

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.¹,
Petitioner,

v.

WRINKL, INC.,
Patent Owner.

IPR2021-00882
Patent 9,860,198 B1

Before NEIL T. POWELL, PATRICK M. BOUCHER, and
JULIET MITCHELL DIRBA, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

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

Denying-in-Part and Dismissing-in-Part Patent Owner's Motion to Strike
37 C.F.R. § 42.5

¹ Since filing its Petition, Petitioner changed its name from Facebook, Inc. to Meta Platforms, Inc. Paper 7, 1.

I. INTRODUCTION

A. BACKGROUND

Meta Platforms, Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–23 of U.S. Patent No. 9,860,198 B1 (Ex. 1001, “the ’198 patent”). Paper 2 (“Pet.”). Wrinkl, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of claims 1–23 of the ’198 patent on all presented challenges. Paper 9 (“Institution Decision” or “Inst. Dec.”).

After institution, Patent Owner filed a Response (Paper 16, “PO Resp.”), to which Petitioner filed a Reply (Paper 26 “Pet. Reply”), and Patent Owner thereafter filed a Sur-reply (Paper 30, “PO Sur-reply”).

Additionally, pursuant to our authorization (Ex. 3002), Patent Owner filed a Motion to Strike. Paper 34 (“Motion” or “Mot.”). Petitioner filed an Opposition to Petitioner’s Motion to Strike. Paper 35 (“Opposition” or “Opp.”).

A consolidated oral hearing for this proceeding and IPR2021-00883 was held on September 20, 2022. Paper 41 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–23 are unpatentable.

B. RELATED PROCEEDINGS

The parties note that the ’198 patent is involved in *Wrinkl, Inc. v. Facebook, Inc. et al.*, Case No. 1:20-cv-01345-RGA (D. Del. Oct. 2, 2020). Pet. 2; Paper 4, 1. Patent Owner also notes that a related patent is challenged in IPR2021-00883. Paper 4, 1. In IPR2021-00883, U.S. Patent

No. 10,728,192 B2 (“the ’192 patent”) is challenged. IPR2021-00883, Paper 2, 1; IPR2021-00883, Ex. 1001. The ’192 patent claims priority to the patent application from which the ’198 patent issued. IPR2021-00883, Ex. 1001, code (63).

C. THE ’198 PATENT

The ’198 patent relates to management of computer messaging. Ex. 1001, 1:11–12. A computer messaging “conversation” between multiple users can involve many messages exchanged over the course of “hours, days, or even years.” *Id.* at 1:34–38. “[T]he chat message session may simulate a real-life conversation.” *Id.* at 3:51–52. Over the course of a session, the topic may have changed many times. *Id.* at 3:3–12. “This makes it difficult for a user to post a response to a previous message that is within context of the ongoing message conversation.” *Id.* at 3:12–14.

Accordingly, when sending a new message, a user may include information clarifying which earlier message the user is addressing. *Id.* at 3:61–4:5. For example, the new message may include a copy of the earlier message, the author of the earlier message, the date and/or the time of the earlier message, or something else unique about the earlier message. *Id.* The ’198 patent describes this approach as problematic, noting limited message space and possible omission of important information. *Id.* at 4:5–12.

The ’198 patent’s “invention relates . . . in particular to the ability of one message to reference another message.” *Id.* at 2:34–36. The ’198 patent elaborates that

[b]y “reference” what is meant is that there is a connection between the second message and the first message. The connection may be for example a link. With such a link, while

the second message is being viewed, some aspect of the first message may also be viewed. The aspect of the first message may be, for example, all of the first message, part of the first message, a modified form of all or part of the first message, and/or data associated with the first message. Exemplary associated data may include a user (or some form of identification of the user) associated with the first message, a date and/or time associated with the first message, Gucci and/or some other data associated with the first message.

Id. at 4:17–29.

The '198 patent discloses an example using a “reference object” and a “display object” to allow a second message to reference a first message. *Id.*

at 4:30–63. The '198 patent discloses one embodiment in connection with Figures 8A–8D. Figure 8B is reproduced below.

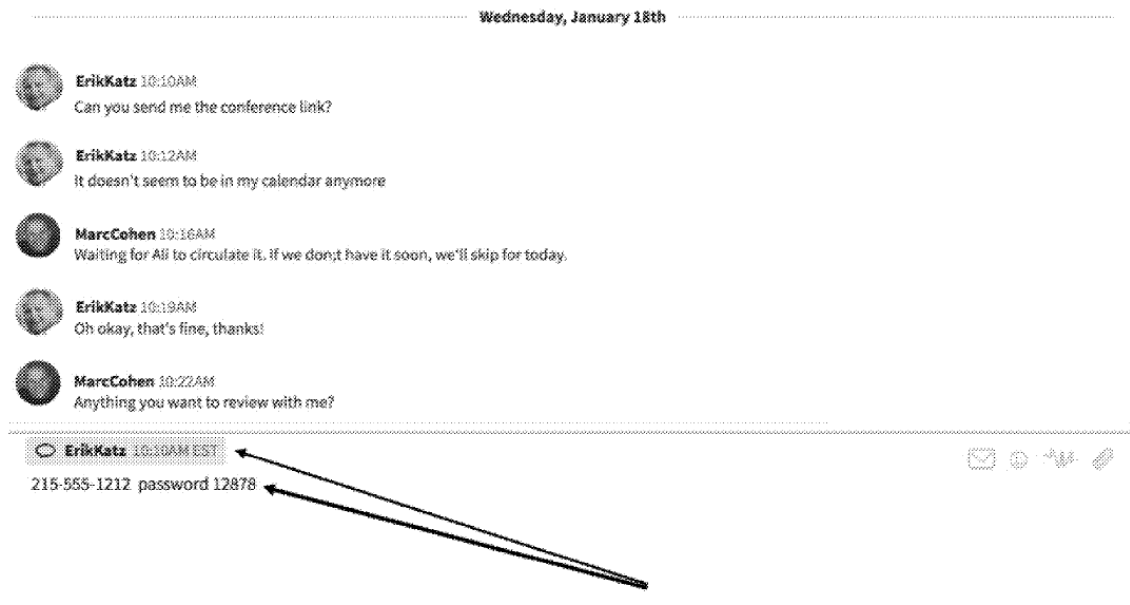


Figure 8B

Figure 8B is a screenshot of a computer-messaging conversation between ErikKatz and MarcCohen, showing multiple messages they have exchanged. *Id.* at 2:1–3, 10:19–35, 11:13–14.

At the stage shown in Figure 8B, the two users have exchanged a series of messages. *Id.* at 10:22–35, 11:13–14. ErikKatz asked “[c]an you send me the conference link?” in the first message of the conversation. *Id.* at 10:30–32. MarcCohen wishes to respond to this first message. *Id.* at 10:29–31. Given that four intervening messages have been sent, a question arises: how MarcCohen can respond to the first message without confusion? *Id.* at 10:35–37. Copying the first message into a response may undesirably “entail multiple steps including highlighting, selecting, copying, selecting and pasting.” *Id.* at 10:37–44.

The '198 patent discloses an alternative approach. Specifically, when a user makes a selection in connection with the first message, a reference

object is inserted automatically into the message system's text entry bar. *Id.* at 4:45–48. In the example of Figure 8B, selecting the object “10:10 AM” within the first message triggers insertion of the reference object “ErikKatz 10:10 AM EST” into the text entry box. *Id.* at 10:59–61, 11:13–17. “The reference object may provide a link to automatically identify and access data from the first message.” *Id.* at 4:48–50. The user may add text before or after the reference object in the text entry bar. *Id.* at 4:50–51, 11:42–44.

After the user has triggered insertion of the reference object and finished adding text, the user may send the message. *Id.* at 11:51–54. An example appears in Figure 8C, which is reproduced below.

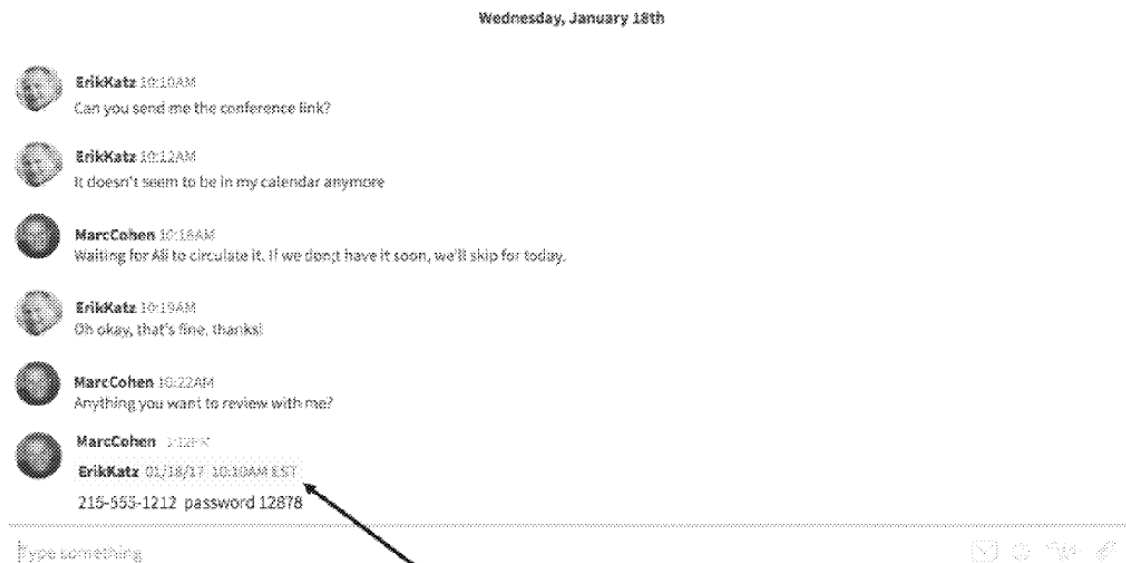


Figure 8C

Figure 8C shows the conversation after MarcCohen has transmitted his reply to ErikKatz's message. *Id.* at 11:51–56.

“When the message is sent, a display object associated with the first message is included in the newly posted second message.” *Id.* at 4:51–53. In Figure 8C, for example, “the reference object has been replaced with a display object” in MarcCohen's reply message at the end of the conversation. *Id.* at 11:55–58. The “‘display object’ . . . references the first message.” *Id.* at 4:33–35.

The display object may be activated. *Id.* at 4:64–65. “For example, by hovering over and/or selecting the display object, text data (or other data or portions thereof) associated with the referenced first message may be displayed (e.g., above, to the side of, below) with respect to the newly posted message.” *Id.* at 4:65–5:2. The reader gets useful context by seeing the referenced message. *Id.* at 5:2–5. An example appears in Figure 8D, which is reproduced below.

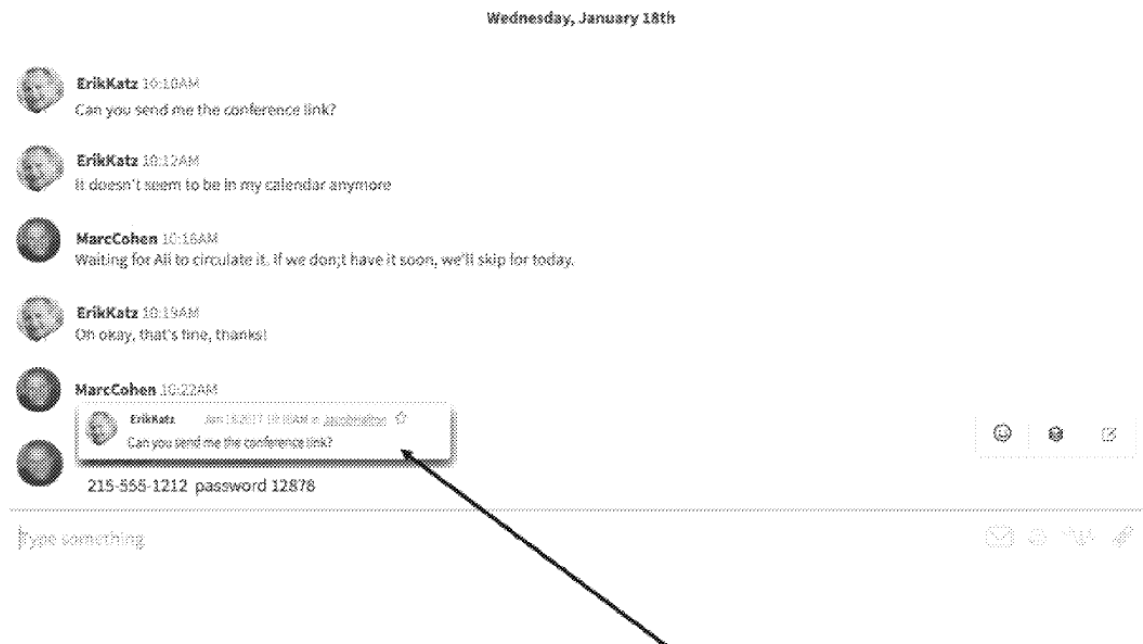


Figure 8D

Figure 8D shows that “[b]y selecting the display object, the 1st message (or portion thereof, or data associated therewith) may appear on the screen.”

Id. at 12:3–5.

In another example, “a user can ‘jump’ to the original referenced message (and thus locate and change a display to the original placement of a message within a stream of messages).” *Id.* at 16:2–5. “In some cases, the user may click on hypertext or another object and that object will launch an action such as a jump to the original message (e.g., the message being referenced).” *Id.* at 16:9–12.

According to the ’198 patent, “computer processing efficiency is improved through the use of links and without simply duplicating previously inputted data. Efficiency is also improved by enabling access to at least a portion of previously available data without a need to manually locate the previously available data.” *Id.* at 4:58–63.

D. ILLUSTRATIVE CLAIM

Of the challenged claims, claims 1 and 10 are independent. Each of claims 2–9 and 11–23 depends, directly or indirectly, from one of claims 1 and 10. Claim 1 is illustrative and is reproduced below with certain reformatting:²

1. [1[pre]] A method for referencing a message, said method comprising the steps of:

[1[a]] receiving selection, from a display, of said message by selecting an area or object displayed on said display and associated with said message, wherein at least a portion of said message is displayed during said selection;

² We have added the same numbers used by the Petition to identify each of claim 1’s limitations.

- [1[b]] allowing a further message to be formed with a link to said message, wherein said message was displayed prior to said further message being formed;
- [1[c]] wherein said selection causes said link to be included automatically in said further message and is performed by a single step, which is the selection itself;
- [1[d]] wherein said link is associated with said further message, and wherein said link is included in said further message responsive to said selection of the area or object; and
- [1[e]] changing display of information associated with said message a) responsive to selection of a displayed further area or portion associated with said further message; and b) based on said link;
- [1[f]] wherein said message and said further message are transmitted at respectively different times.

