

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.¹,
Petitioner,

v.

WRINKL, INC.,
Patent Owner.

IPR2021-00883
Patent 10,728,192 B2

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

POWELL, *Administrative Patent Judge*.

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

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

I. INTRODUCTION

A. BACKGROUND

Facebook, Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–9, 11–20, 22–28, and 30 of U.S. Patent No. 10,728,192 B2 (Ex. 1001, “the ’192 patent”). Paper 2 (“Pet.”). Wrinkl, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Having considered the arguments and the associated evidence, for the reasons described below, we institute *inter partes* review of all the challenged claims on all the grounds set forth in the Petition.

B. RELATED PROCEEDINGS

The parties note that the ’192 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 IPR2021-00882. Paper 4, 1.

C. THE ’192 PATENT

The ’192 patent relates to management of computer messaging. Ex. 1001, 1:19–20. A computer messaging “conversation” between multiple users can involve many messages exchanged over the course of “hours, days, or even years.” *Id.* at 1:42–46. “[T]he chat message session may simulate a real-life conversation.” *Id.* at 3:59–60. Over the course of a session, the topic may have changed many times. *Id.* at 3:11–20. “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 3:20–22.

Accordingly, when sending a new message, a user may include information clarifying which earlier message the user is addressing. *Id.* at 4:2–13. 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 ’192 patent describes this approach as problematic, noting limited message space and possible omission of important information. *Id.* at 4:13–20.

The ’192 patent’s “invention relates . . . in particular to the ability of one message to reference another message.” *Id.* at 2:42–44. The ’192 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 4:25–37.

The ’192 patent discloses an example using a “reference object” and a “display object” to allow a second message to reference a first message.

Id. at 4:38–5:4. The '192 patent discloses one embodiment in connection with Figures 8A–8D. Figure 8B is reproduced below.

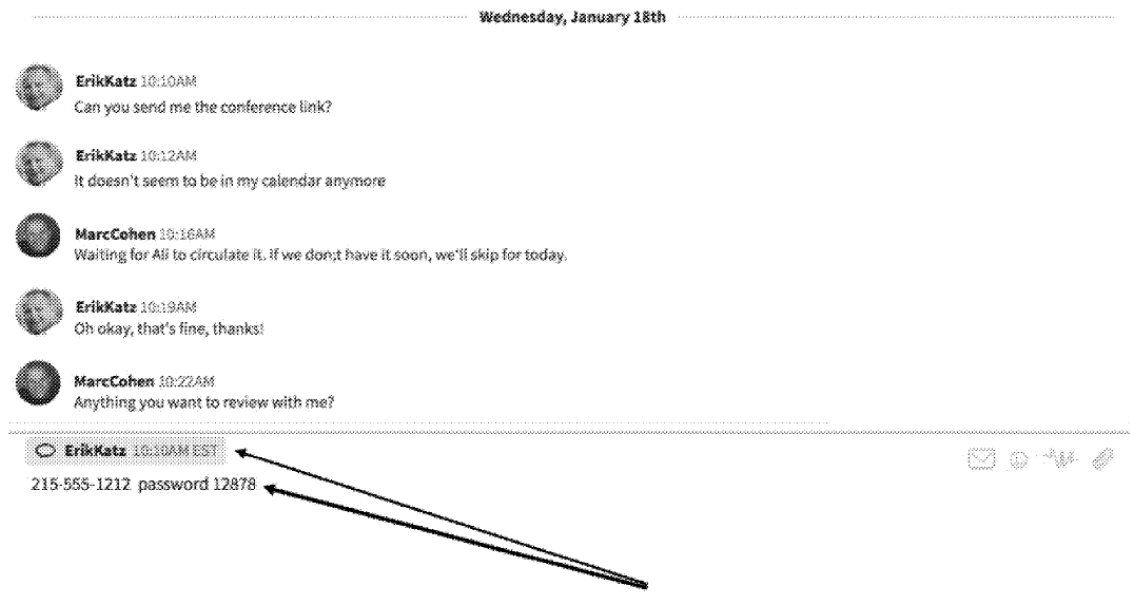


Figure 8B

Figure 8B is a screenshot of a computer-messaging conversation between ErikKatz and MarcCohen, showing multiple messages they have exchanged. *Id.* at 2:9–11, 10:28–44, 11:22–23.

At the stage shown in Figure 8B, the two users have exchanged a series of messages. *Id.* at 10:31–44, 11:22–23. ErikKatz asked “[c]an you send me the conference link?” in the first message of the conversation. *Id.* at 10:39–41. MarcCohen wishes to respond to this first message. *Id.* at 10:38–41. Given that four intervening messages have been sent, a question arises: how MarcCohen can respond to the first message without confusion? *Id.* at 10:44–46. Copying the first message into a response may undesirably “entail multiple steps including highlighting, selecting, copying, selecting and pasting.” *Id.* at 10:46–53.

The '192 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 4:53–56. 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 11:1–3, 11:22–26. “The reference object may provide a link to automatically identify and access data from the first message.” *Id.* at 4:56–58. The user may add text before or after the reference object in the text entry bar. *Id.* at 4:58–59, 11:51–53.

After the user has triggered insertion of the reference object and finished adding text, the user may send the message. *Id.* at 11:60–63. An example appears in Figure 8C, which is reproduced below.

