

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

BLACKBERRY LTD.,
Patent Owner.

Case IPR2017-00912
Patent 8,745,149 B2

Before SALLY C. MEDLEY, ROBERT J. WEINSCHENK, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a)

I. INTRODUCTION

Google LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–17 (“the challenged claims”) of U.S. Patent No. 8,745,149 B2 (Ex. 1001, “the ’149 patent”). BlackBerry Limited (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”) to the Petition. On August 30, 2017, we instituted an *inter partes* review of the challenged claims of the ’149 patent on the following grounds:

Claims	Statutory Basis	Applied Reference(s)
1, 5, 7, 9, 13, 15, and 17	35 U.S.C. § 103(a) ¹	Graham et al., U.S. Patent No. 7,167,703 B2 (filed Sept. 25, 2002, issued Jan. 23, 2007) (Ex. 1005, “Graham”)
1, 5–7, 9, 13–15, and 17	35 U.S.C. § 103(a)	Graham and Milton et al., U.S. Patent No. 5,631,949 (filed May 22, 1995, issued May 20, 1997) (Ex. 1006, “Milton”)
1–5, 9–13, and 17	35 U.S.C. § 103(a)	Graham and Toshio, Japanese Patent Application Publication No. H03-89639 (filed Aug. 31, 1989, published Apr. 15, 1991) (Ex. 1007, “Toshio”)
8 and 16	35 U.S.C. § 103(a)	Graham and MacPhail, U.S. Patent No. 6,661,434 B1 (filed Apr. 13, 2000, issued Dec. 9, 2003) (Ex. 1009, “MacPhail”)
8 and 16	35 U.S.C. § 103(a)	Graham, Milton, and MacPhail
8 and 16	35 U.S.C. § 103(a)	Graham, Toshio, and MacPhail

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, which was enacted on September 16, 2011, made amendments to 35 U.S.C. §§ 102, 103. AIA § 3(b), (c). Those amendments became effective on March 16, 2013. *Id.* at § 3(n). Because the challenged claims of the ’149 patent have an effective filing date before March 16, 2013, any citations herein to 35 U.S.C. §§ 102, 103 are to their pre-AIA versions.

Claims	Statutory Basis	Applied Reference(s)
1, 5, 7, 9, 13, 15, and 17	35 U.S.C. § 103(a)	Graham and Deshpande et al., U.S. Patent Application Publication No. 2003/0039340 A1 (filed Aug. 24, 2001, published Feb. 27, 2003) (Ex. 1008, “Deshpande”)
1, 5–7, 9, 13–15, and 17	35 U.S.C. § 103(a)	Graham, Deshpande, and Milton
1–5, 9–13, and 17	35 U.S.C. § 103(a)	Graham, Deshpande, and Toshio
8 and 16	35 U.S.C. § 103(a)	Graham, Deshpande, and MacPhail
8 and 16	35 U.S.C. § 103(a)	Graham, Deshpande, Milton, and MacPhail
8 and 16	35 U.S.C. § 103(a)	Graham, Deshpande, Toshio, and MacPhail

Paper 7 (“Dec. on Inst.”), 22–23.

After institution, Patent Owner filed a Response (Paper 17, “PO Resp.”) to the Petition, Petitioner filed a Reply (Paper 20, “Pet. Reply”) to the Response, and Patent Owner filed a Sur-reply (Paper 27, “PO Sur-reply”) to the Reply.² Petitioner submitted a Declaration of Dr. Dan R. Olsen Jr. (Ex. 1002) with the Petition, and Patent Owner submitted a transcript of the deposition of Dr. Olsen (Ex. 2006) with the Response. Patent Owner submitted a Declaration of Dr. George T. Ligler (Ex. 2007) with the Response, and Petitioner submitted a transcript of the deposition of Dr. Ligler (Ex. 1018) with the Reply. An oral hearing was held on May 30, 2018, and a transcript of the hearing is included in the record. Paper 30 (“Tr.”).³

² We authorized Patent Owner to file a Sur-reply to the Reply. Paper 22, 3.

³ The oral hearing included a related proceeding, IPR2017-00911. Paper 26.

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a). For the reasons set forth below, Petitioner has shown by a preponderance of the evidence that claims 1–17 of the ’149 patent are unpatentable.

A. *Related Proceedings*

The parties indicate that the ’149 patent is the subject of the following district court case: *BlackBerry Ltd. v. BLU Products, Inc.*, No. 1:16-cv-23535 (S.D. Fla.). Pet. 1; Paper 4, 1. The parties also indicate that Petitioner filed another petition requesting an *inter partes* review of the ’149 patent in IPR2017-00911. Pet. 1; Paper 4, 1.

B. *The ’149 Patent*

The ’149 patent relates to “a handheld electronic device and a method for providing information representative of the times of certain communications in a messaging environment.” Ex. 1001, 1:20–24. The ’149 patent explains that when a messaging conversation continues quickly, there generally is no need to display time information. *Id.* at 1:58–64. In other circumstances, though, “it may be desirable for information regarding certain timing aspects . . . to be available to a user,” but “the limited space available on a display of a handheld electronic device has made a solution difficult.” *Id.* at 1:65–2:2. To address this alleged problem, the ’149 patent describes an electronic device that displays time information for a message only after the expiration of a predetermined period during which no additional messages are exchanged or only when a user manually requests time information. *Id.* at 5:31–38, 6:14–23, 7:11–19.

The ’149 patent also explains that it is desirable to provide a user with additional time information “depending upon the prevailing circumstances” so that the user may have “an expedited understanding of the timing aspects

of the message.” *Id.* at 7:37–40, 8:26–33. To address this alleged problem, the ’149 patent describes a smart time stamp and an active time stamp. *Id.* at 7:37–50, 7:59–8:5. A smart time stamp displays first time information, such as “2:44 pm,” for a message in a conversation. *Id.* at 7:37–50. If the conversation is not resumed until the following day, the smart time stamp automatically changes the first time information to second time information, such as “2:44 pm yesterday,” to reflect the change in day. *Id.* An active time stamp displays first time information, such as “one minute ago,” for a message in a conversation, and then changes the first time information to second time information, such as “two minutes ago,” as time progresses. *Id.* at 7:59–8:5.

C. *Illustrative Claim*

Claims 1, 9, and 17 are independent. Claim 1 is reproduced below.

1. A method of displaying an instant messaging conversation on a display of an electronic device, the method comprising:
 - displaying a conversation of instant messages;
 - displaying a first time information for an instant message in the conversation in response to a first input; and
 - automatically changing the first time information for the instant message to a second time information as time progresses and displaying the second time information instead of the first time information.

Ex. 1001, 8:48–57.

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art would have had “at least a B.S. degree in computer science, electrical engineering, or

equivalent thereof, and at least two years of experience in the relevant field, e.g., graphical user interfaces,” but notes that “[m]ore education can supplement practical experience and vice versa.” Pet. 6–7 (citing Ex. 1002 ¶¶ 13–14). Patent Owner argues that a person of ordinary skill in the art would have had “at least a bachelor’s degree in computer science, electrical engineering, or the equivalent, and at least two years of experience in designing user interfaces for mobile devices such as cellular telephones, personal digital assistances (PDA), or other handheld devices.” PO Resp. 7–8 (citing Ex. 2007 ¶ 41). The parties’ respective definitions of the level of ordinary skill in the art are similar. Patent Owner contends, though, that Petitioner’s definition improperly focuses on “generic” user interfaces, rather than user interfaces specifically for mobile devices. PO Resp. 8 (citing Ex. 2007 ¶ 42).

We are not persuaded by Patent Owner’s contention that a person of ordinary skill in the art must have experience in designing user interfaces for mobile devices. As Patent Owner points out, portions of the specification of the ’149 patent describe a “handheld electronic device.” Ex. 1001, 1:20–24, 2:9–32. But other portions of the specification, as well as the claims, describe an “electronic device” more generally, and, thus, are not limited to a handheld or mobile device. *Id.* at 2:33–3:7, 8:48–57, 9:9–22, 10:15–25. Therefore, based on the evidence of record, including the types of problems and solutions described in the ’149 patent and the asserted prior art, we agree with and adopt Petitioner’s definition of the level of ordinary skill in the art. Pet. 6–7; Ex. 1002 ¶¶ 13–14.

B. *Claim Construction*

The claims of an unexpired patent are interpreted using the broadest reasonable interpretation in light of the specification of the patent in which they appear.⁴ 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). An applicant may provide a definition of a term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read into the claims from the specification. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

1. *Automatically*

Claim 1 recites “automatically changing the first time information for the instant message to a second time information as time progresses and displaying the second time information instead of the first time information.” Ex. 1001, 8:54–57. Claims 9 and 17 recite similar limitations. *Id.* at 9:19–22, 10:22–25. Petitioner proposes construing the term “automatically” to mean “by itself with little or no direct human control.” Pet. Reply 2. Petitioner argues that its proposed construction is supported by the claim language, specification, prosecution history, and certain extrinsic evidence. *Id.* at 2–6. Petitioner further contends that the term “automatically” only modifies the term “changing” in the challenged claims and does not modify

⁴ We would construe the claim term discussed below the same under *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

the term “displaying.” *Id.* at 8–11. Patent Owner proposes construing the term “automatically” to mean “not manually initiated.” PO Resp. 10. Patent Owner argues that its proposed construction is supported by the claim language, specification, prosecution history, and certain extrinsic evidence. *Id.* at 10–14. Patent Owner further contends that the term “automatically” modifies both the terms “changing” and “displaying” in the challenged claims. *Id.* at 14–16.

