list of visual content editing functions to a user only after content is selected, as in Hogeg, the '866 patent is designed so that a brand manager, for example, can distribute promotional content to a targeted group of users based on their location before digital images are selected or even created.

PO Resp. 20 (citing Ex. 1001, 5:65–6:23; 6:50–58; 11:38–51; Polish Decl. ¶ 66). According to Patent Owner, the '866 patent "allows for a quicker and more efficient method to send, for example, promotional vodka content to club-goers, as it does not require a user to select visual content to initiate the process and does not require the process to repeat itself for each selected image." *Id.* at 22 (citing Ex. 1001, 11:38–48, 18:65–21:35; Polish Decl. ¶ 70); *see also* PO Sur-reply 1–4 (arguing that '866 patent describes and claims its system in a manner distinct from Hogeg).

We do not agree with Patent Owner's arguments. As Petitioner correctly notes, Patent Owner fails to tie these distinctions, allegedly based either in process differences or benefits lacking in Hogeg, to any particular limitations of the challenged claims. Pet. Reply 12–14 (citing Parulski

[8] Both Patent Owner and Petitioner italicize "Hogeg" in the briefing. We omit such italicization from quotations in the briefing.

Reply Decl. ¶¶ 69–72); *see also In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (rejecting arguments "not based on limitations appearing in the claims"). For example, Patent Owner fails to identify language in the independent claims (or elsewhere) that *requires* the use of the recited methods on "real-time large-scale marketing and promotional campaigns." PO Resp. 20. Moreover, even in a discussion of why the '866 patent allegedly expressly describes *and claims* distributing processing functions without first creating or selecting content (PO Sur-reply 3–4), Patent Owner does not actually identify any specific claim language that allegedly adds the limitations argued. *See id.* at 3–4 (entire argument). Although we find that Patent Owner's arguments generally fail to tie back to specific claim limitations, to the extent Patent Owner's arguments touch on issues related to specific limitations, we address them in the context of the specific limitations discussed below.

b. GPS Location Indication

Petitioner argues that Hogeg discloses the GPS location indication limitation[9] because Hogeg teaches receiving, over network 101, a GPS location indication from each of a plurality of client terminals 102 (i.e., the claimed mobile devices), with each location indication determined by a GPS module on each client terminal. Pet. 39 (citing Parulski Decl. ¶¶ 238–239, 248). Petitioner also relies on Hogeg's teaching of receiving "visual content data" that "includes positional data pertaining to the location of the client terminal," such as GPS location information of the client terminal. *Id.* at 41

[9] Claim 1 requires "receiving, over a network, a *Global Positioning System (GPS) location indication from each of a plurality of mobile devices*." Ex. 1001, 23:49–51 (emphasis added).

(quoting Ex. 1004 ¶ 49) (citing Ex. 1004 ¶¶ 8–9, 26, 40–43, 55–57, 59–64; Parulski Decl. ¶¶ 243–244). In addition, according to Petitioner, "because Hogeg teaches system 100 connected to multiple mobile devices (client terminals 102), a POSITA would have understood Hogeg as teaching its system receives GPS data from a plurality of mobile devices." *Id.* at 42 (citing Ex. 1004 ¶¶ 40–47, Fig. 1; Parulski Decl. ¶ 246).

Patent Owner applies its proposed construction for the GPS location indication limitation to support its argument that Hogeg fails to disclose the limitation. *See* PO Resp. 24. Patent Owner argues that Hogeg does not disclose the GPS location indication limitation because "when Hogeg refers to positional data, it is referring to positional data that is included with the visual content data for the previously captured user-selected content," which only indicates the position "where the visual content data was captured, not the current location of the user's device at the time of distribution." *Id.* at 24–25 (citing Polish Decl. ¶¶ 73–75; Ex. 1004 ¶¶ 8, 23, 58; Ex. 2013, 186:19–187:6). Patent Owner also argues that, "by explicitly requiring positional data to be based on where visual content was captured, as opposed to where a user actually is located, Hogeg teaches away from the claimed invention of the '866 patent." *Id.* at 25 (citing Polish Decl. ¶ 75).