Ex. 1001, 19:15–39.

E. ASSERTED GROUNDS OF UNPATENTABILITY

Petitioner challenges the patentability of claims 1–23 of the '198 patent on the following grounds (Pet. 4):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–23	103 ³	Ji ⁴ , Sarafa ⁵

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the '198 patent issued was filed after that date, with no benefit claim prior to that date, the AIA version of § 103 applies.

⁴ Ji et al., Chinese Patent Application Publication No. CN 105553834 A, published May 4, 2016 (Ex. 1005 (original publication), Ex. 1006 (certified English translation), “Ji”).

⁵ Sarafa et al., Published U.S. Patent Application No. 2018/0159812 A1, published June 7, 2018 (Ex. 1007, “Sarafa”).

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
7, 16, 23	103	Ji, Sarafa, Oh ⁶

In support of Petitioner’s challenges, the Petition relies on a first Declaration of Andrew Cockburn, Ph.D. Ex. 1003. Patent Owner relies on a Declaration of Kevin C. Almeroth, Ph.D. Ex. 2004. In connection with its Reply, Petitioner relies on a second Declaration of Dr. Cockburn. Ex. 1018.

II. PATENT OWNER’S MOTION TO STRIKE

In the Motion to Strike,

Patent Owner moves to strike two theories improperly raised for the first time in Petitioner’s Reply: (1) The argument in subsection 2 on pages 8-9 (and the cited paragraphs from Dr. Cockburn’s supplemental declaration in support) and (2) the argument in the first full paragraph on page 18 (and the cited paragraphs from Dr. Cockburn’s supplemental declaration in support).

Mot. 1. Petitioner opposes. Opp. 1.

A. SUB-SECTION 2 ON PAGES 8–9 OF REPLY

This portion of Petitioner’s Reply argues “Ji in view of Sarafa teaches” the “link” recited in the challenged claims. Reply 8–9 (citing Ex. 1018 ¶¶ 27–28). These arguments improperly deviate from the Petition’s arguments addressing the claimed “link,” Patent Owner contends. Mot. 2–5. Patent Owner asserts that “[t]he Petition mapped the ‘link’ limitation onto copied message content, and arguably onto Sarafa’s ‘touch screen control’ at the location of the displayed quoted message as well.” *Id.* at 4. Then, according to Patent Owner, its Response explained that (1) the ordinary meaning of “link” does not read on “the quoted ‘content’ in the

⁶ Oh et al., Published U.S. Patent Application No. 2014/0143684 A1, published May 22, 2014 (Ex. 1008, “Oh”).

transmitted message of Ji and Sarafa,” and (2) “the ‘touch screen control of Sarafa cannot be the **claimed** link because it is not transmitted from the quoting device to the receiving device.” *Id.* at 2.

Patent Owner contends that Petitioner’s Reply turns to a wholly new theory that the message transmitted between devices is a “link” because it “redirects the display.” *Id.* Patent Owner argues that, contrary to the Reply’s indication, the Petition did not assert that the quoted message can redirect the display. *Id.* at 2–3.

Patent Owner also objects that

[t]he Reply further asserts that Sarafa discloses “‘one or more controls’ **implemented in part** by a ‘quoted message identifier’” and also asserts that the identifier is used to locate messages. Reply, 8. This too is a brand new argument. Petitioner tacitly concedes that this theory is new by failing to include any citation to the Petition, no matter how tenuous.

Id. at 3. Patent Owner elaborates that “the phrase ‘quoted message identifier’ **is not found in the Petition** and is not discussed anywhere in its supporting expert declaration at Exhibit 1003.” *Id.* Additionally, Patent Owner argues that Sarafa does not support Petitioner’s argument. *Id.* at 4.

Patent Owner contends that the arguments in sub-section 2 on pages 8–9 of the Reply do not respond to either Patent Owner’s Response or our Institution Decision. *Id.* at 4–5. Asserting that “the Reply attempts to argue that the theory is presented in the Petition,” Patent Owner reiterates that “[i]t is not.” *Id.* at 4. Also, noting that “the Reply suggests that the new theory is triggered by Patent Owner’s proposed claim construction,” Patent Owner argues that “[t]his is incorrect too.” *Id.* Patent Owner explains that it “is relying on the plain and ordinary meaning of ‘link,’ and which is exemplified by the quintessential ‘hyperlink,’ as taught by the ’198 Patent.

There is no surprise here—mere ‘content’ is not a ‘link.’ Indeed, the Petition acknowledges that links must form ‘a connection’ between messages.” *Id.*

At the hearing, Patent Owner also asserted that it would suffer undue prejudice if we do not grant its Motion to Strike. Tr. 113:24–114:3. In particular, addressing Petitioner’s position on Sarafa’s quoted message identifier, Patent Owner argued that

we don’t have an opportunity to have Dr. Almeroth respond because they did not raise it in their petition. So again, I’ll always come back to, sounds like there’s certainly undue prejudice to patent owner in that we have no way to give an expert response to this extremely brand new argument that was not raised in the petition.

Id.

In the Opposition, Petitioner contends that the arguments in its Reply properly responded to Patent Owner’s proposed claim construction of “link.” Opp. 2–3. Petitioner explains that the Reply first disputed Patent Owner’s claim construction, then argued that the cited prior art meets even Patent Owner’s proposed construction. *Id.* at 2. Asserting that “[Patent Owner] now argues that Petitioner should have anticipated its flawed construction of ‘link’ and preemptively addressed it in the Petition,” Petitioner disputes Patent Owner’s assertion that Patent Owner “is relying on the plain and ordinary meaning of ‘link.’” *Id.* Additionally, Petitioner argues that the proposed claim construction of “link” in Patent Owner’s Response changed from the proposed claim construction of “link” in Patent Owner’s Preliminary Response. *Id.* at 2–3.

Petitioner also argues that its arguments in the Reply regarding Sarafa’s “quoted message identifier” properly elaborate on arguments in the

Petition. *Id.* at 3–4. Petitioner argues that “[t]he Petition identified Sarafa’s reply message with a quoted portion as disclosing a ‘link.’” *Id.* at 3 (citing Pet. 38–41). Petitioner adds that

[a]s explained in the Reply, Sarafa’s quoted message identifier is part of the quoted message portion ***of that same reply message***. Reply 8-9. Thus, the Reply presents no change to the asserted combination, or even the components of that combination. It merely presents additional detail in response to PO’s proposed construction of “link.”

Id. at 4.

We do not agree with Patent Owner that the arguments in sub-section 2 on pages 8–9 of Petitioner’s Reply are improper new arguments. Rather, we find these arguments properly elaborate on the Petition, in response to the proposed construction of “link” in Patent Owner’s Response. Although we agree with Patent Owner that the Petition does not include the phrase “quoted message identifier,” Sarafa explains that the quoted message cited in the Petition and the “quoted message identifier” are part of the same message package. *E.g.*, Ex. 1007 ¶ 83. Patent Owner contends that Petitioner’s citation of the quoted message in the Petition and then the quoted message identifier in the Reply is like

if I have a patent to some kind of car and someone points to a Porsche and says, look, the Porsche has an engine, and then we argue about an engine, and then they come back and say, well, we’re referring to the turbo charger in the engine in their reply, even though they never mention turbo charger, and said that’s the key, it’s like, well, we weren’t on notice of that.

Tr. 71:2–9. We find this unpersuasive. Patent Owner does not explain why a reply that cites a subcomponent of an item cited in the petition would necessarily go beyond properly elaborating on the arguments in the petition.

Also, we find unpersuasive Patent Owner’s suggestion that Petitioner should have anticipated Patent Owner’s proposed claim construction and addressed it in the Petition. Mot. 4. We do not find it readily apparent that “data that points to a resource” constitutes the “plain and ordinary meaning” of “link” in the context of the ’198 patent, as Patent Owner argues. *Id.*; *cf.* Ex. 1001, 4:17–29 (addressing the scope of “link” and “reference” in general terms). Indeed, Patent Owner itself suggests that its proposed construction of “link” applies to a particular type of link, specifically a “hyperlink,” but the parties agree that the ’198 patent does not limit the claimed “link” to a “hyperlink.” PO Resp. 11; Pet. Reply 7; *see also* Ex. 2004 ¶ 71; Ex. 1018 ¶ 16.

Additionally, we disagree with Patent Owner’s suggestion that it will suffer unfair prejudice unless we grant its Motion to Strike. As noted above, Patent Owner argues that Dr. Almeroth did not have a chance to address the subject matter discussed in sub-section 2 on pages 8–9 of Petitioner’s Reply, especially Petitioner’s arguments and Dr. Cockburn’s testimony about Sarafa’s quoted message identifier. Tr. 113:5–114:3. But Dr. Almeroth’s Declaration did address Sarafa’s quoted message identifier. Ex. 2004 ¶¶ 106–108.

Discussing related matter IPR2021-00883, Dr. Almeroth observed that our institution decision in IPR2021-00883 discussed Sarafa’s quoted message identifier.⁷ Ex. 2004 ¶ 106. Dr. Almeroth then testified that “Sarafa’s discussion of the ‘quoted message identifier’ is insufficient to understand what it is and how it would relate to the challenged claims here.”

⁷ The Institution Decision in this proceeding also discussed Sarafa’s quoted message identifier. Inst. Dec. 24–26.

Id. Additionally, according to Dr. Almeroth, this testimony “is applicable to the term ‘link’ in the ’198 patent (because link is a species of reference).”

Id. ¶ 223. Given Dr. Almeroth’s testimony that he cannot discern from Sarafa’s discussion “what [the quoted message identifier] is and how it would related to the challenged claims,” we find unpersuasive Patent Owner’s argument that it will suffer undue prejudice because Dr. Almeroth did not have another opportunity to testify.⁸ Ex. 2004 ¶ 106.

In sum, Patent Owner does not persuade us that the facts of this proceeding warrant striking sub-section 2 on pages 8–9 of Petitioner’s Reply.

B. FIRST FULL PARAGRAPH ON PAGE 18 OF REPLY

Our analysis of the parties’ patentability dispute does not rely on the first full paragraph on page 18 of Petitioner’s Reply. Accordingly, we dismiss as moot Patent Owner’s motion to strike this portion of Petitioner’s Reply.

⁸ Moreover, to the extent Patent Owner believed additional testimony from Dr. Almeroth would have helped, Patent Owner could have asked to file such testimony. “Expert testimony may be submitted with the petition, preliminary response, and at other appropriate stages in a proceeding as ordered or allowed by the panel overseeing the trial.” Patent Trial and Appeal Board Consolidated Trial Practice Guide, 34 (Nov. 2019), *available at* <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>. “Where a party believes it has a basis to request relief on a ground not identified in the rules, the party should contact the Board and arrange for a conference call with the Board and opposing party to discuss the requested relief with the judge handling the proceeding.” *Id.* at 75. Instead of asking to file additional testimony from Dr. Almeroth, Patent Owner only asked to file its Motion to Strike, and only after it had already filed its Sur-reply. Ex. 3002.

III. ANALYSIS

A. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner contends that

[a] person of ordinary skill in the art (“POSA”) at the relevant time (early 2017) would have had a bachelor’s degree in computer science or information systems and at least two years’ industry experience in designing and/or implementing user interfaces, or equivalent education and experience. Cockburn Decl. ¶ 31. Alternatively, a skilled artisan could substitute directly relevant work experience with a higher level of education, e.g., an advanced degree such as a master’s of computer science. *Id.*

Pet. 12–13.

Patent Owner contends that

[a] person of ordinary skill in the art (a “skilled artisan”) would have been a person with a bachelor’s degree in information systems, electrical engineering, computer engineering, or computer science, as well as two or more years of relevant industry experience, which would include experience in communications systems and graphical user interfaces. More academic experience would compensate for less industry experience and more industry experience would compensate for less academic experience.

PO Resp. 23–24 (citing Ex. 2004 ¶¶ 55–57). Patent Owner adds that “[t]he level of skill proposed by Petitioner and proposed here appear similar, but not identical. Patent Owner does not believe the analysis provided by either party turns on which level of skill the Board ultimately adopts.” *Id.* at 24.

We find Petitioner’s proposed definition reasonable and consistent with the prior art before us. *See In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (determining that the Board of Patent Appeals and Interferences did not err in concluding that the level of ordinary skill in the art was best determined by the references of record). Accordingly, we apply the level of

skill identified by Petitioner. Additionally, we agree with Patent Owner that the level of skill it identifies differs very little from Petitioner's proposed level of skill, and our analysis below would be the same under either party's identified level of skill.

B. CLAIM INTERPRETATION

We apply the same claim construction standard used in district courts, namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.100(b) (2020). In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). “[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (applying *Vivid Techs.* in the context of an *inter partes* review).

Much of the parties' patentability dispute involves the meaning of the term “link,” as recited in independent claims 1 and 10. When discussing the meaning of “link,” both parties rely on the '198 patent's disclosure that “[b]y ‘reference’ what is meant is that there is a connection between the second

message and the first message. The connection may be for example a link.” Ex. 1001, 4:17–19; Pet. 13–14; PO Resp. 10; Pet. Reply 3. Based on this statement, the parties agree that a “link” is one type of a “reference.” *E.g.*, Pet. 13–14; PO Resp. 10; Pet. Reply 3. The parties also agree that the claimed link provides a “connection” between messages. *E.g.*, PO Resp. 10; Pet. Reply 3. Additionally, the parties agree that a “hyperlink” (i.e., “hypertext link”) is an example of the claimed “link,” but the claimed “link” is not limited to a “hyperlink.” PO Resp. 11; Pet. Reply 7. Otherwise, the parties disagree considerably on the correct construction of the claimed “link.” For the reasons discussed below, resolving the parties’ patentability dispute only requires addressing certain aspects of Patent Owner’s arguments regarding the construction of “link.”

Patent Owner contends that “[a] link in the context of the ’198 patent is data that points to a resource. And therefore, a link to a message is data that points to a message.” PO Resp. 10. Patent Owner elaborates that the claimed “link” must “fulfill[] its linking function of providing a connection to a message by pointing to that message. A device would use the link to locate the message to which the link points.” *Id.* at 11. During the hearing, Patent Owner used an example to shed some light on its understanding of what it means to “point to” something (or someone). Tr. 111:25–112:8. Patent Owner argued that a name does not “point to” something (or someone), but an address does “point to” something (or someone). *Id.*

In order to resolve the parties’ patentability dispute, we only need to resolve whether the correct construction of “link” requires using an address specifically (rather than data generally) to “point to” a message. We find the record lacks persuasive support for such a construction. Looking to the ’198

patent itself first, neither the claims nor the Specification says anything about “point[ing] to” a message or another resource. *See generally* Ex. 1001. The ’198 patent mentions “address” only once, and that passage refers to a person’s address, not a message’s address. *Id.* at 12:29–33. Additionally, Patent Owner does not cite any other intrinsic evidence, such as the prosecution history of the ’198 patent, supporting a construction of “link” requiring a message’s address. *See, e.g.*, PO Resp. 10–12; PO Sur-reply 2–7.