In the Decision on Institution, we adopted Patent Owner’s proposed construction. Dec. on Inst. 8. We see no reason to deviate from that determination. The specification of the ’149 patent supports Patent Owner’s proposed construction that the term “automatically” means “not manually initiated.” Specifically, the ’149 patent distinguishes between a manual operation and an automatic operation. For example, the ’149 patent states that if a time stamp for a message is desired, “the user may activate a user interface . . . , which can *manually* cause the output of an inserted time stamp.” Ex. 1001, 6:19–23 (emphasis added). In contrast, the ’149 patent states that if a first time stamp is displayed for a message and the conversation is not resumed until the following day, the first time stamp “could be configured to *automatically* change from being displayed as ‘2:44 pm’ . . . to being displayed as, for instance, . . . ‘2:44 pm yesterday.’” *Id.* at 7:40–50 (emphasis added). Thus, because the ’149 patent distinguishes between a manual operation and an automatic operation, the ’149 patent indicates that an automatic operation is not manually initiated.

Petitioner appears to agree that the specification of the ’149 patent distinguishes between a manual operation and an automatic operation, but attempts to further explain the difference between them. Pet. Reply 3

(“[T]he use of ‘automatically’ and ‘manually’ in the specification convey that an operation initiated by direct human control is manually performed and that an operation may be automatically performed even if it is the result of a different prior operation that is manually initiated.”). However, Petitioner’s use of the phrase “little or no direct human control” in its proposed construction injects ambiguity into the challenged claims. Tr. 7:4–9. Thus, we do not adopt Petitioner’s proposed construction. As discussed below, though, we clarify what it means for an operation to be “not manually initiated” in the context of the challenged claims.

In the Decision on Institution, we agreed with Patent Owner that the term “automatically” modifies the terms “changing” and “displaying” in the challenged claims. Dec. on Inst. 8. We see no reason to deviate from that determination. The specification and prosecution history of the ’149 patent support Patent Owner’s position that the term “automatically” modifies the terms “changing” and “displaying” in the challenged claims. The ’149 patent states that if a first time stamp is displayed for a message and the conversation is not resumed until the following day, the first time stamp “could be configured to *automatically change* from being *displayed* as ‘2:44 pm’ . . . to being *displayed* as, for instance, . . . ‘2:44 pm yesterday.’” Ex. 1001, 7:40–50 (emphases added). This portion of the ’149 patent indicates that the automatic change is made to the *displayed* time stamp, thereby indicating that the term “automatically” also modifies the term “displaying” in the challenged claims. Further, during prosecution, the Examiner rejected the pending independent claims as being unpatentable over Appelman ’497⁵

⁵ Appelman et al., U.S. Patent No. 7,181,497 B1 (filed Jan. 22, 2003, issued Feb. 20, 2007) (Ex. 2001, “Appelman ’497”).

and Lapuyade.⁶ Ex. 1004, 237, 245–249. In response to the rejection, Patent Owner amended the pending independent claims “to clarify the protection being sought by *combining* the [changing and displaying] operations and specifying that the ‘changing’ is done automatically.” *Id.* at 236 (emphasis added). Patent Owner’s statement during prosecution that it was combining the changing and displaying operations indicates that both operations are performed automatically.

Petitioner contends that the term “automatically” appears immediately before the term “changing” in the challenged claims, but not immediately before the term “displaying.” Pet. Reply 8. Thus, according to Petitioner, the term “automatically” only modifies the term “changing.” *Id.* We disagree. As discussed above, the specification of the ’149 patent indicates that the term “automatically” applies to both the changing and displaying operations. Ex. 1001, 7:40–50. Petitioner also contends that Patent Owner stated during prosecution that only the changing operation is performed automatically. Pet. Reply 9. We disagree. As discussed above, Patent Owner stated during prosecution that it was combining the changing and displaying operations. Ex. 1004, 236.

In the Decision on Institution, we clarified that in the context of the challenged claims, the term “automatically” only applies to the specific operations of changing and displaying time information, and that other prior operations can be manually initiated. Dec. on Inst. 8. We see no reason to deviate from that determination. The specification of the ’149 patent supports our clarification. In particular, the ’149 patent describes a manual

⁶ Lapuyade et al., U.S. Patent No. 7,219,109 B1 (filed Aug. 27, 2001, issued May 15, 2007) (Ex. 2002, “Lapuyade”).

embodiment in which a user manually initiates the specific operation of displaying time information. Ex. 1001, 6:19–23, 7:11–19. For example, the ’149 patent states that by “moving a cursor 374 or other pointing device or other device in proximity to a given message 368 a corresponding requested time stamp is output adjacent the message 368.” *Id.* at 7:11–16.

In contrast, the ’149 patent describes an automatic embodiment in which a user manually initiates a prior operation, but the displayed time information changes automatically. *Id.* at 5:62–6:2, 7:40–50. Specifically, the ’149 patent explains that a user *manually* resumes an instant messaging conversation by sending another message. *Id.* at 5:62–6:2. The ’149 patent further states that “if the first time stamp 84 of FIG. 4 was output as indicated above, and *if the conversation was not resumed until the following day*, the first time stamp 84 potentially could be configured to *automatically change* from being displayed as ‘2:44 pm’ . . . to being displayed as, for instance, . . . ‘2:44 pm yesterday.’” *Id.* at 7:40–50 (emphasis added). As such, according to the ’149 patent, when a user *manually* resumes an instant messaging conversation from a previous day, the displayed time information *automatically changes* to reflect the change in day. *Id.* at 5:62–6:2, 7:40–50. Thus, although the user manually initiates the prior operation of resuming the instant messaging conversation, the user does not manually initiate the specific operation of changing the displayed time information.

The prosecution history also supports our clarification. During prosecution, the Examiner rejected the pending independent claims as being unpatentable over Appelman ’497 and Lapuyade. Ex. 1004, 237, 245–249. According to Patent Owner, Lapuyade teaches that a user manually “select[s] an option to change to a new time zone.” *Id.* at 238. In other

words, in Lapuyade, a user manually initiates the specific operation of changing the displayed time information.⁷ In response to the rejection, Patent Owner amended the pending independent claims “to clarify the protection being sought by combining the [changing and displaying] operations and specifying that the ‘changing’ is done automatically.” *Id.* at 236. Patent Owner then argued that the amended independent claims were distinguishable from Lapuyade because “[a]lthough Lapuyade shows a prompt allowing the user to select an option to change to a new time zone, it is unclear to Applicant how such a feature would suggest automatically changing time information in an instant messaging conversation.” *Id.* at 70. Patent Owner’s argument regarding Lapuyade indicates that the term “automatically” was added to the pending independent claims to distinguish prior art that taught manually initiating the specific operation of changing the displayed time information.

Patent Owner disagrees with our clarification. PO Resp. 16–18. First, Patent Owner points to the portion of the ’149 patent that describes a smart time stamp. *Id.* at 16–17. Patent Owner contends that “the passage of time is the cause of the automatically updated display” and “*not* an intervening manual action by the user.” *Id.* Patent Owner’s argument is not persuasive. The relevant portion of the ’149 patent states:

In this regard, and in accordance with another aspect of the invention, a given time stamp may be a *smart time stamp* and

⁷ Patent Owner similarly acknowledges in this case that “Lapuyade’s disclosure is clear that the displayed time information (*e.g.*, the displayed time for a calendar entry) is changed manually, such as when the user instructs the system to ‘change display time zone’ via button 724, or by ‘tap[ing] the displayed time zone in box 718 to make a selection of a correct local time zone.’” PO Resp. 6 (citing Ex. 2002, 6:21–43).

provide additional information *depending upon the prevailing circumstances*. For instance, if the first time stamp 84 of FIG. 4 was output as indicated above, and *if the conversation was not resumed until the following day*, the first time stamp 84 potentially could be configured to *automatically* change from being displayed as “2:44 pm” on the day of communication of the non-responded-to message 80 to being displayed as, for instance, “2:44 pm Thursday” or, for instance, “2:44 PM Sep. 17, 2004” or, for instance, “2:44 pm yesterday” on the following day, although other configurations will be apparent and will be within the concept of the invention.

Ex. 1001, 7:37–50 (emphases added). As discussed above, the ’149 patent explains that a user *manually* resumes an instant messaging conversation by sending another message. *Id.* at 5:62–6:2. Thus, the smart time stamp described in the ’149 patent automatically changes the displayed time information *after* a user manually resumes an instant messaging conversation from a previous day. *Id.* at 7:37–50.

Second, Patent Owner points to the portion of the ’149 patent that describes an active time stamp, which, according to Patent Owner, automatically changes “without requiring any intervening manual input to prompt the updated display.” PO Resp. 17 (citing Ex. 1001, 7:59–64). The portion of the ’149 patent cited by Patent Owner states:

Such a time stamp 478 could be configured to be an *active time stamp*, meaning that it would change as time progressed. For instance, the time stamp 478 could progressively change from saying “less than one minute ago” to saying “one minute ago”, “two minutes ago”, “forty-five minutes ago”, and the like as time progressed.