Petitioner replies that Patent Owner bases its arguments solely on its proposed construction for the GPS location indication limitation, and that Hogeg teaches the limitation under a proper interpretation. Pet. Reply 14 (citing Parulski Reply Decl. ¶¶ 76–78). Further, Petitioner argues that Hogeg teaches the limitation even under Patent Owner's construction because Hogeg teaches providing GPS location indications in certain "real-time" embodiments, where the current location of the user and the location

of the captured image are the same. *See id.* at 14–16 (citing Ex. 1004 ¶¶ 60–63, Fig. 3; Parulski Reply Decl. ¶¶ 79–89).

In its Sur-reply, Patent Owner repeats its argument based on its construction and Hogeg's alleged teaching as to obtaining location information that indicates where the image was captured. PO Sur-reply 7–8. As to Petitioner's argument that in some embodiments "the mobile device is currently located where the image is captured," Patent Owner argues "that is not relevant to whether Hogeg actually teaches using a location indication of a mobile device, as required by the claims." *Id.* at 8–9 (citing Ex. 2018, 335:21–337:10, 341:5–17, 351:12–20). Patent Owner also argues that Petitioner fails to address whether Hogeg receives GPS location indications from a plurality of devices as the claim requires. *Id.* at 7–8.

Based on our review of the parties' arguments and evidence, Petitioner establishes sufficiently that Hogeg discloses receiving a GPS location indication from a plurality of devices as required by claim 1. Pet. 39–42; Pet. Reply 14–16; Parulski Decl. ¶¶ 238–247. Hogeg supports Petitioner's argument because it expressly discloses receiving visual content data that "includes positional data pertaining to the location of the client terminal" and that the "positional data, such as location . . . , is optionally acquired from a global positioning system (GPS) unit of the client terminal." Ex. 1004 ¶ 49. Hogeg also directly supports Petitioner's position that it teaches obtaining GPS location indications from multiple mobile devices. *See id.* ¶¶ 40–44 (referring to client terminal*s*), Fig. 1 (depicting several client terminals 102 interfacing with network 101); Parulski Decl. ¶¶ 244–245.

Patent Owner's arguments are unavailing because they are premised on Patent Owner's proposed claim construction, which we decline to adopt for the reasons provided above. *See* PO Resp. 24–25; PO Sur-reply 7–9. The only argument Patent Owner raises that does not depend on its claim construction relates to whether Hogeg discloses obtaining GPS location indications from multiple devices. *See* PO Sur-reply 7–8. Patent Owner waived this argument by not including it in its Patent Owner Response, depriving Petitioner the opportunity to address it in its Reply and Mr. Parulski's Reply Declaration. *See* PO Resp. 24–25; Paper 21 (scheduling order) at 8 ("**Patent Owner is cautioned that any arguments not raised in the response may be deemed waived.**" (emphasis in original)). The argument also lacks merit because Petitioner did address the "plurality" of devices requirement by repeatedly referring to Hogeg's multiple "terminals," and, as noted above, Hogeg discloses multiple devices in its system. *See* Pet. 42; Ex. 1004 ¶¶ 40–44, Fig. 1; Parulski Decl. ¶¶ 245–246.

As to Petitioner's argument that Hogeg discloses the GPS location indication limitation even using Patent Owner's proposed construction, which seems to require receiving location indications of a user's *current* location, we agree with Petitioner that Hogeg discloses the limitation in its "real-time" embodiments. *See* Pet. Reply 14–15. For example, Hogeg discloses providing its visual content-editing functions that include sports data targeted to users based on a current location, such as a stadium. *See* Ex. 1004 ¶¶ 60–63, Fig. 3; Parulski Reply Decl. ¶¶ 81–88. In those situations, where the image received from a user includes a GPS location indication and the server forwards the editing function to the user, the user

will, in at least some situations, be located at the same location as when the image was taken. *See* Parulski Reply Decl. ¶¶ 85–86. Patent Owner argues that even if this occurs in some circumstances, that is "not relevant," and seems to assume that Hogeg must *always* provide a GPS location indication that matches the current location of the user. *See* PO Sur-reply 8. But Patent Owner provides no explanation, claim construction, or authority in support of such a position. *See id.* Patent Owner relies on isolated testimony from Mr. Parulski's deposition, allegedly stating that Hogeg would need to be modified to provide current location information. *Id.* at 8–9 (citing Ex. 2018, 335:21–337:10, 341:5–17, 351:12–20). But that testimony lacks clarity and does not undermine Petitioner's argument and evidence, including Hogeg's teachings and Mr. Parulski's clear declaration testimony that Hogeg receives a user's current GPS location in some embodiments. *See* Ex. 1004 ¶ 63; Parulski Reply Decl. ¶¶ 85–86.

