IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

CTEXT IP LLC,
Patent Owner.

U.S. Patent No. 9,246,857
Issue Date: January 26, 2016
Title: Method and System for Correlating Conversations in a Messaging Environment

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Inter Partes Review No.: IPR2025-01112

DECLARATION OF TREVOR DARRELL, Ph.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,246,857

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iv. [15c] “providing a message entry location for entering new messages, the message entry location associated with the discussion interface;” 61

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vii. [15f] “receiving at least one new message entered at the message entry location;”.....63

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iii. [10b] "receiving, at the second interface device, the first indication;" 77

iv. [10c] “displaying the first new message at the second interface device, wherein the displaying of the first new message incorporates a third visual cue shared solely by messages associated with the active conversation of the first indication.” 79

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i. [1pre] “A computer based method for correlating conversations in a messaging environment, the method comprising:” 86

ii. [1a] “providing a discussion interface at a first interface device, wherein the discussion interface displays a first message and a second message;” 87

iii. [1b] “providing a message entry location for inputting new messages, the message entry location associated with the discussion interface,” 88

iv. [1c] “receiving, at the first interface device, a first indication that the first message is part of an active conversation;” 89

v. [1d] “changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by messages associated with the active conversation;” 90

vi. [1e] “receiving a first new message at the message entry location; and” 94

vii. [1f] “displaying the first new message within the discussion interface at the first interface device,” 94

viii. [1g] “wherein the displaying of the first new message incorporates the first visual cue shared by messages associated with the active conversation.” 95

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i. [2] “The computer based method of claim 1 wherein the first indication is generated by a tapping input at a touch sensitive display of the first interface device.” 98

c. Claim 4 98

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iv. [5c] “defining the first new message as part of the first conversation,” 103

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vi. [15e] “modifying a visual element of the message entry location based on which of the conversations is the active conversation;”.....109

vii. [15f] “receiving at least one new message entered at the message entry location;”.....110

viii. [15g] “transmitting, using the transmission unit, the at least one new message to the computerized network incorporating an indication of which of the several conversations was the active conversation at the time of entry of the new messages; and” 110

ix. [15h] “displaying, at the display, the at least one new message alongside the several conversations and” 111

x. [15i] “incorporating visual cues shared with any messages that are part of the conversation that was the active conversation upon entry of the at least one new message.” 111

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I. INTRODUCTION

1. I am making this declaration at the request of Apple Inc. ("Apple" or "Petitioner") in the proceeding of the *Inter Partes* Review of U.S. Patent No. 9,246,857 ("the '857 Patent"). I am informed that the '857 Patent is purportedly owned by CText IP LLC ("CText" or "Patent Owner"). A copy of the '857 Patent is provided as exhibit EX1001 to the Petition.

2. I am over the age of eighteen (18) and otherwise competent to make this declaration, which is based upon facts and matters within my own personal knowledge or in information I have reviewed.

3. I am being compensated for my work in this matter at the rate of $900 per hour. I have no financial interest in either party or in the outcome of this proceeding. I am being paid for my time, regardless of the facts I know or discover and regardless of the conclusions or opinions that I reach and express. My compensation is not contingent on the outcome of this proceeding or the specifics of my testimony.

4. I have been asked to provide my technical expertise, analysis, insights, and opinions regarding the '857 Patent and prior art, and whether certain prior art references disclose, teach, or suggest features recited in claims 1-18 ("the Challenged Claims") of the '857 Patent. In forming the opinions expressed in this declaration, I relied upon my education and experience in the relevant field of the

art, and have considered the viewpoint of a person having ordinary skill in the relevant art ("POSITA") at the time of the alleged invention in December 2013. My opinions directed to the invalidity of the Challenged Claims are based, at least in part, on the patents, applications, and/or publications identified and discussed further below, which I have been instructed by Petitioner's counsel constitute prior art.

II. MY BACKGROUND, QUALIFICATIONS, AND PROFESSIONAL EXPERIENCE

5. My qualifications and professional experience for forming the opinions set forth in this declaration are summarized here and explained in more detail in my curriculum vitae, which is included as part of exhibit EX1004. EX1004 also includes a list of my publications and the cases in which I have testified at deposition, hearing, or trial during the past four years.

6. I am deeply experienced in the technical underpinnings and practical applications of AI, robotics, computer vision, and human-computer interfaces. My work spans both theoretical foundations and real-world systems for image recognition, autonomous systems, and machine learning frameworks.

7. I received a Bachelor of Science in Engineering (B.S.E) degree from the University of Pennsylvania in 1988. I received a Master of Science (M.S.) degree in 1991 and a Doctor of Philosophy (Ph.D.) degree in 1996, both from the Massachusetts Institute of Technology (MIT).

8. I am currently a Professor in the Computer Science Division (EECS) at UC Berkeley. I am also currently a member of the steering committee for the Berkeley Artificial Intelligence Research Center (BAIR). I was previously a Professor in the Department of Electrical Engineering and Computer Science at MIT from 1999 to 2008 and a Group Leader at the International Computer Science Institute (ICSI) from 2008 to 2014. I was appointed Associate Adjunct Professor in 2008 and have held the title of Professor-in-Residence since 2011. I also previously held academic appointments at MIT from 1999 to 2008, including roles as Assistant Professor and Associate Professor.

9. In addition to my university affiliations, I have served in a variety of research and teaching roles, including Research Staff at Interval Research Corporation, Visiting Researcher and Visiting Instructor at Stanford University, and Teaching Assistant at Cold Spring Harbor Laboratory.

10. I have been a long-standing contributor to leading conferences and journals in the fields of computer vision, machine learning, and human-computer interaction. I am also a past or current member of a number of scientific societies that focus on computer vision and machine learning, including the DARPA Information Science and Technology Advisory Study Group (2003-2014) and various National Science Foundation (NSF) Panels (2002-present). I have been invited to chair numerous conferences related to computer vision and machine

learning. For example, I have served as both the Area Chair and Program Chair for the Conference on Computer Vision and Pattern Recognition (CVPR), the Area Chair for the International Conference on Computer Vision (ICCV), the Area Chair and General Chair of the International Conference on Multimodal Interfaces (ICMI), the Area Chair for European Conference on Computer Vision (ECCV), the Area Chair for the International Conference on Machine Learning (ICML), the Area Chair for the International Conference on Learning Representations (ICLR). and the Program Chair for the Conference on Perceptual User Interfaces (PUI). I have been an editor for a number of leading journals in the field of computer vision and artificial intelligence, such as the Artificial Intelligence Journal (2004-2011) and the IEEE Transactions Pattern Analysis and Machine Intelligence Journal (2005-2011, 2015-2017).

11. I have been invited to serve on numerous study groups and advisory panels, including the DARPA Information Science and Technology (ISAT) advisory group, where I led multiple studies on topics such as adaptive representations, persistent surveillance, and trusted autonomous systems. I have served continuously on NSF panels since 2002, contributing expertise in areas such as AI, HCI, and cybersecurity.

12. I lead a laboratory where our current research focuses on algorithms to enable visual recognition across a variety of platforms and applications. My

research concerns areas of computer vision, machine learning, computer graphics, and perception-based human computer interfaces. I have published over 300 articles and conference papers related to computer algorithms, computer vision, and image processing. My publications have won several awards and honors, including the International Conference on Machine Learning (ICML) Test of Time Award in 2024, the Computer Vision Foundation Longuet-Higgins Prize in 2024, the Association for Computer Machinery SIGMM Test of Time Paper Award in 2024, the North American Associate for Computation Linguistics Best Paper award in 2016, the Computer Vision and Pattern Recognition Best Paper Honorable Mention in 2015, the ACM Multimedia Best Open Source Software Award in 2014, and the Internet Vision Workshop Best Paper Award in 2008. In 2016, my team also won the Everingham Prize at the International Conference on Computer Vision, recognizing our work in providing a significant contribution to the computer vision community. To date, my publications have been cited by other scholars over 269,000 times.

13. As an advisor and mentor, I have graduated numerous Ph.D. students who have gone on to successful careers in academia and industry. My past postdoctoral researchers now hold positions such as faculty appointments at leading universities or research scientist roles at major technology companies. I am currently advising several doctoral candidates at UC Berkeley.

14. I am a named inventor on several patents related to object recognition and image processing.

III. MATERIALS CONSIDERED

15. In preparing this declaration and formulating my opinions, I have considered, relied upon, and applied my own knowledge, background and experience in the relevant field. I have also considered the viewpoint of a POSITA in the field, as of the relevant time frame. I also reviewed the '857 Patent (EX1001), the file history of the '857 Patent (EX1002), and each of the documents cited herein, and I have considered these documents in light of the general knowledge in the art as of December 23, 2013.

16. Among other things, the documents and materials I reviewed and considered include:

Exhibit #	***Description***
1001	U.S. Patent No. 9,246,857 (the "'857 Patent")
1002	Prosecution History of the '857 Patent
1005	U.S. Patent No. 9,130,893 ("Chang")
1006	U.S. Patent No. 9,965,132 ("Stochosky")
1007	U.S. Publ. No. 2014/0143684 ("Oh")
1008	Claim charts from Amended Complaint in *CText IP LLC v. Apple Inc.*, 1:24-cv-8821 (S.D.N.Y.)

IV. RELEVANT LEGAL STANDARDS

17. I am not a lawyer, and therefore I offer no opinions on the law. Nonetheless, I have been informed and understand that certain legal standards are relevant to my analysis. In preparing and expressing my opinions and considering the subject matter of the '857 Patent, I rely on certain basic legal principles that counsel have explained to me, as summarized below.

A. Patent and Prosecution History

18. I have been informed that a patent includes a specification, one or more drawings, and one or more claims. I have been informed that the specification provides a written description of the patented invention, the drawings illustrate the invention, and the claims define the scope of the invention. I understand that the file history includes the back and forth communication between a patent applicant and the United States Patent and Trademark Office ("USPTO" or "Patent Office") during the application process, including the application itself, as well as office actions filed by the USPTO examiner and responses filed by the applicant.

19. I have been informed and understand that a patent is to be understood from the perspective of a POSITA. Such an individual is considered to possess normal skills and knowledge in a particular technical field (as opposed to being a genius). I have been informed and understand that in considering what the claims

of a patent require, what was known prior to that patent, what a prior art reference discloses, and whether an invention is obvious or not, one must use the perspective of such a POSITA.

B. Presumption of Validity and Burden of Proof

20. I have been informed and understand that an issued patent claim is presumed to be valid. I have further been informed that establishing a patent claim to be unpatentable in an *inter partes review* proceeding requires proof by "preponderance of the evidence," which I understand means proof that it is more likely than not that the claim is unpatentable.

C. Claim Construction

21. I have been informed and understand that the first step in an unpatentability analysis involves construing claims, as necessary, to determine their scope. Counsel has informed me that claim terms are given their plain and ordinary meaning as would be understood by one of ordinary skill in the relevant art. Because the meaning of a claim term may not be readily apparent, I understand that I should look to those sources available to the public that show what a POSITA would have understood a claim term to mean. These include, in order of importance, the words of the claims themselves, the patent specification, the prosecution history, and, finally, evidence outside the patent like dictionaries, textbooks, or other resources that may inform the meaning of the claim terms.

D. Prior Art

22. I am told that the second step in an unpatentability analysis involves comparing the construed claim language against the disclosures of the prior art.

23. I have been informed that prior art to the ’857 Patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the ’857 Patent. For purposes of this declaration, I have been asked to apply December 23, 2013, the filing date of Provisional application No. 61/920,177, to which the ’857 patent claims priority the filing date of the ’857 Patent, as the priority date.

24. I have further been informed and understand that a POSITA is presumed to know the relevant prior art.

25. I have been informed and understand that a patent claim may be declared unpatentable if it is anticipated by, or rendered obvious in view of, prior art.

E. Anticipation

26. I have been informed that, to anticipate a claim under 35 U.S.C. § 102, a reference must teach or disclose every element of the claim either expressly or inherently to a person having ordinary skill in the relevant art. I have also been informed that, to be an inherent disclosure, the prior art reference must necessarily disclose the limitation, and the fact that the reference might possibly

practice or contain a claimed limitation is insufficient to establish that the reference inherently teaches the limitation.

F. Obviousness

27. I have been informed that a patent claim is not patentable under 35 U.S.C. § 103 if the differences between the patent claim and the prior art are such that the claimed subject matter as a whole would have been obvious at the time the claimed invention was made to a person having ordinary skill in the relevant art. Obviousness, as I have been informed and understand, is based on the scope and content of the prior art, the differences between the prior art and the claim, the level of ordinary skill in the art, and, to the extent that they exist, certain objective indicia of non-obviousness.

28. I have been informed that whether there are any relevant differences between the prior art and the claimed invention is to be analyzed from the view of a person of ordinary skill in the relevant art at the time of the invention. As such, my opinions below as to a person of ordinary skill in the art are as of the time of the invention, even if not expressly stated as such; for example, even if stated in the present tense.

29. In analyzing the relevance of the differences between the claimed invention and the prior art, I have been informed that I must consider the impact, if any, of such differences on the obviousness or non-obviousness of the invention as

a whole, not merely some portion of it. The person of ordinary skill faced with a problem is able to apply his or her experience and ability to solve the problem and also look to any available prior art to help solve the problem.

30. I have been informed and understand that a single prior art reference can render a patent claim obvious under 35 U.S.C. § 103 if any differences between that reference and the claims would have been obvious to a POSITA.

31. Alternatively, I have been informed and understand that a prior art reference may be combined with other references to disclose each element of the invention under 35 U.S.C. § 103. Thus, the teachings of two or more references may be combined in the same way as disclosed in the claims, if such a combination would have been obvious to one having ordinary skill in the art. I have been informed and understand that a reference may also be combined with the knowledge of a person of ordinary skill in the art, and that this knowledge may be used to combine multiple references.

32. I have been informed that a precise teaching in the prior art directed to the subject matter of the claimed invention is not needed. I have been informed that one may take into account the inferences and creative steps that a person of ordinary skill in the art would have employed in reviewing the prior art at the time of the invention. For example, if the claimed invention combined elements known in the prior art and the combination yielded results that were predictable to a

person of ordinary skill in the art at the time of the invention, then this evidence would make it more likely that the claim was obvious. On the other hand, if the combination of known elements yielded unexpected or unpredictable results, or if the prior art teaches away from combining the known elements, then this evidence would make it more likely that the claim that successfully combined those elements was not obvious.

33. I have been informed that there are recognized, exemplary, rationales for combining or modifying references to show obviousness of claimed subject matter. Some of the rationales include the following: combining prior art elements according to known methods to yield predictable results; simple substitution of one known element for another to yield predictable results; use of a known technique to improve a similar device (method or product) in the same way; applying a known technique to a known device (method or product) ready for improvement to yield predictable results; choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the

prior art reference or to combine prior art teachings to arrive at the claimed invention.

34. I have been informed that objective indicia can be important evidence regarding whether a patent is obvious or nonobvious, if it has an appropriate nexus to the claimed invention, *i.e.*, is a result of the merits of a claimed invention (rather than the result of design needs or market-pressure advertising or similar activities). Such indicia include: commercial success of products covered by the patent claims; a long-felt need for the invention; failed attempts by others to make the invention; copying of the invention by others in the field; unexpected results achieved by the invention as compared to the closest prior art; praise of the invention by the infringer or others in the field; the taking of licenses under the patent by others; expressions of surprise by experts and those skilled in the art at the making of the invention; and the patentee proceeded contrary to the accepted wisdom of the prior art.

V. LEVEL OF ORDINARY SKILL IN THE ART

35. I have been informed and understand that a POSITA is a hypothetical person who is presumed to be aware of all pertinent prior art, thinks along conventional wisdom in the art, and is a person of ordinary creativity.

36. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and

experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

37. I have been informed by Apple's counsel that the earliest priority date for the '857 Patent is December 23, 2013, the filing date of Provisional application No. 61/920,177, to which the '857 patent claims priority.

38. Based on the technologies disclosed in the '857 Patent, I believe that a POSITA would include someone who had, at the priority date of the '857 Patent, a Bachelor's degree in computer science or a related field, and two years of experience working in the field of computer programming. An individual with less technical education but more experience, such as with building messaging applications, or vice versa, could also qualify.