Ex. 1001, 7:59–64 (emphasis added). We understand this active time stamp to be different than the smart time stamp discussed above. *Compare id.* at 7:37–50, *with id.* at 7:59–64. And we are not persuaded that the term

“automatically” in the challenged claims is limited to just the active time stamp described in the ’149 patent. As discussed above, the ’149 patent describes the smart time stamp as “automatically” changing the displayed time information after a user manually resumes an instant messaging conversation from a previous day. *Id.* at 5:62–6:2, 7:37–50.

For the foregoing reasons, we adopt Patent Owner’s proposed construction of the term “automatically.” Specifically, we construe the term “automatically” to mean “not manually initiated.” We clarify, though, that in the context of the challenged claims, the term “automatically” only applies to the specific operations of changing and displaying time information, and that other prior operations can be manually initiated.⁸

2. *First Input*

Petitioner proposes construing the term “first input.” Pet. 11. Patent Owner responds that the term “first input” does not require express construction. PO Resp. 9. We determine that the term “first input” does not require express construction to resolve the parties’ disputes regarding the asserted grounds of unpatentability in this case. *See infra* Sections II.C–II.G; *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

C. *Obviousness of Claims 1, 5, 7, 9, 13, 15, and 17 over Graham*

Petitioner argues that claims 1, 5, 7, 9, 13, 15, and 17 would have been obvious over Graham. Pet. 2. A claim is unpatentable as obvious

⁸ Our clarification regarding the term “automatically” is only pertinent to our analysis of the asserted grounds of unpatentability that include Milton. *See infra* Section II.D.2.

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 the subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) any objective indicia of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We have considered the parties’ arguments and supporting evidence, and we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 5, 7, 9, 13, 15, and 17 would have been obvious over Graham.

1. *Overview of Graham*

Graham relates to “sending and receiving image messages between users of mobile devices.” Ex. 1005, 1:15–18. One aspect of Graham involves “tracking and indicating for a user of a wireless mobile device, image messages sent/received, and the amount of time since the image messages have been sent/received.” *Id.* at 2:20–23. For example, Graham teaches displaying an elapsed time or an absolute time to indicate the age of a message. *Id.* at Abstract, 9:1–4, 11:14–18, 12:54–58. Graham also teaches illuminating an input key with different colors to indicate the age of a message. *Id.* at Abstract, 2:24–31, 13:1–12.

2. *Claims 1, 9, and 17*

Claim 1 recites “[a] method of displaying an instant messaging conversation on a display of an electronic device, the method comprising: displaying a conversation of instant messages.” Ex. 1001, 8:48–51. Graham teaches a mobile device that displays a conversation of instant messages. Pet. 13–15; Ex. 1002 ¶ 40; Ex. 1005, 4:3–7, 7:4–8, 11:20–23, 14:17–24, 15:11–14, Fig. 13d.

Patent Owner responds that Graham does not teach displaying a conversation of instant messages. PO Resp. 18–28. Specifically, Patent Owner argues that Petitioner relies on Graham’s mixed media messaging embodiment to show a conversation of messages, but then relies on Graham’s SMS messaging to show instant messages. *Id.* at 19–20 (citing Pet. 13–15). Patent Owner further argues that Graham’s mixed media messaging embodiment uses email, not SMS messaging. PO Resp. 21–25 (citing Ex. 1005, Figs. 13a–13c; Ex. 2007 ¶¶ 56–57). And, according to Patent Owner, an email is not an instant message. PO Resp. 25–28 (citing Ex. 2007 ¶¶ 59–61).

Patent Owner’s arguments are not persuasive. Graham’s Figure 13d shows a conversation of mixed media messages. Ex. 1005, 15:11–14, Fig. 13d. Graham explains that a mixed media message is a message having textual and image contents, or, in a degenerate form, having only textual content or only image content. *Id.* at 14:17–22. Further, Graham teaches that SMS may be used to send and receive messages that have textual and image contents (i.e., mixed media messages). *Id.* at 11:20–23. For example, Graham states:

Any message protocol used by mobile devices may be used to send and receive an *image message*, e.g., SMS. Generally,

SMS enables short *text and data messages* to be sent and received by mobile devices over wireless networks.

Id. (emphases added). Thus, although Graham indicates that the mixed media messages in Figure 13d are sent and received using email, Graham also teaches that mixed media messages can be sent and received using SMS. *Id.* Patent Owner does not dispute that an SMS message is an instant message. PO Resp. 29 (“But Patent Owner does not argue that Graham’s SMS messages cannot satisfy the claimed ‘*instant messaging*.’”).

Claim 1 recites “displaying a first time information for an instant message in the conversation in response to a first input.” Ex. 1001, 8:52–53. Graham teaches displaying an elapsed time in response to a user sending or receiving a message. Pet. 16–19; Ex. 1002 ¶¶ 48–49; Ex. 1005, 9:1–2, 11:14–18, 12:54–58, Figs. 5, 6. Graham also teaches illuminating an input key with different colors to indicate the age of a message in response to a user receiving a message. Pet. 19–20; Ex. 1002 ¶ 61; Ex. 1005, 13:1–12, Fig. 9. Patent Owner does not dispute that Graham teaches the above limitation of claim 1.

Petitioner acknowledges that the embodiment in Graham that teaches displaying an instant messaging conversation is different than the embodiments in Graham that teach displaying time information. Pet. 21. Petitioner argues that a person of ordinary skill in the art would have had reason to combine the cited teachings from the different embodiments in Graham. *Id.* at 21–24. We agree with and adopt Petitioner’s reasoning. Specifically, a person of ordinary skill in the art would have recognized that displaying time information is useful and convenient for a user, and, thus, a person of ordinary skill in the art would have been motivated to incorporate Graham’s feature of displaying time information into Graham’s embodiment

that displays an instant messaging conversation. *Id.*; Ex. 1002 ¶¶ 52–57. Patent Owner does not dispute that a person of ordinary skill would have had reason to combine the embodiment in Graham that teaches displaying an instant messaging conversation with the embodiments in Graham that teach displaying time information.

Claim 1 recites “automatically changing the first time information for the instant message to a second time information as time progresses and displaying the second time information instead of the first time information.” Ex. 1001, 8:54–57. Graham teaches automatically changing first time information for an instant message to second time information as time progresses and displaying the second time information instead of the first time information. Pet. 24–27; Ex. 1002 ¶¶ 59, 61; Ex. 1005, Abstract, 2:20–31, 9:1–2, 11:14–18, 12:54–58, 13:1–12. Specifically, Graham teaches that a mobile device “compute[s] and display[s] the amount of elapsed time for the received image message,” so that the received image message “may be aged” via the time display. Ex. 1005, Abstract, 2:20–23, 9:1–2, 11:14–18, 12:54–58. Graham also teaches that an input key is illuminated with “different colors . . . to depict the advanced age of received image messages.” *Id.* at 2:24–31, 13:1–12.

With respect to Graham’s elapsed time display, Patent Owner responds that Graham does not teach automatically changing the elapsed time display as time progresses. PO Resp. 32–37. First, Patent Owner argues that “Petitioner points to no disclosure in Graham that ‘*automatically chang[es]*’ the relative timestamps ‘*as time progresses.*’” *Id.* at 32–33 (citing Pet. 24–25). Patent Owner’s argument is not persuasive. Graham teaches a time identifier “that identifies when the image message was sent,

thereby allowing the recipient mobile device to compute and display the amount of elapsed time for the received image message.” Ex. 1005, 11:14–18; *see also id.* at 9:1–2 (“Timer 510 indicates an amount of elapsed time when an image was last sent by the user to other users.”); Pet. 24–25 (citing Ex. 1005, 9:1–4, 11:14–18). Graham further teaches that the received image message “may be aged” via the time display. Ex. 1005, Abstract; *see also* Pet. 24–25 (citing Ex. 1005, Abstract). These portions of Graham, when read together, indicate that the mobile device automatically changes the elapsed time display as time progresses in order to show the age of the received image message. Ex. 1002 ¶ 59.

Second, Patent Owner argues that, in Graham, a user manually requests an update to the elapsed time display. PO Resp. 33 (citing Ex. 1005, 10:29–37). Patent Owner’s argument is not persuasive. The portion of Graham cited by Patent Owner states:

Although not shown, the invention provides for indicating an amount of elapsed time since the image message was sent (or alternatively the time the image message was sent) by another user to mobile device 501'. By activating enter button 520 in some sequence and/or in combination with the activation of the buttons included with keypad 503 and scroll-up button 521 and scroll-down button 522, the user can cause mobile device 501 to request and receive an update to any of the image messages received.

Ex. 1005, 10:29–37. The first sentence above mentions displaying an elapsed time for an image message, whereas the second sentence refers to requesting an update to the image message (not the elapsed time for the image message). *Id.*; Ex. 1018, 174:7–176:12. Graham explains that when a user requests an update to an image message, a server “automatically sends a reply to the user that includes the current image message” for another user

(or users). Ex. 1005, 13:17–46. Thus, Graham teaches that the mobile device automatically changes the elapsed time display for an image message, but the user can manually request an update to the image message itself. Ex. 1005, 10:29–37, 13:17–46; Ex. 1018, 174:7–176:12.