For the reasons above, we find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that Hogeg discloses the GPS location indication limitation.

c. Automatically Forwarding Based on a Match Between the Geographical Location and the GPS Location Indication

Claim 1 requires "*automatically forwarding*, over said network at least one of said digital image processing functions to at least one of said plurality of mobile devices, *based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device*." Ex. 1001, 24:1–7 (emphasis added). We first address the "automatically forwarding" aspect of this limitation and then address the "based on a

match" aspect of the limitation, as Patent Owner makes arguments directed to both aspects of the limitation. *See* PO Resp. 26–32.

1) Automatically Forwarding

As to "automatically forwarding," Petitioner first states that Hogeg "teaches systems and methods implemented over a computer network 101 between servers and client terminals 102" as discussed as to clause 1c. Pet. 43 (citing Parulski Decl. ¶ 252). Second, Petitioner states that Hogeg "teaches system 100 forwards a selected list of visual content editing functions (and the functions) corresponding to a requesting client terminal 102's location to that client terminal 102 via network 101." *Id.* at 43–44 (citing Ex. 1004 ¶¶ 43, 53, 75; Parulski Decl. ¶ 253). Third, Petitioner asserts that Hogeg "teaches its visual content editing functions are 'digital image processing functions'" as discussed as to clauses 1a and 1e. *Id.* at 44 (citing Parulski Decl. ¶ 254). And fourth, referencing the discussion of clause 1b, Petitioner contends that Hogeg "teaches its system 'automatically' selects a subset of stored visual content editing functions in response to a client request and returns the selected functions to client terminal 102." *Id.* at 44–45 (citing Ex. 1004 ¶¶ 6, 8, 9, 19, 26, 37, 40, 43, 48, 49, 54–57, 62, 63, 74–77; Parulski Decl. ¶ 255). According to Petitioner, one of ordinary skill in the art "would have understood these portions of Hogeg to teach automatically forwarding its visual content editing functions in response to a user request." *Id.* at 45. In the alternative, Petitioner also states that one of ordinary skill in the art "would have found it obvious based on Hogeg's teachings to implement such automatic forwarding to provide an immediate response to a user request" because "[a]utomation and improvement of response time is a well-known goal of computer systems, and is taught

throughout the references discussed" in the Petition. *Id.* (citing Ex. 1041 ¶¶ 16, 50; Ex. 1006 ¶¶ 37, 94; Ex. 1042 ¶¶ 5, 42; Parulski Decl. ¶ 256).

Patent Owner asserts that Petitioner's arguments as to the automatically forwarding limitation lack merit because Petitioner bases the arguments "on a flawed interpretation of the '866 patent claims." PO Resp. 27–28 (citing Polish Decl. ¶¶ 80–81). Patent Owner contends that under its correct construction of the limitation, Hogeg fails to disclose the automatically forwarding step without manual involvement or initiation because it requires a user to manually select visual content. *Id.* at 28–29 (citing Ex. 1004 ¶ 19; Pet. 44, 51–52; Polish Decl. ¶¶ 81–82). Patent Owner also takes issue with Petitioner's alternative obviousness argument, arguing that Petitioner's "conclusory" argument lacks support under either party's construction of the automatically forwarding limitation. *Id.* at 29–32.

Petitioner replies that Hogeg teaches the automatically forwarding limitation when properly construed such that "'automatically' modifies only the 'forwarding' step," which remains the case whether we apply the ordinary meaning to the limitation or adopt our preliminary construction from the Institution Decision. Pet. Reply 17 (citing Parulski Reply Decl. ¶ 95). Petitioner maintains that "[t]here is no separate user input immediately before the forwarding operation in Hogeg." *Id.* (citing Parulski Reply Decl. ¶ 97). In the alternative, Petitioner argues that Hogeg teaches the limitation even under Patent Owner's construction and that it would have been obvious to automate any of Hogeg's operations to meet the limitation even if we adopt Patent Owner's construction. *Id.* at 19.