39. Based on this criteria, as of the relevant time frame for the '857 Patent, I possessed at least such experience and knowledge of a POSITA, and am qualified to opine on the '857 Patent.

40. For purposes of this declaration, in general, and unless otherwise noted, my statements and opinions, such as those regarding my experience and the understanding of a POSITA generally (and specifically related to the references I consulted herein), reflect the knowledge that existed in the field as of December 23, 2013. Unless otherwise stated, when I provide my understanding and analysis

below, it is consistent with, refers to, and applies the level of a POSITA as of the priority date of the '857 Patent.

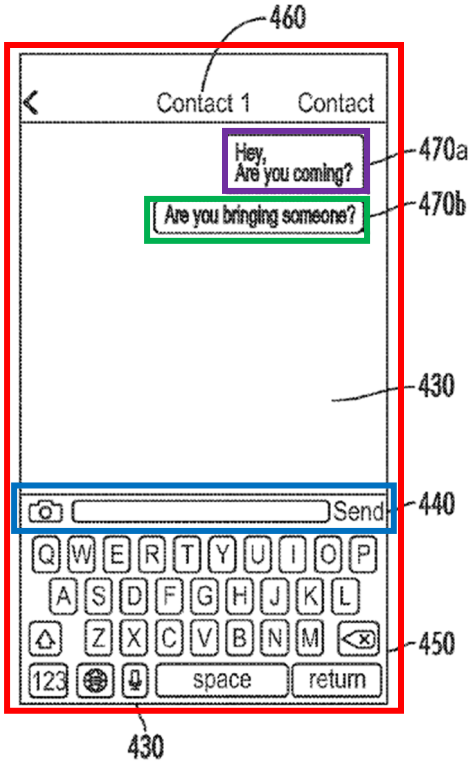
VI. OVERVIEW OF THE '857 PATENT

A. Disclosure of the '857 Patent

41. The '857 Patent relates to messaging or "chat" communications, such as for a mobile phone. EX1001, (10), (54), 1:15-26. The patent recognizes that "chats often form an extended dialogue between multiple parties, stretching across multiple conversation topics and extended periods of time," such that "it is not always clear what earlier comment a particular comment is responsive to." Thus, "[t]here is a need for a messaging method that allows parties conversing to follow multiple conversations exactly, even where those multiple conversations are intertwined and include questions, prompts, and answers that cross each other chronologically." *Id*., 1:21-62.

42. To address this problem, the '857 Patent provides "methods and systems for correlating conversations in a messaging environment, such as…where multiple conversations…are occurring within a single chat window…." The method is performed on and between several interface devices, which may be "smartphones, tablets, laptops, or other types of computer terminals." *Id*., 4:14-37.

43. An exemplary user interface is shown in FIG. 3B:



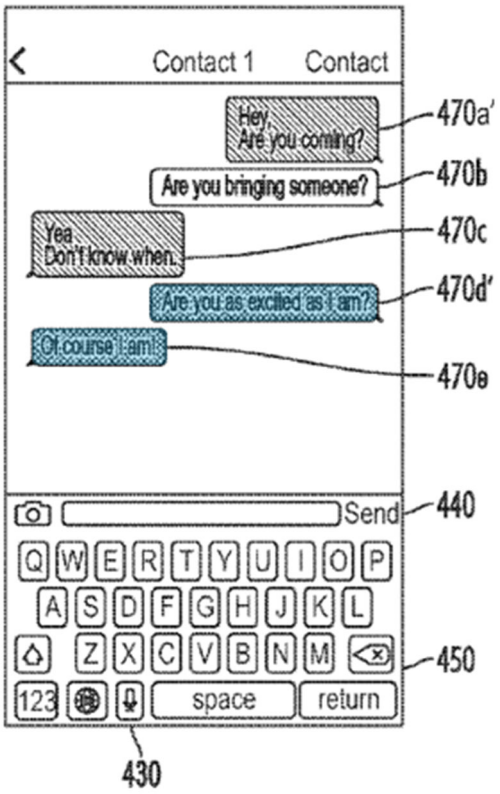
Id., FIG. 3B.[1] The user interface includes a "discussion interface 430" having a "message entry location 440." A "first message 470a" and a "second message 470b" are displayed. Messages are connected in terms of "conversations," where "the first message 470a may be part of a first conversation, and the second message 470b may be part of a second conversation." *Id.*, 5:1-17.

[1] All drawing annotations added. Some drawing figures may be excerpted. Language (including claim limitations) in colored font maps to same-colored regions in the annotated drawings.

44. In operation, the user may wish to continue a conversation from, or provide a message responsive to, one of the several messages displayed on the discussion interface. Accordingly, the user may indicate which one of the messages [s]he would like to respond to by, e.g., tapping a touch screen of the interface device. "This indication defines that message, or a conversation that the message is a part of as an active conversation...." *Id*., 5:24-34. "The active conversation may be…one of several previously existing conversations." *Id*., 2:6-7. When the user creates a new message at the message entry location 440, the message is incorporated into the defined active conversation and "displayed with a visual cue shared with other messages associated with the active conversation…." "[T]he visual cue may be a color associated with the active conversation, but it may instead be by way of text size, symbols or icons appended to the message…." *Id*., 5:46-56.

45. An example of two messages associated with the same conversation having the same visual cue[2] is shown in FIG. 3E:

[2] While the similar visual cue is indicated with "matching crosshatching" in the patent drawings (EX1001, 6:64-67), in this Declaration color annotation (e.g., blue background) has been added in the above and other reproduced figures to make the visual cue more clear.



Id., FIG. 3G.

46. The message entry location may have a background "that can be tinted to correlate with the visual cue of the active conversation" and "may be modified so that text entered appears in the same format and with the same visual cues as will appear when the text is transmitted…." *Id*., 11:4-17

B. Prosecution History of the '857 Patent

47. I reviewed the prosecution history for the '857 Patent (EX1002).

48. In the only Office Action, the Examiner rejected the claims as being unpatentable over U.S. Publ. No. 2003/0093363 ("Horsfall") and U.S. Patent No. 8,543,927 ("McKinley"). EX1002, at 242-56.

49. After an interview, the Examiner allowed the claims, making an amendment to add the limitation "*changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by messages associated with the active conversation*" or "*modifying a visual element of the message entry location based on which of the conversations is the active conversation*."[3] EX1002, at 55-58, 69-70.

50. As I explain below, the methods and systems claimed in the '857 Patent— including the limitations added to secure allowance—were well known in the art before the earliest priority date of the '857 Patent.

C. Claim Construction

51. I have been informed and understand that, for the purposes of this inter partes review, Petitioner submits that the terms of the '857 Patent should be given their plain and ordinary meaning as understood by a POSITA. In order to understand the meaning of the claims, I have reviewed the '857 Patent (EX1001) and its prosecution history (EX1002). I have applied the plain and ordinary meaning of the claim terms of the '857 Patent in my analysis. No specific construction of any claim term is required because the prior art references that I

[3] Claim language is quoted in italics throughout this petition to distinguish it from other quoted material.

rely on in this declaration meet or disclose each of the claim terms under any reasonable construction.

D. Priority Date of Claims

52. For the purposes of this *inter partes* review and my declaration, I have been instructed to assume that the effective filing date of each of the Challenged Claims is no earlier than December 23, 2014.

VII. CHALLENGES

A. Challenge 1: Claims 1-3, 5-9, 13-17 are unpatentable over Chang

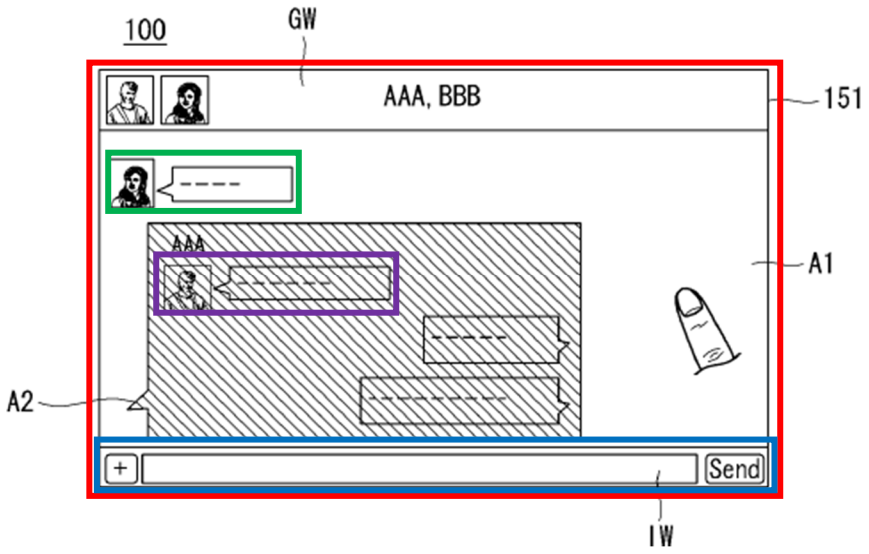
53. It is my opinion that U.S. Patent No. 9,130,893 (EX1005, "Chang"), in view of the knowledge and experience of a POSITA, discloses or suggests to a POSITA, the subject matter of each and every limitation of claims 1-3, 5-9, and 13-17 of the '857 Patent.

1. The Chang Reference (EX1005)

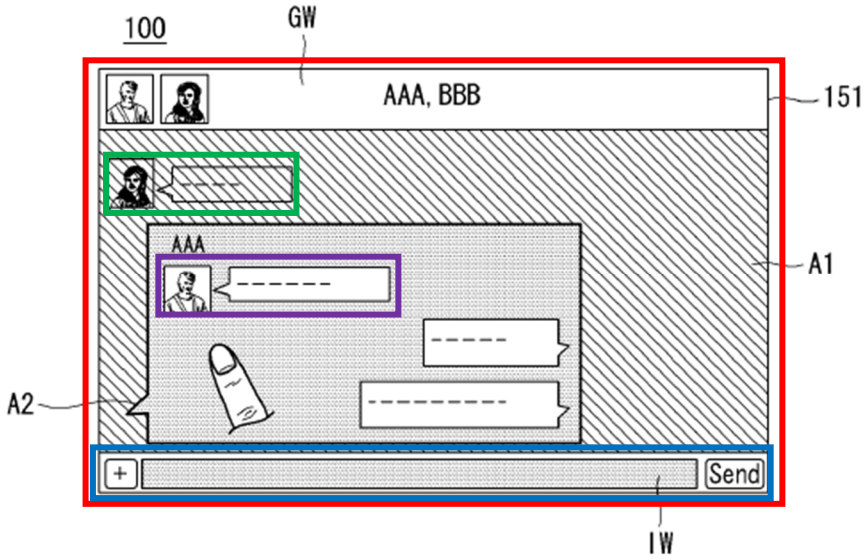
54. Chang was filed July 12, 2012 and published on March 21, 2013. EX1005, (12), (22), (45), (54), (65).

55. Chang is in the same field as the '857 Patent, i.e., electronic messaging and chat. *Id*., (54), (57), 1:15-36. For this messaging, Chang describes a "mobile terminal 100" which can include "a cellular phone, a smart phone, a laptop computer." *Id*., 3:54-57.

56. The mobile terminal includes a "display module 151 which may be a touch screen" and which may display a "chat window," as shown in FIGS. 21(a), 21(b). *Id.*, FIGS. 1, 21, 5:41-43, 11:44-47.



Id., FIG. 21(a).



Id., FIG. 21(b). Multiple messages may be displayed on the chat window in different chat areas. For example, a "group message" appears in a group chat area

A1, and a "private message" appears in a private chat area A2. The chat window includes an "input window IW" for entering messages. *Id*., 1:44-55, 12:42-67, 14:10-17, 19:61-20:9.

57. Chang recognizes the same problem as the '857 Patent: in messaging systems that display multiple chats or conversations to the user, it may be difficult or inconvenient for the user to follow or keep track of the chats. EX1005, 1:19-33.

58. And Chang provides the same solution: using a different background color, shade, or other visual element to intuitively distinguish between different chats. EX1005, 14:18-31.

59. Furthermore, Chang discloses the '857 Patent claim limitations—"*changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by messages associated with the active conversation*" or "*modifying a visual element of the message entry location based on which of the conversations is the active conversation*"—that were added during prosecution to secure allowance. Chang describes that when a user selects one of the chats or messages, the background color, shading, or other visual element of the message input window IW may be changed to be the same as that of the selected chat or message. EX1005, 20:41-48.

2. Detailed Invalidity Analysis

a. Claim 1

i. [1pre] "A computer based method for correlating conversations in a messaging environment, the method comprising:"

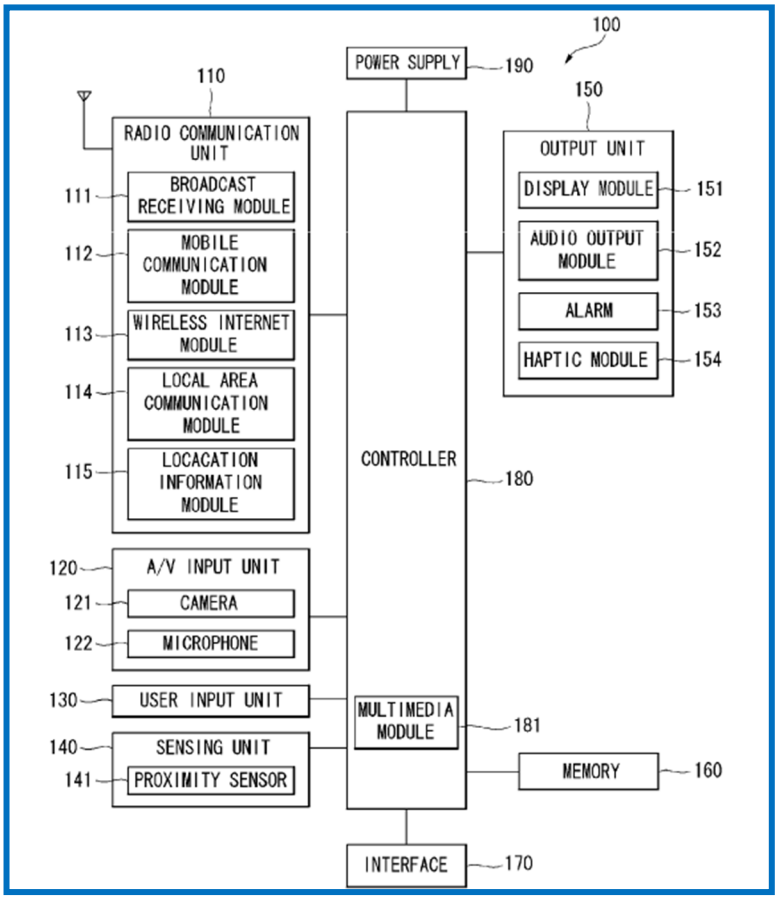
60. Chang discloses a "*computer based method*" because it describes "a mobile terminal and a method of controlling the same" where "[t]he mobile terminals…may include a cellular phone, a smart phone, a laptop computer" and the "method for the mobile terminal may be written as computer programs." EX1005, (57), 1:16-17, 3:54-57, …28:11-14, FIGS. 5, 20.

61. Chang discloses that its method is "*for correlating conversations in a messaging environment*." Chang describes, e.g., a "group chat area for displaying a group message transmitted to or received from a plurality of another parties and a private chat area for displaying a private message transmitted to or received from one of the plurality of another parties within one chat window." EX1005, (57), 12:42-67, 27:56-62. Chang's "group chat area" and "private chat area" are "*a messaging environment*" because they are each an area ("*environment*") for display of messages exchanged between parties. *Id.* A POSITA would have understood that the collective chat messages in each of the group and private chats is a "*conversation*" because in a chat or messaging environment like Chang's, "users create an instant conversation through dialog windows displaying sent and

received messages" between particular users." EX1007,[0008]. Chang teaches that "*conversations*" are "*correlat[ed]*" because a separate chat area (group or private) is provided for them, and thus "user convenience is improved," as discussed below. EX1005, (57), FIGS. 5, 21(a)-22(b), 27:56-62.