Third, Patent Owner argues that Petitioner relies on inherency to show the claimed automatic operation, but that “is flatly contradicted by Graham’s own disclos[ure] of **manually** updating and displaying the time information.” PO Resp. 33–34. Patent Owner’s argument is not persuasive. Petitioner does not rely on inherency to show the claimed automatic operation. As discussed above, Graham teaches that the mobile device automatically changes and displays the elapsed time as time progresses in order to show the age of the received image message. Ex. 1002 ¶ 59; Ex. 1005, Abstract, 9:1–2, 11:14–18. However, we note that, as an alternative, Petitioner asserts that even if the claimed automatic operation is not taught by Graham, a person of ordinary skill in the art reading Graham would have found it obvious to automatically change and display the elapsed time as time progresses. Pet. 25–26. We discuss Petitioner’s alternate theory of obviousness, as well as Patent Owner’s response, in detail below.

Fourth, Patent Owner argues that Graham’s Abstract does not explain “**how** anything is ‘aged via time and/or color displays,” and that the Abstract must “be read in the context of Graham as a whole.” PO Resp. 34–36 (citing Ex. 2007 ¶ 67). Patent Owner also argues that Graham’s teaching at column 11, lines 14–18 does not indicate “the circumstances or timing” for computing and displaying the elapsed time. PO Resp. 36 (citing Ex. 2007 ¶ 67). Patent Owner’s argument is not persuasive. Although Graham’s Abstract may not indicate exactly how the received image message is aged

via the time display, other portions of Graham indicate that the received image message is aged using an elapsed time that is computed by the mobile device based on a time identifier. Ex. 1005, 9:1–2, 11:14–18. Similarly, although Graham’s teaching at column 11, lines 14–18 may not indicate the exact timing for changing and displaying the elapsed time, Graham’s Abstract indicates that the mobile device changes and displays the elapsed time as time progresses in order to show the age of the received image message.⁹ *Id.* at Abstract. Thus, Graham’s teachings, when considered together, indicate that the mobile device automatically changes and displays the elapsed time as time progresses. Ex. 1002 ¶ 59.

Fifth, Patent Owner responds that the attempt by Petitioner’s declarant, Dr. Olsen, to rely on the portion of Graham that describes “tracking and indicating” time information for an image message is “not credible.” PO Resp. 40. Specifically, Patent Owner argues that Dr. Olsen testified that the “tracking and indicating” taught by Graham “would have been understood to mean continuously ‘tracking and indicating,’ like a ‘mouse.’” *Id.* at 40 (citing Ex. 2006, 224:14–227:5, 230:12–19). According to Patent Owner, Dr. Olsen improperly “relies on the context of cursors ‘tracking’ the position of a computer mouse to interpret the ‘tracking and

⁹ Patent Owner contends that Petitioner’s declarant, Dr. Olsen, gave conflicting testimony at his deposition regarding whether Graham’s Abstract indicates that the received image message is aged via the time display or the current information about the message is aged via the time display. PO Resp. 35 (citing Ex. 2006, 246:2–247:3, 249:4–250:16, 252:17–253:9). Patent Owner acknowledges, though, that the “ordinary meaning” of Graham’s Abstract indicates that the time display is used to “**show the age** of the received image message” (PO Resp. 35), which is consistent with how we interpret Graham’s Abstract in this Decision.

indicating' language of Graham.” PO Resp. 40–41 (citing Ex. 2006, 224:14–225:21). Patent Owner also argues that Graham teaches tracking and indicating time information for image messages that have been “**sent/received**,” but Dr. Olsen acknowledged that Figures 5, 6, and 13 of Graham do not show time information for *both* sent and received messages. PO Resp. 42 (citing Ex. 2006, 231:9–20, 233:23–234:5, 238:3–14).

Patent Owner's arguments are not persuasive. Graham teaches that its “invention is directed towards tracking and indicating for a user of a wireless mobile device, image messages sent/received, and the amount of time since the image messages have been sent/received.” Ex. 1005, 2:20–23. Although this portion of Graham is not critical to our determination, it further indicates that Graham's mobile device automatically changes and displays the elapsed time as time progresses. *Id.* Also, we are not persuaded that Dr. Olsen's deposition testimony is not credible. In response to a question by Patent Owner, Dr. Olsen explained how the terms “tracking” and “indicating” are intertwined by using an analogy to a cursor tracking and indicating the position of a computer mouse on a screen. Ex. 2006, 224:21–225:21. But he expressly clarified that he was interpreting Graham's teaching of “tracking and indicating” time information in the context of Graham's “user interface construct.” *Id.* at 226:13–227:5. Also, even if Petitioner is correct that certain of Graham's figures do not show time information for *both* sent and received messages, we see no problem with Dr. Olsen relying on a portion of Graham that expressly teaches tracking and indicating time information for *both* sent and received messages. Ex. 1005, 2:20–23.

As mentioned above, Petitioner alternatively asserts that even if Graham does not expressly teach automatically changing the elapsed time

display as time progresses, a person of ordinary skill in the art reading Graham would have found it obvious. Pet. 25–26. For the reasons discussed above, we determine that Graham expressly teaches automatically changing the elapsed time display as time progresses. Thus, Petitioner’s alternative rationale is not necessary to our determination. Nonetheless, we agree with and adopt Petitioner’s reasoning. Specifically, a person of ordinary skill in the art “would have realized that in order for elapsed time information to accurately reflect the time a message is sent/received, consistent with the purpose of the elapsed time information in *Graham*, it must be automatically updated and displayed as time progresses” or “the time information would have little to no utility.” *Id.*; Ex. 1002 ¶ 60.

Patent Owner responds that Petitioner’s declarant, Dr. Olsen, “repudiated” Petitioner’s obviousness rationale during his deposition. PO Resp. 43–44 (citing Ex. 2006, 197:6–200:19, 207:5–11, 211:19–24). Patent Owner’s argument is not persuasive. During his deposition, Dr. Olsen simply clarified that his declaration in IPR2017-00911 proposes the same modifications to the prior art as the petition in IPR2017-00911, and that his declaration was not intended to propose any further modifications. Ex. 2006, 197:6–200:19. Dr. Olsen did not repudiate Petitioner’s obviousness rationale regarding Graham in this case (or Petitioner’s obviousness rationales set forth in the petition in IPR2017-00911). *See id.* Further, as discussed above, Dr. Olsen explains that it would have been obvious to a person of ordinary skill to automatically change Graham’s elapsed time display as time progresses in order to accurately reflect the time a message was sent or received, consistent with the purpose of Graham’s elapsed time display. Ex. 1002 ¶ 60.

Patent Owner also responds that Petitioner does not identify a reference that discloses what is missing from Graham, but instead “attempt[s] to shield its obviousness challenge from scrutiny by relying solely on background knowledge.” PO Resp. 44–45. And, according to Patent Owner, the portions of Dr. Olsen’s declaration that Petitioner relies on to show that background knowledge lack sufficient evidentiary basis.¹⁰ *Id.* at 46–48. Patent Owner’s argument is not persuasive. Petitioner does not rely on background knowledge as a substitute for reasoned analysis regarding the claimed automatic operation. Rather, Petitioner relies on the reasoned analysis of its declarant, Dr. Olsen, to demonstrate what a person of ordinary skill in the art would have recognized when considering Graham’s specific teaching of an elapsed time display. Pet. 25–26; Ex. 1002 ¶ 60; *see In re Simon*, 461 F.2d 1387, 1390 (CCPA 1972) (“[T]he question in a section 103 case is not only what the references expressly teach, but what they would collectively suggest to one of ordinary skill in the art.”). Further, Dr. Olsen’s testimony is not conclusory. As discussed above, Dr. Olsen explains specifically that a person of ordinary skill in the art “would have realized that in order for elapsed time information to accurately reflect the time a message is sent/received, consistent with the purpose of the elapsed time information in *Graham*, it must be automatically updated and displayed as time progresses” or “the time information would have little to no utility.” Ex. 1002 ¶ 60.

With respect to the illuminated input key, Patent Owner responds that Graham does not teach automatically changing the displayed color of the

¹⁰ Patent Owner also takes issue with Petitioner’s reliance on Exhibit 1013. PO Resp. 45–46. However, we do not rely on Exhibit 1013 in this Decision.

illuminated key as time progresses. PO Resp. 37–40. First, Patent Owner argues that the portions of Graham cited by Petitioner do not describe when the illuminated input key changes color or what prompts the change. *Id.* at 37–39 (citing Ex. 1005, Abstract, 8:27–39, 13:1–12; Ex. 2006, 240:16–241:2, 243:16–244:10, 244:12–245:9; Ex. 2007 ¶¶ 65, 67). Patent Owner’s argument is not persuasive. Graham teaches the following:

In various embodiments where the sender users are associated with an illuminable input key of the mobile device, the process may also include illuminating the illuminable input key. Further, the illuminable input key may also be illuminated with a color, in particular, with different colors to denote the age of a received image message. For example, the color “green” may be employed to depict the image message received from the sender user is a recently received image message. The illuminable input key may subsequently be changed to other colors, such as “yellow” or “red” to depict the advanced age of received image messages.