Turning to the extrinsic evidence, Patent Owner relies on Dr. Almeroth’s testimony about the term “link.” PO Resp. 10–12 (citing Ex. 2004 ¶¶ 67–73, 75). Dr. Almeroth testifies that “[a] skilled artisan would have understood the term ‘link’ in the context of the patents (messaging systems operating across computer networks) means ‘data that points to a resource’ and therefore ‘link to said message’ means ‘data that points to said message.’” Ex. 2004 ¶ 68. Dr. Almeroth also testifies that

[a] skilled artisan would understand that “hypertext link” or “hyperlink” is typically associated with visible text and associated underlying metadata that a user may select, where the metadata underlying the visible text is used by software (such as a web browser) to point the browser to the data identified in the link.

Id. ¶ 70.

Dr. Almeroth does not explain what it means for a “link” to “point to” a resource, and he fails to explain why an ordinary artisan would understand the claimed “link” to require a message address. Dr. Almeroth testifies about hyperlinks, but as Patent Owner acknowledges, the claimed “link” is not limited to a hyperlink. Pet. Reply 7. Thus, even if all hyperlinks include an address, it does not follow that the claimed “link” necessarily does. We

recognize that Patent Owner and Dr. Almeroth indicate that the only difference between the claimed “link” and a hyperlink is the claimed “link” does not necessarily need to be “viewable or clickable” like a hyperlink. PO Resp. 11; Ex. 2004 ¶ 71. But Dr. Almeroth does not provide persuasive, objective support for this position, and neither does Patent Owner. PO Resp. 11; Ex. 2004 ¶ 71.

In sum, to the extent the “link” recited in the claims means “data that points to a resource” or “data that points to a message,” as Patent Owner contends, we conclude that the claim language does not necessarily require the resource’s or message’s address.

C. GROUND 1 – ALLEGED OBVIOUSNESS OVER JI AND SARAFA

1. *Overview of Ji*

Ji’s “invention relates to the real-time communication field, specifically, a message transmission method and device.” Ex. 1006 ¶ 1. According to Ji, “[m]essage overload’ has become a first element impacting the life and death of social network.” *Id.* ¶ 2. Noting that “information is abundant,” Ji explains that “[u]sers are unable to quickly locate the conversation messages, which require their attention, from the ‘overloaded messages’, which increases the costs of reading messages for user.” *Id.*

Ji discloses a method and device “to resolve the technical issue of the huge cost of message acquisition in related technologies.” *Id.* ¶ 4. Ji discusses an embodiment in connection with Figure 2, which is reproduced below.

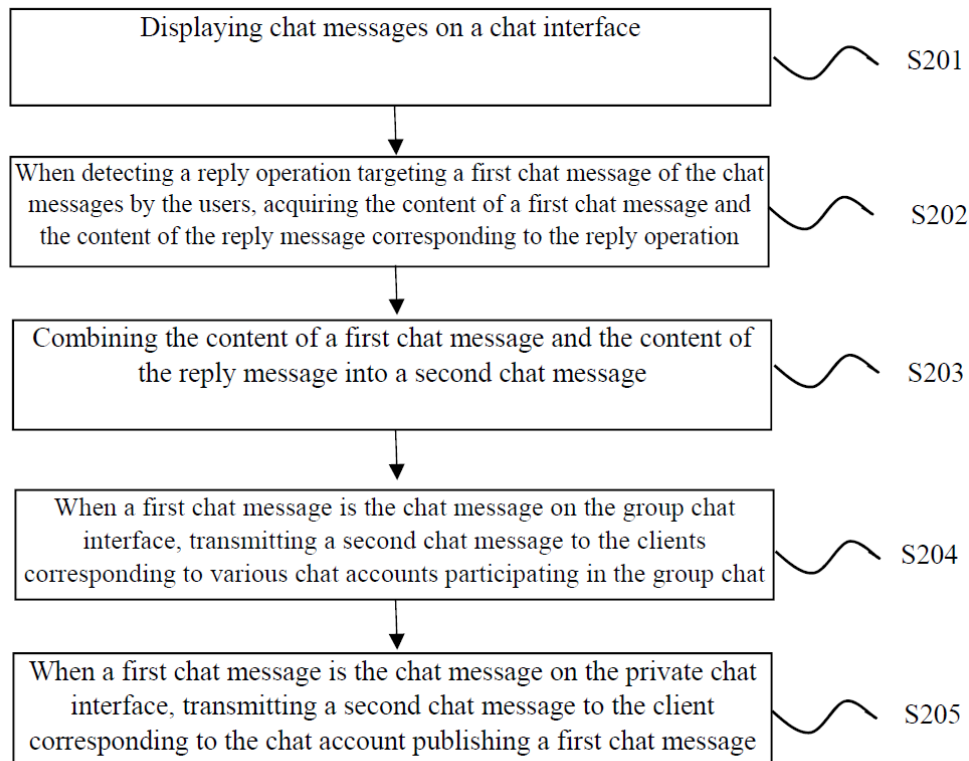


Figure 2

According to Ji, “Figure 2 is a flow chart of the message transmission method according to a first embodiment of the present invention.” *Id.* ¶ 10.

This method begins with “[s]tep S201, displaying chat messages on a chat interface.” *Id.* ¶ 40. The chat interface may be a private chat interface “with two participating chat accounts.” *Id.* ¶ 41. Alternatively, the chat interface may be a group chat interface “with at least three participating chat accounts.” *Id.*

After step S201, the method proceeds to step S202, which involves, “when detecting a reply operation targeting a first chat message of the chat messages by the users, acquiring the content of a first chat message and the

content of the reply message corresponding to the reply operation.” *Id.* ¶ 43.

Ji elaborates that

[o]ptionally, the reply operation of a first chat message comprises confirming a first chat message from a plurality of chat messages by a first client; the user locates a first chat message and then clicks the screen location corresponding to a first chat message. A first client receives a first touch signal generated by the clicking on the screen location corresponding to a first chat message by the user. After a first client receives a first touch signal generated by the clicking of the screen location corresponding to a first chat message by the user, a first client pops up a message operation bar. The message operation bar may display a plurality of operations on a first chat message, for example, displaying the “reply” operation. The “reply” operation is used to execute the operation to reply to a first chat message, and the “reply” operation pops up a message input dialog box, wherein the message input dialog box displays “reply + reply message”; the user directly inputs the content of the reply message in the message input dialog box to reply to a first chat message. Optionally, the reply operation of a first chat message comprises the following: after a first client receives a first touch signal generated from the screen location corresponding to a first chat message, a first client directly pops up a message input dialog box to then reply to a first chat message and thus acquires the content of a first chat message and the content of the reply message corresponding to the reply operation.

Id. ¶ 44.

Ji further discusses a client receiving a touch signal in connection with Figure 10, which is reproduced below.

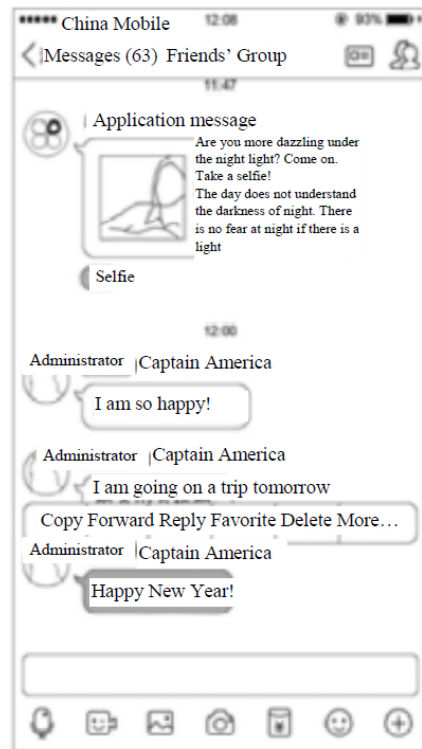


Figure 10

Ji explains that “Figure 10 is a screenshot of a first touch signal of a first chat message received by a first client according to an embodiment of the present invention.” *Id.* ¶ 95.

In Figure 10, the “first client displays the application messages, wherein there are a plurality of messages published by a first account ‘Captain America’, including ‘I am so happy!’, ‘I am going on a trip tomorrow’, and ‘Happy New Year.’” *Id.* Ji explains that

“‘I am going on a trip tomorrow’ is confirmed to be a first chat message. The user terminal may execute the touch operation on the terminal screen corresponding to a first chat message of ‘I am going on a trip tomorrow. A first client receives a first touch signal via the “reply” menu. A first client displays the message

operation bar of a first chat message. The message operation bar is to display the menu of operations to be executed on a first chat message. The menu in the message operation bar comprises options, such as “copy”, “forward”, “reply”, “favorite”, “delete”, and “more”, for a first chat message; wherein, the “reply” option is selected; a second account may reply to a first chat message of “I am going on a trip tomorrow.”

Id.

Referring back to Figure 2, after step S202, the method proceeds to step S203, which involves “combining the content of a first chat message and the content of the reply message into a second chat message.” *Id.* ¶ 46. Ji explains that “after a first client receives a first touch signal of a first chat message, the user inputs the reply message.” *Id.* ¶ 47. Ji elaborates that “[a]fter receiving the reply message corresponding to a first touch signal, a first client combines the content of a first chat message and the content of the reply message into a second chat message.” *Id.*

Ji further discusses a client acquiring a reply message in connection with Figure 11, which is reproduced below.

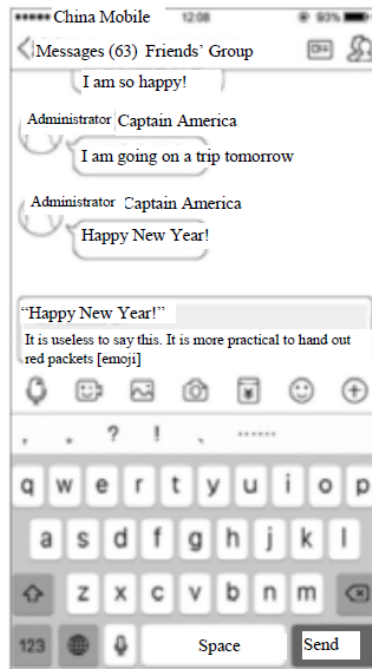


Figure 11

Ji states that “Figure 11 is a screenshot of a first reply message corresponding to a first touch signal acquired by a first client according to a first embodiment of the present invention.” *Id.* ¶ 96. Ji elaborates that

[a]s shown in Figure 11, a first client acquires a first reply message corresponding to a first touch signal. A first client displays the message receipt interface; wherein, the message receipt interface is to display the interface of the content of received messages and may comprise a keyboard to manually input messages and a message acquisition box; a first client receives a first reply message on the message receipt interface; for example, a first client replies via a second account “It is useless to say this. It is more practical to hand out red packets/emoji.”

Id.

Referring back to Figure 2, after step S203, the method involves step S204 or step S205. If the chat is on a group chat interface, the method

executes step S204. *Id.* ¶ 48. In step S204, “after the content of a first chat message and the content of the reply message are combined into a second chat message, . . . a second chat message is transmitted to the clients corresponding to various chat accounts participating in the group chat.” *Id.* ¶ 49.

If the chat is on a private chat interface, step S205 is executed. *Id.* ¶ 53. In step S205, “after the content of a first chat message and the content of the reply message are combined into a second chat message, . . . a second chat message is only transmitted to the client corresponding to a first chat message.” *Id.* ¶ 54.

Ji shows a reply message in Figure 12, which is reproduced below.

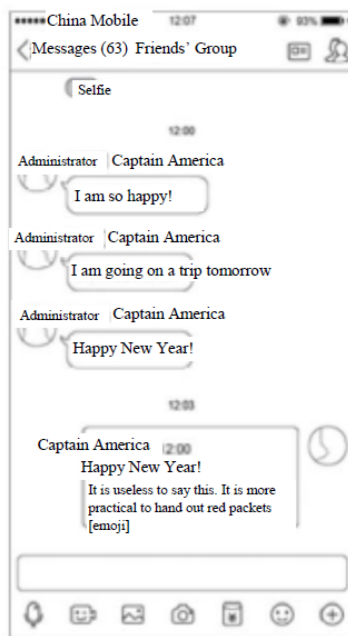


Figure 12

Ji explains that “Figure 12 is a screenshot of a first reply message corresponding to a first touch signal acquired by a first client according to a second embodiment of the present invention.” *Id.* ¶ 97. Ji elaborates that

[a]s shown in Figure 12, after a first client acquires a first reply message corresponding to a first touch signal, a first client

displays a first chat message “Happy New Year” and a first reply message “It is useless to say this. It is more practical to hand out red packets.”

Id.

Ji also addresses receipt of transmitted reply messages in connection with Figure 8, which is reproduced below.

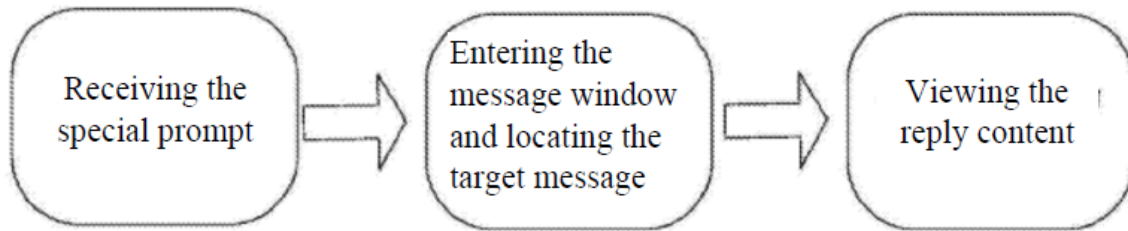


Figure 8

Ji explains that “Figure 8 is a process diagram of the message receipt according to an embodiment of the present invention.” *Id.* ¶ 92.

Ji elaborates that

[a]s shown in Figure 8, in the message group, if there is a reply message to the sent message, a special prompt can be received on the preset message interface; for example, a small red circle is displayed in the message group with a reply message; alternatively, vibration or ring or any combination of the means above may be used to prompt that there is a reply message to the messages sent by users. The user clicks the message group and enters another preset message interface, i.e., a message window; to make it convenient for the user to read and understand, the target message, i.e., a first chat message, is located in the message window; in the message group with a plurality of chat message, pages of a plurality of chat messages are scrolled up to the page of a first chat message; information, such as the portrait of the message replier, is displayed at the top right corner of the interface, as the trigger logo. After clicking the trigger logo, the user enters the preset message interface of the message prompt and is able to view all historic chat messages transmitted by the accounts of a second chat message and a first chat message.