Based on our review of the parties' arguments and evidence, we find that Petitioner establishes sufficiently that Hogeg discloses the automatically

forwarding limitation. *See* Pet. 43–45; Pet. Reply 16–19; Parulski Decl. ¶¶ 250–255; Parulski Reply Decl. ¶ 97. As discussed above, we construe this limitation to mean "performing the forwarding without a separate user input immediately before forwarding." Hogeg discloses a system that automatically selects a subset of stored visual content editing functions in response to a client request and returns the selected list of functions to client terminal 102. *See* Pet. 43–45; Ex. 1004 ¶¶ 6, 8, 9, 19, 26, 37, 40, 43, 48, 49, 54–57, 62, 63, 74–77; Parulski Decl. ¶ 255. As Mr. Parulski explains, Hogeg sends a list of content editing functions to the terminals "based on the matching" step performed prior to the automatically forwarding step. *See* Parulski Decl. ¶ 256. This argument and evidence establish that Hogeg forwards the editing functions without a separate user input *immediately* before the forwarding step.

Patent Owner's arguments do not undermine Petitioner's showing as to the automatically forwarding limitation because they are based on Patent Owner's proposed construction for the limitation, which we reject for the reasons set forth above. *See* PO Resp. 27–32. Whether or not a user initiates the overall process by manually selecting visual content on a mobile device, that does not indicate that the user action occurs *immediately prior* to the forwarding step and fails to meet the limitation as properly construed. *See id.* at 28–29. Patent Owner only acknowledges the correct construction of the limitation when addressing Petitioner's alternative obviousness argument, which we need not reach. *See id.* at 31.

Patent Owner raises a number of additional arguments in its Sur-reply that we find unpersuasive. First, Patent Owner argues Petitioner fails to show that Hogeg performs the forwarding without a separate user input

immediately before forwarding as our construction requires because Hogeg's user actions with the device occur immediately before the forwarding step. PO Sur-reply 9–11.[10] Patent Owner bases this argument on the same Hogeg user initiation steps that Patent Owner relies on for its argument based on its own construction, which prohibits manual user initiation. *See id.* Patent Owner appears to base its argument that Hogeg discloses user input immediately before the forwarding step on the premise that Hogeg's process occurs very quickly, within a few seconds or less or in "real time." *Id.* at 11. Patent Owner's reliance on these general statements as to timing do not support its position that user action occurs immediately before the forwarding step in claim 1, such as immediately after the matching function but prior to the forwarding step within the server, and Petitioner's arguments that no such user action takes place in that time frame are essentially unrebutted. *See id.*; Pet. Reply 17–19 (citing Parulski Reply Decl. ¶¶ 97–105).

Second, Patent Owner argues that Mr. Parulski's discussion of prior art uses of the term "automatic" shows that the term refers to the absence of any user-side action. PO Sur-reply 12–13. This position arguably goes to the meaning of "automatic" in the art, but does not address whether Hogeg discloses user action immediately prior to the forwarding step in claim 1. *See id.*

[10] Patent Owner's arguments addressing our preliminary construction from the Institution Decision, which we adopt here, could have and should have been made in the Patent Owner Response. *See* Inst. Dec. 36–37. We view these arguments as waived, and we address them here solely for the sake of completeness. *See* Paper 21, 8 (arguments not made in Patent Owner Response may be waived).

Third, Patent Owner argues that Petitioner improperly relies on the '866 patent to argue that some user action precedes the automatically forwarding step even in the claimed process. PO Sur-reply 13–14. This argument arguably goes to claim construction, but also fails to address whether Hogeg discloses user action immediately prior to the forwarding step. *See id.* We need not rely on the '866 patent's embodiments as evidence that Hogeg discloses the automatically forwarding limitation.

Fourth, Patent Owner argues that Petitioner's argument that the term "automatically" in the claims has nothing to do with user-side initiation actions conflicts with its argument that Hogeg's server operates automatically when it performs the claimed steps. PO Sur-reply 15–17. We disagree. Two things can be true at the same time: the term "automatically" in claim 1 only modifies and limits the "forwarding" step, and Hogeg's server automatically performs other steps required by claim 1. We see no inconsistency in Petitioner's arguments that would support Patent Owner's argument that Hogeg fails to teach the automatically forwarding limitation.