Ex. 1005, 13:1–12. Graham further teaches that the received image message “may be aged” via the color display. *Id.* at Abstract. These portions of Graham, when read together, indicate that the mobile device automatically changes the displayed color of the illuminated input key as time progresses in order to show the age of the received image message.¹¹ Ex. 1002 ¶ 61.

Second, Patent Owner argues that Graham teaches that a user manually causes the illuminated input key to change colors. PO Resp. 39–40 (citing Ex. 1005, 8:27–39). Patent Owner’s argument is not persuasive.

¹¹ Patent Owner argues that Petitioner’s declarant, Dr. Olsen, addressed the teachings in column 13 of Graham by “deflect[ing] to the Abstract” during his deposition. PO Resp. 39 (citing Ex. 2006, 243:16–244:10). We see nothing wrong with Dr. Olsen considering the teachings of Graham as a whole, not just individually.

The portion of Graham cited by Patent Owner states that “[i]lluminator 450 may remain active for specific periods of time *or* in response to events.” Ex. 1005, 8:28–30 (emphasis added). Although this portion of Graham indicates that the illuminator may respond to events, it also states that the illuminator may remain active for a period of time, which is consistent with Graham’s teaching that the illuminator automatically changes colors as time progresses. *Id.* at 8:28–30, 13:1–12.

In addition, during prosecution of a related patent application before the European Patent Office (“EPO”), Patent Owner acknowledged that Graham discloses automatically changing and displaying time information as time progresses. Ex. 1022, 136–137. Specifically, Patent Owner stated:

The system of D1 furthermore provides for indicating on the receiving mobile device either (1) the time that has elapsed since a particular image message was sent to the receiving device, or (2) the actual time that a particular image message was sent to the receiving device. As noted in D1, the receiving mobile device is able to compute and/or display these times based upon the time identifier 1040 that is included in each image message that is received (paragraphs [0078] and [0086]). Furthermore, the “relative age”, (i.e. how long the message has been sitting on the receiving device), of each received message may be indicated on the receiving mobile device by illuminating each message with a particular colour, the colours being keyed to the time that has elapsed since each message was received. *The colours for each message may over time be changed to depict the advanced age of each received message. Of particular relevance here is the fact that in D1, this “relative age” information is output automatically, regardless of whether any further communications have taken place.*

Id. (emphasis added).¹² In other words, Patent Owner distinguished the pending claims before the EPO by stating that Graham teaches automatically changing the color of an illuminated input key over time to depict the advanced age of a received message. *Id.* Thus, Patent Owner’s statements before the EPO further support our determination above that Graham teaches automatically changing the displayed color of an illuminated input key as time progresses in order to show the age of a received image message. *Id.*

Patent Owner responds that the pending claims before the EPO were directed to a time stamp that is displayed only when a message is determined to be “non-responded-to” for a period of time, and that the pending claims did not include the term “automatically.” PO Sur-reply 1–3 (citing Ex. 1022, 135–138, 140). Thus, according to Patent Owner, “[t]he issue in the European proceeding . . . was **not** whether Graham automatically changes and updates time information (it does not), but whether Graham displays an initial time stamp for a messaging communication **only after** certain conditions had been met (it also does not).” PO Sur-reply 2. Patent Owner’s argument is not persuasive. As discussed above, Patent Owner distinguished the non-automatic nature of the pending claims before the EPO by stating that Graham teaches automatically changing and displaying time information as time progresses. Ex. 1022, 136–137. Thus, although the pending claims before the EPO were different than the challenged claims in this case, we find that Patent Owner’s statements to the EPO are further

¹² The reference known as D1 is U.S. Patent Application Publication No. 2003/0060240 to Graham. Ex. 1022, 136. Patent Owner acknowledged at the oral hearing that D1 includes the same relevant disclosure as the Graham reference in this case. Tr. 49:5–12.

evidence that Graham teaches automatically changing and displaying time information as time progresses.

Independent claims 9 and 17 recite limitations similar to those discussed above for claim 1. Ex. 1001, 9:9–22, 10:15–25. Other than the arguments discussed above for claim 1, Patent Owner does not raise any arguments specific to claims 9 and 17.

3. *Claims 5 and 13*

Claim 5 depends from claim 1, and recites “wherein at least one of the first time information and the second time information comprises a relative time.” *Id.* at 8:65–67. Claim 13 depends from claim 9, and recites a similar limitation. *Id.* at 10:4–6. Graham teaches displaying a relative time, including as an elapsed time display and as an illuminated input key. Pet. 27; Ex. 1002 ¶ 62; Ex. 1005, 9:1–2, 11:14–18, 12:54–58, 13:1–12. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that Graham teaches the limitation of claims 5 and 13.

4. *Claims 7 and 15*

Claim 7 depends from claim 1, and recites “wherein the first time information is displayed for only a predetermined duration of time.” Ex. 1001, 9:4–5. Claim 15 depends from claim 9, and recites a similar limitation. *Id.* at 10:10–12. Graham teaches automatically changing the elapsed time display and the displayed color of the illuminated input key as time progresses, and, thus, the first time information is displayed only for a predetermined duration of time. Pet. 27–28; Ex. 1002 ¶ 63; Ex. 1005, Abstract, 2:20–31, 9:1–2, 11:14–18, 12:54–58, 13:1–12. Alternatively, it would have been obvious to display the first time information only for a predetermined duration of time in order to ensure that the user is constantly

apprised of accurate time information. Pet. 28–29; Ex. 1002 ¶ 64. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that Graham teaches the limitation of claims 7 and 15.

5. *Summary*

For the reasons discussed above, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 5, 7, 9, 13, 15, and 17 would have been obvious over Graham.

D. *Obviousness of Claims 1, 5–7, 9, 13–15, and 17 over Graham and Milton*

Petitioner argues that claims 1, 5–7, 9, 13–15, and 17 would have been obvious over Graham and Milton. Pet. 2. We have considered the parties’ arguments and supporting evidence, and we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 5–7, 9, 13–15, and 17 would have been obvious over Graham and Milton.

1. *Overview of Milton*

Milton relates to “a message retrieval system which reports an associated time with each message retrieved by the subscriber from his mailbox.” Ex. 1006, 1:6–9. Milton explains that if a message was received less than 24 hours ago, the message retrieval system converts the associated time for that message into an elapsed time, namely, the number of hours and minutes since the message was received. *Id.* at 1:60–61, 3:54–4:1. On the other hand, if a message was received more than 24 hours ago, the message retrieval system converts the associated time for that message into an absolute time, namely, the month and day the message was received. *Id.* at 1:67–2:4, 4:9–13.

2. *Claims 1, 9, and 17*

Claim 1 recites “[a] method of displaying an instant messaging conversation on a display of an electronic device, the method comprising: displaying a conversation of instant messages.” Ex. 1001, 8:48–51. Graham teaches a mobile device that displays a conversation of instant messages. Pet. 13–15, 34–35; Ex. 1002 ¶ 40; Ex. 1005, 4:3–7, 7:4–8, 11:20–23, 14:17–24, 15:11–14, Fig. 13d. As discussed above, we are not persuaded by Patent Owner’s argument that Graham does not teach displaying a conversation of instant messages. *See supra* Section II.C.2.

Claim 1 recites “displaying a first time information for an instant message in the conversation in response to a first input.” Ex. 1001, 8:52–53. Graham teaches displaying an elapsed time in response to a user sending or receiving a message. Pet. 16–19, 34–35; Ex. 1005, 9:1–2, 11:14–18, 12:54–58, Figs. 5, 6. As discussed above, it would have been obvious to a person of ordinary skill in the art to combine the embodiment in Graham that teaches displaying an instant messaging conversation with the embodiments in Graham that teach displaying time information. *See supra* Section II.C.2. Patent Owner does not dispute that the combination of Graham and Milton teaches the above limitation of claim 1.

Claim 1 recites “automatically changing the first time information for the instant message to a second time information as time progresses and displaying the second time information instead of the first time information.” Ex. 1001, 8:54–57. Milton teaches automatically changing an elapsed time (i.e., the number of hours and minutes) for a message received less than 24 hours ago to an absolute time (i.e., the month and day) when the message

was received more than 24 hours ago. Pet. 36–37; Ex. 1006, 1:60–61, 1:67–2:4, 3:54–4:13.

Patent Owner responds that Petitioner does not rely on Milton for the above limitation of claim 1. PO Resp. 53 (citing Pet. 35). Patent Owner’s argument is not persuasive. Petitioner expressly asserts that it would have been obvious to modify Graham’s elapsed time display “such that the elapsed time information *displayed* . . . is *automatically changed* to an absolute time (e.g., a month and day) based on the age of the message, *such as disclosed in Milton*.” Pet. 36 (emphases added).