Id.

2. *Overview of Sarafa*

Sarafa discloses that users posting to a message thread may incorrectly assume that the context of their messages will be understood by other users. Ex. 1007 ¶¶ 18–19. Accordingly, Sarafa notes, “a participant may add context to their message by quoting another message to which they are replying. This quote appears as part of the participant’s message and thereby communicates the context of the message.” *Id.* ¶ 19.

Sarafa elaborates that a sending client device may include the quoted message with the quoting message. *Id.* ¶ 22. In instances

[w]here a receiving client device for a quoting message has a local store of the quoted message it may incorporate that local store into its display of the quoted message. It may use the copy retrieved from the local store to retrieve the text, images, and/or other content of the message for display. It may also, where it has a local store of the quoted message, include a control in the display of the quoted message that, if selected, redirects the display of the message thread to the portion of the message thread history containing the quoted message.

Id. ¶ 23. This may “provid[e] additional context to users whose client device have the relevant messaging history, improving the user experience of quoted messages for [the messaging system’s] users.” *Id.*

Sarafa discusses an example in connection with Figure 3, which is reproduced below.

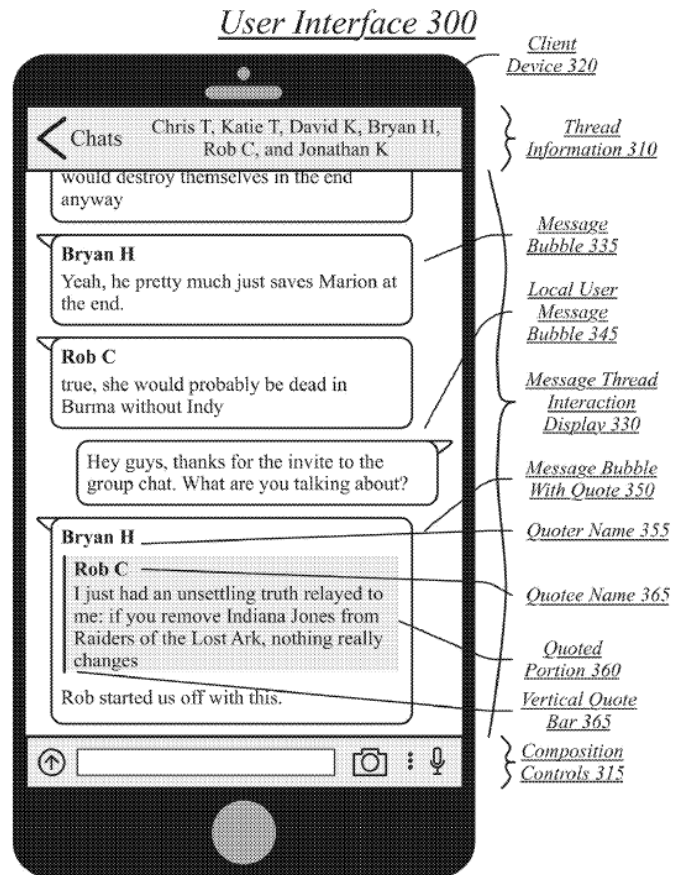


FIG. 3

Figure 3 “illustrates an embodiment of a user interface including messaging flow visualization.” *Id.* ¶ 65.

Specifically, Figure 3 shows user interface 300 with message thread interaction display 330. *Id.* ¶ 66. Message thread interaction display 330 may include one or more messages between users of the message thread. *Id.* “Each of the one or more messages may be represented by a particular message bubble, such as message bubble 335.” *Id.* ¶ 69. “A message that quotes another message may be presented as a message bubble with quote 350.” *Id.* ¶ 70. Message bubble with quote 350 includes quoter name 355, quoted portion 360, and quotee name 365. *Id.* Quoter name 355

identifies the user that is quoting an earlier message. *Id.* Quotee name 365 identifies the user whose earlier message is being quoted. *Id.*

Quoted portion 360 shows at least a portion of the earlier message that is being quoted. *Id.* Additionally,

[i]n some embodiments, at least some portion of the quoted portion 360 may comprise a control empowering redirection of the message thread interaction display 330 to the portion of the history of the message thread that corresponds to the original reception of the quoted message. For instance, the entirety of the quoted portion 360 may be a touch-screen control which, if selected, scrolls the message thread interaction display 330 upwards until the quoted message is visible on the client device 320.

Id. ¶ 72.

Sarafa discusses details of one device sending a first message to another device in connection with Figure 4, which is reproduced below.

Messaging Flow Visualization System 100

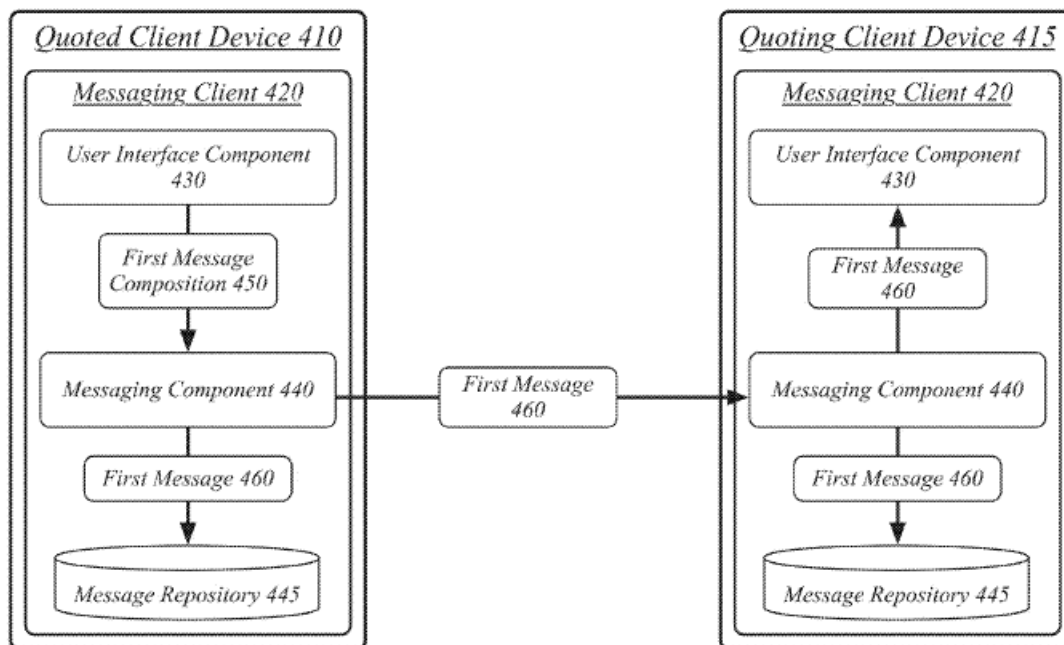


FIG. 4

Figure 4 shows a message transmission between quoted client device 410 and quoting client device 415. *Id.* ¶ 73.

Each of quoted client device 410 and quoting client device 420 includes messaging client 420, which has user interface component 430, messaging component 440, and message repository 445. *Id.* ¶¶ 75–77. User interface component 430 may present information to a user, as well as receive user commands. *Id.* ¶ 76. Messaging component 440 may exchange communications with messaging servers. *Id.* ¶ 75. Message repository 445 may store messages. *Id.* ¶ 77.

Using quoted client device 410's user interface component 430, a user produces first message composition 450. *Id.* ¶ 77. “[F]irst message composition 450 comprises text, media, and/or any other messaging content. The first message composition 450 is passed to the messaging component 440 and embodied in a first message 460.” *Id.* Quoted client device 410's message repository 445 stores first message 460. *Id.* Quoted client device 410's messaging component 440 transmits first message 460 to quoting client device 415. *Id.*

Quoting client device 415's messaging component 440 receives first message 460. *Id.* ¶ 78. Then,

[t]he first message 460 is stored in the message repository 445 local to the quoting client device 415 and is provided to the user interface component 430 for display to the user of the quoting client device 415. The user of the quoting client device 415 may then selected the first message 460 for quoting in a message composition by that user.

Id.

In connection with Figure 5, Sarafa discusses details of a user composing and sending a quoting message. Figure 5 is reproduced below.

Messaging Flow Visualization System 100

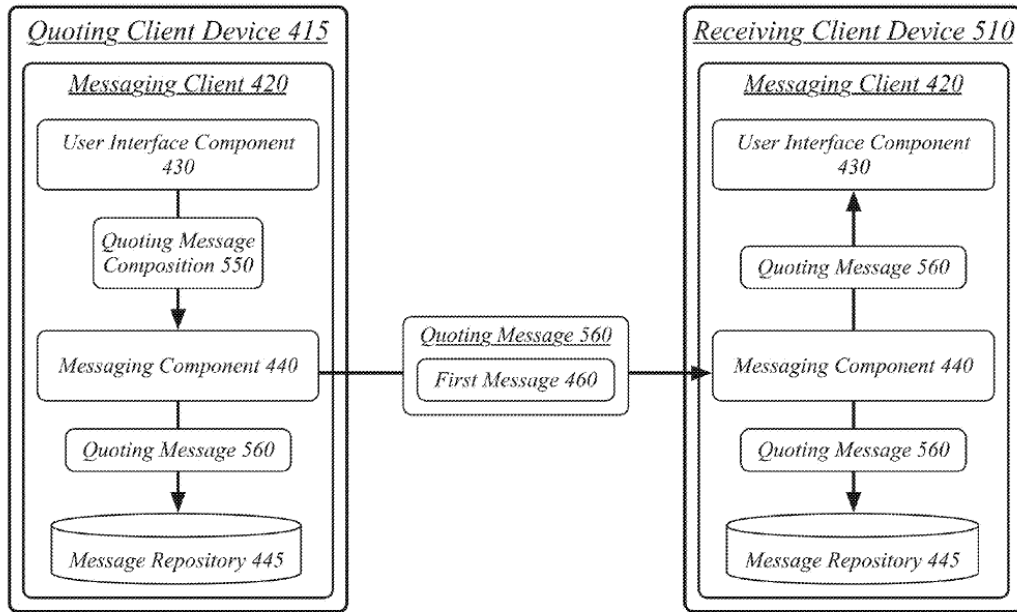


FIG. 5

Figure 5 shows a message transmission between quoting client device 415 and receiving client device 510. *Id.* ¶ 79. “In some cases, the receiving client device 510 may correspond to the quoted client device 410. In other cases, the receiving client device 510 may be a distinct client device from the quoted client device 410.” *Id.* ¶ 80.

Using quoting client device 415, a user produces quoting message composition 550. *Id.* ¶ 81. Quoting message composition 550 includes a quote of first message 460, along with “text, media, and/or other message content.” *Id.* “The quoting message composition 550 is passed to the messaging component 440 and embodied in a quoting message 560. The quoting message 560 encapsulates the first message 460 within it as a quote.” *Id.* Quoting client device 415’s message repository 445 stores quoting message 560. *Id.*

Additionally, quoting client device 415’s messaging component 440 transmits quoting message 560 to receiving client device 510. *Id.* Receiving

client device 510's messaging component 440 receives quoting message 560 as a message package. *Id.* ¶¶ 82–83. “The message package comprises a primary message portion and a quoted message portion. The quoted message portion corresponds to a recursive encoding of a message package format for the message package and includes a quoted message identifier identifying the quoted message.” *Id.* ¶ 83. Receiving client device 510's message repository 445 stores quoting message 560. *Id.* Also, quoting message 560 is supplied to user interface component 430 for display. *Id.*

In connection with Figure 6, Sarafa discloses further details of operations associated with quoting message 560. Figure 6 is reproduced below.

Messaging Flow Visualization System 100

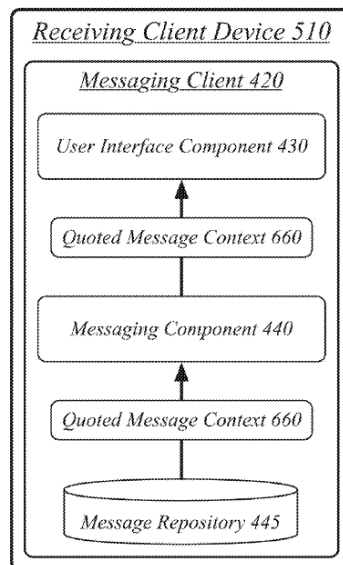


FIG. 6

Figure 6 shows “an embodiment of a receiving client 510 device retrieving quoted message 660 for a quoting message 560.” *Id.* ¶ 89.

Sarafa discloses that

[m]aking available the context of a quoted message may benefit a user in understanding a quoted message by providing

messages that were displayed before and/or after the quoted message so as to play the quoted message in context. As such, the display of a quoted message within a quoting message may include one or more controls that empower the user to shift a display of a message thread to the context of the quoted message.

Id. ¶ 90. Sarafa elaborates that

[t]he user interface component 430 may receive a quoted message selection in association with a display of the quoted message in a message thread interface for a message thread. For instance, the screen area of the display of the quoted message may comprise a touch-screen control that, when touched, generates a quoted message selection instructing the user interface component 430 to display the context of the quoted message. The user interface component 430 then, in response to the quoted message selection, redirects the message thread interface to an initial display of the quoted message in the message thread.

Id. ¶ 91.

User interface component 430 may do so in situations “where the quoted message store corresponding to the quoted message identifier is present on the receiving client device 510, as otherwise the quoted message context 660 is not available for display.” *Id.* ¶ 92. If quoted message context 660 is present, user interface component 430 acquires it from message repository 445, which may be executed via messaging component 440. *Id.*

3. *Discussion*

a) *The Petition*

In the Petition, Petitioner argues that, like the '198 patent, the cited prior art recognizes and addresses challenges of communicating clearly and efficiently within computer-messaging conversations. Pet. 8–11, 15–19. Petitioner contends that, “[l]ike the '198 patent, Ji’s solution is directed to

improving the efficiency of users in locating and reading messages.”

Id. at 17. Petitioner also asserts that, “[l]ike the ’198 patent, Sarafa discloses providing additional functionality associated with a quoted message by changing display of information associated with the quoted message.”

Id. at 18.

Petitioner further contends that the cited prior art teaches the limitations that garnered allowance of the challenged claims. *Id.* at 1, 7, 11–12, 15–19, 32–34. Petitioner asserts that, during prosecution of the application leading to the ’198 patent, the prior art rejections were overcome “by amending the claims to require the formation [of] a reply message automatically link another message in ‘a single step.’” *Id.* at 1. “But a ‘single step’ reply is by no means inventive,” according to Petitioner. *Id.* Petitioner argues that Ji discloses allowing “users to reply to a message with a single-step action that would include the original message in the reply.” *Id.* at 7.