Fifth, Patent Owner argues that Petitioner misrepresents Dr. Polish's position when he acknowledged that the claims recite server-side steps rather than user-side steps. PO Sur-reply 17–19. We did not rely on any conflict between Dr. Polish's positions or his testimony in making our findings on this issue, and any alleged misrepresentation by Petitioner in the briefing did not impact our analysis.

For the reasons above, we find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that Hogeg discloses the automatically forwarding limitation.

2) Based on a Match Between the Geographic Location and GPS Location Indication

Petitioner argues that Hogeg teaches this limitation because it discloses a system that "selects a subset of visual content editing functions to send to a client terminal in response to a client request based on matching the GPS location in the client request (*i.e.*, GPS data from the mobile device) with location information related to the visual content editing functions stored in system 100." Pet. 46 (citing Ex. 1004 ¶¶ 43, 49, 54–55; Parulski Decl. ¶ 257). Petitioner further argues that Hogeg "teaches adding visual content editing functions to a list of visual content editing functions to be sent to client terminal 102 (responsive to a client request) by matching location information from a client request with location information associated with the visual content editing functions in the repository." *Id.* at 47–48 (citing Ex. 1004 ¶¶ 6, 8–9, 19, 26, 37, 40, 48, 56–58, 62–63, 74–77; Parulski Decl. ¶¶ 260–261).

Patent Owner argues that Hogeg fails to disclose this limitation even if we reject Patent Owner's construction of the GPS location indication. PO Resp. 26. Patent Owner argues that Hogeg's system applies visual content data based on the location indication in the captured image "regardless of where in the world the user is actually located at the time that the editing function is provided" and therefore "does not disclose forwarding such editing functions based on determining a match to the actual GPS location indication of the mobile device at the time of forwarding." *Id.* at 26–27 (citing Ex. 1004 ¶ 58; Ex. 2013, 186:19–187:6; Polish Decl. ¶¶ 78–79).

Petitioner replies that, applying the plain and ordinary meaning to the limitation, Hogeg discloses the limitation because it does not require the instantaneous performance of multiple steps in claim 1, as Patent Owner's

argument appears to assume. Pet. Reply 20 (citing Parulski Reply Decl. ¶ 108). Petitioner also argues that Hogeg discloses the limitation even under Patent Owner's assumed construction because "Hogeg explicitly teaches a number of ***real-time*** embodiments where the editing functions are based on the user's ***current*** location." *Id.* (incorporating previous analysis as to real-time embodiments in arguments as to GPS location indication limitation) (citing Parulski Reply Decl. ¶ 108). Patent Owner does not respond to Petitioner's Reply arguments in its Sur-reply. *See* PO Sur-reply 9–19 (addressing "automatic forwarding" aspect of limitation but not "based on a match" aspect of limitation).

Based on our review of the parties' arguments and evidence, we find that Petitioner establishes sufficiently that Hogeg discloses the limitation requiring "forwarding . . . based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device." Ex. 1001, 24:1–7; Pet. 46–48; Pet. Reply 19–20; Parulski Decl. ¶¶ 257–261; Parulski Reply Decl. ¶ 108. Petitioner provides numerous examples where Hogeg describes matching the GPS location indications from Hogeg's devices with the location information related to the visual content editing functions stored in Hogeg's system. *See, e.g.*, Pet. 46 (citing Ex. 1004 ¶¶ 23, 43, 49, 53–55; Parulski Decl. ¶¶ 257–258). Petitioner also supports its argument that Hogeg sends the editing functions to a user's device based on the matching step. *Id.* at 47–48 (citing Ex. 1004 ¶¶ 6, 8–9, 19, 26, 37, 40, 48, 56–58, 62–63, 74–77; Parulski Decl. ¶¶ 260–261); *see also* Ex. 1004 ¶¶ 8–9 (referring to selection of editing functions based on positional data),

58 (teaching sending editing functions based on GPS location indication from visual content).