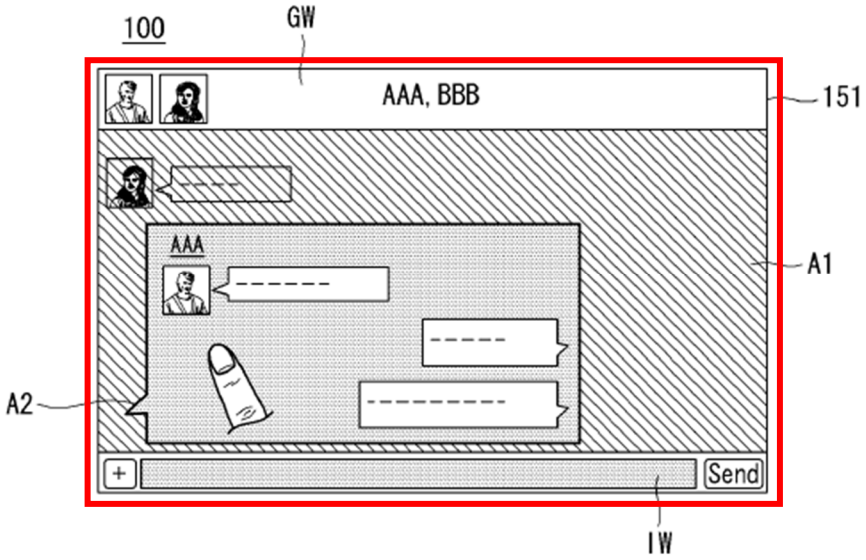
ii. [1a] "providing a discussion interface at a first interface device, wherein the discussion interface displays a first message and a second message;"

62. Chang discloses a "*first interface device*" as "a mobile terminal 100" that "may include a cellular phone, a smartphone, a laptop computer," as shown in FIG. 1.



EX1005, FIG. 1, 3:54-57.

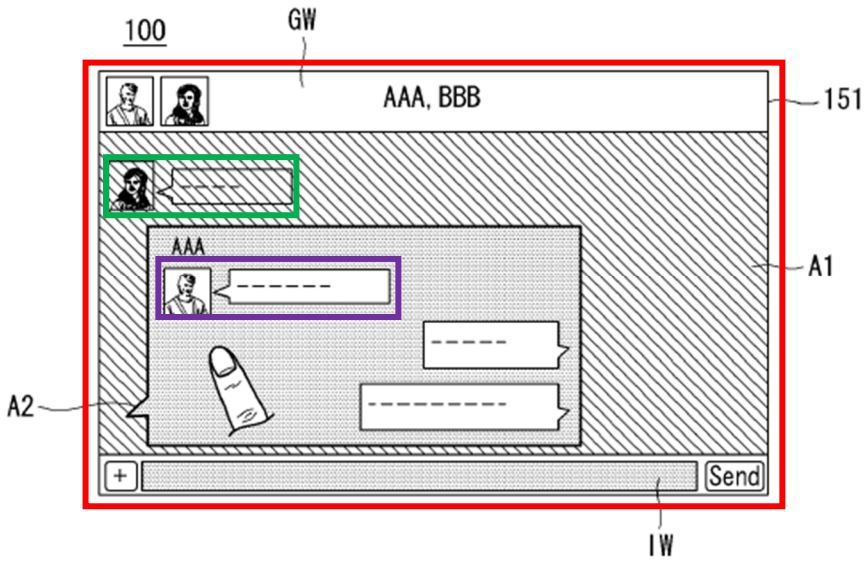
63. Chang discloses "*providing a discussion interface*" because Chang's mobile terminal provides a "chat window" where the user can interface with other parties to discuss various topics through chat messages. EX1005, FIGS. 1, 2, 5, 6, 21(a)-22(b), 1:24-26, 11:44-47, 12:42-46. An example is shown in FIG. 21(b).



Id., FIG. 21(b). The chat window ("*discussion interface*") may include a "group chart area A1" for a conversation with a group and a "private chat area A2" for a conversation with a specific other party. *Id.*, 21(a)-22(b), 12:46-59, 14:2-22, 19:64-20:67.

64. Chang discloses "*wherein the discussion interface displays a first message and a second message*" because multiple messages may be displayed on Chang's chat window ("*discussion interface*"), as seen in FIG. 21(b), where a "*first*

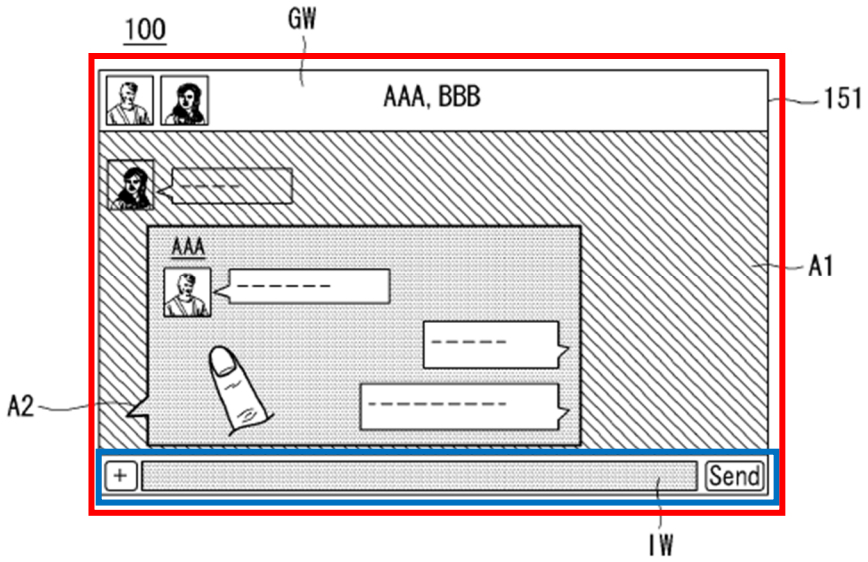
message" appears in private chat area A2, and a "*second message*" appears in group chat area A1.



Id., FIG. 21(b), 12:46-62.

iii. [1b] "providing a message entry location for inputting new messages, the message entry location associated with the discussion interface,"

65. Chang discloses a "*providing a message entry location for inputting new messages*" because an "input window IW" ("*message entry location*") is provided at which a user can enter new messages, as seen in FIG. 21(b).



EX1005, FIG. 21(b). "[A] new message…is input through the message input window." *Id.*, 16:20-22, 14:10-16.

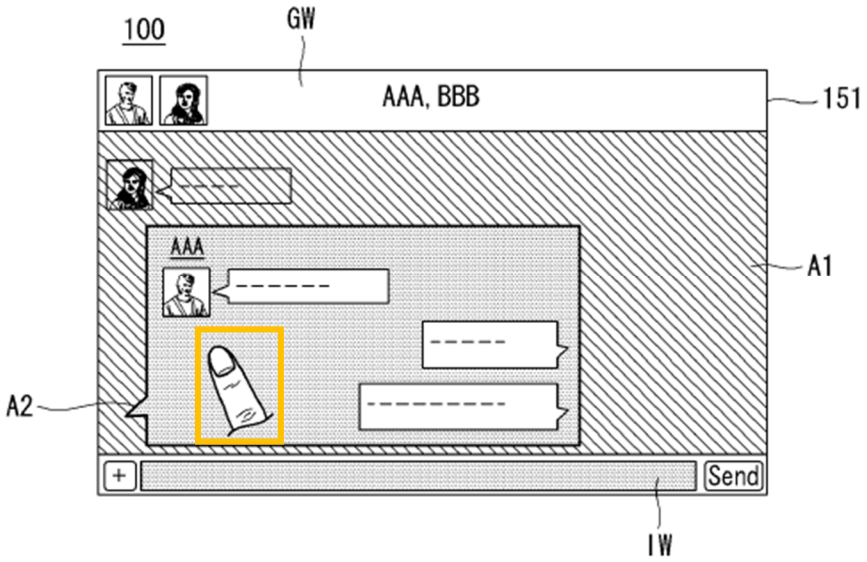
66. Chang discloses "*the message entry location associated with the discussion interface*" because the input window IW ("*message entry location*") is on the same screen as the chat window ("*discussion interface*"). EX1005, FIGS. 21(a), 21(b), 14:10-13 ("display one input window IW for inputting a message…in a predetermined area within the group chat window"), 20:49-51.

iv. [1c] "receiving, at the first interface device, a first indication that the first message is part of an active conversation;"

67. Chang discloses "*receiving, at the first interface device, a first indication*" because the mobile terminal ("*first interface device*") may receive an input ("*a first indication*") resulting from a user's touch to control and operate the terminal. In particular, Chang's mobile terminal includes a "user input unit 130"

and a "sensing unit 140" that "may receive input data required for controlling the mobile terminal 100 from a user," and may include a "touch pad," "touch screen," "proximity sensor," or "touch sensor." EX1005, FIG. 1, 5:59-6:54, 7:4-13, 10:28-67. "When the user applies a touch input to the touch sensor, a signal corresponding to the touch input may be transmitted to a touch controller." *Id*., 6:55-59. "A capacitive touch screen may be constructed such that proximity of an indicator is detected…." *Id*., 7:9-10. "[A] touch input is an input received by a touch gesture." *Id*., 11:1-4.

68. Chang discloses that the touch input ("*first indication*") indicates "*that the first message is part of an active conversation*" because such input may "select[] one of a group chat area and a private chat area" (corresponding to an existing group or private "*conversation*," respectively) so that the user can, e.g., input a new message in response to a "*first message*" in the conversation, as illustrated in FIG. 21(b).



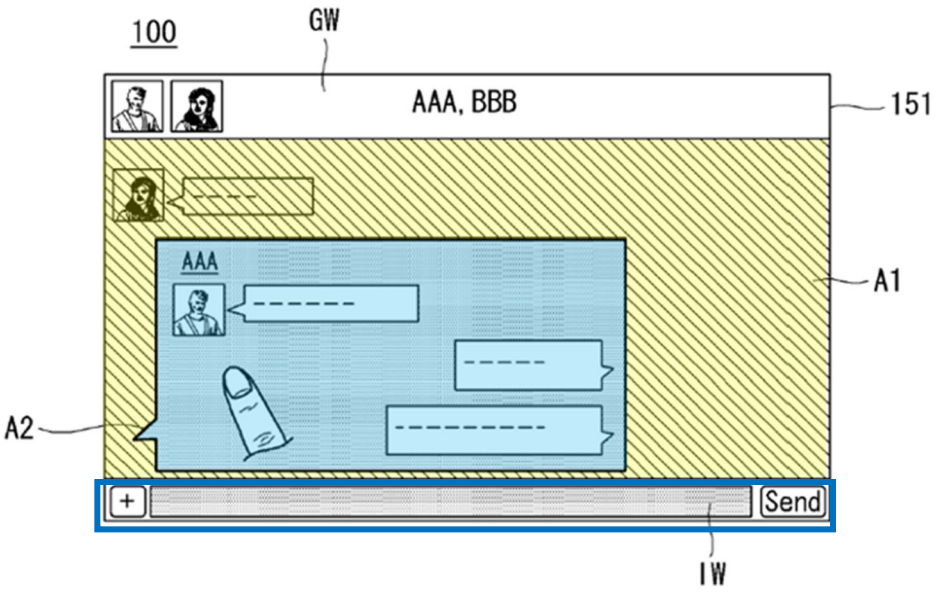
EX1005, FIG. 21(b), 20-22(b), 19:21-21:15. "[W]hen the private chat area A2 is touched, the controller 180 selects the private chat area A2 as an area in which an input message is displayed…." *Id*., 20:13-15. The "*first indication*" corresponds to the user's finger appearing on the display. A POSITA would understand that the private conversation is an "*active conversation*" because it is a previously existing conversation in which the user has been engaged. EX1001, 2:6-7.

v. [1d] "changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by messages associated with the active conversation;"

69. Chang discloses "*messages associated with the active conversation*" because messages appearing on the private chat window can be "*associated with*" the "*active conversation*" occurring in the private chat, as seen in FIG. 21(b). EX1005, FIG. 21(b).

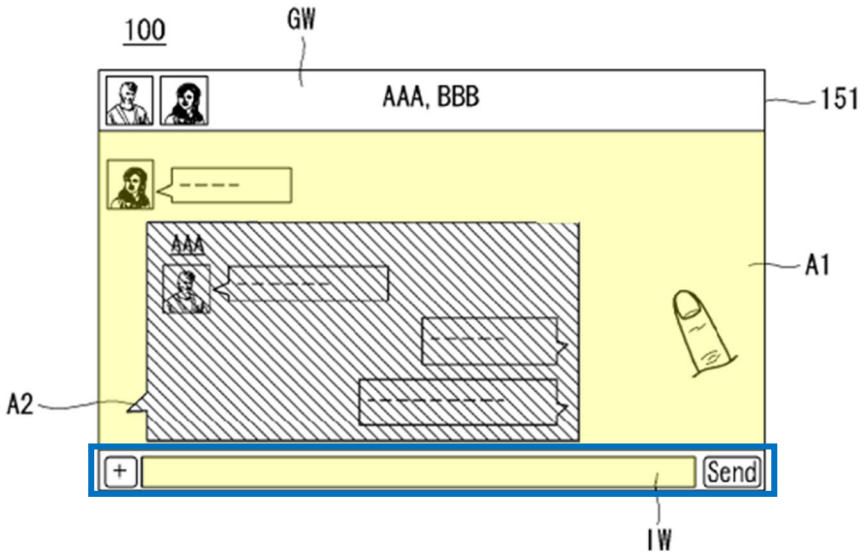
70. Chang discloses "*a first visual cue shared by*" messages associated with a particular chat ("*messages associated with the active conversation*") because such messages may share the same "background color, shade," or other visual effect ("***first visual cue***"[4]) so as to highlight, link, or correlate those messages. EX1005, 20:24-26. Chang "illustrates a case of differently displaying a background color of two areas in order to intuitively distinguish the group chat area A1 and the private chat area A2," as seen in FIG. 21(b).

[4] Similar to the '857 Patent, in Chang's black and white drawings, different colors are indicated by different types of crosshatching. EX1001, 5:56-59. In this Declaration, color annotation has been added to this and other figures of the prior art to emphasize and more clearly illustrate what is already described in the references.



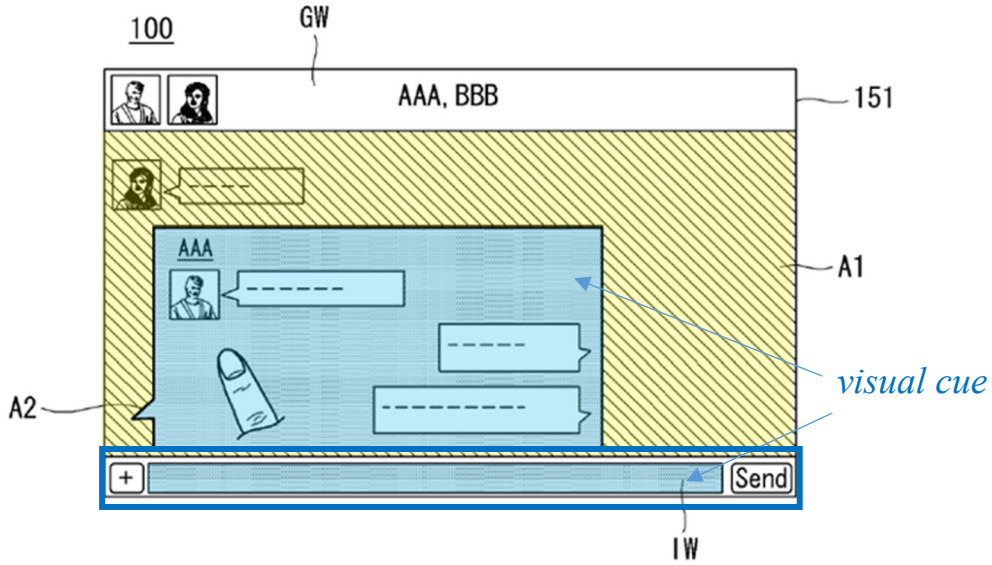
Id., FIG. 21(b), 14:23-31. Here, color annotation has been added to this and other figures of the prior art to emphasize and more clearly illustrate what is already described in the references. Referring to the figure above, all of the messages in the "*active conversation*" of the private chat (area A2) appear in one background color ("*first visual cue*"), whereas all of the messages in the other conversation of the group chat (area A1) appear in a different background color.