Petitioner also asserts that the cited prior art teaches the other messaging features of the challenged claims. *Id.* at 6–7, 15–19, 24–32, 35–56. In doing so, Petitioner argues that both references teach certain features recited in the challenged claims. For example, Petitioner argues that each of Ji and Sarafa discloses a “link,” which appears in limitations 1[b], 1[c], 1[d], 1[e], 10[d], 10[e], 10[f], and 10[g], as well as dependent claims 4, 13, and 21–23. Ex. 1001, 19:23, 19:26, 19:29–30, 19:36, 19:52, 20:13, 20:16, 20:19–20, 20:26, 20:43, 21:1–2, 21:6, 21:9–11, 21:14. Petitioner asserts that “Ji discloses . . . a link.” Pet. 27. Petitioner also argues that “[s]imilar to Ji, Sarafa discloses a further message having a link to a first message,” addressing limitations 1[e] and 10[g]. *Id.* at 38.

Each of limitations 1[e] and 10[g] recites “changing display of information associated with said message a) responsive to selection of a displayed further area or portion associated with said further message; and b) based on said link.” Ex. 1001, 19:34–37, 20:24–27. Regarding these limitations, in combination with its assertion that Sarafa discloses a link, Petitioner argues that “a [person of ordinary skill in the art] would have understood Ji in view of Sarafa to disclose changing the display of information associated with the first message in response to selection of the displayed further area, and based on said link.” Pet. 40–41. Petitioner elaborates that Sarafa discloses “selection of a displayed further area or portion associated with the further message to change the display of information associated with the first message.” *Id.* at 38. Petitioner cites Sarafa’s disclosure of “[a] message that quotes another message.” *Id.* at 39 (quoting Ex. 1007 ¶ 70) (alteration in original). Petitioner argues that, when a user touches the displayed quote of an earlier message, Sarafa’s device responds by changing its display to show the earlier message in context. *Id.* at 40. Thus, Petitioner asserts, “a user can dynamically scroll the display to view a quoted message in its original context by selecting the quoted message within the reply message.” *Id.* at 21 (citing Ex. 1007 ¶ 91).

Petitioner also argues that

a [person of ordinary skill in the art] would have been motivated to improve the messaging system of Ji—which embeds a quoted portion of an original message into a reply message—by incorporating Sarafa’s feature that enables the user to dynamically scroll to the original message in context by selecting the portion of the original message quoted in the reply message.

Id. at 19–20. Petitioner argues that Ji and Sarafa disclose features from the world’s most popular messaging applications. *Id.* at 20. Petitioner asserts

that the references have “the same specific goal of improving the user experience for reply messages in messaging applications.” *Id.*

Petitioner adds “[b]oth Ji and Sarafa disclose chat messaging systems that redirect the display of messages so a user can view an original chat message in context.” *Id.* at 21. Petitioner explains that “Ji scrolls back to the original message in response to interacting with a notification of a new reply message,” and “Sarafa scrolls back to the original message in response to interaction with the quoted portion in a reply message.” *Id.* at 22.

Petitioner argues that combining both ways of scrolling back would align with a number of Ji’s goals for providing efficient, effective messaging. *Id.* at 22–23.

Petitioner also argues that “[a person of ordinary skill in the art] would have had a strong expectation of success in combining Ji and Sarafa, and the result of the combination would have been predictable.” *Id.* at 23. Petitioner explains, among other things, that both Ji and Sarafa disclose quoting an earlier message within a reply message. *Id.* With each reference also disclosing a feature for scrolling back to show the user the earlier message in context, Petitioner argues that Sarafa naturally would complement Ji. *Id.*

Petitioner asserts that “[i]n combination, Ji and Sarafa would provide the user with more fluid and intuitive access to the messaging history by enabling Ji’s display to dynamically scroll back to the original message and its surrounding context in response to the user’s selection of the quoted message within a reply message.” *Id.* Petitioner also notes that, “[a]s Sarafa explains, [its scroll-back] feature may ‘benefit a user in understanding a quoted message by providing messages that were displayed before and/or

after the quoted message.”” *Id.* at 19 (quoting Ex. 1007 ¶ 90). Petitioner adds that “Sarafa further explains that providing additional context to users will ‘improv[e] the user experience of quoted messages for its users.’” *Id.*(quoting Ex. 1007 ¶ 23) (alteration in original).

b) The Parties’ Disputes

Patent Owner argues that Petitioner fails to demonstrate obviousness of the challenged claims for a number of reasons. PO Resp. 5–6. Patent Owner contends that Petitioner does not show that a person of ordinary skill in the art would have been motivated to combine Ji and Sarafa in the claimed manner. *Id.* at 6. Patent Owner also argues that Petitioner fails to show Ji and Sarafa teach certain limitations of the challenged claims. *Id.*at5–6.

We now turn to detailed discussions of the parties’ disputes regarding the alleged obviousness of the challenged claims over Ji and Sarafa.

c) Independent Claims 1 and 10

*(1) Whether Petitioner Shows Motivation to
Combine Ji and Sarafa in the Claimed Manner*

In its Response, Patent Owner argues that

[t]he Petition fails to establish that a person of ordinary skill in the art (a “skilled artisan”) would have been motivated to combine Ji and Sarafa in the manner claimed. Specifically, (a) a skilled artisan would not have been motivated to modify Ji based on Sarafa, and (b) even if there were a motivation to do so, the combination would use Ji’s “message operation bar,” and therefore not operate “by a single step” as required by the claims.

PO Resp. 6. We turn now to detailed discussions of these two arguments.

(a) Whether a Person of Ordinary Skill in the Art Would Have Modified Ji Based on Sarafa

In its Response, Patent Owner contends that Petitioner fails to articulate a viable reason that a person of ordinary skill in the art would have modified Ji in view of Sarafa. PO Resp. 39–47. Patent Owner faults Petitioner’s and Dr. Cockburn’s reliance on Ji’s paragraph 92, which Patent Owner argues is “indecipherable and ambiguous at best.” *Id.* at 39 (citing Ex. 1003 ¶ 75). Patent Owner asserts that Dr. Cockburn reads Ji based on hindsight. *Id.* Citing Dr. Almeroth’s testimony, Patent Owner argues that “[a] skilled artisan without knowledge of the ’198 patent would not interpret Ji’s paragraph [0092] as Dr. Cockburn has. In fact, the skilled artisan would simply disregard the paragraph as indecipherable.” *Id.* (second alteration in original).

Patent Owner takes issue with Dr. Cockburn’s testimony that Ji discloses “the user is notified upon receipt of a new reply message in a particular group chat.” Ex. 1003 ¶ 75; PO Resp. 39. Patent Owner argues that Ji does not explain how this happens. PO Resp. 39–40. Patent Owner also argues that, based on the details Ji does provide, “Sarafa provides different functionality than Ji, and Dr. Cockburn fails to explain how Sarafa ‘extends’ Ji, how this ‘extension’ is ‘natural,’ or why a skilled artisan would look to Sarafa in the first place, given the substantial differences in approach.” *Id.* at 40.

Patent Owner also takes issue with Dr. Cockburn’s testimony that, in Ji, “[w]hen the user clicks on the notification, the user is presented with the group chat stream ‘scrolled up to the page’ of the replied-to message.” Ex. 1003 ¶ 75; PO Resp. 40. Patent Owner contends that Dr. Cockburn

“does not accurately characterize” Ji’s disclosure. PO Resp. 40. After discussing certain details of Ji’s disclosure, Patent Owner concludes that Ji’s discussion of “scrolled up” chat messages

is ambiguous and cannot be understood by a skilled artisan. The passage does not explain how the message is “located” or by whom (the user or the system), and further fails to reveal how and by whom the “pages” of chat messages are “scrolled up” to the page of the first chat message. It further fails to reveal when this scrolling occurs or by whom (the system or by the user scrolling manually).

Id. at 41.

Patent Owner then scrutinizes the grammar, punctuation, and clarity of Ji. *Id.* at 41–42. Patent Owner argues that

[g]iven the incorrect grammar, incorrect punctuation, ambiguous and vague translated text, lack of any user interface figures that correspond to this paragraph, and lack of a description in Ji of any technology that would support the functions attributed to this paragraph by Dr. Cockburn, a skilled artisan would disregard the passage and draw no conclusions from the passage.

Id. at 42.

Patent Owner then argues that even if Ji discloses a “scroll-back” feature, a person of ordinary skill in the art would not have been motivated to modify Ji with Sarafa’s disclosure. *Id.* at 42–47. Patent Owner argues that “the alleged ‘improvement’ is much less than what Dr. Cockburn suggests.” *Id.* at 43. Patent Owner explains that Ji’s alleged scroll-back feature is already available to the user much more of the time than Dr. Cockburn suggests. *Id.* at 43–44.

Patent Owner further contends that “Ji and Sarafa have different approaches and each approach has trade-offs that would be weighed by a skilled artisan.” *Id.* at 44. Patent Owner argues that Dr. Cockburn’s

proposed combination of Ji and Sarafa would provide “redundant paths” for scroll-back, which “may confuse the user, especially when there are other message-based options having nothing to do with scroll-back.” *Id.* at 45. Patent Owner also argues that “[a] skilled artisan would recognize that under Dr. Cockburn’s interpretation, Ji and Sarafa each offer different access points, and, again, each have trade-offs. A skilled artisan would have no motivation to simply switch from Ji to Sarafa.” *Id.* at 46.

In its Reply, Petitioner counters that “there is no factual or legal basis for a [person of ordinary skill in the art] to ***completely disregard*** Ji paragraph 92 as [Patent Owner] proposes.” Pet. Reply 16. Petitioner argues that Patent Owner extensively discusses what Ji’s paragraph 92 discloses, undercutting Patent Owner’s argument that the paragraph is “indecipherable.” *Id.* at 14. Petitioner disputes Patent Owner’s arguments that Ji lacks sufficient detail about recognizing receipt of a new message, automatic scrolling, and the preset message interface. *Id.* at 14–15. Petitioner explains that “a prior art reference is assumed to be operable and enabled.” *Id.* at 14 (citing *In re Antor Media Corp.*, 689 F.3d 1282, 1289 (Fed. Cir. 2012)). Addressing Patent Owner’s criticism of Ji’s grammar, punctuation, and clarity, Petitioner argues that “[Patent Owner] does not challenge the translator’s testimony, explain how these purported issues could materially change the meaning of Ji’s disclosure or propose an alternative to the certified translation.” *Id.* at 15.

Petitioner also asserts that, contrary to Patent Owner’s arguments, Ji and Sarafa disclose complementary scroll-back features accessible at different times. *Id.* at 16–17. According to Petitioner, “Ji scrolls back to the original message ‘in response to *interacting with a notification* of a new

reply message,” whereas “Sarafa scrolls back to the original message in response to interaction with the quoted portion in a reply message.”

Id. at 16. Additionally, Petitioner disputes Patent Owner’s argument that combining the references risks user confusion. *Id.* at 17. Petitioner argues that “[t]here would be minimal risk of confusion because the options are accessed through different user interface controls.” *Id.*

Patent Owner responds that Petitioner’s arguments misunderstand the problems with Ji’s disclosure. PO Sur-reply 18–19. Patent Owner dismisses Petitioner’s argument that a reference is presumed enabled. *Id.* at 18. Patent Owner explains that “here the question is not whether Ji’s teachings are enabled, but whether Ji teaches automatic scrolling or screen redirection in the first place.” *Id.* at 18. Regarding the grammar, punctuation, and clarity of Ji, Patent Owner maintains that Ji is “indecipherable.” *Id.* at 19. Patent Owner adds that the responsibility for Petitioner’s prior art rests with Petitioner, not Patent Owner. *Id.*

Patent Owner also maintains that Petitioner proposes modifying Ji’s disclosure to have “redundant,” not “complementary,” scroll-back options. *Id.* at 20. According to Patent Owner, even if the two options would allow scroll-back at different times, the problem of user confusion still applies. *Id.* at 20–21.

Weighing the parties’ arguments and evidence, we find that Petitioner demonstrates by a preponderance of the evidence that a person of ordinary skill in the art would have been motivated to combine the teachings of Ji and Sarafa. As explained below, Petitioner persuades us that a person of ordinary skill in the art would have understood that Ji teaches automatic scrolling, and that Sarafa’s automatic scrolling would have beneficially

complemented Ji's. Pet. 21–22; Pet. Reply 14–17; Ex. 1003 ¶¶ 75–77; Ex. 1018 ¶ 47.

Additionally, regardless of whether Ji teaches automatic scrolling in paragraph 92, Petitioner persuades us that Ji and Sarafa address similar problems related to tracking and understanding convoluted conversations in messaging systems. *See* Pet. 16–21; Ex. 1003 ¶¶ 64, 65, 70, 73, 74. As Dr. Cockburn testifies, Ji emphasizes the problem that users cannot quickly find and understand messages in complicated message streams. Ex. 1003 ¶ 64 (citing Ex. 1006 ¶ 2); Pet. 16. Petitioner also persuades us that Sarafa addresses such problems, at least in part, by expressly teaching certain advantages of its scroll-back feature, such that a person of ordinary skill in the art would have considered it advantageous to add Sarafa's scroll-back feature to Ji's system. *See* Pet. 18–19; 21–23; Ex. 1003 ¶¶ 70, 74. For example, addressing the same problems discussed in Ji, Sarafa explains that its scroll back feature would facilitate a user's ability to understand a complicated conversation because “[m]aking available the context of a quoted message may benefit a user in understanding a quoted message by providing messages that were displayed before and/or after the quoted message so as to play the quoted message in context.” Ex. 1007 ¶ 90; Pet. 19; Ex. 1003 ¶ 70. Similarly, Sarafa explains that its scroll back feature “provid[es] additional context to users . . . , improving the user experience of quoted messages for its users.” Ex. 1007 ¶ 23; Pet. 19; Ex. 1003 ¶ 70. We find that these disclosed benefits would have provided compelling motivation for a person of ordinary skill in the art to add Sarafa's scroll back feature to Ji's messaging system. Pet. 19–23; Ex. 1003 ¶¶ 71, 73–77. Indeed, as Dr. Cockburn explains, “[s]ince Ji also quotes the original

message in the reply, Sarafa would therefore be a natural complement to Ji.”
Ex. 1003 ¶ 77.