Patent Owner raises additional arguments allegedly distinct from its arguments as to the construction of the GPS location indication limitation, but the arguments are largely the same because they appear to assume that the claim requires sending the processing function to a device having the user's *current* location. *See* PO Resp. 26–27. As discussed above in the claim construction section, the GPS location indication need not reflect the current location of a user, and this limitation places no further restriction on the GPS location indication. Patent Owner appears to place special emphasis on the phrase "the GPS location indication of said at least one mobile device," but that phrase does not modify the GPS location indication limitation and does not refer to the user's current location. *See id.* at 26. In addition, the reference to "the geographic location" in the limitation merely refers back to a "digital image processing functions associated with a geographic location," which does not refer to when a device acquires a GPS location indication or a user's current location. *See* Ex. 1001, 23:47–48, 24:4. Accordingly, that the claim requires forwarding a processing function to a device "based on a match between the geographic location . . . and the GPS location indication" does not require sending the function to a device having the user's current location.

In addition, even if the limitation requires forwarding the processing function to a device having the user's current location, Hogeg discloses such a scenario in its "real-time" embodiments, as discussed above. *See, e.g.*, Ex. 1004 ¶ 63 (describing sending user in a stadium information relevant to sporting event occurring in stadium); Parulski Reply Decl. ¶ 108. Patent

Owner does not address adequately Petitioner's assertions in this regard in its Sur-reply. *See* Pet. Reply 20; PO Sur-reply 9–19.

For the reasons above, we find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that Hogeg discloses the limitation requiring "automatically forwarding, over said network at least one of said digital image processing functions to at least one of said plurality of mobile devices, based on a match between the geographical location associated with said at least one digital image processing function and the GPS location indication of said at least one mobile device."

d. Remaining Limitations and Motivation to Modify Hogeg

To address the remaining limitations in independent claim 1, Petitioner discusses why Hogeg, as modified, satisfies the additional limitations in the claim and discusses why one of ordinary skill in the art at the time of the invention would have had reason to modify Hogeg as proposed. *See* Pet. 28–40, 48–53 (citing Parulski Decl.). The record evidence, as presented, supports Petitioner's position as to the additional limitations in claim 1. Patent Owner does not present arguments addressing these limitations. We need not set forth formal findings as to the undisputed assertions by Petitioner.[11] We adopt Petitioner's analysis as to these

[11] *See In re NuVasive, Inc.*, 841 F.3d 966, 974 (Fed. Cir. 2016) ("Although the Board did not make findings as to whether any of the other claim limitations (such as fusion apertures or anti-migration teeth) are disclosed in the prior art, it did not have to: NuVasive did not present arguments about those limitations to the Board. . . . The Board, having found the only disputed limitations together in one reference, was not required to address undisputed matters."); Paper 21, 8 (emphasizing that

undisputed limitations as our own findings and conclusions. *See* Pet. 28–40, 48–53.

We find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that Hogeg, as modified, satisfies the remaining limitations in claim 1. We also determine that Petitioner has adequately explained why one of ordinary skill in the art would have modified Hogeg and that there would have been a reasonable expectation of success.

e. Conclusion as to Claim 1

"Once all relevant facts are found, the ultimate legal determination [of obviousness] involves the weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan." *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1361 (Fed. Cir. 2017). Above, based on the full record before us, we provide our factual findings regarding (1) the level of ordinary skill in the art, (2) the scope and content of the prior art, (3) any differences between the claimed subject matter and the prior art; and (4) objective indicia of nonobviousness.

In particular, we find that (1) Petitioner's proposed level of ordinary skill in the art is consistent with the art of record; (2) Petitioner establishes sufficiently that Hogeg discloses or renders obvious all the limitations of claim 1 for the reasons provided by Petitioner; and (3) the parties do not introduce or rely upon any objective indicia of nonobviousness. Weighing these underlying factual determinations, Petitioner has shown, by a

"any arguments for patentability not raised in the response may be deemed waived").

preponderance of the evidence, that claim 1 of the '866 patent is unpatentable as obvious over Hogeg.

3. Discussion of Dependent Claims 2 and 4–10

Claims 2 and 4–10 depend directly or indirectly from claim 1. To address these claims, Petitioner discusses why Hogeg, as modified, satisfies the additional limitations in these claims and discusses why one of ordinary skill in the art at the time of the invention would have had reason to modify Hogeg as proposed. *See* Pet. 53–63 (citing Parulski Decl.).