71. Chang discloses "*changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue*." FIG.21(a) shows an initial view of the chat window, where the background of "message input window IW" ("*message entry location*") is the same as the group chat window that has been selected.



EX1005, FIG. 21(a), 20:41-44.

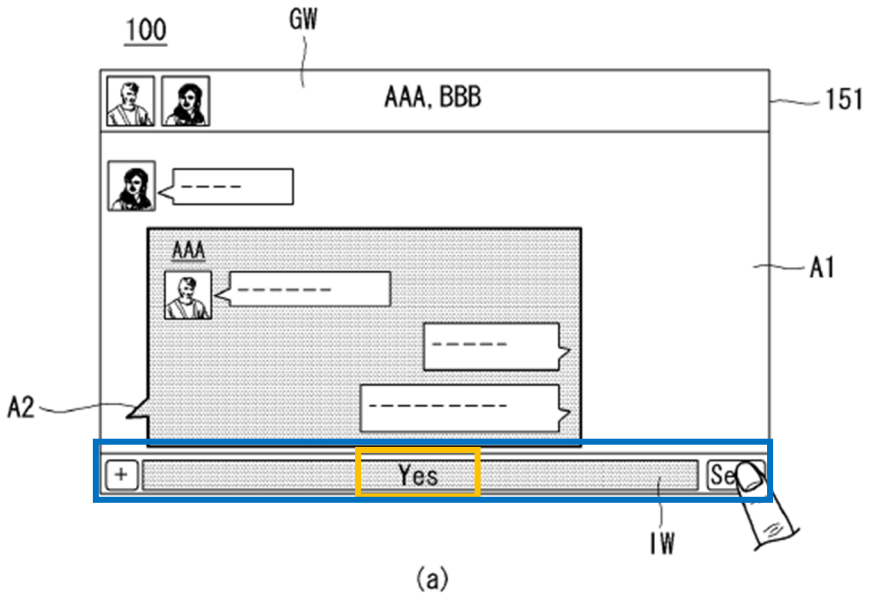
72. Then, as seen in FIG.21(b), when the user touches private chat area A2 (as shown by the finger icon, causing "*receipt of the first indication*"), the background color of the "message input window IW" ("*message entry location*") changes.



EX1005, FIG. 21(b), 20:34-40. Here, "the controller 180 controls to display a background color of the input window IW" ("*visual element of the message entry location*") to be "the same as a background color" ("*first visual cue*") of the selected private chat or conversation. *Id*., 20:44-48.

vi. [1e] "receiving a first new message at the message entry location; and"

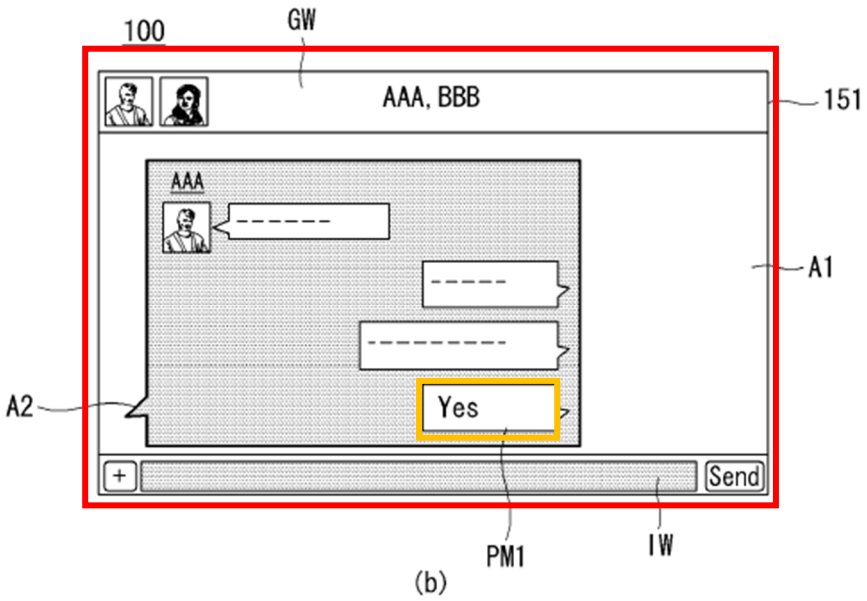
73. Chang discloses this limitation because "in a state where the private chat area A2 is selected, the controller 180 receives a message" ("Yes") ("*receiving a first new message*") "through the message input window IW" ("*at the message entry location*"), as seen in FIG. 22(a).



EX1005, FIG. 22(a), 20:60-62.

vii. [1f] "displaying the first new message within the discussion interface at the first interface device,"

74. Chang discloses this limitation because after the user has entered the new message at input window IW and has transmitted the message, the new message "Yes" ("*first new message*") is "*display[ed]*" alongside other messages within the chat window ("*discussion interface*") of the mobile terminal ("*first interface device*"), as seen in FIG. 22(b).



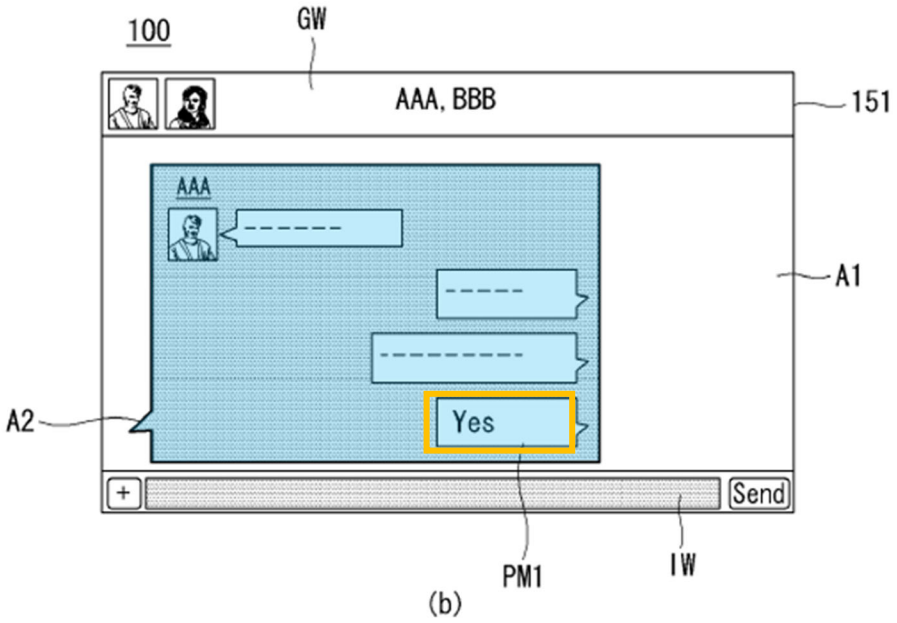
EX1005, FIG. 22(b), 20:62-67.

viii. [1g] "wherein the displaying of the first new message incorporates the first visual cue shared by messages associated with the active conversation."

75. As discussed in [1d], Chang discloses "*the first visual cue shared by messages associated with the active conversation*" because all of the messages

associated with a particular selected chat or conversation ("*messages associated with the active conversation*") can share the same visual effect, such as background color ("*first visual cue*"). [1d].

76. Chang discloses "*the displaying of the first new message incorporates the first visual cue*" because when the new message "Yes" ("*first new message*") entered at the message input window (IW) is displayed, the new message is presented in or "*incorporates*" the same background color ("*first visual cue*") as the rest of the messages for the particular conversation, as seen in FIG. 22(b).

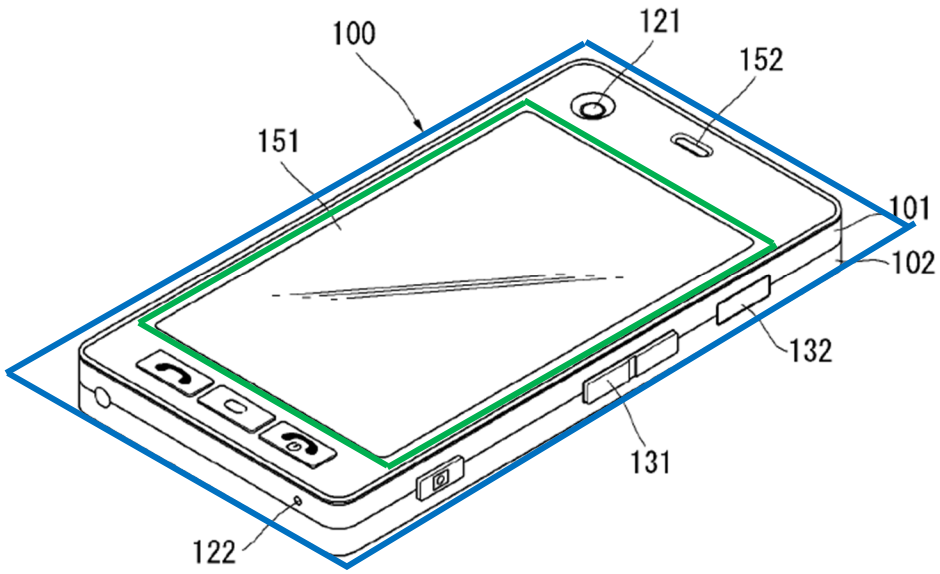


EX1005, FIG. 22(b), 20:52-21:15. Here, the message "Yes" ("*first new message*") entered as a response to a message in the private conversation is displayed in the same background color ("*visual cue*") as the rest of the messages in this conversation. *Id.*, FIG. 22(b).

b. Claim 2

i. *[2] "The computer based method of claim 1 wherein the first indication is generated by a tapping input at a touch sensitive display of the first interface device."*

77. Chang discloses this limitation because the mobile terminal receives an input ("*first indication*") that is "*generated by*" "a touch gesture" which is "embodied by a contact touch or a proximity touch of the touch screen 151" ("*touch sensitive display*") of Chang's mobile terminal ("*first interface device*"), as shown in FIG. 2.



EX1005, FIG. 2; 5:42-43 ("display module 151…may be a touch screen"), 6:43-45, 11:1-9. "[T]he touch input is an input received by a touch gesture," e.g., "tapping." *Id*., 11:1-9.

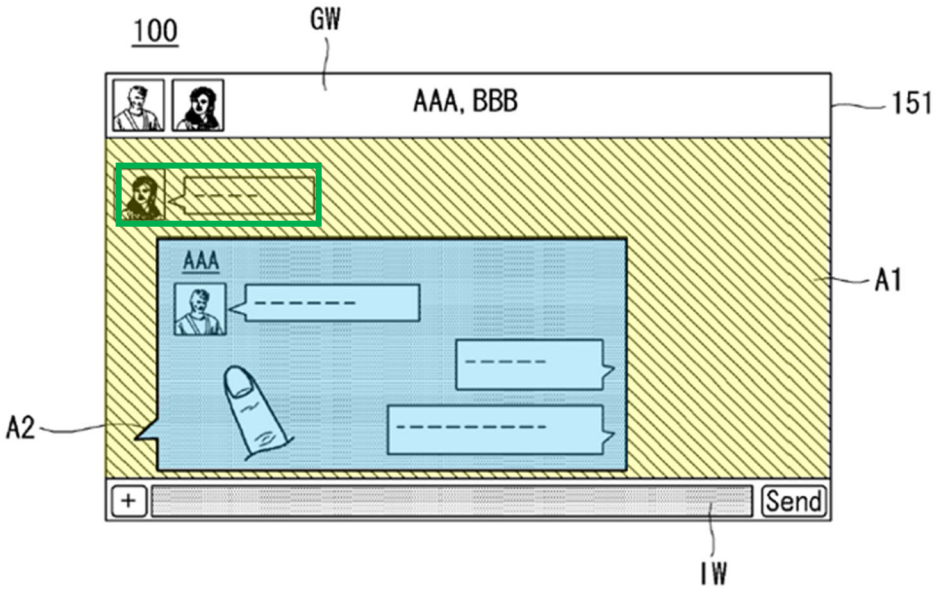
c. Claim 3

i. [3] "The computer based method of claim 1 wherein the visual cue is a first color assigned to the first conversation[5], and wherein the second message is displayed in a second color."

78. Chang discloses "*the visual cue is a first color assigned to the first conversation*" because, as discussed in [1d], messages associated with the private conversation ("*first conversation*") may share or be "*assigned*" the same visual effect ("*first visual cue*") which can be a "*first color*." *See* [1d].

79. Chang discloses "*the second message is displayed in a second color*" because the message ("*second message*") in the group chat (area A1) is displayed in the same crosshatch or color background ("*displayed in a second color*") as the rest of the messages in the group chat, as seen in FIG. 21(b).

[5] The term "*first conversation*" lacks antecedent basis. I am told that for purposes of this proceeding only, Petitioner interprets "*first conversation*" to refer back to the term "*active conversation*" in [1c].



EX1005, FIG. 21(b), 20:24-44, 14:23-31 ("differently displaying a background color of two areas in order to intuitively distinguish" the group and private chats); [1d].

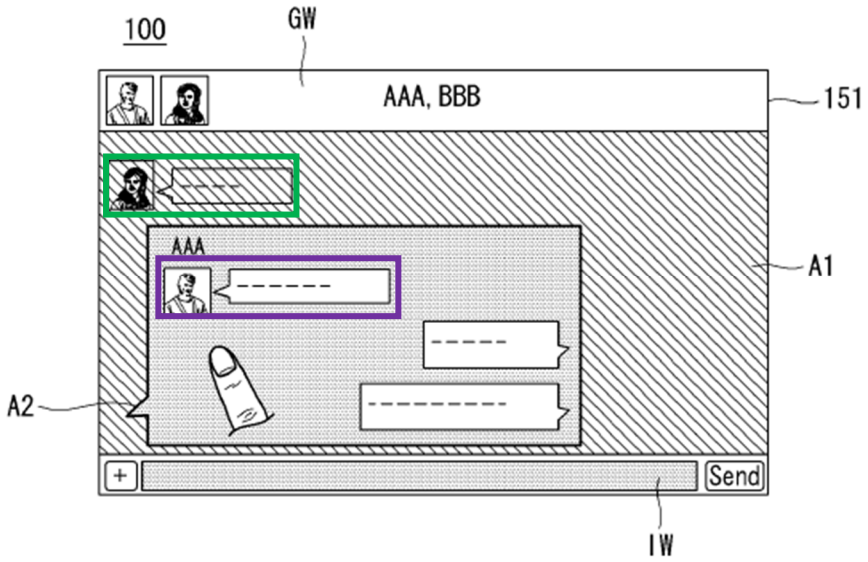
d. Claim 5

i. [5pre] "The computer based method of claim 1,"

80. *See* [1].

ii. [5a] "wherein the first message is part of a first conversation and the second message is part of a second conversation, the method further comprising:"

81. Chang teaches this limitation because the "*first message*" is part of "*a first conversation*" occurring in the private chat area A2, and the "*second message*" is part of "*a second conversation*" occurring in the group chat area A1, as seen and described in FIG. 21(b).

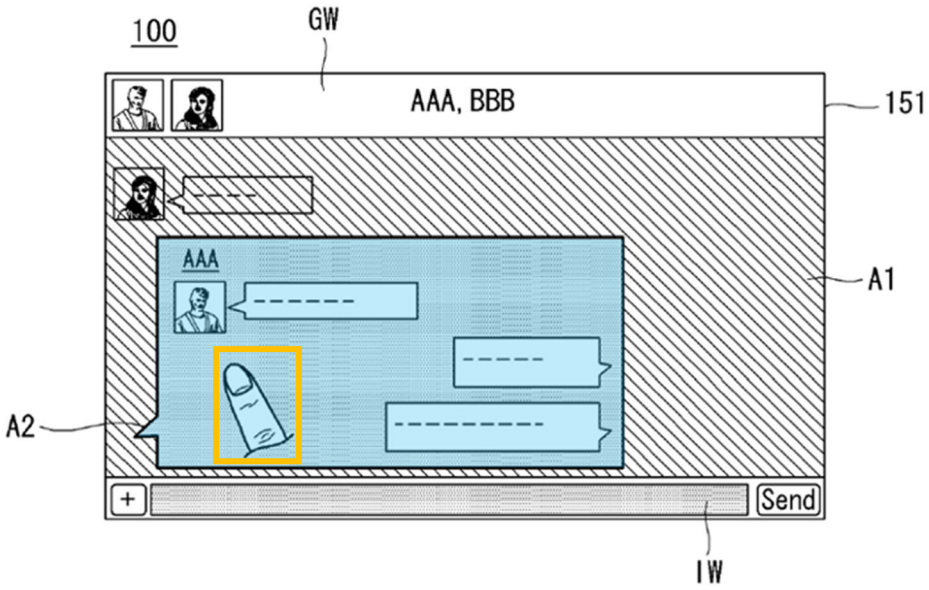


EX1005, FIG. 21(b), 12:46-67; [1pre], [1a].

iii. [5b] "defining, upon receiving the first indication, the first conversation as the active conversation, and"

82. As discussed in [1c], Chang discloses "*receiving the first indication*" as receiving a user's touch input. *See* [1c].