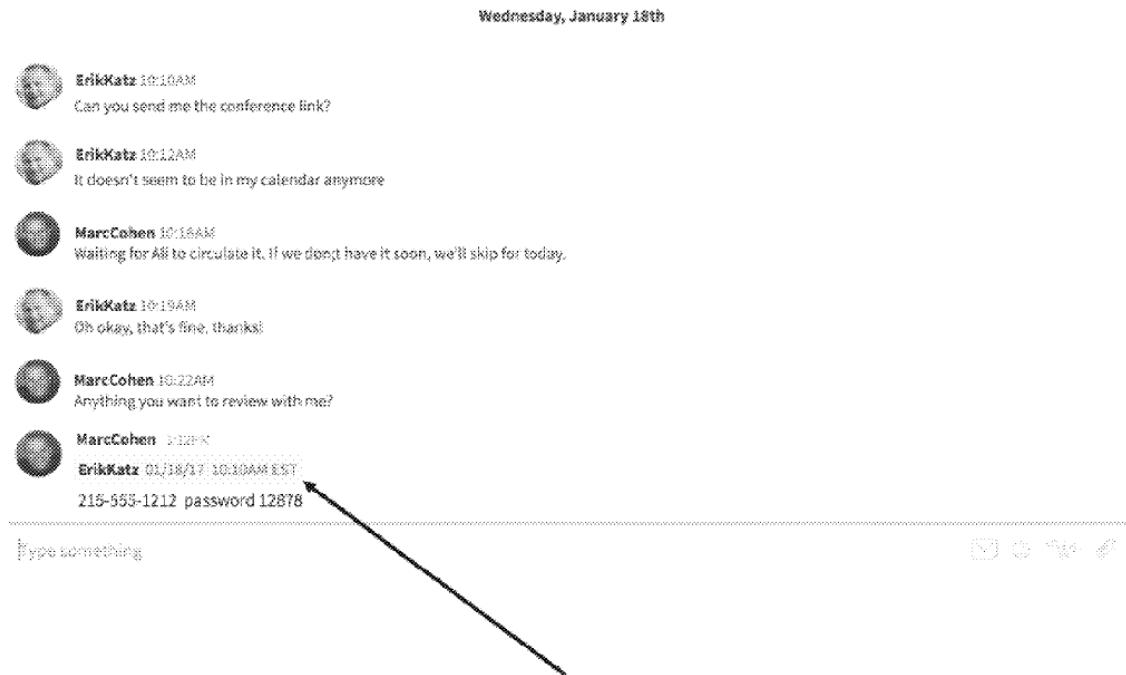


Figure 8C

Figure 8C shows the conversation after MarcCohen has transmitted his reply to ErikKatz's message. *Id.* at 11:60–65.

“When the message is sent, a display object associated with the first message is included in the newly posted second message.” *Id.* at 4:59–61. 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 11:64–67. The “‘display object’ . . . references the first message.” *Id.* at 4:41–43.

The display object may be activated. *Id.* at 5:5–6. “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 5:6–10. The reader gets useful context by seeing the referenced message. *Id.* at 5:10–13. An example appears in Figure 8D, which is reproduced below.

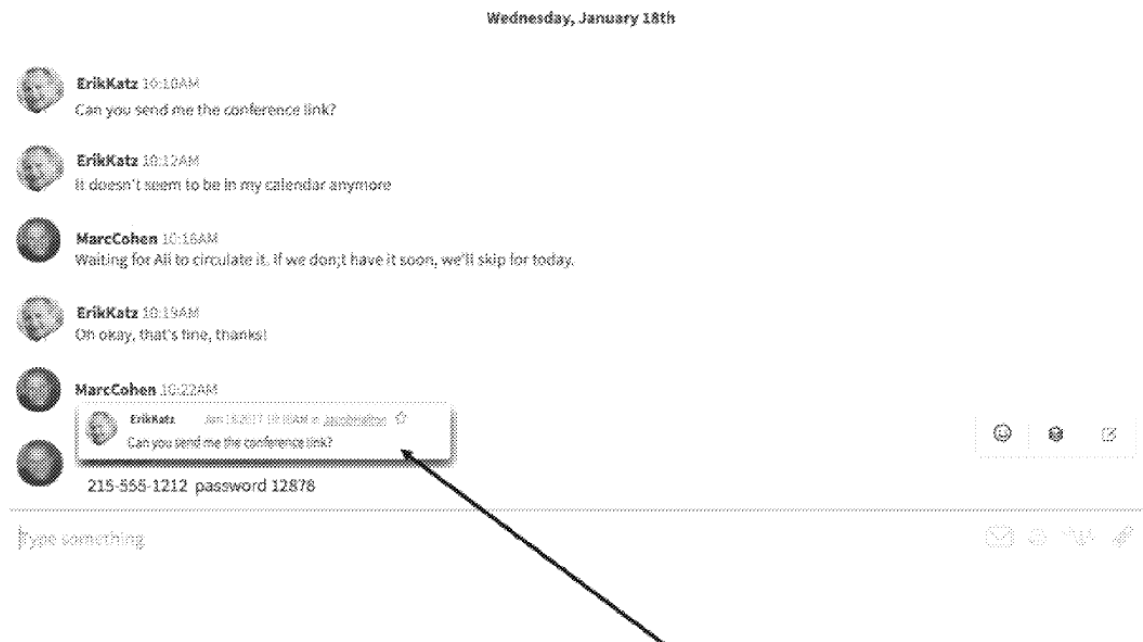


Figure 8D

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 12:12–14.

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 16:10–13. “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 16:17–20.

According to the ’192 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 4:66–5:4.

D. ILLUSTRATIVE CLAIM

Of the challenged claims, claims 1, 16, and 24 are independent. Each of claims 2–9, 11–15, 17–20, 22, 23, 25–28, and 30 depends from one of claims 1, 16, and 24. Claim 1 is illustrative and is reproduced below with certain reformatting:²

1. [1

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] A method for operating a messaging device, said method comprising the steps of:  
[1[a]] displaying to a first user, on a display of said device, a window displaying at least a portion of a stream comprising graphical message display objects, each graphical message display object displayed in said window occupying a respective displayed area having a boundary and one or more
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² We have added the same numbers used by the Petition to identify each of claim 1’s limitations.

fixed graphical elements displayed therein, wherein said window is associated with a predefined plurality of users of a messaging system, said plurality including said first user, and wherein at least a subset of the display objects in said stream represent respective messages of a chat message session between those users;

[1[b]] directly responsive to receiving, through a user interface of said device, a single click or touch screen gesture that interacts with at least one of said fixed graphical elements displayed within the boundary of a first one of said displayed graphical message display objects:

[1[c]] displaying, on said display and in conjunction with display of a message creation interface including a text entry box, a reference indication indicating a reference to said first one of said displayed graphical message display objects;

[1[d]] while said message creation interface is displayed, continuing to display at least a portion of said stream in said window, and enabling the device to respond to clicks or touch screen gestures that interact with at least one other of said graphical message display objects in said stream; and

[1[e]] in response to receiving further user input through said message creation interface during display of said reference indication:

[1[f]] displaying, in said window, a new graphical message display object based on said further user input and in association with a graphical reference to a message associated with said first one of said displayed graphical message display objects; and

[1[g]] transmitting, to at least one of said predefined plurality of users, a message based on said further user input, and a reference to said message associated with said first one of said displayed graphical message display objects; and

[1[h]] making said device responsive to a click or touch screen gesture interacting with said graphical reference to provide

a further display indicating content of said message represented by said graphical reference.