The record evidence, as presented, supports Petitioner's position as to the additional limitations in these dependent claims. Patent Owner does not present arguments addressing these claims. We adopt Petitioner's analysis as to these claims as our own findings and conclusions. *See* Pet. 53–63.

We find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that Hogeg, as modified, satisfies the additional limitations in claims 2 and 4–10. We also determine that Petitioner has adequately explained why one of ordinary skill in the art would have modified Hogeg and that there would have been a reasonable expectation of success.

In summary, as to dependent claims 2 and 4–10, we find that (1) Petitioner's proposed level of ordinary skill in the art is consistent with the art of record; (2) Petitioner establishes sufficiently that Hogeg discloses or renders obvious all the limitations of claims 2 and 4–10 for the reasons provided by Petitioner; and (3) the parties do not introduce or rely upon any objective indicia of nonobviousness. Weighing these underlying factual determinations, Petitioner has shown, by a preponderance of the evidence,

that claims 2 and 4–10 of the '866 patent are unpatentable as obvious over Hogeg.

E. Asserted Obviousness of Claim 3 Based on Hogeg and Arujunan

Petitioner asserts that claim 3 of the '866 patent would have been obvious under 35 U.S.C. § 103(a) based on Hogeg and Arujunan. Pet. 11, 63–68. Patent Owner argues that because claim 3 depends from claim 1 and Hogeg does not render claim 1 obvious, "it necessarily follows that claim 3 is also nonobvious." PO Resp. 32 (citing Polish Decl. ¶ 87). We first summarize aspects of Arujunan and then address Petitioner's arguments and evidence.

1. Arujunan

Arujunan "relates to image capture devices which provide guidance for capturing images at different locations." Ex. 1005 ¶ 3. Arujunan teaches capturing digital images and processing the images "to provide a different image appearance." *Id.* ¶ 51. Arujunan discloses processing the captured images, for example, (1) "so that the newly captured images appear to be older photographs, such as daguerreotypes" (*id.*), (2) "to provide an image having a different color tint, contrast, or external shape, so that it has a more suitable appearance when positioned in a photo product as part of an advertisement for a product or service" (*id.*), and (3) to convert a face of a person "from a color to a monochrome image, and composite the image of the face into one of a plurality of prestored newspaper templates, so that the newly captured images appears to be a photograph in a historic newspaper related to a historic site which serves as the theme of the experience" (*id.* ¶ 92). *See also id.* ¶ 50 ("In some embodiments, the processor 292 in the computer system 286 modifies the appearance of one or more of the

captured digital images, so that it has a more suitable appearance when incorporated into the photo product.").

2. Discussion of Dependent Claim 3

For dependent claim 3, Petitioner contends that the proposed combination of Hogeg and Arujunan discloses each of the limitations. Pet. 68–69 (citing Ex. 1004 ¶¶ 34, 45, Figs. 2A–2B; Ex. 1005 ¶¶ 51, 92; Ex. 1010, 46; Parulski Decl. ¶¶ 345–351). Petitioner also discusses alleged reasons to combine Hogeg and Arujunan as proposed and why the alleged combination would have had a reasonable expectation of success. *Id.* at 64–68 (citing Ex. 1004 ¶¶ 40, 42–45, 53–74, Figs. 2A–2B, 3; Ex. 1005 ¶¶ 10, 40–51, 92; Parulski Decl. ¶¶ 332–344). Patent Owner does not present arguments specifically addressing these contentions and instead relies on its arguments as to claim 1 that we address above. PO Resp. 32.

The record evidence, as presented, supports Petitioner's position as to dependent claim 3. *See* Pet. 64–69. We adopt Petitioner's analysis as to these claims as our own findings and conclusions. *See id.*

We find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that the combination of Hogeg and Arujunan satisfies the additional limitations in claim 3. We also determine that Petitioner has adequately explained why one of ordinary skill in the art would have combined Hogeg and Arujunan and that there would have been a reasonable expectation of success.