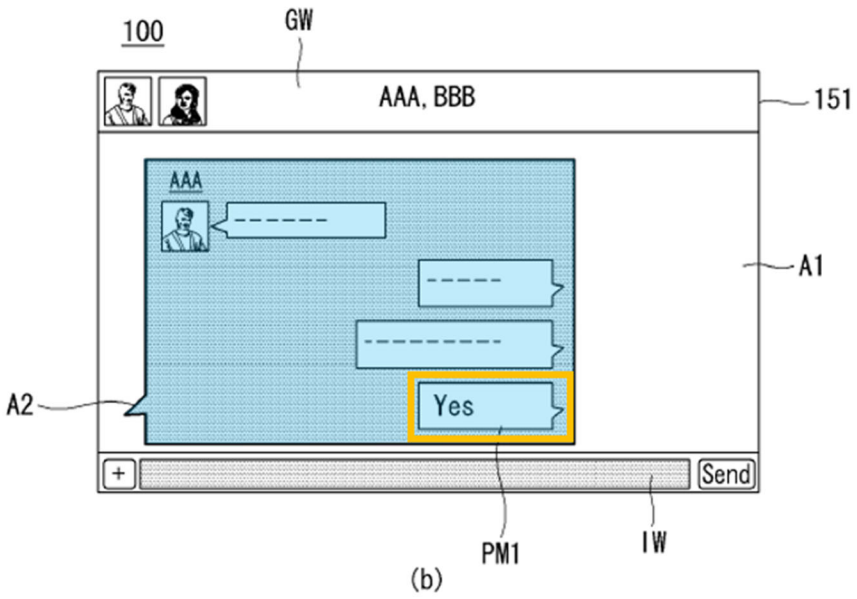
83. Chang discloses that receipt of the touch input "*defin[es] the first conversation as the active conversation*" because "controller 180 selects one of a group chat area and a private chat area based on the received control input," as seen in FIG. 21(b) (where the private conversation in chat area A2 is "*the first conversation*" and the "*first indication*" is shown by the user's finger) causing that chat area to become active so that the user can input a new message.



EX1005, FIG. 21(b), 19:21-21:15.

iv. [5c] "defining the first new message as part of the first conversation,"

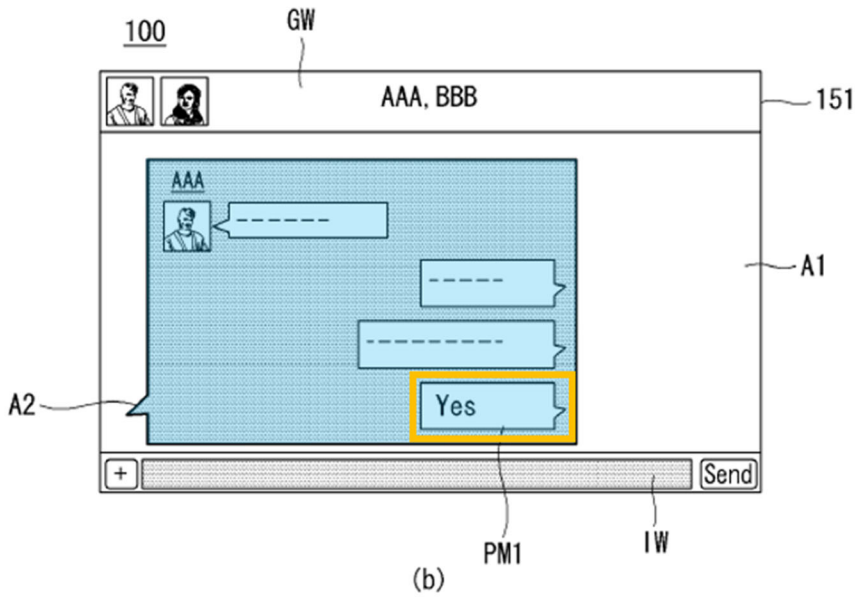
84. Chang discloses this limitation because the new message "Yes" ("*first new message*") is displayed in the private chat area A2 and with the same crosshatch or background color as the rest of the messages in that conversation ("*first conversation*"), and is thus "*defin[ed]…as part of the first conversation*," as seen in FIG. 22(b).



EX1005, FIG. 22(b), 19:43-51 ("when the private chat area is selected, the input message may be displayed in the private chat area"); [1f].

v. [5d] "wherein the first visual cue is incorporated into any previously displayed messages that are part of the first conversation."

85. Chang discloses this limitation because the background color ("*first visual cue*") is "*incorporated into*" the other messages that are part of the private conversation ("*previously displayed messages that are part of the first conversation*") in area A2.



EX1005, FIG. 22(b); [5c].

e. Claim 6

i. [6pre] "The computer based method of claim 5 further comprising:"

86. *See* [5].

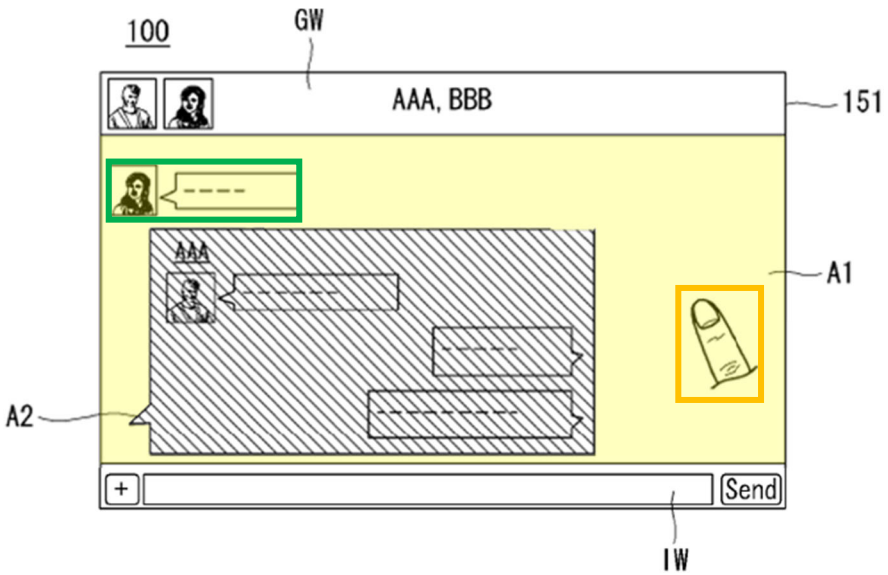
ii. [6a] "receiving, at the first interface device, after displaying the first new message, a second indication that the second message is part of an active conversation;"

87. As discussed in [1f], Chang discloses "*displaying the first new message*." *See* [1f].

88. Chang teaches "*receiving, at the first interface device,…a second indication*" because, as discussed in [1c], the mobile terminal ("*first interface device*") may receive a touch input ("*indication*") to control and operate the terminal. *See* [1c]. Based on the disclosure of Chang and common sense, a

POSITA would have understood that, over the course of participating in various group and private chats, the user may enter multiple touch inputs at the mobile terminal. A first touch input by the user is a "*first indication*" that selects the private chat or conversation so that the user can enter the new message ("*first new message*") that is ultimately part of that conversation. EX1005, 20:13-15. Any different touch input, such as for selecting the group chat or conversation, can be a "*second indication*." *Id*., 20:10-11.

89. Chang discloses that the other touch input ("*second indication*" corresponding to the user's finger) indicates "*that the second message is part of an active conversation*." As discussed in [1a], [5pre], the "*second message*" is a message that is "*part of*" the group chat or "*conversation*" (in annotated yellow background), as seen in FIG. 21(a).



EX1005, FIG. 21(a); [1a], [5pre]. The touch in group chat area selects that existing chat or "*active conversation*" so that the user can input a new message. *Id*, FIGS. 20-22(b), 19:21-21:15.

90. Based on Chang's disclosures regarding displaying messages and common sense, it would have been obvious to a POSITA that in operation of Chang's system, the user is afforded multiple touch inputs to engage in the group conversation because the various conversations are not static; instead, messages are regularly being received and transmitted for each conversation over time. EX1005, 21:17-21. Indeed, Chang's system can "sequentially display messages according to a message transmitting time or a message receiving time…regardless of whether a message is a group message or a private message," which reasonably suggests to a POSITA regular touch inputs for the user to potentially engage in the group or private conversation following subsequent display of messages. *Id*., 21:17-21. A POSITA would thus have understood that at least one instance of the user's touch input ("*second indication*") for selecting the group chat or conversation can be received "*after displaying the first new message*."

iii. [6b] "defining, upon receiving the second indication, the active conversation as the second conversation exclusively;"

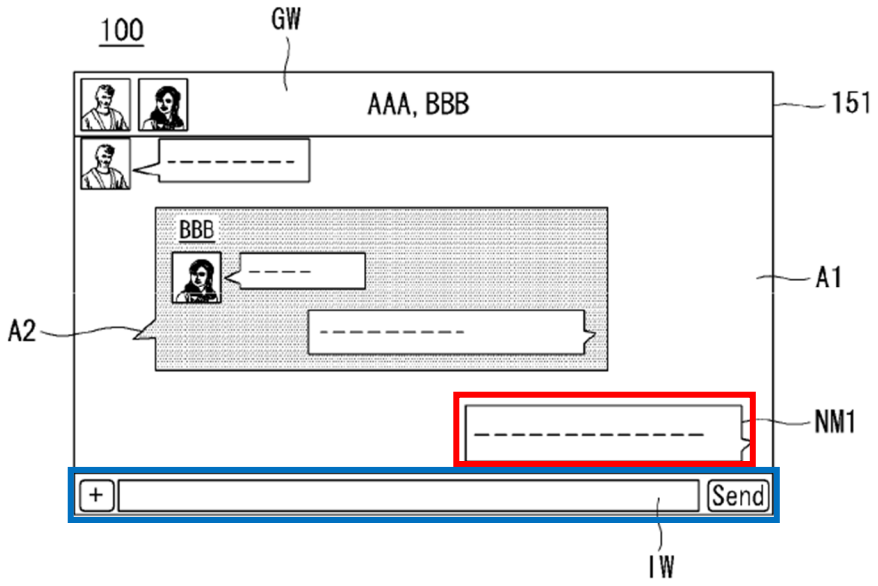
91. Chang suggests this limitation. "[W]hen the group chat area A1 is touched, the controller 180 selects the group chat area A1 as an area in which an

input message is displayed" and "when one chat area is selected, the controller 180 controls to display a message input through a message input window in a selected area." EX1005, 20:10-12, 20:49-51. Based on this disclosure, a POSITA would have understood that once the group chat (area A1) is selected by a user's touch input ("*upon receiving the second indication*"), thereby switching to the group chat or conversation ("*second conversation*"), that conversation is "*exclusively*" the "*active conversation*" because at that moment the user is limited to inputting a new message only for that conversation; in order for user to enter a new message for another conversation, the user would need to switch to that other conversation with another touch input.

iv. [6c] "receiving a second new message at the message entry location; and"

92. As discussed in [1b], Chang discloses the "*message entry location*" as input window IW. *See* [1b].

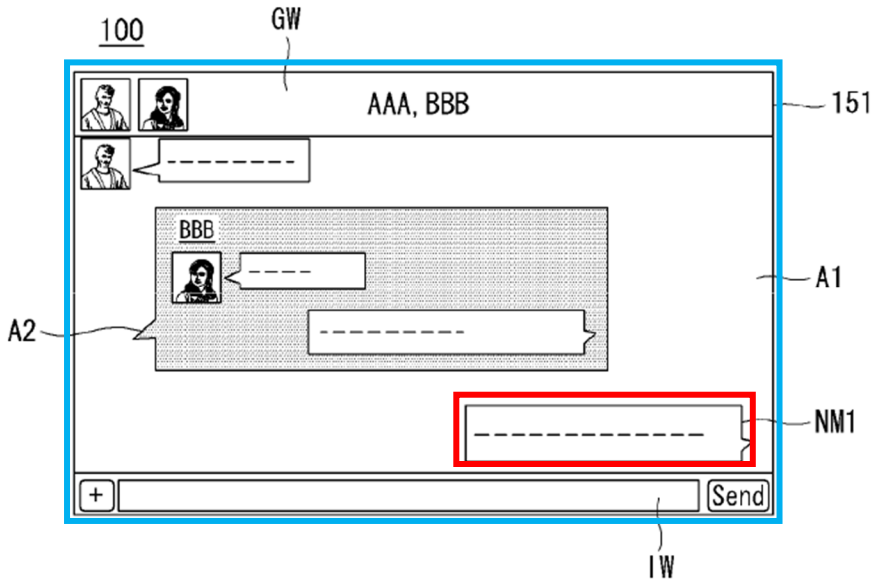
93. Chang further discloses "*receiving a second new message*," as shown in FIG. 23.



EX1005, FIG. 23. A "message NM1" (made in the group chat) is a "*second new message*" because it is different from the "*first new message*" (made in the private chat) described in [1e]. *Id*., 21:22-23. Chang suggests that such message NM1 is received "*at the message entry location*" because, e.g., a "message input through the input window IW" ("*message entry location*") "may be transmitted as a group to another parties…." *Id*., 14:13-15.

v. [6d] "displaying the second new message in the discussion interface at the first interface device;"

94. Chang discloses this limitation because, as discussed in [1f], [6c], after the user has entered the "*second new message*" (NM1) at the message input window IW, it is "*display[ed]*" in the chat window ("*discussion interface*") of the mobile terminal ("*first interface device*").

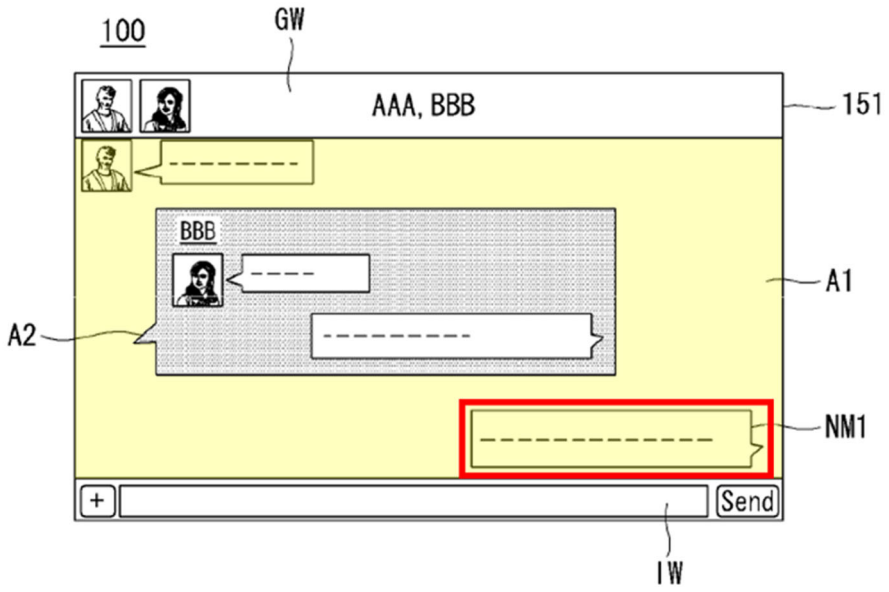


EX1005, FIG. 23; [1f], [6c].

vi. [6e] "wherein the displaying of the second new message incorporates a second visual cue shared by messages associated with the second conversation."