Ex. 1001, 19:23–20:2.

E. ASSERTED GROUNDS OF UNPATENTABILITY

Petitioner challenges the patentability of claims 1–9, 11–20, 22–28, and 30 of the '192 patent on the following grounds (Pet. 4):

Claims Challenged	35 U.S.C. §	Reference(s)
1–9, 11–20, 22–28, 30	103 ³	Ji ⁴ , Sarafa ⁵ , Oh ⁶

In support of its challenges, Petitioner also relies on the Declaration of Andrew Cockburn, Ph.D. Ex. 1003.

II. 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

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 '192 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”).

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

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. 13. At this stage, Patent Owner does not dispute Petitioner's definition of a person of ordinary skill in the art.

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 set forth above, which also comports with the testimony of Dr. Cockburn (Ex. 1003 ¶ 31).

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).

The Petition states that “[a]ll claim terms have been accorded their plain and ordinary meaning.” Pet. 14.

Patent Owner proposes a construction for the claim term “reference.”
Prelim. Resp. 14–20. Patent Owner argues that

[t]he term “reference” in the claims of the ’192 patent should be construed according to the express definition of the term found in . . . the . . . ’192 patent[]: “By ‘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.” ’192 patent, 4:25-27; The connection allows a recipient to directly access the original message, and thus the recipient device may, for example, automatically jump to the first message without having the user search for it. . . . ’192 patent at 16:10-13. The connection also allows the recipient device to retrieve all or a portion of the original message for display, without requiring a user to manually locate it.

Id. at 14. Patent Owner further argues that “[a] link is the quintessential reference.” *Id.* at 16–17.

For the reasons explained in Sections II.C and II.D, Petitioner has demonstrated a reasonable likelihood of establishing obviousness of the challenged claims, regardless of which party’s arguments about the meaning of “reference” are more correct. Accordingly, we need not construe expressly any claim language. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”); *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).

At the same time, we find one aspect of Patent Owner’s arguments regarding the construction of “reference” warrants some discussion. To the extent that Patent Owner views the term “reference” as coextensive with the term “link,” we have reason to believe the scope of the term “reference” may

differ from the scope of the term “link.” As Patent Owner observes, the ’192 patent discloses “[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, 4:25–27; Prelim. Resp. 14. Even if this disclosure indicates that a link is a type of reference, it does not say that every reference is a link. Indeed, the ’192 patent’s disclosure of “a (reference) object . . . that links or otherwise references a chat message” may suggest the terms “link” and “reference” are not coextensive. Ex. 1001, 3:26–29. For example, this disclosure may suggest that a reference can be but need not be a link. The parties are asked to address this observation during the trial.

C. GROUND 1 – ALLEGED OBVIOUSNESS OVER JI, SARAFA, AND OH

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.

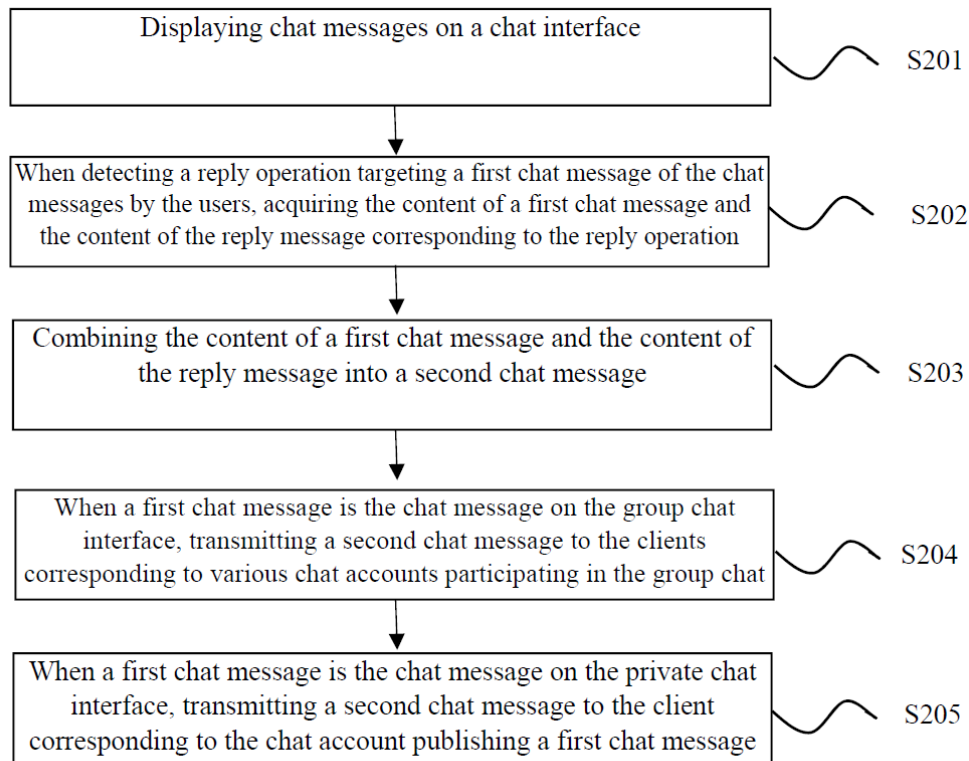


Figure 2

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.

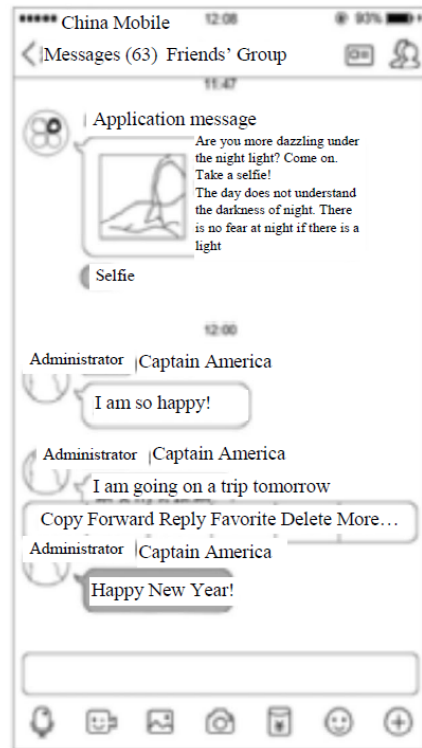


Figure 10

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.