As for the arguments raised by Patent Owner, we find Petitioner’s positions more persuasive than Patent Owner’s. We agree with Petitioner that, contrary to Patent Owner’s argument, a person of ordinary skill in the art would not have disregarded completely Ji’s paragraph 92. Notwithstanding that Patent Owner may have identified imperfections in Ji’s paragraph 92, Petitioner persuades us that a person of ordinary skill in the art would understand certain key things from it. Patent Owner recognizes that

Ji . . . describes the ‘scrolling’ referred to by Dr. Cockburn. Ji states:

. . . to make it convenient for the user to read and understand, the target message, i.e., a first chat message, is located in the message window; in the message group with a plurality of chat message pages of a plurality of chat message are scrolled up to the page of a first chat message

PO Resp. 41 (quoting Ex. 1006 ¶ 92) (second and third alterations in original). Thus, it is undisputed that Ji teaches “to make it convenient for the user . . . message pages . . . are scrolled up.” But Patent Owner argues that a person of ordinary skill in the art would not understand Ji as teaching the message pages “are scrolled up” automatically, as opposed to manually by the user. PO Sur-reply 18–19. We disagree. Given Ji’s disclosure that the scrolling “make[s] it convenient for the user,” we find it most logical that a person of ordinary skill in the art would understand Ji as teaching automatic scrolling, not manual scrolling by the user. Dr. Almeroth views Ji’s disclosure regarding messages that “are scrolled up” as “fatally ambiguous.” Ex. 2004 ¶¶ 150–151. We do not agree. Like Patent Owner,

Dr. Almeroth concedes that Ji teaches scrolling, but says it is unclear whether the device automatically scrolled the messages or a person manually scrolled them. *Id.* As explained above, the logical reading of Ji is that the device automatically scrolled the messages, which Ji explains “make[s] it convenient for the user.” Ex. 1006 ¶ 92.

Additionally, we disagree with Patent Owner’s suggestion that “[c]ertainly, if Ji had contemplated automatic scrolling it would have at least mentioned some of the structures that make it possible.” PO Sur-reply 18. Patent Owner does not persuasively support its assumption that any disclosure of an automated function necessarily would explain the mechanism of execution.

Petitioner also persuades us that Ji provides its scrolling feature in certain circumstances, and Sarafa provides its scrolling feature in other circumstances. Pet. 21–22; Pet. Reply 16–17. Patent Owner does not argue that the references teach providing their scrolling features in the same circumstances. *See, e.g.*, PO Resp. 39–47; PO Sur-reply 18–21.

Instead, assuming the references provide their scrolling features in different circumstances, Patent Owner disagrees with Petitioner’s argument that a person of ordinary skill in the art would have considered it advantageous to combine the references’ disclosures. *E.g.*, PO Resp. 42–47; PO Sur-reply 20–21. Petitioner contends that a person of ordinary skill in the art would have viewed the references’ scrolling features as complementary, such that including both would have advantageously provided greater functionality for the user. Pet. 21–23; Pet. Reply 13, 16–17. Patent Owner counters that a person of ordinary skill in the art would have considered it redundant and confusing to implement both

references' scrolling feature in one system. PO Resp. 42–47; PO Sur-reply 20–21.

Weighing the parties' arguments and evidence on this point, we find Petitioner's more persuasive. As noted above, Ji teaches advantages to its scrolling function, including "mak[ing] it convenient for the user." Ex. 1006 ¶ 92. Likewise, Sarafa discloses advantages to its scrolling function, explaining, for example, that "[m]aking available the context of a quoted message may benefit a user in understanding a quoted message by providing messages that were displayed before and/or after the quoted message so as to play the quoted message in context." Ex. 1007 ¶ 90. We find these disclosures, in combination with Dr. Cockburn's testimony and Petitioner's other evidence provide significant persuasive support for Petitioner's position that a person of ordinary skill in the art would have considered it advantageous to combine the references' teachings. Pet. 19–23; Pet. Reply 13–17; Ex. 1003 ¶¶ 71–77; Ex. 1018 ¶¶ 44–56. By comparison, we find Patent Owner's evidence, such as Dr. Almeroth's testimony about redundancy and confusion, less persuasive, particularly because Dr. Almeroth does not cite persuasive evidence for his concerns about redundancy and confusion. *See, e.g.*, PO Resp. 42–47; PO Sur-reply 20–21; Ex. 2004 ¶¶ 154–160.

For the foregoing reasons, we find that Petitioner demonstrates by a preponderance of the evidence that a person of ordinary skill in the art would have been motivated to combine the teachings of Ji and Sarafa. Additionally, we consider it worth noting that we would reach the same result even if we agreed with Patent Owner that a person of ordinary skill in the art would have disregarded Ji's paragraph 92.

(b) Whether the Combination Would Use Ji's Operation Bar and Not Operate "By a Single Step"

In its Response, Patent Owner argues that, even if it was obvious to add Sarafa's scroll back feature to Ji's system, a person of ordinary skill in the art would have implemented the modification in a manner that would not meet all of the limitations of claims 1 and 10. PO Resp. 47–51. Patent Owner argues that Ji discloses two mutually exclusive approaches for a user to reply to a message. *Id.* at 47–49. In the “message operation bar” approach, when a user touches the “screen location corresponding to a first chat message,” the system presents a message operation bar with selectable actions, including “reply.” *Id.* at 48 (citing Ex. 1006 ¶ 84). In the alternative “single touch” approach, Patent Owner explains, “after a user touches the screen location corresponding to the message, a reply ‘message input dialog box’ ‘directly pops up.’” *Id.* (citing Ex. 1006 ¶ 44).

Patent Owner argues that Ji's message operation bar approach “would easily accommodate additional functions, such as [the scroll back feature that Dr. Cockburn proposes to add from Sarafa].” *Id.* at 49. Combining Sarafa's scroll back feature with Ji's message operation bar approach could involve adding a “menu choice ‘Goto Original Message’” to Ji's message operation bar, Patent Owner suggests. *Id.*

In contrast, “[a] skilled artisan looking to add additional functionality to the message selection of Ji would not—and could not—use the ‘single touch’ alternative of Ji, which provides for a single function—a pop-up reply input dialog box,” Patent Owner contends. *Id.* at 49–50. According to Patent Owner, “Ji's ‘single touch’ alternative makes the entirety of a displayed message into a control for activating the reply function,” which

precludes using Sarafa's approach of scrolling back in response to a user touching the message. *Id.* at 50.

Patent Owner adds that "Dr. Cockburn hypothesizes a 'user's selection of the quoted message within the reply message,'" but "Ji does not provide for such a selection." *Id.* (citing Ex. 1003 ¶ 77). Patent Owner also argues that "Dr. Cockburn appears to be hypothesizing numerous unstated changes to Ji to accommodate touches on different portions of a reply message with different results, but none of these modifications are described in Ji and would run counter to Ji's teaching." *Id.* at 51.

Patent Owner argues that, rather than make such additional modifications to allow using Sarafa's scroll back feature with Ji's "single-touch" approach, a person of ordinary skill in the art would use Ji's message operation bar approach to accommodate Sarafa's scroll back. *Id.* at 51. Patent Owner argues that the resulting system would not meet the challenged claims' limitations. *Id.* at 47–48. Patent Owner notes that the Petition relies on Ji's single-touch approach for limitations 1[c]/10[e], "which require[] that a 'selection causes said link to be included automatically in said further message and is performed by a single step, which is the selection itself.'" *Id.* at 47. But "the Petition and Dr. Cockburn fail to appreciate that the 'single touch' alternative cannot accommodate the message-based functionality from Sarafa (the screen redirection)," Patent Owner argues. *Id.* "[B]ecause the combination would use the message operation bar, the combination would no longer be 'performed by a single step, which is the selection itself,'" Patent Owner adds. *Id.* at 48. According to Patent Owner, "[t]hus, even though Ji discloses a 'single touch' embodiment, that embodiment would not be used by a skilled artisan in the combination." *Id.*

In its Reply, Petitioner disputes Patent Owner's contention that Sarafa's scroll back is incompatible with Ji's single-touch approach. Pet. Reply 18. Asserting that Patent Owner considers Ji's disclosures in isolation, Petitioner argues that "Sarafa discloses message bubbles with multiple segments that a [person of ordinary skill in the art] would have been able to use to implement different features." *Id.* Additionally, Petitioner argues that Patent Owner does not consider the knowledge of a person of ordinary skill in the art. *Id.*

Addressing Patent Owner's arguments that a person of ordinary skill in the art would have had reasons to use Ji's message operation bar, Petitioner argues that "motivation to combine does not require the resulting combination to be the most preferred or most desirable prior art combination available." *Id.* at 17–18 (citing *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004)). Petitioner further argues that Ji does not express a preference for the message operation bar approach. *Id.* at 18.

In its Sur-reply, Patent Owner maintains that only Ji's message-operation bar approach would accommodate adding a function, such as Sarafa's scroll back function. PO Sur-reply 21. Responding to Petitioner's argument that Patent Owner considers Ji in isolation, Patent Owner contends that it "considered how a skilled artisan would combine Sarafa with Ji." *Id.* (citing Pet. Reply 18; PO Resp. 47–51). Patent Owner also disputes Petitioner's argument that Sarafa discloses "message bubbles with multiple segments that a [person of ordinary skill in the art] would have been able to use to implement different features." *Id.* at 21–22 (quoting Pet. Reply 18). Patent Owner argues that "[t]here is no disclosure in Sarafa of providing different features on different portions of messages. Moreover, a skilled

artisan would avoid doing so given the risk of selecting the wrong feature.”
Id. at 22.

Weighing the parties’ arguments and evidence, Petitioner persuades us that a person of ordinary skill in the art would have been motivated to use Sarafa’s scroll back feature in combination with Ji’s single-touch approach. As discussed above in Section III.C.3.c.(1).(a), Petitioner persuades us that a person of ordinary skill in the art would have understood that adding Sarafa’s scroll back feature to Ji would have provided certain benefits. Those motivating benefits would apply with either Ji’s single-touch approach or Ji’s message operation bar approach. And Petitioner persuades us that Ji would have conveyed to a person of ordinary skill in the art no preference between its message operation bar approach and its single-step approach. Pet. 32–34; Pet. Reply 18; Ex. 1003 ¶¶ 93–95; Ex. 1018 ¶¶ 56–58.

Petitioner also persuades us that, in view of the disclosures of Sarafa and Ji considered together, a person of ordinary skill in the art would have recognized that Sarafa’s scroll back feature and Ji’s single-touch approach lend themselves to harmonization. Although Ji does not expressly disclose using a subset of a displayed message to trigger an action, Sarafa does. Specifically, Sarafa teaches limiting the interface for its scroll back feature to just quoted portion 360 inside of message bubble with quote 350. Ex. 1007 ¶¶ 70, 72. This and Dr. Cockburn’s testimony support Petitioner’s argument that “Sarafa discloses message bubbles with multiple segments that a [person of ordinary skill in the art] would have been able to use to implement different features.” Pet. Reply 18 (citing Ex. 1007 ¶¶ 70, 72; Ex. 1018 ¶¶ 59–60).

Patent Owner calls this “incorrect.” PO Sur-reply 22. But Patent Owner’s reasoning does not demonstrate any error in Petitioner’s assertion. Patent Owner explains that Sarafa does not disclose *actually using* different message portions to trigger different actions. *Id.* That does not refute Petitioner’s argument that Sarafa teaches different message segments. Nor does it refute Petitioner’s argument that a person of ordinary skill in the art would have been motivated and able to use different segments to implement different features.

By disclosing that only the quoted message portion triggers scroll back, Sarafa demonstrates that it was within the skill in the art to implement a function (either Sarafa’s scroll back feature or Ji’s single-touch approach) using a subset of a displayed message. Ex. 1007 ¶¶ 70, 72. This approach leaves other portions of the displayed message available for other functions, such as Ji’s single-touch approach for triggering a reply. As Dr. Cockburn testifies, nothing in Ji compels reserving the entirety of the displayed message for activating the its single-touch approach to replied. *E.g.*, Ex. 1018 ¶ 59; Ex. 1006 ¶ 44. On the whole, Petitioner’s arguments and evidence persuades us that a person of ordinary skill in the art would have had the ability and motivation to add Sarafa’s scroll back feature to Ji’s single-touch approach by using the quoted message portion to trigger scroll back, while using another part of the message to implement Ji’s single-touch approach for a reply. Pet. 15–23, 32–34, 38–41; Pet. Reply 17–19. As noted above, Patent Owner argues a person of ordinary skill in the art would avoid such an approach because of “the risk of selecting the wrong feature,” but Patent Owner does not cite persuasive supporting evidence. PO Sur-reply 22.

Thus, we disagree with Patent Owner's argument that "a skilled artisan wishing to **add a function** to Ji, such as Sarafa's redirection, would necessarily add that function to the message operation bar of Ji, which is specifically designed for multiple functions." PO Sur-reply 21. As Petitioner observes, even if adding Sarafa's scroll back to Ji's single-touch approach would not have been the most desirable combination, that does not negate Petitioner's persuasive arguments and evidence that it would have been an obvious combination. *See In re Fulton*, 391 F.3d at 1200; Pet. Reply 17–18.

*(2) Whether Petitioner Shows the Prior Art
Discloses a "Link" in Accordance with the
Challenged Claims' Requirements*

In its Response, Patent Owner argues that neither the text of Ji's quoted message nor the text of Sarafa's quoted message is a "link," as recited in the challenged claims. PO Resp. 27–30. Patent Owner explains that mere text does not provide a connection by pointing to the quoted message to allow software to locate it. *Id.* According to Patent Owner,

[t]herefore, because the Petition relies on the copied content from a quoted messages of Ji and Sarafa, and because the copied content is not data that points to the quoted message, and does not form a connection to the quoted message, the Petition fails to establish the presence of a "link" in the prior art.

Id. at 28. Patent Owner adds that

there is no disclosure in Sarafa of how the "quoted message" could point to another message on the message recipient's device, nor does Sarafa disclose any mechanism by which the quoted content of the original message could be used by the message recipient's device to provide the context of the original message.

Id. at 30.

Patent Owner argues that, rather than using message text itself as a link to enable redirection, Sarafa’s “screen redirection is activated using a user interface ‘control’ created by the receiving device.” *Id.* at 35–36. Patent Owner contends that Sarafa does not include this “control” in the transmitted reply message, but creates it only on the receiving device. *Id.* at 36–37. According to Patent Owner, this distinguishes Sarafa’s “control” from the claimed “link” because “[t]he claimed ‘link’ is automatically included in the message on the replying device that transmits the message.” *Id.*

Petitioner counters that Patent Owner relies on an improperly narrow construction of “link.” Pet. Reply 1–7. Petitioner contends that “a link to the message can merely be a display of message text.” *Id.* at 6. Thus, Petitioner asserts that Ji’s and Sarafa’s disclosures of quoting text of an earlier message teach the claimed “link,” contrary to Patent Owner’s claim-construction arguments. *Id.* at 7–8.