Patent Owner also responds that Milton does not teach automatically changing and displaying time information as time progresses. PO Resp. 58–62. First, Patent Owner argues that Milton “does not disclose ‘*displaying*’ anything—its only output is audio.” *Id.* at 59. As such, according to Patent Owner, “there is no time information to change—the previous report was an audio signal, and that audio signal is not ‘changed’ based on a new time report.” *Id.* at 61. Patent Owner’s argument is not persuasive because it addresses Milton individually, not the combination of Graham and Milton proposed by Petitioner. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981) (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”). As discussed above, Graham teaches *displaying* an elapsed time for a message in an instant messaging conversation (Ex. 1005, 9:1–2, 11:14–18, 12:54–58, Figs. 5, 6; *see supra* Section II.C.2), and Milton teaches automatically *changing* an elapsed time for a message to an absolute time when the message was received more than 24 hours ago (Ex. 1006, 1:60–61, 1:67–2:4, 3:54–4:13). As also discussed above, Petitioner asserts that it would have

been obvious to modify Graham’s elapsed time display to automatically change to an absolute time when a message was received more than 24 hours ago as taught by Milton. Pet. 36; Ex. 1002 ¶ 77.

Second, Patent Owner argues that “[t]he only scenario where Milton discloses ‘*changing*’ the 32-bit timestamp from its absolute value to a relative value is as part of the user’s manual message retrieval.” PO Resp. 59. According to Patent Owner, “a user manually invoking a ‘retrieval module’ is not the same as ‘*automatically changing the first time information . . . to a second time information as time progresses.*’” *Id.* (citing Ex. 2007 ¶¶ 86–87). Patent Owner’s argument is not persuasive. As discussed above, we clarify that the term “automatically” only applies to the specific operations of changing and displaying time information, and that other prior operations can be manually initiated. *See supra* Section II.B.1. Milton teaches that a user manually accesses the message retrieval system to retrieve a message (Ex. 1006, 3:48–54), but Milton does not teach that the user manually initiates changing an elapsed time to an absolute time. Rather, Milton teaches that the elapsed time automatically changes to an absolute time when a message was received more than 24 hours ago. *Id.* at 1:60–61, 1:67–2:4, 3:54–4:13.

Third, Patent Owner argues that “Milton discloses reporting a message’s time stamp exactly once, without delay when the user requests playback of their messages,” and, thus, “[t]here is no disclosure of this time stamp being played back again absent a subsequent, manually initiated request to playback the user’s messages.” PO Resp. 61 (citing Ex. 2006, 162:13–163:12, 165:22–166:22). Patent Owner’s argument again is not persuasive because it addresses Milton individually, not the combination of

Graham and Milton proposed by Petitioner. *See Keller*, 642 F.2d at 426 (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”). As discussed above, Petitioner asserts that it would have been obvious to modify Graham’s elapsed time display to automatically change to an absolute time when a message was received more than 24 hours ago as taught by Milton. Pet. 36; Ex. 1002 ¶ 77. Thus, in the combination of Graham and Milton, the displayed elapsed time (i.e., first time information) automatically changes to an absolute time (i.e., second time information) when the message was received more than 24 hours ago (i.e., as time progresses). Pet. 36; Ex. 1002 ¶ 77.

Independent claims 9 and 17 recite limitations similar to those discussed above for claim 1. Ex. 1001, 9:9–22, 10:15–25. Other than the arguments discussed above for claim 1, Patent Owner does not raise any arguments specific to claims 9 and 17.

3. *Claims 5 and 13*

Claim 5 depends from claim 1, and recites “wherein at least one of the first time information and the second time information comprises a relative time.” *Id.* at 8:65–67. Claim 13 depends from claim 9, and recites a similar limitation. *Id.* at 10:4–6. Graham teaches displaying a relative time as an elapsed time display. Pet. 27, 41; Ex. 1002 ¶ 87; Ex. 1005, 9:1–2, 11:14–18, 12:54–58. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Milton teaches the limitation of claims 5 and 13.

4. *Claims 6 and 14*

Claim 6 depends from claim 5, and recites “wherein the second time information comprises an absolute time after expiration of a predetermined duration of time.” Ex. 1001, 9:1–3. Claim 14 depends from claim 13, and recites a similar limitation. *Id.* at 10:7–9. In the combination of Graham and Milton, the displayed elapsed time (i.e., first time information) automatically changes to an absolute time (i.e., second time information) when a message was received more than 24 hours ago. Pet. 36, 41; Ex. 1002 ¶¶ 77, 88; Ex. 1005, 9:1–2, 11:14–18, 12:54–58, Figs. 5, 6; Ex. 1006, 1:60–61, 1:67–2:4, 3:54–4:13. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Milton teaches the limitation of claims 6 and 14.

5. *Claims 7 and 15*

Claim 7 depends from claim 1, and recites “wherein the first time information is displayed for only a predetermined duration of time.” Ex. 1001, 9:4–5. Claim 15 depends from claim 9, and recites a similar limitation. *Id.* at 10:10–12. In the combination of Graham and Milton, the elapsed time (i.e., first time information) is displayed only when a message was received less than 24 hours ago. Pet. 36, 41–42; Ex. 1002 ¶¶ 77, 89; Ex. 1005, 9:1–2, 11:14–18, 12:54–58, Figs. 5, 6; Ex. 1006, 1:60–61, 1:67–2:4, 3:54–4:13. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Milton teaches the limitation of claims 7 and 15.

6. *Reasons for Combining Graham and Milton*

Petitioner argues that a person of ordinary skill in the art would have had reason to combine the cited teachings of Graham and Milton. Pet. 35–

40 (citing Ex. 1002 ¶¶ 77–86). We agree with and adopt Petitioner’s reasoning. Specifically, Graham and Milton relate to the same field of endeavor as the ’149 patent, namely, message communications. Pet. 40; Ex. 1001, Abstract, 1:20–24; Ex. 1002 ¶ 85; Ex. 1005, 1:15–18, Ex. 1006, 1:6–9. Graham and Milton also are reasonably pertinent to the particular problem with which the inventors of ’149 patent are involved, namely, improving the indication of time information for message communications. Pet. 40; Ex. 1001, 7:37–50, 8:26–33; Ex. 1002 ¶ 85; Ex. 1005, 2:20–31; Ex. 1006, 1:51–2:4.

It would have been obvious to modify Graham so that the elapsed time display for a message automatically changes to an absolute time based on the age of the message as taught by Milton. Pet. 35–36; Ex. 1002 ¶ 77. Specifically, a person of ordinary skill in the art would have recognized that displaying time information for an instant message as either an elapsed time or an absolute time depending on the age of the message would have improved the usefulness and convenience of Graham’s time display. Pet. 36; Ex. 1002 ¶ 78–79; Ex. 1006, 1:21–26, 1:60–61. For example, Graham’s elapsed time display initially would have allowed a user to quickly determine a course of action because the user would not have to count back from the current time to determine how long ago a message was sent or received. Pet. 37; Ex. 1002 ¶ 80. However, as time progresses, displaying an absolute time instead would have made it easier for a user to determine when a message was sent or received. Pet. 37–38; Ex. 1002 ¶ 81.

Further, the combination of Graham and Milton would have been within the capabilities of a person of ordinary skill in the art. Pet. 38; Ex. 1002 ¶ 82. Graham teaches displaying an elapsed time or an absolute time

to indicate the age of an instant message. Pet. 38; Ex. 1005, 9:1–4, 10:29–32. Thus, a person of ordinary skill in the art would have recognized that Graham would only need to be modified to incorporate Milton’s teaching of automatically changing an elapsed time to an absolute time based on a predetermined time interval, such as a 24-hour time interval. Pet. 38; Ex. 1002 ¶ 83. That modification would have been straightforward for a person of ordinary skill in the art. Pet. 38–39; Ex. 1002 ¶ 83.

Patent Owner responds that Milton is not analogous art with respect to the ’149 patent. PO Resp. 53–58. First, Patent Owner argues that Milton is not from the same field of endeavor as the ’149 patent. *Id.* at 54–56. Specifically, Patent Owner contends that the field of endeavor for the ’149 patent is graphical user interfaces for mobile devices. *Id.* at 54–55 (citing Ex. 1001, 1:20–24, Figs. 4–10; Ex. 2006, 29:18–23; Ex. 2007 ¶ 89). According to Patent Owner, “Milton discloses a non-graphical voicemail system, with no discussion of electronic devices or mobile devices with displays at all.” PO Resp. 55 (citing Ex. 1006, 1:6–26).

Patent Owner’s argument is not persuasive. “The Supreme Court’s decision in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 . . . (2007), directs us to construe the scope of analogous art broadly.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010). As such, “[t]he field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field.” *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016). As Patent Owner points out, portions of the ’149 patent describe a “handheld electronic device.” Ex. 1001, 1:20–22, 2:16–17. But other portions of the specification, as well as the claims, describe an “electronic

device” more generally, and, thus, are not limited to a handheld or mobile device. *Id.* at 2:33–3:7, 8:48–57, 9:9–22, 10:15–25; Ex. 1018, 77:25–78:8; Tr. 53:20–54:1. Further, the ’149 patent broadly relates to “a method for providing information representative of the times of certain communications in a messaging environment.” Ex. 1001, 1:22–24; *see id.* at 2:17–20.

Milton similarly relates to “report[ing] an associated time with each message retrieved by the subscriber from his mailbox.” Ex. 1006, 1:6–9. As a result, we determine that Milton and the ’149 patent both are in the field of message communications.¹³ Ex. 1002 ¶ 85; *see Unwired Planet*, 841 F.3d at 1001 (“Here, both Galitz and the ’205 patent are in the field of interface design, with Galitz focusing on graphical user interfaces and the ’205 patent focusing on interfaces for location-based services.”).