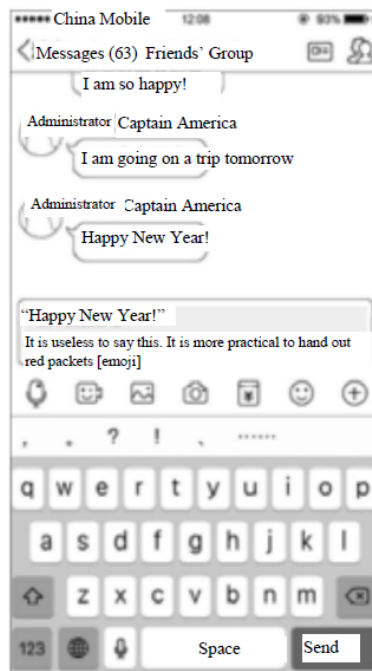


Figure 11

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.

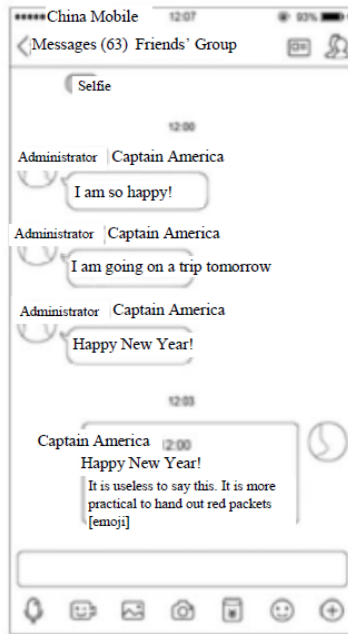


Figure 12

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.

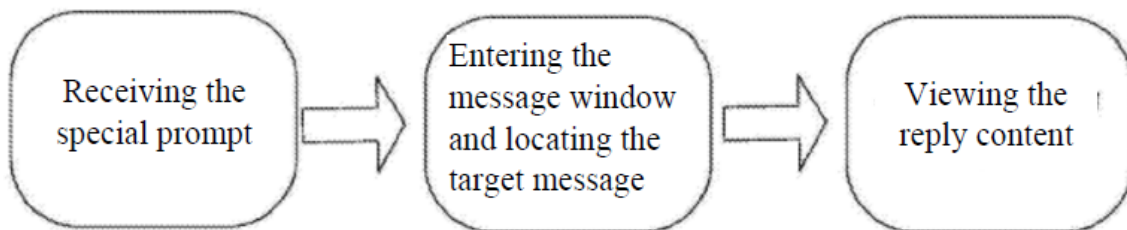


Figure 8

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. ¶ 92.

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.

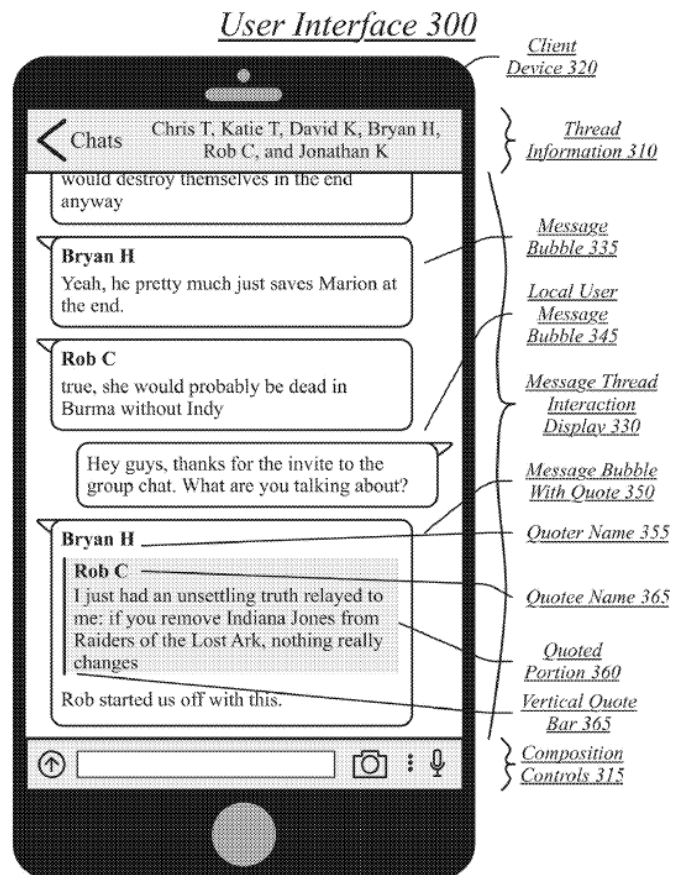


FIG. 3

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 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

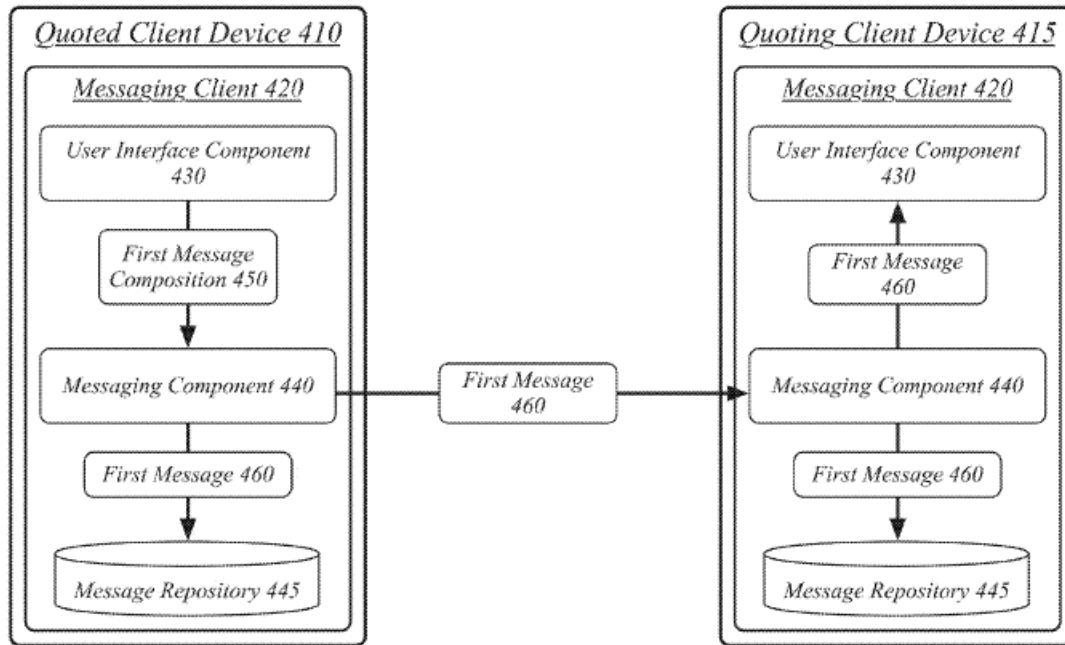


FIG. 4

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 430, messaging component 440, and message repository 445. *Id.* ¶¶ 75–77. User interface 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 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