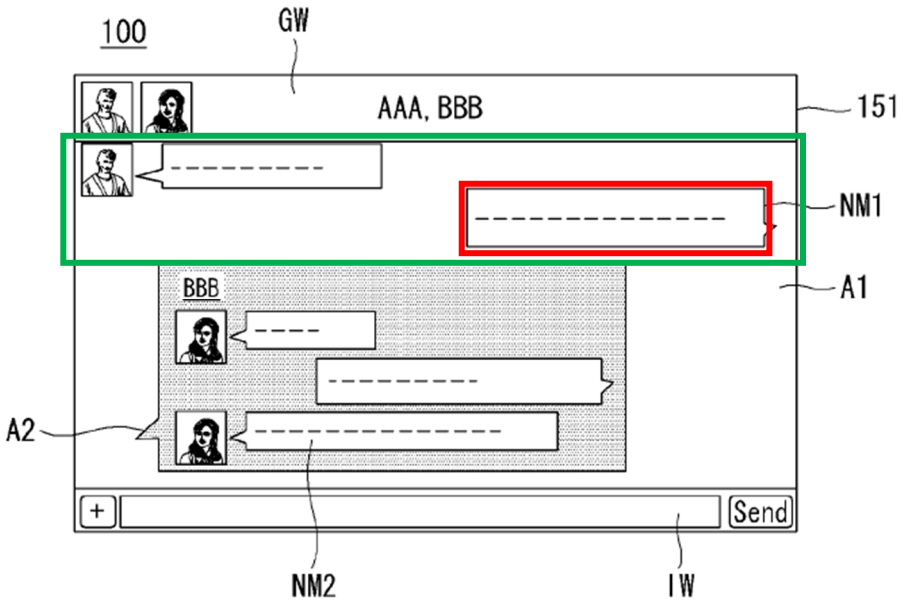
95. Chang discloses this limitation in two ways.

96. First, as discussed in [1d], [1g], Chang describes that all of the messages associated with a particular group or private chat or conversation ("*messages associated with the…conversation*") can "*share*" the same background color or other visual effect ("*visual cue*"), and furthermore, that when the "*second new message*" entered by the user at the message input window (IW) is displayed, the new message "*incorporates*" the same visual effect as the rest of the messages for that chat or conversation, as seen in FIG. 23:



EX1005, FIG. 23; [1d]; [1g]. Here, the "*second new message*" (NM1) is displayed in the same background color ("*second visual cue*") as the rest of the messages in the group conversation; this background color is different from the background color or "*first visual cue*" of the private conversation as discussed in [1d]. *Id*.

97. Second, Chang describes that the displaying of the "*second new message*" (NM1) for the group conversation "*incorporates a second visual cue shared by messages associated with [that] conversation*" because such message is displayed near and shares proximity ("*second visual cue*") to other messages of the group conversation, as seen in FIG. 24.



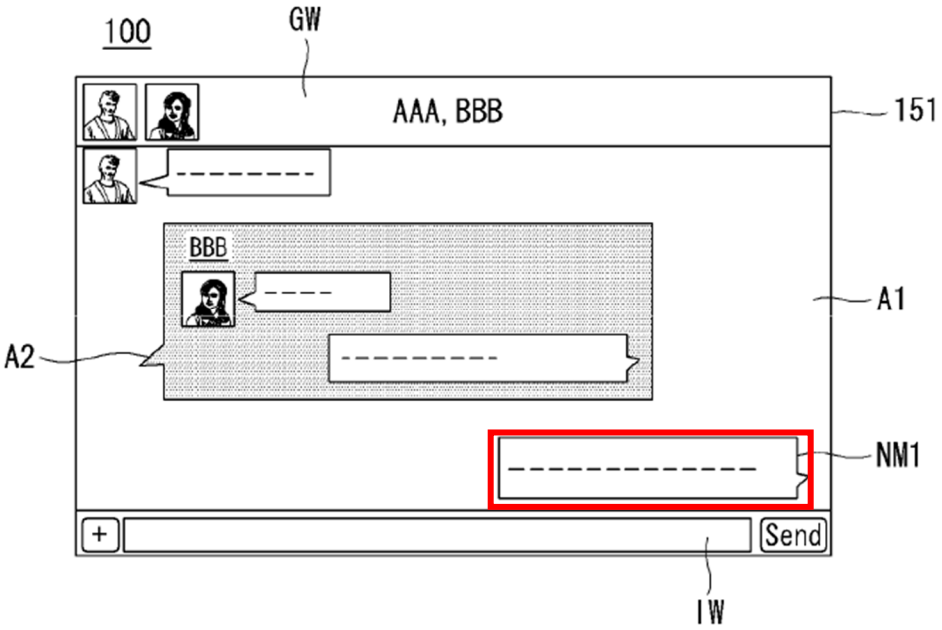
EX1005, FIG. 24. "[T]he controller 180 controls to display the…message NM1 in a group chat area A1 following previously transmitted or received group messages." *Id*., 21:36-39, 21:12-15 ("messages may be…aligned according to whether private chat or group chat"). This is consistent with the '857 Patent's description and Patent Owner's claim interpretation. EX1001, 2:43-47; EX1008. The proximity of message NM1 to other group messages ("*second visual cue*") stands in contrast to the display of messages for the private conversation in close proximity in private chat area A2.

f. Claim 7

i. *[7] "The computer based method of claim 6 wherein the first and second new messages are displayed in the discussion interface in the chronological order in which they were received."*

98. As discussed in [1f], [6d], Chang discloses "*the first and second new messages are displayed in the discussion interface*." *See* [1f], [6d].

99. Chang further discloses that the messages are displayed "*in the chronological order in which they were received*" because "controller 180 controls to sequentially display messages according to a message transmitting time or a message receiving time," as seen in FIG. 23.



EX1005, FIG.23, 20:1-9, 21:12-31. FIG. 23 shows a "first new message" (NMI) in the group conversation. Chang discloses that there would be a chronologically

displayed "*second new message*" (NM2) in a private conversation in that "[t]hereafter [display of NM1], the user can perform private chat by generating a new private chat area for private chat following a finally displayed NM1." EX1005, 21:29-31. Thus, "*first new message*" (NM1) is displayed in "*chronological order*" after the earlier messages in the conversation, which were part of a private chat: "the controller 180 controls to display the input message NM1 below the private chat area A2." *Id*., 21:26-28. Likewise, the "*second new message*" is displayed in "*chronological order*" after the earlier messages: "the user can perform private chat by generating a new private chat area for private chat following a finally displayed NM1." EX1005, 21:29-31.

g. Claim 8

i. [8pre] "The computer based method of claim 7 further comprising:"

100. *See* [7].

ii. [8a] "changing a visual element of the message entry location upon receipt of the first indication to match the first visual cue,[6] and"

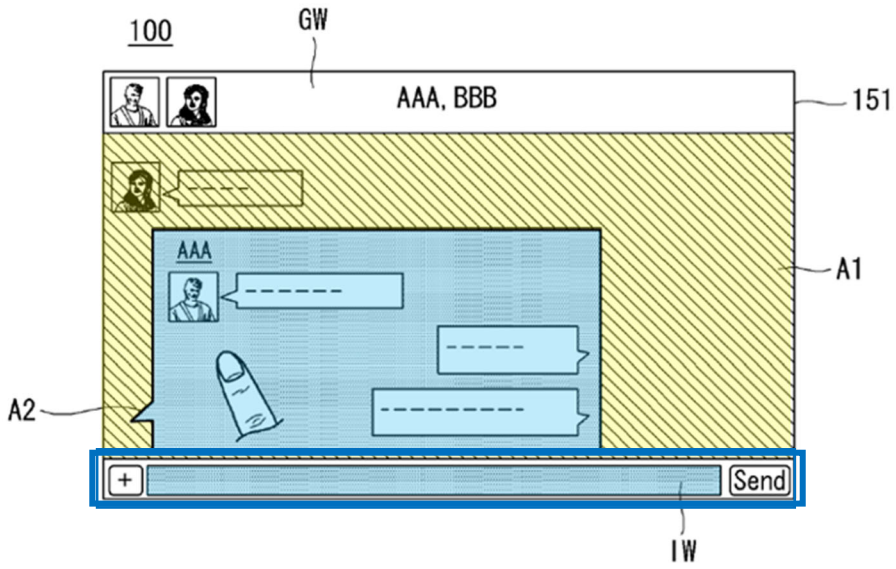
101. *See* [1d].

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[6] Because it is unclear whether this is the same or a separate step from [1d], I understand that Petitioner reserves the right to challenge the claim as indefinite in other fora.

iii. [8b]"upon receipt of the second indication, changing the visual element of the message entry location match the second visual cue, such that the visual element of the message entry location matches the defined active conversation."[7]

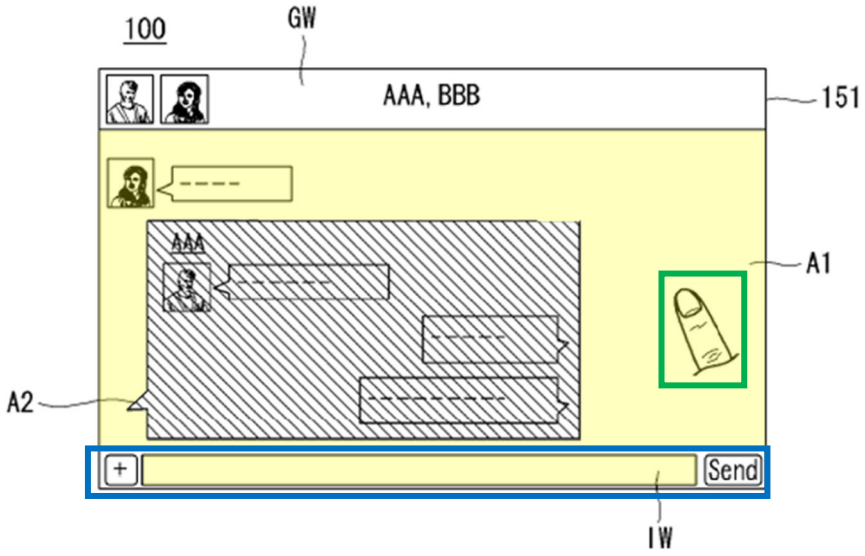
102. Chang suggests this limitation as described e.g., with reference to FIGS. 21(b), 21(a). A user may have already touched the private chat area A2, such that the discussion interface appears as in FIG. 21(b), as described regarding [1d] and seen below.



[7] Because it is unclear what is meant by "*changing the visual element of the message entry location match the second visual cue*," I have been instructed to construe this claim limitation as "changing the visual element of the message entry location **to** match the second visual cue." I understand that Petitioner reserves the right to challenge the claim as indefinite in other fora.

EX1005, FIG. 21(b). As seen in FIG. 21(b), when the user touches private chat area A2, the background color ("*visual element*") of the message input window IW ("*message entry location*") is changed to match the background color ("*visual cue*") of the private chat or conversation.

103. A POSITA would understand that a user could then touch group chat area A2, reverting the discussion interface to the appearance shown in FIG. 21(a).



EX1005, FIG. 21(a), 20:10-15, 20:41-44. Here, the user's touch input selecting the group chat or conversation ("*upon receipt of the second indication*" as indicated by the finger icon) causes the background color of the input window IW ("*visual element of the message entry location*") to be "*chang[ed]*" to the same background color ("*second visual cue*") as that of the group chat or conversation ("*matches the defined active conversation*"). *Id*., 20:41-44; [1d], [6a].

104. A POSITA would understand that the situations shown in FIGS. 21(a) and 21(b) could occur in any order, as a user may change her mind about which conversation to respond to, such that upon each tap there is a change to a visual element (the background color) of the message entry location (yellow to blue to yellow). These changes occur "so that the user intuitively recognizes the selected chat area." EX1005, 20:19-20.

h. Claim 9

i. [9] "The computer based method of claim 8 wherein the visual element is a background color."

105. Chang discloses because, as discussed in [1d],[8b], the "*visual element*" may be a "*background color*." *See* [1d], [8]; EX1005, FIGS. 21(a)-24, 20:21-21:11.

i. Claim 13

i. [13] "The computer based method of claim 1 wherein the visual element is a background color."

106. *See* [9].

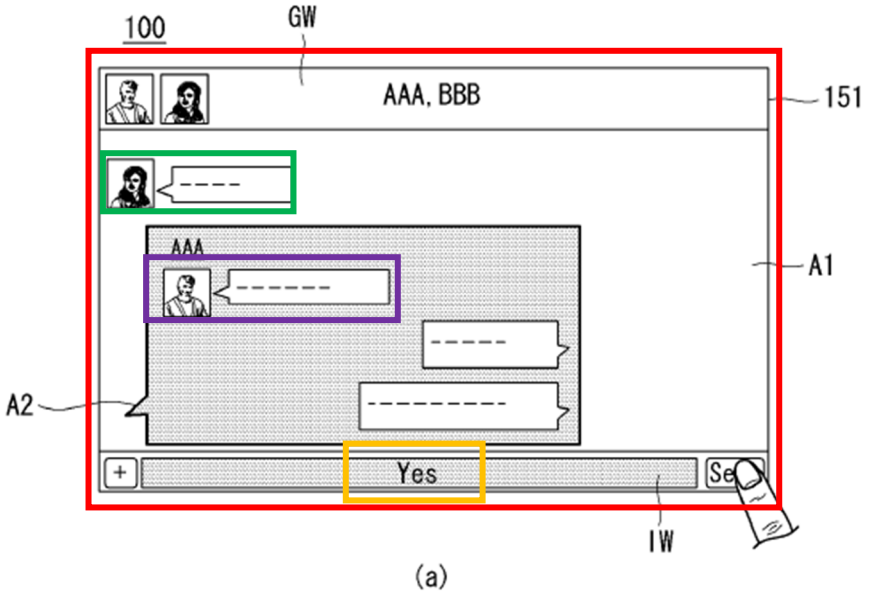
j. Claim 14

i. *[14] "The computer based method of claim 1 wherein the first visual cue is in the form of proximity such that the first new message is displayed at a location within the discussion interface in closer proximity to the first message relative to proximity of the second message to the first message."*

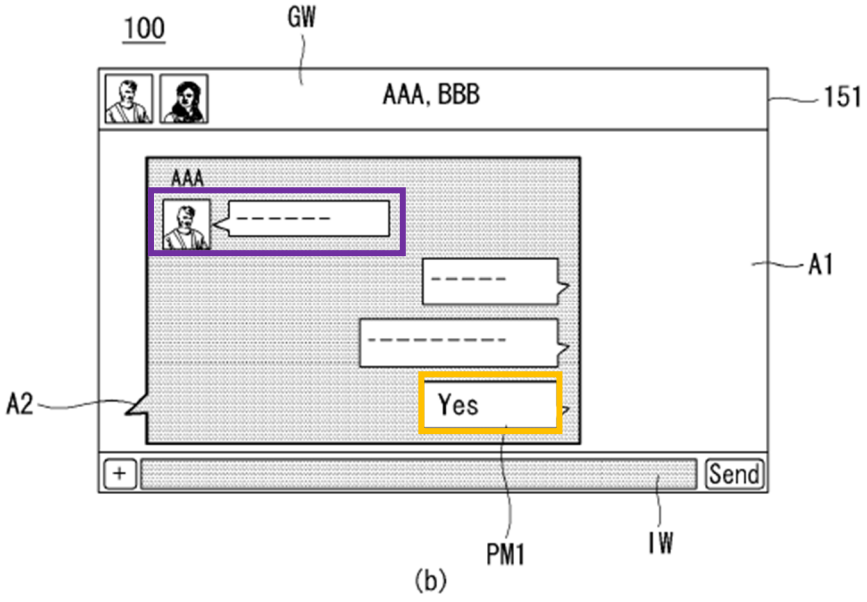
107. I am informed that in Litigation, Patent Owner asserts that the meaning of the claim term "*changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by messages associated with the active conversation*" is broad enough to cover a change to a visual element of the message entry location—i.e., changing "iMessage" to "Reply"—that is not the same as the visual cue used with respect to the first message and first new message—e.g., a line linking the first message and first new message. *See* EX1008. I am further informed that Apple does not agree, but to the extent that the claim terms are construed as broadly as the Patent Owner is asserting, Challenged Claim 14 is unpatentable over Chang.