Second, Patent Owner argues that Milton is not reasonably pertinent to the particular problem with which the inventors of the ’149 patent are involved. PO Resp. 56–58. Patent Owner contends that the particular problem that concerned the inventors of the ’149 patent was providing time information in a messaging environment using the limited space available on the display of a handheld electronic device. *Id.* at 56–57 (citing Ex. 1001, 1:65–2:5, 7:37–8:36; Ex. 2007 ¶ 91). Patent Owner alleges that Milton is not concerned “with the limited space available on the displays of handheld electronic devices,” but, rather, addresses “the problem of messages being

¹³ Patent Owner argues that Petitioner’s definition of the level of ordinary skill in the art limits the field of endeavor of the ’149 patent to graphical user interfaces. PO Resp. 55 (citing Pet. 6–7). Patent Owner, however, acknowledged at the oral hearing that Petitioner identifies graphical user interfaces only as an *example* of a field in which a person of ordinary skill in the art may have had experience. Tr. 55:3–7.

received in or from different time zones.” PO Resp. 57 (citing Ex. 1006, 1:12–61; Ex. 2007 ¶ 92).

Patent Owner’s argument is not persuasive. As Patent Owner points out, portions of the ’149 patent describe providing time information using the limited space available on the display of a “handheld electronic device.” Ex. 1001, 1:67–2:5. But, again, other portions of the specification, as well as the claims, describe an “electronic device” more generally, and, thus, are not limited to a handheld or mobile device. *Id.* 2:33–3:7, 8:48–57, 9:9–22, 10:15–25; Ex. 1018, 77:25–78:8; Tr. 53:20–54:1. Further, the ’149 patent states that the inventors are involved with providing “an improved method of providing an output” of time information that “provide[s] to the user an expedited understanding of the timing aspects of the message.” Ex. 1001, 2:33–3:7, 8:26–33. Milton similarly explains that “the value of the time associated and reported with each message retrieved by the subscriber will be diminished without the benefit of the present invention.” Ex. 1006, 3:9–12. As a result, we determine that Milton is reasonably pertinent to the particular problem with which the inventors of ’149 patent are involved, namely, improving the indication of time information for message communications. Ex. 1002 ¶ 85.

7. *Summary*

For the reasons discussed above, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 5–7, 9, 13–15, and 17 would have been obvious over Graham and Milton.

E. *Obviousness of Claims 1–5, 9–13, and 17 over Graham and Toshio*

Petitioner argues that claims 1–5, 9–13, and 17 would have been obvious over Graham and Toshio. Pet. 2. We have considered the parties’

arguments and supporting evidence, and we determine that Petitioner has shown by a preponderance of the evidence that claims 1–5, 9–13, and 17 would have been obvious over Graham and Toshio.

1. *Overview of Toshio*

Toshio relates to “a selective call receiver with a display function, wherein the selective call receiver with a display function displays the changes over time.” Ex. 1007, 229. More specifically, Toshio’s selective call receiver “is configured as follows: a time function is provided to determine whether the date has been updated; when the date has been updated, the fact that the day the message was received is not today is memorized and displayed along with the incoming message and the receipt time.” *Id.* at 230. Toshio explains that displaying the number of elapsed days along with the receipt time for an incoming message “prevent[s] a user from being confused even in the case of multiple incoming messages received over several days.” *Id.* at 231.

2. *Claims 1, 9, and 17*

Claim 1 recites “[a] method of displaying an instant messaging conversation on a display of an electronic device, the method comprising: displaying a conversation of instant messages.” Ex. 1001, 8:48–51. Graham teaches a mobile device that displays a conversation of instant messages. Pet. 13–15, 43; Ex. 1002 ¶ 40; Ex. 1005, 4:3–7, 7:4–8, 11:20–23, 14:17–24, 15:11–14, Fig. 13d. As discussed above, we are not persuaded by Patent Owner’s argument that Graham does not teach displaying a conversation of instant messages. *See supra* Section II.C.2.

Claim 1 recites “displaying a first time information for an instant message in the conversation in response to a first input.” Ex. 1001, 8:52–53.

Graham teaches displaying an absolute time in response to a user sending or receiving a message. Pet. 44–45; Ex. 1002 ¶¶ 97–98; Ex. 1005, 9:1–4, 10:29–32. As discussed above, it would have been obvious to a person of ordinary skill in the art to combine the embodiment in Graham that teaches displaying an instant messaging conversation with the embodiments in Graham that teach displaying time information. *See supra* Section II.C.2. Patent Owner does not dispute that the combination of Graham and Toshio teaches the above limitation of claim 1.

Claim 1 recites “automatically changing the first time information for the instant message to a second time information as time progresses and displaying the second time information instead of the first time information.” Ex. 1001, 8:54–57. Toshio teaches a call receiver that displays the time a message was received. Pet. 46; Ex. 1007, 229–231. Toshio also teaches that when the date changes, the call receiver automatically changes the receipt time for the message to indicate that it was received the previous day, such as by adding a simple mark. Pet. 46–47; Ex. 1007, 230 (“[W]hen the date has been updated, the fact that the day the message was received is not today is memorized and displayed along with the incoming message and the receipt time.”), 231 (“The display of the number of elapsed days of this incoming message does not need to be a complicated one; a simple mark may be used.”). In other words, Toshio teaches automatically changing the time information for a message from just the receipt time to a combination of the receipt time and the number of elapsed days. Pet. 46–47; Ex. 1002 ¶ 101; Ex. 1007, 230–231.

Patent Owner responds that Toshio does not teach automatically changing and displaying time information as time progresses. PO Resp. 48–

53. Specifically, Patent Owner argues that “[a]t best, Toshio’s call receiver automatically updates a variable stored in memory that represents ‘the number of days’ since a message was received, but the Petition provides no explanation for how it would ‘*automatically*’ display the changed information, as required by the claims.” *Id.* at 49 (citing Ex. 2007 ¶ 79). Patent Owner further argues that Toshio teaches a manual display function that “chang[es] the displayed information only ‘depending on’ or ‘according to’ whether the user needs to view her messages.” PO Resp. 49 (citing Ex. 1007, 231; Ex. 2007 ¶ 79).

Patent Owner’s argument is not persuasive because it addresses Toshio individually, not the combination of Graham and Toshio proposed by Petitioner. *See Keller*, 642 F.2d at 426 (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”). As discussed above, Graham teaches *displaying* an absolute time for a message in an instant messaging conversation (Ex. 1005, 9:1–4, 10:29–32), and Toshio teaches automatically *changing* a receipt time (i.e., an absolute time) for a message to a combination of the receipt time and the number of elapsed days (Ex. 1007, 230–231). Petitioner asserts that it would have been obvious to modify Graham’s absolute time display to automatically change to include an indication of the number of elapsed days based on the age of the message as taught by Toshio. Pet. 46–47; Ex. 1002 ¶¶ 100–101. Thus, even if Toshio only teaches automatically changing time information as time progresses, the combination of Graham and Toshio teaches automatically

changing *and* displaying time information as time progresses.¹⁴ Pet. 46–47; Ex. 1002 ¶¶ 100–101.

Independent claims 9 and 17 recite limitations similar to those discussed above for claim 1. Ex. 1001, 9:9–22, 10:15–25. Other than the arguments discussed above for claim 1, Patent Owner does not raise any arguments specific to claims 9 and 17.

3. *Claims 2 and 10*

Claim 2 depends from claim 1, and recites “wherein the first time information comprises an absolute time.” *Id.* at 8:58–59. Claim 10 depends from claim 9, and recites a similar limitation. *Id.* at 9:23–24. Graham teaches displaying an absolute time in response to a user sending or receiving a message. Pet. 44–45, 51–52; Ex. 1002 ¶¶ 97–98; Ex. 1005, 9:1–4, 10:29–32. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Toshio teaches the limitation of claims 2 and 10.

¹⁴ Moreover, although not necessary to our determination, we note that Toshio alone teaches automatically changing *and* displaying time information as time progresses. Specifically, even if a user manually retrieves a message (*see* PO Resp. 48–53), Toshio does not teach that the user manually initiates the specific operation of displaying time information for the message. Rather, Toshio teaches that “a time function is provided to determine whether the date has been updated; when the date has been updated, the fact that the day the message was received is not today is memorized and displayed along with the incoming message and the receipt time.” Ex. 1007, 230. In other words, when a user retrieves a message, Toshio’s call receiver automatically displays time information for the message. *Id.*; Ex. 1002 ¶ 101.

4. *Claims 3 and 11*

Claim 3 depends from claim 2, and recites “wherein the second time information further comprises additional information.” Ex. 1001, 8:60–61. Claim 11 depends from claim 10, and recites a similar limitation. *Id.* at 9:25–26. Toshio teaches that when the date changes, the call receiver automatically changes the receipt time for a message to indicate that it was received the previous day, such as by adding a simple mark. Pet. 46–47, 52; Ex. 1007, 230–231. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Toshio teaches the limitation of claims 3 and 11.