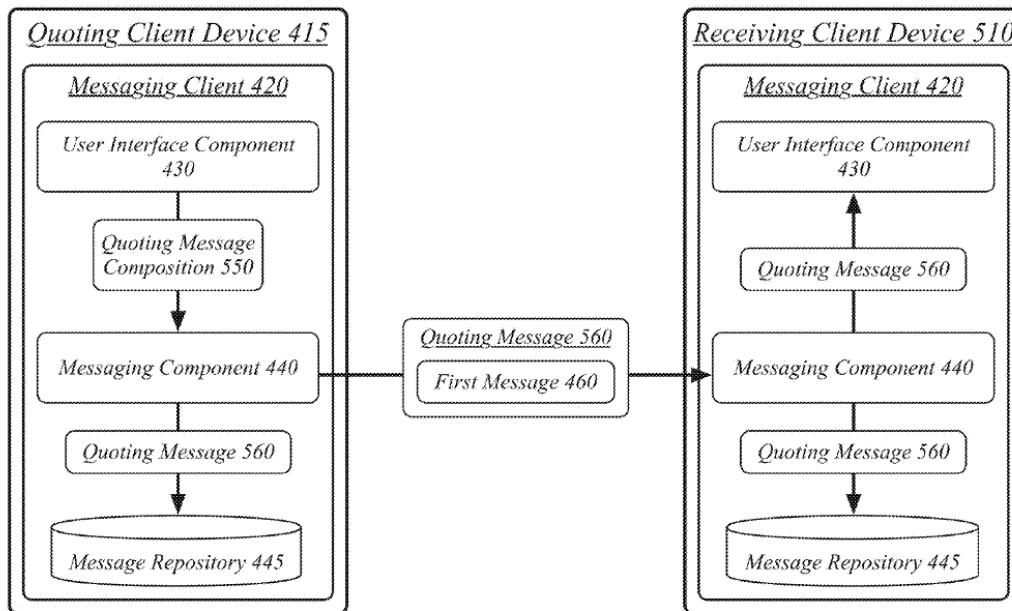


FIG. 5

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 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

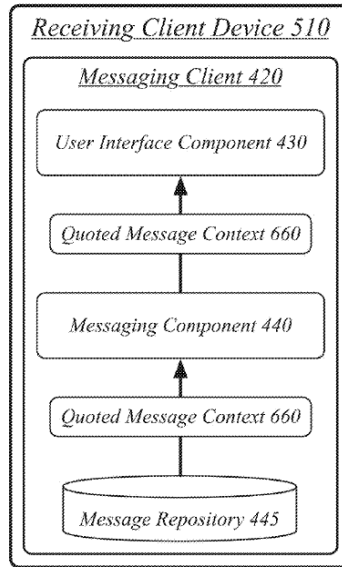


FIG. 6

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

The 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 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 430 acquires it from message repository 445, which may be executed via messaging component 440. *Id.*

3. *Overview of Oh*

Oh relates to messaging with a mobile terminal, such as a smartphone. Ex. 1008 ¶¶ 3, 234. Oh discusses increasing popularity of using such a mobile terminal for messaging with dialog windows showing sent and received messages. *Id.* ¶ 8. Oh explains that, as a result of high message volumes and limited display sizes, the mobile terminal may have “to display only the latest messages with respect to the current time.” *Id.* ¶¶ 9–11. “When multiple conversations with different topics are performed between several users, each user may experience difficulty in reading related messages together on the dialog window.” *Id.* ¶ 13. Accordingly, Oh discloses provisions to clarify the context of a conversation for users. *Id.* ¶ 15.

Oh discusses one embodiment in connection with Figure 7, which is reproduced below.