In summary, as to dependent claim 3, we find that (1) Petitioner's proposed level of ordinary skill in the art is consistent with the art of record; (2) Petitioner establishes sufficiently that the combination of Hogeg and Arujunan discloses or renders obvious all the limitations of claim 3 for the

reasons provided by Petitioner; and (3) the parties do not introduce or rely upon any objective indicia of nonobviousness. Weighing these underlying factual determinations, Petitioner has shown, by a preponderance of the evidence, that claim 3 of the '866 patent is unpatentable as obvious over Hogeg and Arujunan.

F. Asserted Obviousness of Claim 11 Based on Hogeg and Svendsen

Petitioner asserts that claim 11 of the '866 patent would have been obvious under 35 U.S.C. § 103(a) based on Hogeg and Svendsen. Pet. 11, 69–77. Patent Owner argues that because claim 11 depends from claim 1 and Hogeg does not render claim 1 obvious, it "necessarily follows that claim 11 is also nonobvious." PO Resp. 32–33 (citing Polish Decl. ¶ 88). We first summarize aspects of Svendsen and then address Petitioner's arguments and evidence.

1. Svendsen

Svendsen teaches a system "for generating and utilizing photo advertisements ('ads')." Ex. 1006 ¶¶ 5, 36. Svendsen states that its "ad function 32 enables users [] to create photo advertisements using photo ad templates stored in the photo ad template repository 36." *Id.* ¶ 28. According to Svendsen, "the photo advertisements are utilized as photo check-ins published by the check-in server 12" and "provided to the social network server 14 as status updates of the corresponding users 18 and 24." *Id.* In one embodiment, Svendsen discloses an application presented to a user on a mobile device, with a main screen, check-in screen 96, and promotion screen 120 presented to a user in response to selecting promotions button 92. *Id.* ¶ 80, Figs. 6A–6E. Svendsen's user interface may also present coupon screen 112 in response to a user selecting coupons button 90,

with coupon screen 112 displaying coupons earned by the user. *Id.* ¶ 83, Fig. 6C.

2. Discussion of Dependent Claim 11

For dependent claim 11, Petitioner contends that the proposed combination of Hogeg and Svendsen discloses each of the limitations. Pet. 74–77 (citing Ex. 1004 ¶ 73; Ex. 1006 ¶¶ 83, 97, Figs. 6B, 6D, 14; Parulski Decl. ¶¶ 365–373). Petitioner also discusses alleged reasons to combine Hogeg and Svendsen as proposed and why the alleged combination would have had a reasonable expectation of success. *Id.* at 70–73 (citing Ex. 1004 ¶¶ 40, 42–45, 50–51, 53–74, 79, Figs. 1, 2A–2B, 3; Ex. 1006 ¶¶ 25, 33–34, 37, Fig. 1; Parulski Decl. ¶¶ 353–364). Patent Owner does not present arguments specifically addressing these contentions and instead relies on its arguments as to claim 1 that we address above. PO Resp. 32.

The record evidence, as presented, supports Petitioner's position as to dependent claim 11. *See* Pet. 70–77. We adopt Petitioner's analysis as to these claims as our own findings and conclusions. *See id.*

We find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that the combination of Hogeg and Svendsen satisfies the additional limitations in claim 11. We also determine that Petitioner has adequately explained why one of ordinary skill in the art would have combined Hogeg and Svendsen and that there would have been a reasonable expectation of success.

In summary, as to dependent claim 11, we find that (1) Petitioner's proposed level of ordinary skill in the art is consistent with the art of record; (2) Petitioner establishes sufficiently that the combination of Hogeg and Svendsen discloses or renders obvious all the limitations of claim 11 for the

reasons provided by Petitioner; and (3) the parties do not introduce or rely upon any objective indicia of nonobviousness. Weighing these underlying factual determinations, Petitioner has shown, by a preponderance of the evidence, that claim 11 of the '866 patent is unpatentable as obvious over Hogeg and Svendsen.

CONCLUSION[12]

A summary of our conclusions appears in the chart below:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–2, 4–12	103(a)	Hogeg	1, 2, 4–10	
3	103(a)	Hogeg, Arujunan	3	
11	103(a)	Hogeg, Svendsen	11	
Overall Outcome			**1–11**	

[12] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

ORDER

In consideration of the foregoing, it is:

ORDERED that claims 1–11 of U.S. Patent 9,639,866 B2 have been shown, by a preponderance of the evidence, to be unpatentable; and

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

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