Additionally, Petitioner argues that the prior art teaches the claimed “link” even under Patent Owner’s claim construction. *Id.* at 8–9. Petitioner asserts that “Ji in view of Sarafa teaches a ‘link’ that points to and allows software to locate the original message—specifically, the quoted text redirects the device display to show the original message in context.” *Id.* at 8. Petitioner explains that the Petition cited Sarafa’s disclosure of responding to a user touching the display of the quoted message by redirecting to “an initial display of the quoted message in the message thread.” *Id.* at 9. According to Petitioner, Sarafa’s device redirects using “one or more controls,” which Petitioner contends are “implemented in part by a ‘quoted message identifier’ that fulfills the additional requirements PO

improperly inserts into its construction for ‘link.’” *Id.* at 8. Petitioner elaborates that “the quoted message (including the identifier) is transmitted from the sending device to the receiving device, where the quoted message identifier is then used to locate the quoted text on the receiving device (if the quoted text is present on that device).” *Id.*

In its Sur-reply, Patent Owner maintains that “mere quoted text is not a ‘link.’” PO Sur-reply 7. For example, Patent Owner argues that copied text cannot provide the ability for a user to “‘jump’ to the original referenced message (and thus locate and change a display to the original placement of a message within a stream of messages).” *Id.* at 4. Patent Owner argues that Ji does not say anything about using quoted text for redirection. *Id.* at 8.

Patent Owner also contends that Sarafa’s quoted text does not redirect the display. *Id.* Instead, Patent Owner argues, Sarafa’s “‘redirection’ feature . . . is based on **‘controls’** embedded in the user interface of a device that receives a reply message.” *Id.* Patent Owner adds that “[b]ecause it is undisputed that Sarafa’s user interface ‘controls’ are not transmitted from one device to another, they cannot be the transmitted link of the claims.” *Id.* at 10.

Patent Owner’s Sur-reply then turns to Petitioner’s arguments about Sarafa’s quoted message identifier. *Id.* at 11–15. Like it does in the Motion to Strike, Patent Owner argues in its Sur-reply that we should strike Petitioner’s citation of Sarafa’s quoted message identifier as improper new argument. *Id.* at 11–14. We disagree, as explained above in Section II.A.

Patent Owner also argues that, in the event we consider “the belated ‘quoted message identifier’ argument,” we should reject it on the merits. *Id.* at 14–15. Patent Owner argues that, contrary to Petitioner’s argument,

Sarafa does not “state that the ‘identifier’ is used . . . ‘to locate the quoted text on the receiving device.’” *Id.* Instead, Sarafa “state[s] that the identifier is used to determine whether a ‘correspondence’ exists with a ‘message store,’” Patent Owner explains. *Id.* at 15. Additionally, reiterating its view that “the claimed link must ‘point to’ the original message,” Patent Owner argues that “[n]owhere in the Reply does Petitioner assert that the ‘quoted message identifier’ ‘points to’ the original message.” *Id.*

At the hearing, Patent Owner further explained that its position is [Petitioner has] utterly failed to show either in Ji or Sarafa that a link is transmitted with the reply message. What happens in Sarafa . . . is there is a control that arguably could be a link, although I’m not sure if even [Petitioner’s] expert has taken that position. That control is on the receiving device, it is not transmitted as part of the reply message. And so Sarafa may very well have links, but not a transmitted link . . . as required by the claims.

Tr. 64:9–19. Patent Owner further argued that Sarafa does not teach including a “control” as part of the transmitted message package.

Id. at 103:12–17. For example, Patent Owner emphasized that “in [paragraph] 92, [Sarafa] even calls it a user interface control, and this is why Dr. Almeroth goes at length to show that the control is part of the user interface that’s added to the incoming message when it comes in.”

Id. at 103:12–15.

Petitioner responded that “[e]ven if we limit [the construction of ‘link’] to a pointer, that is disclosed by Sarafa. That is disclosed by the message identifier that, in paragraph 92 of Sarafa, actually says it’s used to retrieve the original message.” *Id.* at 125:4–8. Petitioner elaborated that

the fact that it doesn’t actually display it, that has nothing to do with the definition construction of link. That’s actually in the

claim where it says changing the display responsive to an interaction and based on the link. Yes, it's based on the link, because ultimately, the controls that Sarafa discusses are pulling up the message to display. And that's actually at the bottom of paragraph 92 in Sarafa where it says, "[i]n order to empower this retrieval, the quoted message identifier identifying the quoted message is assigned to be a message identifier for the initial display of the quoted message."

Id. at 125:9–21.

Weighing the arguments and evidence, we find Petitioner's position that the prior teaches the claimed "link" more persuasive than Patent Owner's contrary position. Pet. 13–19, 27–41; PO Resp. 10–18, 24–30, 35–38; Pet. Reply 8–9; PO Sur-reply 2–15. Specifically, we find that Sarafa's disclosure of its system using the quoted message identifier teaches the claimed "link." Pet. 17–19, 21–23, 38–41; Pet. Reply 8–9.

As noted above, Patent Owner argues that even though Sarafa may teach using a "link," it fails to teach transmitting a link between devices. Tr. 64:12–26; PO Resp. 37–38; Sur-reply 9–11. Patent Owner also argues that even though Sarafa discloses transmitting its quoted message identifier between devices, the quoted message identifier is not a "link." Tr. 109:16–18; Sur-reply 14–15. Thus, with respect to Petitioner's reliance on the quoted message identifier, the dispositive issue is whether the quoted message identifier qualifies as a "link."

A preponderance of the evidence supports Petitioner's position that the quoted message identifier is a "link." Although Sarafa lacks a verbatim statement that the transmitted message package's quoted message identifier is data that points to and allows the device to locate the message, we find Sarafa's disclosures collectively would have conveyed to a person of ordinary skill in the art that the quoted message identifier is data that serves

that purpose. *E.g.*, Ex. 1007 ¶¶ 83, 86, 87, 90–92, 94–98; Ex. 1003 ¶¶ 69–70, 103–107; Ex. 1018 ¶¶ 27–28, 43; Pet. 17–19, 38–41; *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) (“[I]t is proper to take into account not only the specific teachings of the reference but also the inferences which one skilled in the art would reasonable be expected to draw therefrom.”).

Sarafa explains, for example, that its system uses the quoted message identifier to check for the quoted message on the device and, if the quoted message is present, retrieves it. *E.g.*, Ex. 1007 ¶¶ 96, 98. This suggests that the system uses the quoted message identifier to look for the quoted message and, if the message is present, to locate and retrieve the message.

See, e.g., Ex. 1018 ¶ 28.

Sarafa also discloses that it uses the quoted message identifier to “empower” the retrieval executed when user interface 430 redirects the display to show the initial display of the message. Ex. 1007 ¶ 92. In combination with the other disclosures regarding the quoted message and its quoted message identifier, this strongly suggests that the quoted message identifier is a “link” that points to and allows the device to locate the message. As Patent Owner argues, “the ’198 patent states that a **link** (such as a hyperlink) can be used to jump to the original message.” PO Sur-reply 4.

To the extent that Patent Owner believes Sarafa’s disclosure of using a “control” in the redirection process excludes the quoted message identifier from being a “link,” we disagree. *See, e.g.*, PO Sur-reply 8 (“Sarafa discloses a display ‘redirection’ feature, but it is based on **‘controls’** embedded in the user interface of a device that receives a reply message.”), 11 (“the receiving device **inserts a user interface ‘control’** at the location

of the quoted message to provide for display redirection”). As Patent Owner explained during the hearing, a link alone cannot perform redirection. Tr. 105:14–18; 107:9–13. Thus, in combination with using the quoted message identifier as a “link” to “empower” redirection, Sarafa also uses a “user interface control” when redirecting.

In sum, we agree with Petitioner’s and Dr. Cockburn’s view that a person of ordinary skill in the art would have understood that Sarafa’s quoted message identifier is data that points to and allows the device to locate the quoted message, providing a connection between messages. Pet. Reply 8–9; Ex. 1018 ¶¶ 27–28. Thus, we find that the quoted message identifier meets Patent Owner’s construction of “link,” with our qualification in Section III.B above that the record does not support a claim construction that requires an address in order to “point to” the message. As noted above, Dr. Almeroth addresses Sarafa’s quoted message identifier by testifying that “Sarafa’s discussion of the ‘quoted message identifier’ is insufficient to understand what it is.” Ex. 2004. We find this testimony unpersuasive, as Dr. Cockburn’s testimony persuades us that a person of ordinary skill in the art would have understood that the quoted message identifier is data that points to and allows the device to locate the message. Ex. 1018 ¶¶ 27–28.

*(3) Whether Petitioner Shows the Prior Art
Discloses “Changing Display of Information”
in Accordance with the Challenged Claims’
Requirements*

Patent Owner argues that Petitioner fails to carry its burden with respect to limitations 1[e] and 10[g] for two reasons. PO Resp. 30–38. Patent Owner argues that Petitioner fails to address adequately the claim limitations’ requirement to perform the claimed functions on the transmitting

device, not on the receiving device. *Id.* at 30–35. Patent Owner also argues that Petitioner fails to address the claim limitations’ requirement for redirection based on the claimed “link.” *Id.* at 35–38.

*(a) The Dispute Regarding Performing the
Claimed Functions on the Transmitting
Device*

In its Response, Patent Owner argues that Petitioner’s reliance on Sarafa’s redirection feature as teaching claim limitations 1[e] and 10[g] fails because Sarafa does not teach or suggest including its redirection feature on a device that transmitted a reply message. PO Resp. 30–35. Patent Owner contends that the claims require a number of actions on a single device, explaining that,

[i]n claim 1, for example, a “display” must display “at least a portion of” a message, the display must receive a selection designating the message as an original message that will be replied to with a “further message,” and the information associated with the first message must “change” responsive to a user selection of a “further area” on the display.

Id. at 31. Patent Owner argues that Sarafa splits these functions between devices, with one device transmitting a reply message and a different device including the redirection feature. *Id.* at 31–32. Patent Owner argues that a number of Sarafa’s disclosures teach the redirection feature only on the receiving device. *Id.* at 32–35. For example, noting that “Dr. Cockburn relies on Figure 3 and paragraphs [0090] and [0091],” Patent Owner argues that these disclosures relate only to the device that receives the quoting message. *Id.* at 32.

Patent Owner argues that Sarafa “treats the transmitting and receiving devices differently.” *Id.* at 34. Patent Owner and Dr. Almeroth emphasize that Sarafa discloses

the user interface component 430 only performs this redirection where the quoted message store corresponding to the quoted message identifier is present on the **receiving client device 510, as otherwise the quoted message context 660 is not available for display**. In some cases, the quoted message context 660 may be unavailable because the user was not a participant in the message thread when the quoted message was sent.

Id. at 33–34; Ex. 2004 ¶ 122. Based on this, Dr. Almeroth testifies that

[i]t would have thus been clear to a skilled artisan that Sarafa does not teach or suggest providing redirection on the device transmitting the reply message. This is because the availability of the redirection feature turns solely on whether the receiving device has the quoted message context. Had Sarafa intended to provide redirection on the transmitting device, then its availability would not turn on whether or not a receiving device had the quoted message context. Clearly, the transmitting device has the quoted message context, and the status of the receiving device should not impact the functionality on the transmitting device.

Ex. 2004 ¶ 122. In sum, Patent Owner argues that “the redirection feature is on the wrong device, and the proposed combination fails.” PO Resp. 32.

In its Reply, Petitioner argues that “[a person of ordinary skill in the art] would understand that Sarafa’s user interface applies equally to both the sending and receiving devices of the messaging system—not least because chat participants rapidly alternate roles between sender and receiver while using the same mobile application.” Pet. Reply 10. Petitioner adds that “Sarafa does not describe Figure 3 or the redirection feature as limited to the receiving device.” *Id.* Petitioner contends that “Sarafa describes its redirection feature as applying to the user interface of any *client* device, which includes both sending and receiving devices.” *Id.*

Petitioner also disputes the logic in Patent Owner’s argument that “[h]ad Sarafa intended to provide redirection on the transmitting device, then

its availability would not turn on whether or not a receiving device has the quoted message context.” *Id.* at 11 (quoting PO Resp. 34) (alteration in original). Petitioner argues that “Sarafa does not discuss selective availability of the redirection feature on the transmitting device because it is unnecessary to do so,” explaining that “[i]n the course of normal use, the quoted message—i.e., the message selected by the user of the transmitting device for reply—will be available on the transmitting device.” *Id.*

Additionally, Petitioner argues that Patent Owner fails to consider the teachings of Ji. *Id.* at 12. Patent Owner explains that Ji discloses displaying a replied-to message on both sending and receiving devices. *Id.*

In its Sur-reply, Patent Owner counters that “Sarafa only provides redirection for messages that a device receives.” PO Sur-reply 15. Patent Owner argues that, contrary to Petitioner’s argument, Sarafa does limit redirection to the device that received a message. *Id.* at 16. Addressing Petitioner’s argument that Patent Owner fails to consider Ji’s disclosure, Patent Owner argues “Ji is simply cumulative of Sarafa on this issue.” *Id.* at 17.

Weighing the parties’ arguments and evidence, we find Petitioner’s position more persuasive. In particular, we find that a preponderance of the evidence demonstrates that a person of ordinary skill in the art would understand from Sarafa that every client in its system would have the redirection feature available for any quoted message that is available locally.

Patent Owner does not dispute Petitioner’s position that Sarafa discloses a system in which clients have the same software for the user interface, “rapidly alternate roles between sender and receiver,” and display both sent and received messages. PO Sur-reply 16–17. According to Patent

Owner, however, “Sarafa’s software treats sent and received messages differently,” “provid[ing] redirection for received messages and not for transmitted messages.” *Id.*

Petitioner persuades us otherwise. Petitioner and Dr. Cockburn cite disclosure in Sarafa that conveys any of its clients would provide redirection for any displayed quoting message, so long as the quoted portion of the message is available on the client. Pet. 17–19, 38–41; Pet. Reply 10–12; Ex. 1003 ¶¶ 27–29, 103–107; Ex. 1018 ¶¶ 30–39. For example, as Dr. Cockburn notes, Sarafa discloses that “a redirection control for a quoted portion 360 may be selectively active based on whether or not the quoted message is present in the message history for a message thread on a client device 320.” Ex. 1007 ¶ 72; Ex. 1018 ¶ 33. Patent Owner and Dr. Almeroth make much of the fact that Figure 3 shows an example client device 320 that happens to have received, rather than transmitted, the quoting message. PO Resp. 32; PO Sur-reply 16; Ex. 2004 ¶ 121. But Dr. Cockburn’s testimony persuades us that Sarafa does not limit its discussion of “a client device 320” to situations where the device received the quoting message.

Ex. 1018 ¶¶ 30–31, 33. For example, we find persuasive Dr. Cockburn’s testimony that

[a] person of ordinary skill in the art] would understand that Sarafa’s “client device 320” includes both sending and receiving devices. *See, e.g., id.* at [0110] (“The client devices 910 may correspond to one or more of a smartphone device 150, tablet device 160, personal computer device 180, and/or **any of the client device 320**, quoted client device 410, quoting client device, receiving client device 510, and client devices 810.”), [0127] (similar).