FIG. 7

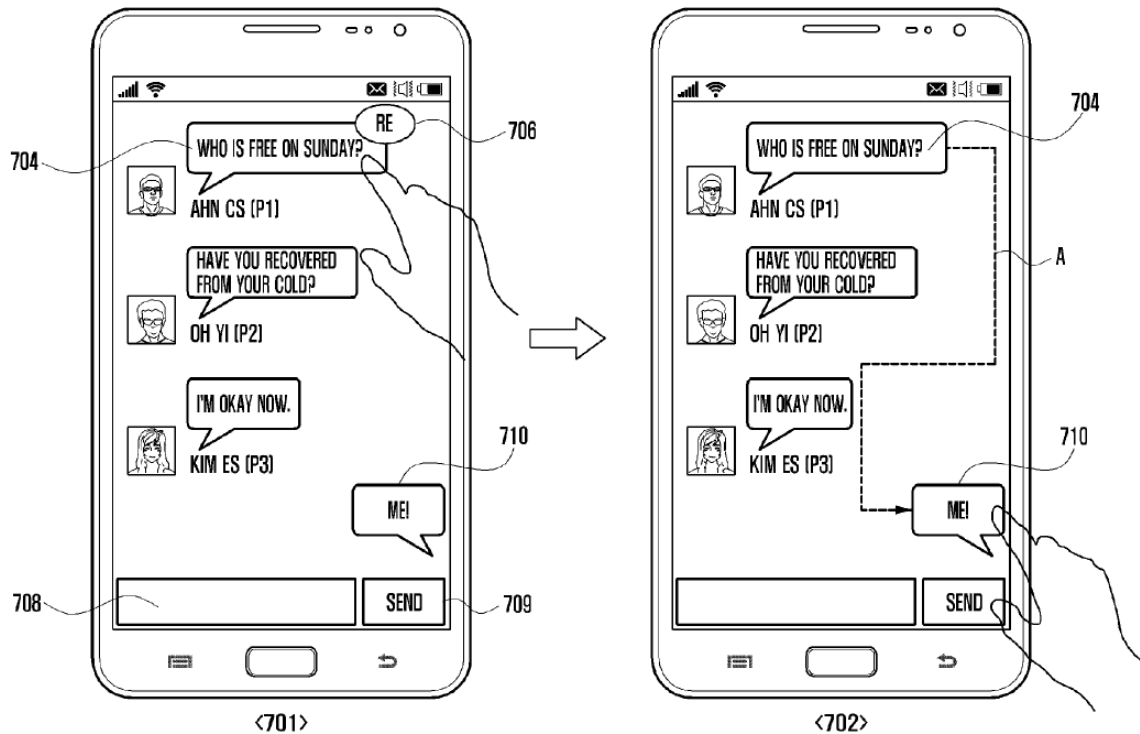


Figure 7 illustrates screen representations of a mobile terminal showing a dialog window of a message-based conversation function. *Id.* ¶¶ 180–181.

The dialog window shows messages from several participants. *Id.* ¶ 182. The messages are represented by word balloons. *Id.*

The system allows a user to create a link between an existing message and a new message. *Id.* ¶ 183. As indicated by reference numeral 701, the mobile terminal allows a user to select word balloon 704. *Id.* ¶ 184. When a user does so, link symbol 706 attaches to word balloon 704. *Id.* ¶ 185. Subsequently, a user may enter a message in input field 708 and touch send button 709. *Id.* ¶ 190. The mobile terminal displays the entered message as new word balloon 710 with a context-linking item shown between word

balloon 704 and word balloon 710. *Id.* ¶¶ 190–191. For example, the mobile terminal may show dotted link line A connecting word balloon 704 and word balloon 710. *Id.* ¶ 191.

Oh discusses certain details of its messaging method in connection with Figure 3, which is reproduced below.

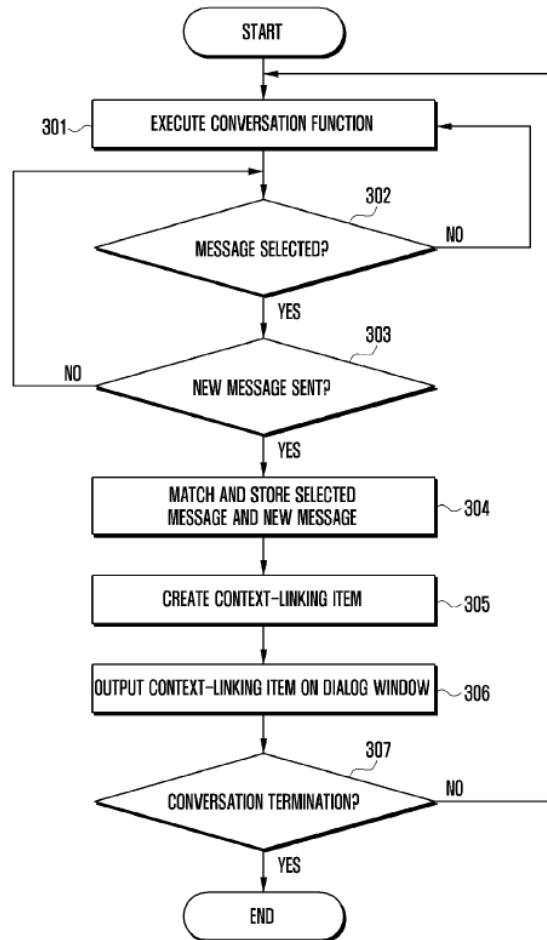


Figure 3 is a flowchart that shows “a procedure for assigning contextual information to messages and displaying the same in conversation operation.” *Id.* ¶ 95.

In step 301, the mobile terminal’s control unit responds to a conversation initiation request by executing the conversation function

application. *Id.* ¶ 96. This involves displaying the messages users have entered. *Id.*

In step 302, the control unit determines “whether at least one of the messages is selected by the user.” *Id.* ¶ 97. Then,

[w]hen at least one message is selected, the control unit . . . determines whether a new message is sent in step 303. That is, when the user enters a new message in the input field while selecting at least one word balloon, the new message will be output on the dialog window and sent to the counterpart.

Id. ¶ 98.

When a new message is sent, in step 304, the control unit generates a mapping between the new message and the selected message, storing the messages and the mapping together. *Id.* ¶ 100. Then, in step 305, the control unit generates a context-linking item between the new message and the selected message. *Id.* ¶ 101. “A context-linking item is represented as a link line linking word balloons or as a link symbol attached to word balloons.” *Id.* ¶ 103.

In step 306, the control unit “outputs the context-linking item on the dialog window.” Subsequently, in step 307, the control unit checks “whether an input signal for conversation termination is generated.” *Id.* ¶ 116. If not, the control unit reverts to step 301, continuing conversation operation. *Id.*

4. *Discussion*

a) *Petitioner’s Arguments*

Petitioner argues that, like the ’192 patent, the cited prior art recognizes and addresses challenges of communicating clearly and efficiently within computer-messaging conversations. Pet. 8–10, 14–20. Petitioner contends that, “[l]ike the ’192 patent, Ji’s solution is directed to

improving the efficiency of users in locating and reading messages.” *Id.* at 16. Petitioner also asserts that, “[l]ike the ’192 patent, Sarafa discloses the quoted message providing additional functionality by changing display of information associated with the quoted message.” *Id.* at 17.

Petitioner further contends that the cited prior art teaches the limitations that garnered allowance of similar claims in related U.S. Patent No. 9,860,198 B1 (“the ’198 patent”). *Id.* at 1, 7, 11–12, 14–20, 32–34. Petitioner asserts that “the ’192 patent is part of a patent family that was only allowed by amending the claims to require the formation 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 7, 14–20, 26–32, 34–72. In doing so, Petitioner argues that both Ji and Sarafa teach certain features recited in the challenged claims. For example, Petitioner argues that each of Ji and Sarafa discloses a “reference,” which appears in limitations 1[c], 1[e], 1[f], 1[g], 1[h], 16[e], 16[g], 16[h], 16[i], 16[j], 24[c], 24[e], 24[f], 24[g], and 24[h], as well as dependent claims 2–9, 11–13, 17–20, 22, 25–28, and 30. Ex. 1001, 19:44–45, 19:55, 19:58, 19:63, 19:67, 20:2, 20:9, 20:17, 20:20, 20:25, 20:27–30, 20:33, 20:38, 20:42, 20:46, 20:50–51, 20:55, 21:24–25, 21:35, 21:38, 21:44, 21:48–49, 21:51, 21:57, 21:65, 22:3, 22:7, 22:13, 22:18, 22:49–50, 22:59–60, 22:63, 23:1, 23:7–8, 23:15, 24:1, 24:6–7, 24:10–11, 24:15–16, 24:21. Petitioner asserts that “Ji discloses . . . a reference.”