108. Chang discloses this limitation under Patent Owner's apparent construction because the "*first new message*" ("Yes") entered for the private chat "*is displayed at a location within*" the chat window ("*discussion interface*") that is in "*closer proximity to the first message*" of the private chat, as opposed to being

closer to the message of the public chat ("*relative to proximity of the second message to the first message*"), as seen in FIGS. 22(a), 22(b).

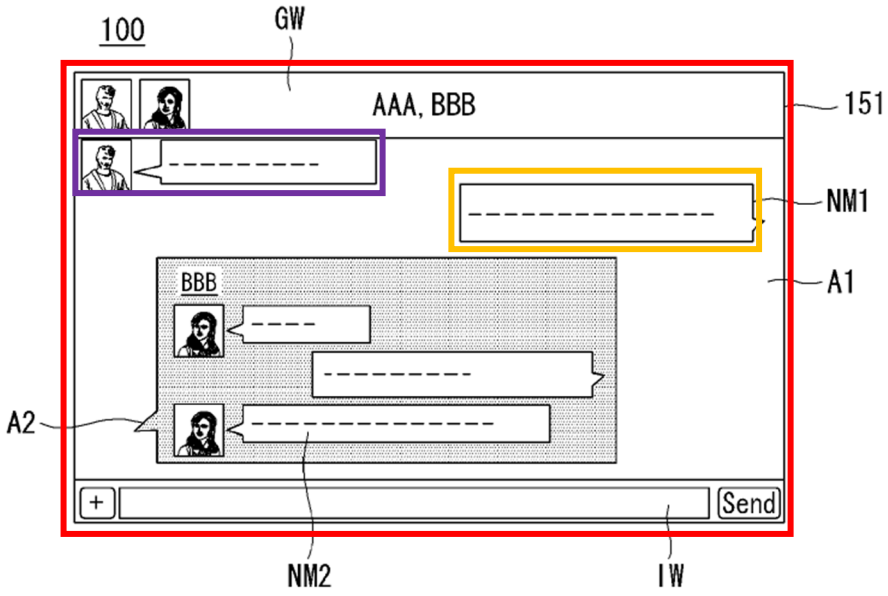


EX1005, FIG. 22(a).



Id., FIG. 22(b). After the user enters the "*first new message*" ("Yes") in response to the private chat (in area A2), it is displayed near and shares proximity to the "*first message*" that is also part of the private chat, as opposed to the "*second message*" that is part of the public chat. *Id.*, 20:16-23.

109. Indeed, Chang generally describes that any new message entered by a user in response to a particular conversation may be displayed in closer proximity to the other messages in that conversation, as seen in FIG. 24.



EX1005, FIG. 24, 21:36-48 ("controller 180 controls to display the first message NM1 in a group chat area A1 following previously transmitted or received group messages").

k. Claim 15

i. [15pre] "A system for correlating conversations, the system comprising an interface device in communication with a computerized network,"

110. As discussed in [1pre], Chang discloses "*correlating conversations*." *See* [1pre].

111. Chang further discloses a "*system*" for such correlating where "*the system compris[es] an interface device in communication with a computerized network*." As discussed in [1a], Chang discloses "*an interface device*" as a "mobile terminal." *See* [1a]. The mobile terminal is part of the "*system*" and "*in communication with a computerized network*" because the mobile terminal "may transmit/receive a wireless signal to/from at least one of a base station, an external terminal and a server on a mobile communication network," where the wireless signal may include "data in various forms according to the transmission and reception of text/multimedia messages." EX1005, 4:56-62, 4:4-14, 28:11-31. The network to which the mobile terminal is connected is a "*computerized network*" because the terminal and the devices with which it communicates through such network are computerized. *Id*., 3:54-57("mobile terminals…may include a cellular phone, a smartphone, a laptop computer").

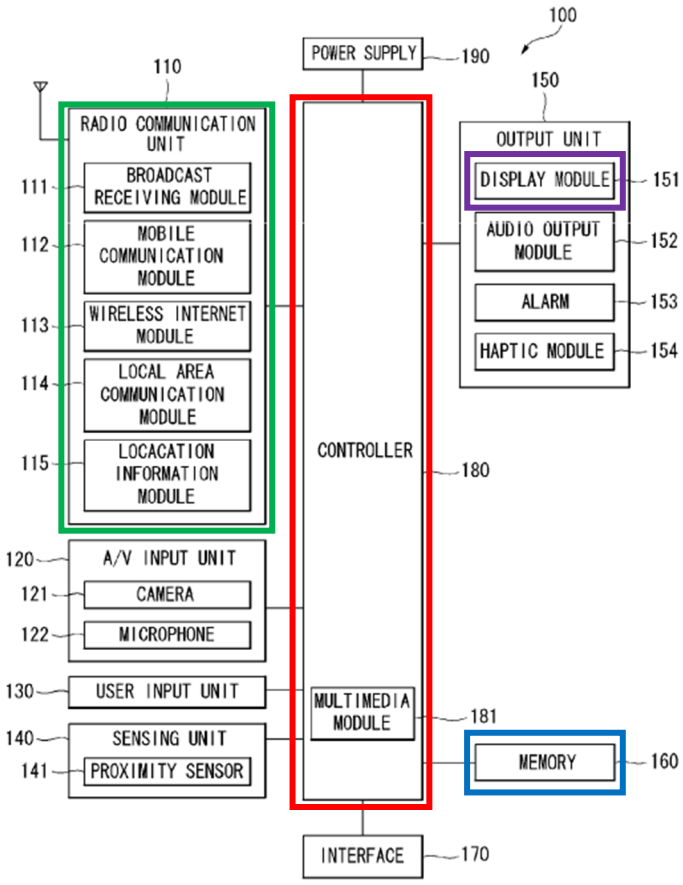
ii. [15a] "the interface device comprising: a processor for implementing a software application on the interface device; a memory for storing the software application and for storing a plurality of messages in accordance with the software application; a transmission unit for transmitting messages to the computerized network; and a display, wherein the software application comprises instructions for"

112. Chang discloses this limitation. An embodiment of Chang's mobile terminal ("*interface device*") is shown in FIG. 1. Chang discloses a "*processor*" as a controller 180, which can include "processors, controllers, micro-controllers, microprocessors, and/or electrical units for executing functions." EX1005, 8:65-9:6. The controller is "*for implementing a software application on the interface device*" because "[s]oftware code may be implemented according to a software application" and such "software codes may be…executed by the controller 180." *Id*., 9:7-13, 28:11-14.

113. Chang discloses a "*memory*" as "memory 160." EX1005, 4:61-66. Memory 160 is "*for storing the software application*" because "software codes may be stored in the memory 160." *Id*., 9:10-13. Memory 160 is "*for storing a plurality of messages in accordance with the software application*" because it "may store a program for operating the controller 180 and temporarily store…messages…." *Id*., 8:4-6.

114. Chang discloses a "*transmission unit for transmitting messages to the computerized network*" as a "wireless communication unit 110" through which "messages [are] transmitted or received." EX1005, 11:56-61. The wireless communication unit includes "at least one module that enables wireless communication between the mobile terminal 100 and a wireless communication system or between the mobile terminal 100 and a network in which the mobile terminal 100 is located." *Id.*, 4:4-8.

115. Chang discloses a "*display*" as a "display module 151" which "may be a touch screen." EX1005, 5:41-43.



Id., FIG. 1.

116. Chang discloses "*wherein the software application comprises instructions*" because the computer code ("*software application*") running on mobile terminal 100 includes instructions for performing operations or tasks: "The message display method for the mobile terminal may be executed through software [that] may include code segments that perform required tasks." EX1005, 28:3--17.

iii. [15b] "providing a discussion interface at the display of the user interface device for displaying messages stored in the memory;"

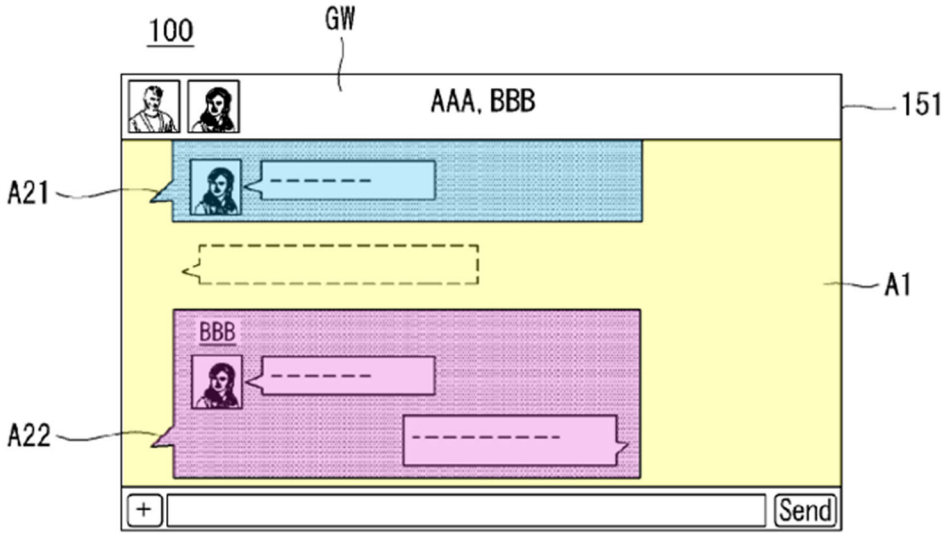
117. As discussed in [1a], Chang describes "*providing*" a chat window ("*discussion interface*") on the display module ("*display*") of its mobile terminal ("*user interface device*"), such chat window "*displaying messages*." *See* [1a]. Chang discloses that the messages are "*stored in the memory*": "memory 160 may store…messages." EX1005, 8:4-6.

iv. [15c] "providing a message entry location for entering new messages, the message entry location associated with the discussion interface;"

118. *See* [1b].

v. [15d] "recording an indication that one of several conversations, each comprising one or more of the messages stored in memory, is an active conversation;"

119. Chang discloses "*one of several conversations, each comprising one or more of the messages*" because, as discussed in [1pre], [1a] and further illustrated in FIG. 29(b), there are multiple chats (e.g., group chat (A1) annotated in blue background, private chat (A21) annotated in yellow background, and private chat (A22) annotated in pink background), each chat being "*one of several conversations*" that include "*one or more of the messages.*"



EX1005, FIG. 29, 23:6-18; [1pre], [1a]. As discussed in [15b], the various chat messages are "*stored in memory*." *See* [15b].

120. As discussed in [1c], Chang's mobile terminal receives a touch input ("*indication*"), where such input may select one of the chats to be the "*active*

conversation." *See* [1c]. It would have been obvious to a POSITA that such touch input would be "*record[ed]*" in memory 160 in order to correlate any new message entered by the user for the active conversation so that the new message could be displayed with the same visual element (e.g., background color) as the rest of the messages in the conversation. EX1005, 8:4-6.

vi. [15e] "modifying a visual element of the message entry location based on which of the conversations is the active conversation;"

121. As discussed in [1d], Chang discloses "*modifying a visual element of the message entry location*" because Chang describes changing "a background color" ("*visual element*") of a "message input window IW" ("*message entry location*"). *See* [1d].

122. Chang discloses that the background color is modified "*based on which of the conversations is the active conversation*" because when a user selects a particular existing chat or conversation, the "controller 180 controls to display a background color of the message input window IW [to be] the same as a background color" of the selected conversation area. EX1005, 20:34-48; [1d]. This is done so that the user is able "to more easily recognize" the selected, active conversation. *Id*.

vii. [15f] "receiving at least one new message entered at the message entry location;"

123. *See* [1e].

viii. [15g] "transmitting, using the transmission unit, the at least one new message to the computerized network incorporating an indication of which of the several conversations was the active conversation at the time of entry of the new messages; and"

124. Chang discloses "*transmitting, using the transmission unit, the at least one new message to the computerized network*" because, as discussed in [15a], the wireless communication unit 110 ("*transmission unit*") "may transmit/receive a wireless signal to/from at least one of a base station, an external terminal and a server on a mobile communication network" ("*computerized network*"), where the wireless signal may include "the transmission and reception of text/multimedia messages" (including the "*at least one new message*"). *See* [15a]; EX1005, 4:56-62.

125. Chang teaches "*an indication of which of the several conversations was the active conversation at the time of entry of the new messages*" because, as discussed in [15d], the mobile terminal receives a touch input ("*indication*") selecting one of the chats ("*several conversations*") as the "*active conversation*" for which one or more new messages can be entered in response ("*at the time of entry of the new messages*"). *See* [15d].

126. In Chang, any new "message input through the input window IW may be transmitted" to the one or more parties belonging to that chat "based on the user's selection input." EX1005, 14:13-17, 19:21-55("operation of selecting a chat

area corresponds to operation of selecting another party to transmit an input message"). Based on this disclosure, the knowledge of a POSITA, and common sense, a POSITA would have been motivated and found it obvious to "*incorporat[e]*" information about the user's touch input ("*indication of…the active conversation*" into the new message transmission so that the device of the party receiving the new message can correlate that message to the corresponding conversation, including, e.g., via adding the new message to the list or chat area that corresponds to the particular conversation. EX1006, 1:25-28 ("When a new message is received for a particular conversation the message is added to the list that corresponds with the particular conversation."), 3:29-31 ("a received message can be added to a dialog window…containing an ongoing chat conversation").

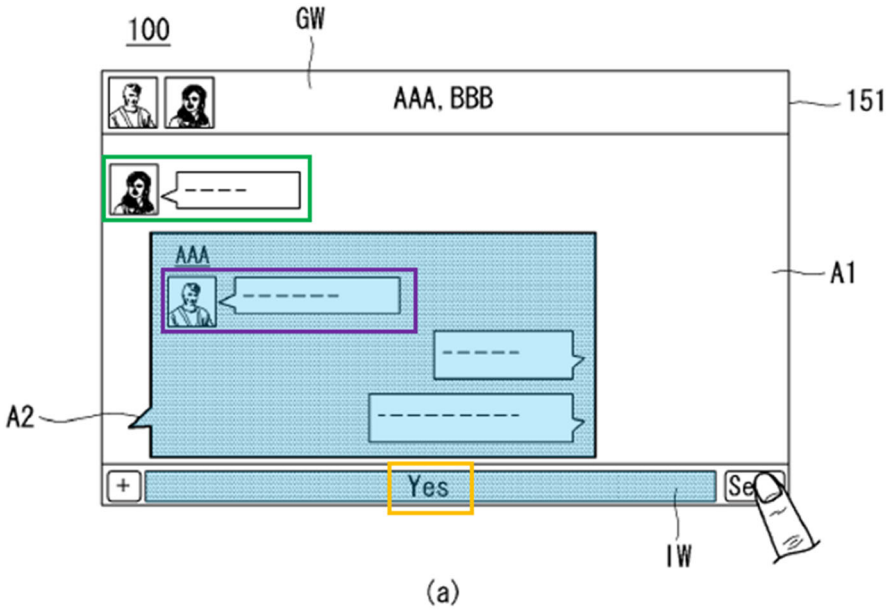
ix. [15h] "displaying, at the display, the at least one new message alongside the several conversations and"

127. *See* [1f], [15b].

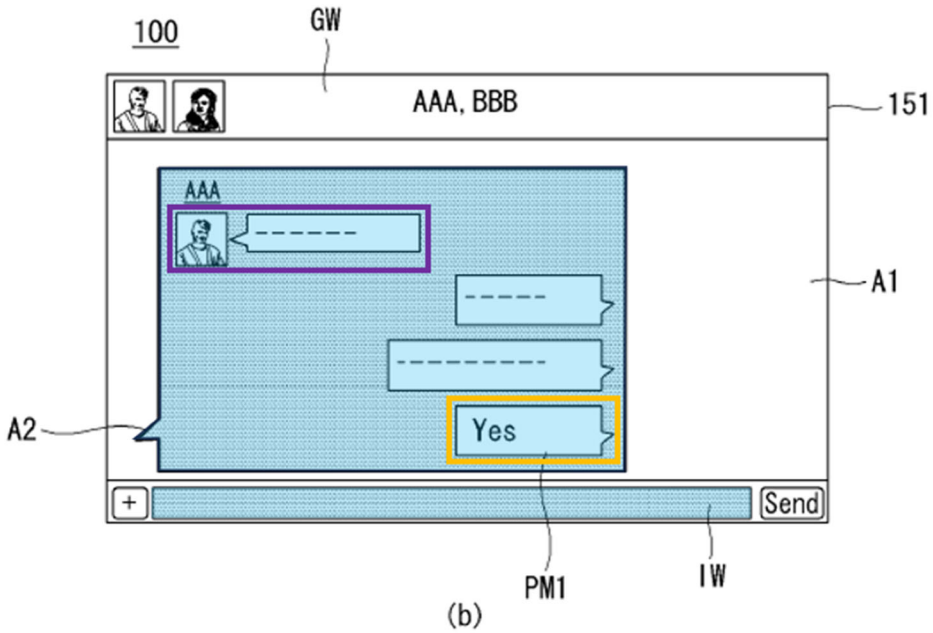
x. [15i] "incorporating visual cues shared with any messages that are part of the conversation that was the active conversation upon entry of the at least one new message."