Id. ¶ 33.

Patent Owner and Dr. Almeroth focus on other portions of Sarafa that discuss examples in which the client device has received a message. PO Resp. 32–35; PO Sur-reply 15–17; Ex. 2004 ¶¶ 122–123. For instance, Patent Owner and Dr. Almeroth emphasize Sarafa’s disclosure that “the user interface component 430 **only performs this redirection** where the quoted message store corresponding to the quoted message identifier is present on the receiving client device 510.” Ex. 1007 ¶ 92 (emphasis added); PO Resp. 33–34; Ex. 2004 ¶ 122. We find Petitioner’s and Dr. Cockburn’s understanding of this passage more logical than Patent Owner’s and Dr. Almeroth’s. *E.g.*, PO Resp. 34; Pet. Reply 11–12; Ex. 1018 ¶ 39; Ex. 2004 ¶ 122. Because this particular passage discusses an example where the client device has received the quoting message and may not have the quoted message, it makes sense that the availability of the redirection function in that particular instance depends on the availability of the message. Pet. Reply 11–12; Ex. 1018 ¶ 39. Contrary to Patent Owner’s and Dr. Almeroth’s view, it does not follow that the passage limits Sarafa’s entire disclosure to providing the redirection feature only on a device that has received, rather than transmitted, the quoting message. Pet. Reply 11–12; Ex. 1018 ¶ 39.

Likewise, the other passages cited by Patent Owner and Dr. Almeroth, which also happen to discuss examples of clients that have received the quoting message, do not persuade us that Sarafa limits the availability of the redirection feature to devices that have received, rather than transmitted, a quoting message. *See* PO Resp. 32–35; PO Sur-reply 15–17; Ex. 2004 ¶¶ 122–123. To the extent that Sarafa does not provide an express example of a client transmitting a quoting message and performing

redirection with that message, that does not negate Petitioner’s persuasive position. In particular, it does not negate Petitioner’s persuasive evidence that a person of ordinary skill in the art would have understood from Sarafa that any client with a local store of the quoted message would provide redirection, including a device that transmitted the quoting message.

*(b) The Dispute Regarding Performing
Redirection Based on the Claimed
“Link”*

In its Response, Patent Owner disputes Petitioner’s position that “the screen redirection in Sarafa is **“based on said link.”** PO Resp. 35–36. Patent Owner argues that “[t]he screen redirection in Sarafa occurs on the device that receives the message package from the device transmitting the reply, and the screen redirection is activated using a user interface ‘control’ created by the receiving device.” *Id.* at 36. Patent Owner argues that the “control” cannot be the claimed “link” because the “control” created on the receiving device, not transmitted by the replying device. *Id.* at 37–38.

In its Reply, Petitioner counters that “a [person of ordinary skill in the art] would have understood Sarafa’s redirection feature to be **based on** a link that is transmitted from the sending device to the receiving device.” Pet. Reply 13. Petitioner argues that Patent Owner’s construction of “link” as excluding quoted text is incorrect. *Id.* Petitioner adds that “even under [Patent Owner]’s erroneous construction of ‘link,’ Ji in view of Sarafa teaches this limitation.” *Id.* Petitioner elaborates that “[t]he quoted message (including the message text and redirection feature) taught by the combination fulfills the additional requirements improperly inserted by [Patent Owner] into the claim term.” *Id.* In support of this, Petitioner cites Dr. Cockburn’s testimony and Section III.A.2 of its Reply, which explains

(among other things) that “Sarafa teaches that the quoted message (including the identifier) is transmitted from the sending device to the receiving device, where the quoted message identifier is then used to locate the quoted text on the receiving device.” *Id.* at 8, 13.

Patent Owner responds that “because the Petition fails to identify the claimed ‘link’ in the prior art, it necessarily fails to identify any feature ‘based on’ such a non-existent link.” PO Sur-reply 17. Also, Patent Owner reiterates that Sarafa’s “control” is not transmitted to the receiving device, so it “cannot be the **claimed** link.” *Id.* at 18.

Weighing the parties’ arguments and evidence, we find Petitioner’s position more persuasive than Patent Owner’s. As discussed above in Section III.C.3.c).(2), Petitioner persuades us that Sarafa teaches the claimed “link” by disclosing the quoted message identifier, which Sarafa’s system transmits from the replying device to the receiving device. Additionally, we find that Sarafa’s redirection is based on the quoted message identifier, i.e., “link.” In particular, as explained above in Section III.C.3.c).(2), in performing its redirection, a person of ordinary skill in the art would have understood that Sarafa’s system uses the quoted message identifier to check for and locate the quoted message. As Sarafa explains, its system uses the quoted message identifier to “empower” its redirection function. Ex. 1007 ¶ 92. To the extent Sarafa’s redirection function also involves a “control” that is not transmitted from the replying device to the receiving device, that does not negate that the redirection is based on the quoted message identifier, as the redirection may be based on both the quoted message identifier and the “control.”

(4) Conclusion Regarding Independent Claims 1 and 10

Petitioner supports its position that independent claims 1 and 10 would have been obvious over Ji and Sarafa by explaining in detail its position that it would have been obvious to combine Ji's and Sarafa's teachings, as well as its position that, in combination, the references teach every limitation of independent claims 1 and 10. Pet. 15–42. Having reviewed all of the parties' arguments and evidence, we find Petitioner has demonstrated by a preponderance of the evidence that independent claims 1 and 10 would have been obvious over Ji and Sarafa. *Id.* at 4–42; PO Resp. 6–51; Pet. Reply 1–19; PO Sur-reply 2–23.

d) Dependent Claims 7 and 16

Dependent claim 7 depends from independent claim 1, and dependent claim 16 depends from independent claim 10. Ex. 1001, 19:61–62, 20:52–53. Each of dependent claims 7 and 16 recites “wherein said information associated with said message that is displayed is other than any portion of said message that was displayed.” *Id.* at 19:62–64, 20:53–55.

In the Petition, Petitioner addresses these claims by arguing that [a]s discussed with respect to limitation 1[e]/10[g] and claims 4, 5, 10, and 13 above, Sarafa discloses selecting a quoted message portion to redirect the display of the message thread to an initial display of the quoted message. Sarafa discloses providing “the context of a quoted message” by “providing messages that were displayed before and/or after the quoted message.” Ex. 1007 at [0090]. By displaying messages “before and/or after the quoted message,” Sarafa discloses displaying “information associated” with the quoted message that is “other” than any portion of the quoted message. Cockburn Decl. ¶ 123.

Pet. 50.

In its Response, Patent Owner argues that Petitioner and Dr. Cockburn rely on functionality present on the receiving device, but not the transmitting device. PO Resp. 52. Based on this, Patent Owner argues that the cited portion of Sarafa does not meet the claims. *Id.*

In its Reply, Petitioner counters that Patent Owner's argument has the same flaws as Petitioner alleged in Sections III.A.2 and III.B.2 of its Reply. Pet. Reply 19. In those Sections of Petitioner's Reply, Petitioner argued (among other things) that Sarafa's redirection feature is available on both transmitting and receiving devices. *Id.* at 12.

In its Sur-reply, Patent Owner does not further address Petitioner's arguments that it would have been obvious to combine Ji and Sarafa in a manner that would meet dependent claims 7 and 16. *See generally* PO Sur-reply.⁹

For the reasons discussed above in Section III.C.3.c).(3).(a), Petitioner persuades us that, contrary to Patent Owner's arguments, a person of ordinary skill in the art would have understand Sarafa as teaching that both transmitting and receiving devices would have performed the functions Petitioner cites. Having reviewed all of the parties' arguments and evidence, we find Petitioner has demonstrated by a preponderance of the evidence that dependent claims 7 and 16 would have been obvious in view of Ji and Sarafa.

⁹ Patent Owner's Sur-reply does discuss Petitioner's arguments that it would have been obvious to combine Ji, Sarafa, and Oh in a manner that would have met the limitations of dependent claims 7 and 16. PO Sur-reply 23–25. Those arguments address issues not affecting Petitioner's challenge of dependent claims 7 and 16 as allegedly obvious over the combination of Ji and Sarafa.

e) Dependent Claim 23

Dependent claim 23 depends from claim 1 and recites “wherein said link is one of a plurality of links formed in said further message, and said plurality of links correspond to a plurality of messages, respectively.”

Ex. 1001, 21:9–12. Petitioner alleges that “Ji in view of Sarafa” discloses this limitation. Pet. 55. Petitioner argues that

Sarafa discloses forming a plurality of links in a further message using “recursive encoding of a message package.” *Id.*; Ex. 1007 at [0083]. Sarafa discloses that the message packet format has a quoted message field that stores the quoted message as it was originally sent and may include the quoted message’s respective message package field (i.e., the quoted message’s links). Ex. 1007 at [0081]. A [person of ordinary skill in the art] would understand that “in some embodiments, only a single level of quoting may be used,” while in other embodiments “the contents, if any, of the quoted message field for the first message 460” are included “when the first message 460 is quoted in the quoting message 560.” *Id.* at [0081], [0083]. In this way, Sarafa teaches forming a plurality of links to a plurality of messages in a further message. Cockburn Decl. ¶¶ 141-45.

Id. at 55–56.

In its Response, Patent Owner alleges “[t]here are at least two flaws” in Petitioner’s analysis. PO Resp. 52. First, Patent Owner argues, to the extent Sarafa discloses a “link” in its reply message, the recursive encoding would result in “a plurality of alleged links in a **plurality** of messages.”

Id. at 52–53. Patent Owner contends that

[e]ven assuming, *arguendo*, that the quoted text from a prior message is a “link” (which it is not), there is one “quoted message field” in a message package, and the field would include quoted text from one message. No other quotes would be immediately visible until the quoted message is extracted so that it becomes the quoting message, that would itself potentially have a quoted message field. Cockburn at ¶¶141-143. This is

fundamentally different than the feature in the '198 patent in which multiple references (which may be links) are included in the reply message. *See, e.g.,* '198 patent at Fig. 10B, 13:10-36.

Id. at 53.

Second, Patent Owner argues, Sarafa's redirection feature "is based on a user interface 'control' created on the device receiving the reply message." *Id.* Patent Owner reiterates that Sarafa's quoted text is not the claimed "link." *Id.*

Petitioner counters that Patent Owner's arguments rest on attorney argument and lack substantive merit. Pet. Reply 19. Addressing Patent Owner's first argument, Petitioner asserts that "claim 23 does not require displaying the plurality of links" and "as Dr. Cockburn explained, Sarafa's recursive encoding means that multiple replies are encapsulated into a *single* message package that is transmitted from the sender to the receiver."

Id. at 19–20.

Addressing Patent Owner's second argument, Petitioner reiterates its positions that Patent Owner proposes an erroneous construction of "link" and that "Sarafa discloses a link even under [Patent Owner's] construction." *Id.* at 19. In support of its argument that Patent Owner's construction of "link" is erroneous, Petitioner cites Section II of its Reply, which includes Petitioner's claim-construction arguments. *Id.* at 1–7, 19. In support of its argument that Sarafa discloses a "link" even under Patent Owner's claim construction, Petitioner cites Section III.A.2 of its Reply, which explains (among other things) that "Sarafa teaches that the quoted message (including the identifier) is transmitted from the sending device to the receiving device, where the quoted message identifier is then used to locate the quoted text on the receiving device." *Id.* at 8, 19.

In its Sur-reply, Patent Owner does not further address Petitioner's arguments that it would have been obvious to combine Ji and Sarafa in a manner that would meet dependent claim 23. *See generally* PO Sur-reply.¹⁰

Weighing the parties' arguments and evidence, we find Petitioner's more persuasive than Patent Owner's. As discussed above in Section III.C.3.c).(2), Petitioner persuades us that Sarafa's disclosure of the quoted message identifier teaches the claimed "link," and Sarafa teaches transmitting the quoted message identifier between devices. Additionally, Petitioner persuades us that Sarafa's discussion of "recursive encoding of a message package" teaches including multiple quoted messages and their quoted message identifiers in one reply message. Ex. 1007 ¶¶ 81, 83; Pet. 55–56; Pet. Reply 19–20. We find unpersuasive Patent Owner's argument that the recursive encoding would not display multiple links at once, due to the nested arrangement of quoted messages within the reply message. PO Resp. 52–53. As Petitioner notes, claim 23 does not require displaying the recited "plurality of links." Pet. Reply 19–20.

In sum, we determine Petitioner has demonstrated by a preponderance of the evidence that dependent claim 23 would have been obvious in view of Ji and Sarafa.

¹⁰ Patent Owner's Sur-reply does discuss Petitioner's arguments that it would have been obvious to combine Ji, Sarafa, and Oh in a manner that would have met the limitations of dependent claim 23. PO Sur-reply 23–25. Those arguments address issues affecting Petitioner's challenge of dependent claim 23 as allegedly obvious over the combination of Ji and Sarafa.

f) Dependent Claims 2–6, 8, 9, 11–15, 17–22

Dependent claims 2–6, 8, 9, 11–15, and 17–22 recite certain additional limitations that narrow these claims’ scope compared to the independent claims. Ex. 1001, 19:40–61, 19:65–20:4, 20:30–51, 20:56–21:8. Petitioner provides a detailed explanation of why it believes dependent claims 2–6, 8, 9, 11–15, and 17–22 would have been obvious in view of Ji and Sarafa. Pet. 43–55. Aside from the above-discussed arguments regarding independent claims 1 and 10, Patent Owner does not dispute Petitioner’s allegations that 2–6, 8, 9, 11–15, and 17–22 would have been obvious in view of Ji and Sarafa. *See generally* PO Resp. Having reviewed the arguments and evidence of record, we find Petitioner has demonstrated by a preponderance of the evidence that dependent claims 2–6, 8, 9, 11–15, and 17–22 would have been obvious over Ji and Sarafa.

D. GROUND 2 – ALLEGED OBVIOUSNESS OVER JI, SARAFA, AND OH

In Ground 2, Petitioner cites a combination of Ji, Sarafa, and Oh as disclosing certain limitations recited in claims 7, 16, and 23. Pet. 61–66. Because we determine that claims 7, 16, and 23 would have been obvious over Ji and Sarafa, we do not reach Ground 2.

IV. CONCLUSION¹¹

In summary:

Claims	35 U.S.C. §	Reference(s)/Bas is	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–23	103	Ji, Sarafa	1–23	
7, 16, 23	103	Ji, Sarafa, Oh ¹²		
Overall Outcome			1–23	

V. ORDER

In consideration of the foregoing, it is:

ORDERED that claims 1–23 have been shown, by a preponderance of the evidence, to be unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Strike is denied-in part-and dismissed-in-part; 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.

¹¹ 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).

¹² As explained above in Section III.D, we do not reach this challenge.

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