Pet. 34. Petitioner also argues that “[s]imilar to Ji, Sarafa discloses a . . . reference,” addressing limitations 1[h], 16[j], and 24[h]. *Id.* at 50.

Each of limitations 1[h] and 24[h] recites “making said device responsive to a click or touch screen gesture interacting with said graphical reference to provide a further display indicating content of said message represented by said graphical reference.” Ex. 1001, 19:66–20:2, 23:4–8. Limitation 16[j] is nearly identical. *Id.* at 21:47–51. Regarding these limitations, in combination with its assertion that Sarafa discloses a reference, Petitioner cites Sarafa’s disclosure of “[a] message that quotes another message.” Pet. 51 (quoting Ex. 1007 ¶ 70). Petitioner argues that the quoted message constitutes a reference. *Id.* at 50–51. Petitioner elaborates that

Sarafa teaches that the quoted message may have “one or more controls that empower the user to shift a display of a message thread to the context of the quoted message.” Ex. 1007 at [0090]. In particular, Sarafa discloses selecting the area of the quoted message within message 350. *See id.* at [0091]. As Sarafa explains, “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.” *Id.*

Id. at 52.

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 the original message quoted in the reply message.

Id. at 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 22. 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 23.

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

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.* at 24.

With each reference also disclosing a feature for scrolling back to show the user the earlier message in context, Petitioner argues that “Sarafa would therefore be a natural complement to Ji—by selecting the quoted message within the reply message, Ji's display would dynamically scroll back to the original message and its surrounding context to provide the user with fluid and intuitive access to the messaging history.” *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 18 (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).

Petitioner cites Oh when addressing certain claim limitations. For example, Petitioner argues that “Ji in view of Oh discloses” limitations 1[d], 16[f], and 24[d]. Pet. 38. These limitations reference limitations 1[c], 16[e], and 24[c], which require displaying “on said display and in conjunction with display of a message creation interface including a text entry box, a reference indication indicating a reference to said first one of said displayed graphical message display objects.” Ex. 1001, 19:42–46, 21:22–26, 22:47–52. Adding to this requirement, limitations 1[d], 16[f], and 24[d] recite “while said message creation interface is displayed, continuing to display at least a portion of said stream in said window, and enabling the device to respond to clicks or touch screen gestures that interact with at least one other of said graphical message display objects in said stream.” *Id.* at 19:47–52, 21:27–32, 22:53–57.

Petitioner argues that Ji discloses most of the requirements of these limitations, but states that “Ji does not expressly disclose enabling the device to respond to clicks or touch screen gestures that interact with at least one of the other graphical message display objects in the stream while the message creation interface is displayed.” Pet. 39. Petitioner contends that this requirement of limitations 1[d], 16[f], and 24[d] “would have been a natural and obvious design choice.” *Id.*

Petitioner elaborates that a person of ordinary skill in the art would have needed to decide whether to make the message interface modal or non-modal. *Id.* at 39–40. According to Petitioner and Dr. Cockburn, a modal

interface would “force the user to interact only with the interface,” whereas a non-modal interface would “allow the user to continue to interact with other messages.” Pet. 39–40; Ex. 1003 ¶ 120. Dr. Cockburn testifies that “[a] modal design would disable all other interaction while the user is engaged with a specific sequence of actions with the interface.” Ex. 1003 ¶ 36. In connection with this, Dr. Cockburn cites Exhibit 1014, which discloses that

[a] common use of modes is for GUI-based software to display so-call modal dialog boxes—dialog boxes that, when displayed, block users from interacting with other windows on the screen. They are called “modal” because they put the computer into a mode in which input to windows other than the modal dialog box is ignored.

Ex. 1014, 8.⁷

Petitioner argues that “a [person of ordinary skill in the art] would have been motivated to implement the message receipt interface of Ji using a non-modal design.” *Id.* at 40. Alleging certain disadvantages with modal interfaces, Petitioner contends that a non-modal interface lends itself to Ji’s system. *Id.* at 40–41.

Specifically, Petitioner contends Oh uses a non-modal interface that lends itself to Ji’s system. *Id.* at 41–44. Petitioner argues that Oh’s system allows a user to select multiple messages to which a single reply message will respond. *Id.* at 42–44. Petitioner asserts that “by allowing a user to select multiple messages, a [person of ordinary skill in the art] would understand that Oh teaches interacting with at least one other message while the message creation interface is displayed.” *Id.* at 44.

⁷ We cite to the page number in the lower right of Exhibit 1014.

Petitioner also argues that “[a person of ordinary skill in the art] would have been motivated to combine the teachings of Ji and Sarafa with the additional teachings of Oh with a strong expectation of success.” *Id.* at 24. Petitioner notes that Oh discloses an alternative mobile messaging application from one of the world’s biggest smartphone makers. *Id.* at 24–25. Petitioner adds that Ji, Sarafa, and Oh endeavor to improve messaging by addressing similar issues related to reply messages. *Id.* at 25–26. Petitioner adds that a person of ordinary skill in the art would have recognized certain advantages of including Oh’s disclosure of enabling a user to reply to multiple messages with a single reply message. *Id.* at 25–26.