5. *Claims 4 and 12*

Claim 4 depends from claim 3, and recites “wherein the additional information comprises an indication of a day on which the instant message was sent.” Ex. 1001, 8:62–64. Claim 12 depends from claim 11, and recites a similar limitation. *Id.* at 10:1–3. Toshio teaches that when the date changes, the call receiver automatically changes the receipt time for a message to indicate that it was received the previous day, such as by adding a simple mark. Pet. 46–47, 52–53; Ex. 1007, 230–231. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Toshio teaches the limitation of claims 4 and 12.

6. *Claims 5 and 13*

Claim 5 depends from claim 1, and recites “wherein at least one of the first time information and the second time information comprises a relative time.” Ex. 1001, 8:65–67. Claim 13 depends from claim 9, and recites a similar limitation. *Id.* at 10:4–6. Toshio teaches that when the date changes,

the call receiver automatically changes the receipt time for a message to indicate that it was received the previous day (i.e., a relative time), such as by adding a simple mark. Pet. 46–47, 53; Ex. 1007, 230–231. Other than the arguments discussed above for claims 1 and 9, Patent Owner does not dispute that the combination of Graham and Toshio teaches the limitation of claims 5 and 13.

7. *Reasons for Combining Graham and Toshio*

Petitioner argues that a person of ordinary skill in the art would have had reason to combine the cited teachings of Graham and Toshio. Pet. 46–51 (citing Ex. 1002 ¶¶ 100–106). We agree with and adopt Petitioner’s reasoning. Specifically, Graham and Toshio relate to the same field of endeavor as the ’149 patent, namely, message communications. Pet. 50; Ex. 1001, Abstract, 1:20–24; Ex. 1002 ¶ 105; Ex. 1005, 1:15–18; Ex. 1007, 230 (“[T]he objective of the present invention is to provide a selective call receiver with a display function useful when displaying an incoming message on a day after the message was received.”). Graham and Toshio also are reasonably pertinent to the particular problem with which the inventors of ’149 patent are involved, namely, improving the indication of time information for message communications. Pet. 50–51; Ex. 1001, 7:37–50, 8:26–33; Ex. 1002 ¶ 105; Ex. 1005, 2:20–31; Ex. 1007, 230 (“[W]hen a message is read after several incoming calls are received over several days, [the message] is displayed in a state where it is impossible for a user to know which date the incoming call time belongs to.”).

It would have been obvious to modify Graham so that the absolute time display for an instant message automatically changes to include an indication of the number of elapsed days as taught by Toshio. Pet. 46–47;

Ex. 1002 ¶ 100. Specifically, a person of ordinary skill in the art would have recognized that including an indication of the number of elapsed days would have improved the usefulness and convenience of Graham's time display. Pet. 47–48; Ex. 1002 ¶¶ 101–102. For example, Graham's absolute time display initially would have allowed a user to determine when a message was sent or received. Pet. 48; Ex. 1002 ¶ 102. However, when the date changes, Graham's absolute time display (e.g., 4:00 PM) may not provide the user with sufficient temporal context. Pet. 48; Ex. 1002 ¶ 102; Ex. 1005, Fig. 5. Thus, a person of ordinary skill in the art would have recognized the benefit of adding an indication of the number of elapsed days for a message received on a previous day. Pet. 48; Ex. 1002 ¶ 102.

Further, the combination of Graham and Toshio would have been within the capabilities of a person of ordinary skill in the art. Pet. 48–49; Ex. 1002 ¶ 103. Graham teaches displaying an elapsed time or an absolute time to indicate the age of a message. Pet. 49; Ex. 1005, 9:1–4, 10:29–32. Thus, a person of ordinary skill in the art would have recognized that Graham would only need to be modified to incorporate Toshio's teaching of automatically changing an absolute time to include an indication of the number of elapsed days when the date changes. Pet. 49; Ex. 1002 ¶ 103. That modification would have been straightforward for a person of ordinary skill in the art. Pet. 49; Ex. 1002 ¶ 103.

8. *Summary*

For the reasons discussed above, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–5, 9–13, and 17 would have been obvious over Graham and Toshio.

F. *Obviousness of Claims 8 and 16 over Graham and MacPhail; Graham, Milton, and MacPhail; and Graham, Toshio, and MacPhail*

Petitioner argues that claims 8 and 16 would have been obvious over 1) Graham and MacPhail; 2) Graham, Milton, and MacPhail; and 3) Graham, Toshio, and MacPhail. Pet. 3. We have considered the parties' arguments and supporting evidence, and we determine that Petitioner has shown by a preponderance of the evidence that claims 8 and 16 would have been obvious over 1) Graham and MacPhail; 2) Graham, Milton, and MacPhail; and 3) Graham, Toshio, and MacPhail.

Claim 8 depends from claim 1, and recites "wherein the first input comprises detecting a pointing device in proximity to the instant message." Ex. 1001, 9:6–8, Certificate of Correction. Claim 16 depends from claim 9, and recites a similar limitation. *Id.* at 10:12–14. MacPhail teaches displaying a time stamp when a user positions a pointer over an object. Pet. 55; Ex. 1009, 9:66–10:11. Further, a person of ordinary skill in the art would have had reason to combine the cited teachings of MacPhail with Graham alone (or in combination with Milton or Toshio) because hiding a time stamp until requested by the user would have avoided "unnecessarily cluttering screen space" on Graham's mobile device. Pet. 55–56; Ex. 1002 ¶¶ 117–118. Patent Owner does not raise any specific arguments relating to claims 8 and 16. We determine that Petitioner has shown by a preponderance of the evidence that claims 8 and 16 would have been obvious over 1) Graham and MacPhail; 2) Graham, Milton, and MacPhail; and 3) Graham, Toshio, and MacPhail.

G. *Asserted Grounds Including Deshpande*

Petitioner argues that it would have been obvious to combine certain teachings from Deshpande with each of the asserted grounds of unpatentability discussed above. Pet. 3, 60. Specifically, Petitioner argues that Deshpande is “presented in the event it is argued or found that the SMS messages described by *Graham* do not disclose the claim terms ‘instant messaging,’ ‘instant messages,’ and ‘instant message,’ as recited in the claims of the ’149 patent.” *Id.* at 60. Deshpande teaches sending and receiving non-SMS instant messages. *Id.* at 61; Ex. 1008 ¶¶ 8, 28–29, 39. Further, a person of ordinary skill in the art would have had reason to combine the cited teachings of Deshpande with *Graham* alone (or in combination with any of the references discussed above) because non-SMS instant messaging would have allowed a user to know when other users are connected. Pet. 61–62; Ex. 1002 ¶ 130; Ex. 1008 ¶¶ 6–7.

Patent Owner responds that Petitioner’s reliance on Deshpande is insufficient for two reasons. PO Resp. 28–31. First, Patent Owner argues that because *Graham*’s mixed media messages are sent and received by email rather than SMS, Petitioner’s proposal to substitute *Graham*’s SMS messages with Deshpande’s non-SMS messages is “the wrong analysis.” *Id.* at 29–30. Patent Owner’s argument is not persuasive. As discussed above, *Graham* teaches that mixed media messages can be sent and received using SMS. *See supra* Section II.C.2. Moreover, Petitioner’s rationale for modifying *Graham* to use non-SMS messages is not based on whether *Graham*’s mixed media messages are exchanged by email or SMS. Pet. 61–62. For example, as discussed above, Petitioner explains that it would have been obvious to use non-SMS messages with *Graham* because non-SMS

messages would have provided the benefit of allowing a user to know when other users are connected. *Id.*; Ex. 1002 ¶ 130; Ex. 1008 ¶¶ 6–7.

Second, Patent Owner argues that “Petitioner’s motivations to modify Graham to use Deshpande’s messaging scheme are inapplicable.” PO Resp. 30 (citing Ex. 2007 ¶¶ 71–73). In particular, Patent Owner argues that “Petitioner’s only other purported motivation to combine—allowing ‘for presence awareness’—is not a feature that it alleges it would be obvious to add to Graham.” PO Resp. 30 (citing Pet. 61–62). According to Patent Owner, “[a]t no point does Petitioner propose adding presence awareness to Graham, explain how that would operate, or discuss ‘presence awareness’ as an integral part of instant messaging.” PO Resp. 31 (citing Ex. 2007 ¶ 72). Patent Owner’s argument is not persuasive. Petitioner identifies presence awareness as a benefit of non-SMS messages that would have motivated a person of ordinary skill in the art to use non-SMS messages with Graham.¹⁵ Pet. 61–62; Ex. 1002 ¶ 130; Ex. 1008 ¶¶ 6–7. We are not persuaded that Petitioner must separately propose adding presence awareness to Graham or demonstrate that presence awareness was an integral part of instant messaging. *See KSR*, 550 U.S. at 417–18 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

For the reasons discussed above, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–17 would have

¹⁵ Deshpande teaches that non-SMS instant messaging services include a presence awareness feature, whereas SMS instant messaging services and email services do not include a presence awareness feature. Ex. 1008 ¶ 7.

been obvious over the asserted grounds of unpatentability that include Deshpande.

III. CONCLUSION

Petitioner has shown by a preponderance of the evidence that claims 1–17 of the '149 patent are unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–17 of the '149 patent are shown unpatentable; and

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

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