Additionally, Petitioner argues that “[a person of ordinary skill in the art] would have had a strong expectation of success in combining Oh with Ji and Sarafa, and the result would have been predictable.” *Id.* at 26. In connection with this, Petitioner cites similarities between Ji, Sarafa, and Oh. *Id.* Petitioner adds that combining Oh’s disclosure with Ji and Sarafa would involve “implementing a user experience technique that was well-understood, commonplace, and encouraged as a preferred approach in the art at the time.” *Id.*

b) Patent Owner’s Arguments

Patent Owner argues that, contrary to Petitioner’s assertion, Ji does not disclose a reference. Prelim. Resp. 4–5, 21–36. As discussed above in Section II.B, Patent Owner contends that

[t]he term “reference” in the claims of the ’192 patent should be construed according to the express definition of the term found in . . . the . . . ’192 patent[]: “By ‘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.” ’192 patent, 4:25-27; . . . The connection allows a recipient to directly

access the original message, and thus the recipient device may, for example, automatically jump to the first message without having the user search for it. . . . ’192 patent at 16:10-13. The connection also allows the recipient device to retrieve all or a portion of the original message for display, without requiring a user to manually locate it.

Id. at 14.

Such features are not disclosed by Ji, Patent Owner argues. *Id.* Instead, Patent Owner argues, Ji discloses including a mere copy of an earlier message within a reply message. *Id.* at 4–5, 22–28, 32–36. Patent Owner asserts that a mere copy of an earlier message does not constitute a reference, explaining that the ’192 patent disclaims the approach of merely duplicating an earlier message. *Id.* at 10, 15, 19–20, 25–27, 32–34. Patent Owner elaborates that a mere copy of an earlier message lacks certain advantages that are provided by the claimed invention of the ’192 patent. *Id.* at 28–32, 34.

Patent Owner contends that “[t]he absence of . . . the claimed reference . . . in Ji is fatal [to the Petition] because Petitioner relies solely on Ji for the disclosure of [this limitation].” *Id.* at 5. Relatedly, Patent Owner argues that “Petitioner relies solely on the Ji reference” for limitations 1[g], 16[i], and 24[g]. *Id.* at 21.

c) Analysis

Weighing the parties’ arguments and evidence, we determine Petitioner has demonstrated a reasonable likelihood of establishing that each of the challenged claims would have been obvious over Ji, Sarafa, and Oh. At this stage, Petitioner has provided sufficient arguments and evidence that (1) a person of ordinary skill in the art would have had motivation and a reasonable expectation of success for the proposed combination of the

disclosures of Ji, Sarafa, and Oh and (2) the proposed combination would meet all limitations of each challenged claim.

Petitioner's showing is sufficient, regardless of which party's proposed construction of reference is applied. Even if Patent Owner's proposed construction is correct, Petitioner sufficiently addresses the claimed reference with the combined disclosures of Ji, Sarafa, and Oh. For example, we find availing Petitioner's assertion that Sarafa discloses a reference when it discloses using a quoted message to redirect the device display to show the original message in context. Pet. 50–53. We find there is a reasonable likelihood of Petitioner establishing that the cited portions of Sarafa disclose “a connection” that “allows a recipient to directly access the original message, and thus the recipient device may, for example, automatically jump to the first message without having the user search for it” and “allows the recipient device to retrieve all or a portion of the original message for display, without requiring a user to manually locate it.” *See* Prelim. Resp. 14. Accordingly, we find a reasonable likelihood of Petitioner establishing that Sarafa discloses a reference in accordance with Patent Owner's understanding of that term. At this stage, Patent Owner does not dispute Petitioner's argument that Sarafa discloses a reference.

Additionally, we find Petitioner has shown sufficiently that a person of ordinary skill in the art would have had motivation and a reasonable expectation of success for modifying Ji's system to use a reference in the manner disclosed by Sarafa. Pet. 14–18, 20–24, 50–53. Similarly, we find Petitioner has shown sufficiently that a person of ordinary skill in the art would have had motivation and a reasonable expectation of success for combining the cited portions of Oh's disclosure with the disclosures of Ji

and Sarafa. *Id.* at 18–20, 24–26, 38–44. At this stage, Patent Owner does not dispute that it would have been obvious to combine the cited portions of the disclosures of Ji, Sarafa, and Oh.

Furthermore, we find a reasonable likelihood that Petitioner will establish that the allegedly obvious combination of Ji’s, Sarafa’s, and Oh’s disclosures would have resulted in a messaging system implementing a reference in all the ways recited in the challenged claims. At this stage, our review of the record does not reveal an apparent distinction between the challenged claims and a system that would have resulted from combining the disclosures of Ji, Sarafa, and Oh in the manner proposed by Petitioner. Here again, Patent Owner does not address Sarafa, Oh or the proposed combination of their disclosures with Ji; Patent Owner only argues Ji does not disclose a reference. In sum, based on the proposed combination of the references’ teachings, Petitioner has demonstrated a reasonable likelihood of prevailing on its obviousness assertions, even if Ji does not disclose a reference.

In reaching this result, we recognize Patent Owner’s suggestion that Petitioner must show Ji discloses a reference because “Petitioner relies solely on Ji” when discussing certain limitations that recite a reference. Prelim. Resp. 5. This is a myopic characterization of Petitioner’s arguments. Each of the challenged independent claims recites “reference” in multiple, interrelated limitations. Ex. 1001, 19:44–45, 19:55, 19:58, 19:63, 19:67, 20:2, 21:24–25, 21:35, 21:38, 21:44, 21:48–49, 21:51, 22:49–50, 22:59–60, 22:63, 23:1, 23:7–8. Addressing certain of the independent claims’ limitations that recite “reference,” the Petition expressly argues that “Sarafa discloses . . . a reference.” Pet. 50. In connection with this, the Petition

argues that Sarafa discloses the very features that the Preliminary Response argues distinguish the challenged claims from Ji. *Id.* at 50–53. We find it unwarranted to ignore the Petition’s argument that Sarafa discloses a reference merely because Petitioner does not cite Sarafa every time it addresses one of the many recitations of “reference” in the claims.

III. CONCLUSION

For the foregoing reasons and after considering all of Patent Owner’s arguments to the contrary, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it will succeed in showing at least one claim is unpatentable. The Supreme Court has held that a final written decision under 35 U.S.C. § 318(a) must decide the patentability of all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018). Accordingly, we institute an *inter partes* review of all challenged claims under all grounds set forth in the Petition.

Our determination at this stage of the proceeding is based on the evidentiary record currently before us. This decision to institute trial is not a final decision as to patentability of any claim for which *inter partes* review has been instituted. Our final decision will be based on the full record developed during trial.

IV. ORDER

For the reasons given, it is:

ORDERED that an *inter partes* review is instituted on all challenged claims under all challenged grounds; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the ’192 patent is hereby instituted commencing on the

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entry date of this Decision, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

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