128. As discussed in [1g], Chang discloses "incorporating visual cues shared with any messages that are part of the conversation that was the active conversation." *See* [1g].

129. Chang further discloses that incorporating the background color, shade, etc. ("visual cues") into the new message occurs "upon entry of the at least one new message" as seen in FIGS. 22(a), 22(b).



EX1005, FIG. 22(a).



Id., FIG. 22(b). After the user enters the message "Yes" ("upon entry of the at least one new message") in response to the private chat, the new message is displayed as part of, and incorporates the same crosshatch or color background as the rest of the messages in, the private chat. *Id*., 14:26-31, 21:2-11.

l. Claim 16

i. [16] "The system of claim 15, wherein the display is a touch screen, and wherein the indication recorded that one of the several conversations is the active conversation is a tapping input at the display."

130. *See* [2], [15d].

m. Claim 17

i. [17] "The system of claim 15 wherein the visual element is a background color."

131. *See* [9].

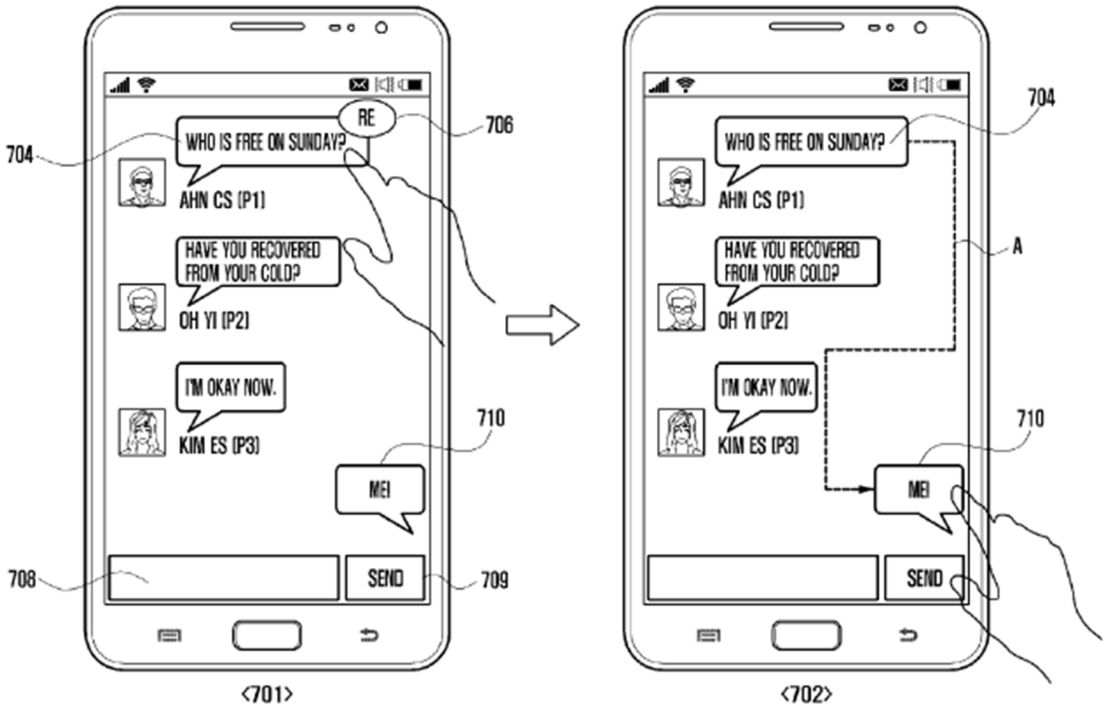
B. Challenge 2: Claims 10-12 and 18 are unpatentable over Chang, Oh, and Stochosky

132. It is my opinion that Chang, U.S. Publ. No. 2014/0143684 (EX1007, "Oh"), U.S. Patent No. 9,965,132 (EX1006, "Stochosky"), in view of the knowledge and experience of a POSITA, disclose or suggest to a POSITA, the subject matter of each and every limitation of claims 10-12 and 18 of the '857 Patent.

1. Oh

133. Oh was filed November 21, 2013, and published May 22, 2014. EX1007, (22), (43), (65).

134. Oh is in the same field as the '857 Patent, i.e., electronic messaging and chat. *Id*., (12), (57), [0002]-[0019]. Oh relates to "a message-based conversation operation method," and "mobile terminal 100 [which] displays a dialog window" supporting the same, as seen in FIG. 7.



Id., FIG. 7, [0003], [0030], [0181].

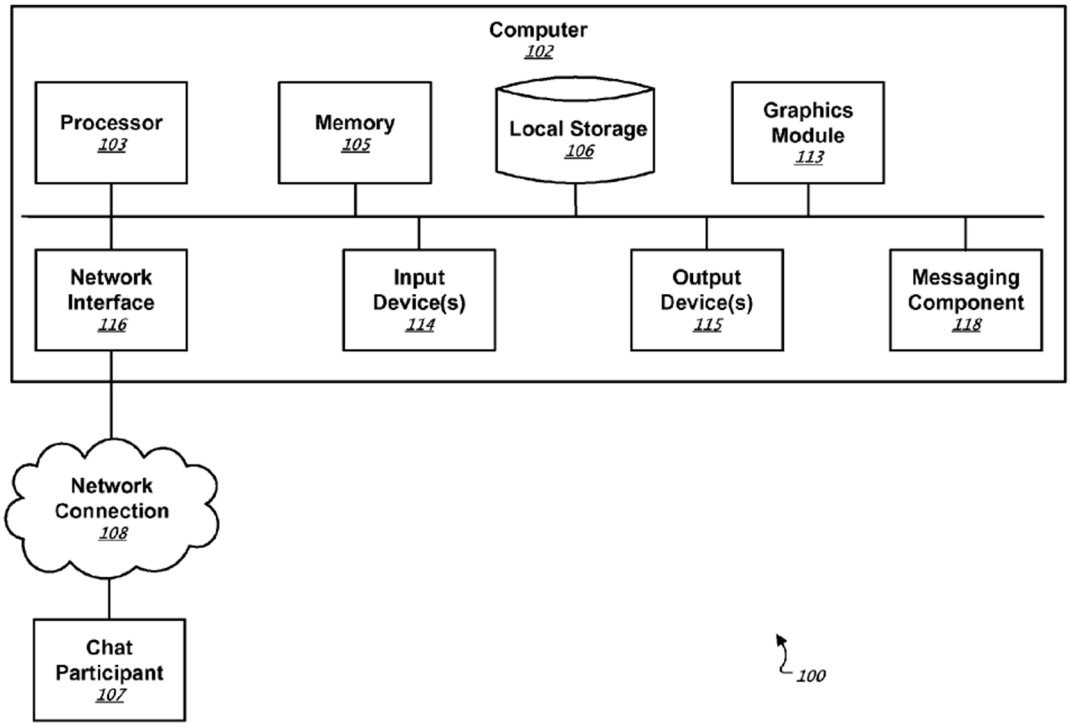
135. Like the '857 Patent, Oh recognizes that with chat messaging, "[w]hen multiple conversations with different topics are performed between several users, each user may experience difficulty in reading related messages

together on the dialog window." EX1007, [0013]. To address this problem, Oh provides a similar solution: "assign contextual information to messages forming a conversation, and rearrange the messages according to the contextual information to enable a conversation participant to clearly understand the context of the conversation." *Id*., [0003]. This contextual information can be a "context-linking item" or "link symbol [which] is a link indicating related messages." *Id*., [0111]. The context linking item or symbol can be "represented by a digit, symbol, character, or figure"; "by color, shape, size, highlighting" or "text." *Id*., [0111]-[0115], [0187].

2. Stochosky

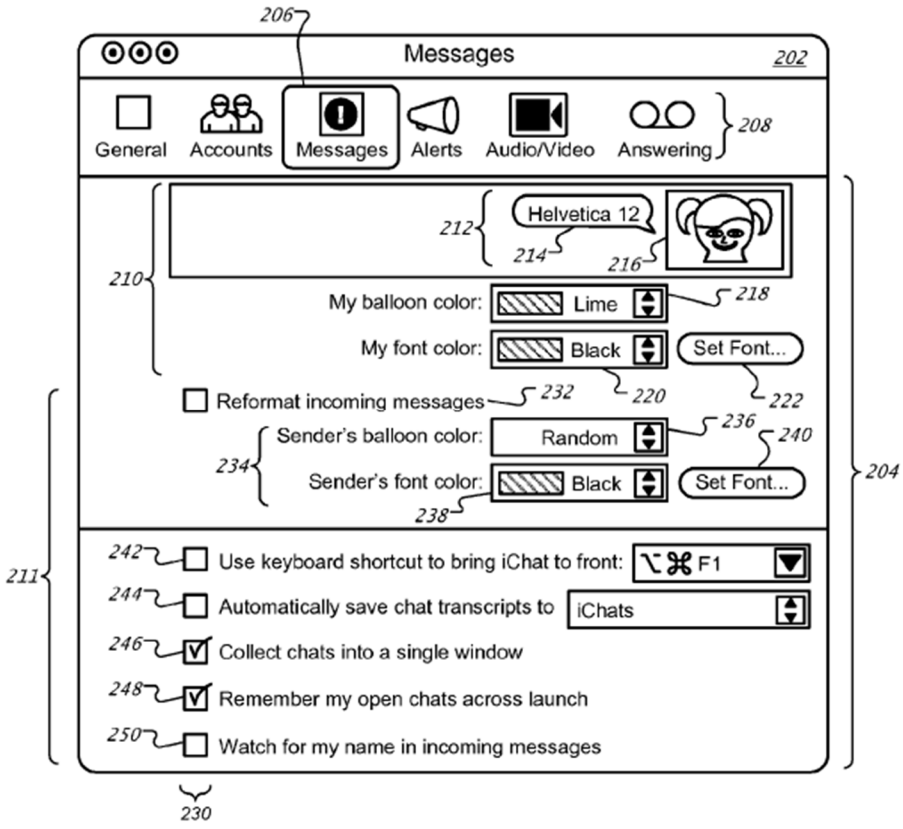
136. Stochosky was filed June 6, 2008 and published December 11, 2008. EX1006, (12), (54), (22), (45), (65).

137. Stochosky relates to a chat messaging system, as shown in FIG. 1.



EX1006, FIG. 1, (54), (57), 1:17-42. Stochosky's system includes a personal computer 102 or mobile phone having a processor 103, memory 105, input devices 114, and output devices 115. *Id*., 2:8-16, 2:34-46. The computer device also includes "a messaging component 118 that provides the user with the capability to communicate via messages." *Id*., 3:4-7. The messaging component 118 "allows users to control the visual characteristics of text bubbles that are used to present messages…. For example, the user can control the text style (size, color, font, etc.) and bubble style (bubble color and shape)." *Id*., 3:43-48. This is similar to the '857 Patent: "The formatting to be used on a given interface device 100 may be defined at that device in settings 140 defined by the corresponding user 110." EX1001, 9:65-67.

138. A "dialog for defining visual characteristics of text bubbles" is depicted in FIG. 2.



EX1006, FIG. 2; 3:59-60, 4:1-5:13.

3. Motivation to Combine

139. A POSITA would have found it obvious, and would have been motivated, to combine the teachings of Chang, Oh, and Stochosky to arrive at the claimed subject matter.

140. Chang's mobile terminal and methods display messages for one or more conversations or chats. EX1005, (12), (57). Chang's mobile terminal

"differently controls a background color" or other visual element of the chat messages so that "the user can intuitively distinguish" between them. *Id*., 14:18-22.

141. A POSITA would have recognized that it would be desirable that other participants to a chat or conversation be able to also distinguish messages relating to that conversation from other messages. A POSITA would thus be motivated to look for technology that addresses this issue.

142. Oh provides a technical solution. Oh supports "send[ing] and receiv[ing] link information between messages to and from another mobile terminal according to user selection," thus allowing other chat participants to see the correlation of messages for the chat. EX1007, [0035]. A POSITA would have found it obvious and motivated to combine Chang and Oh such that information about the user's selection for linking messages is transmitted to another mobile terminal because Oh recognizes that "***each*** user [participating in a conversation] may experience difficulty in reading related messages together on the dialog window." EX1007, [0013]. Sending a message alone, without any other information, does not allow that message to be correlated to an existing conversation. Oh's method allows other chat participants to see the correlation between messages. It would have been obvious to a POSITA to employ Oh's method in Chang's mobile terminal and system for the same purpose. I have been informed that if a technique has been used to improve one device, and a POSITA

would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

143. A POSITA would have further recognized that in order to improve a user's experience with Chang's mobile terminal, as modified according to Oh's teachings, it would be desirable to provide the user with the ability to control or define the context-linking items or visual elements of the chat messages in a way that is more pleasing to the user and other participants. For example, a user receiving information about a context-linking item from another chat participant may not like the other's participant's color choice for the chat. A POSITA would thus be motivated to look for technology that addresses this issue.

144. Stochosky's message component provides just that technical solution because it allows a user to configure, define, or control the visual characteristics of the chat messages as displayed on a device. EX1006, 3:43-48. It would have been obvious to a POSITA to modify Chang's mobile terminal to include Stochosky's message component in order to enhance the experience of the user by allowing control over the look and feel of the messaging. Indeed, a POSITA's motivation to combine these references is found in Stochosky itself. Stochosky's messaging component can present messages "in styles and/or formats that can be more visually pleasing to the user." EX1006, 3:9-11. The messaging component is employed on Stochosky's computer system, mobile phone, or other device to

control “the look and feel of graphically displaying messages,” which “can aid the user in tracking the flow and current state of received messages.” *Id*., 2:34-42, 3:12-14. It would have been obvious to a POSITA to employ Stochosky’s messaging component in Chang’s mobile terminal for the same purpose. Stochosky is assigned to Apple Inc. EX1006, (73). A POSITA developing applications for mobile interfaces would be well aware of the Apple iPhone, and the iOS operating system, version 6 and earlier. A POSITA, and indeed all iPhone users, would be aware that a “Settings” interface may be constructed using standard toolkit elements, either in the Settings App or in an application-specific Settings UI, for most if not all significant applications on a device. It would be common knowledge that a settings interface could make use of the range of UI toolkit elements present in iOS 6, including text fields, selection widgets, sliders, and the like. A POSITA would know that any aspect of an application that was arbitrary, e.g., what color to use for a particular text indication or field, could be and should be specified in a settings page following the standard practice of iOS 6 applications.

145. A POSITA would have had a reasonable expectation of success in making such combination. The systems of Chang, Oh, and Stochosky are similar—each comprising a mobile terminal with processor or controller, memory, input device, output device, and display implementing a chat window for messaging. EX1005, FIGS.1, 20-24, 3:54-9:13, 19:21-21:60; EX1006, FIG. 1, 2:6-46;

EX1007, FIGS.1, 7, [0030]-[0074]. The techniques of managing multiple messaging conversations on such devices were known and were within the skill set of a POSITA. *Id*.; *see also*, EX1005, 1:15-26; EX1007, [0002]-[0014]. Given the overlap in features and functionality, a POSITA would have recognized that modifying Chang's mobile terminal according to the teachings of Oh and in further view of Stochosky required only basic modifications and routine skill. Combining the teachings of Chang and Stochosky would have involved combining prior art elements according to known techniques to yield predictable results.

4. Detailed Invalidity Analysis

a. Claim 10

i. [10pre] "The computer based method of claim 1 further comprising:"

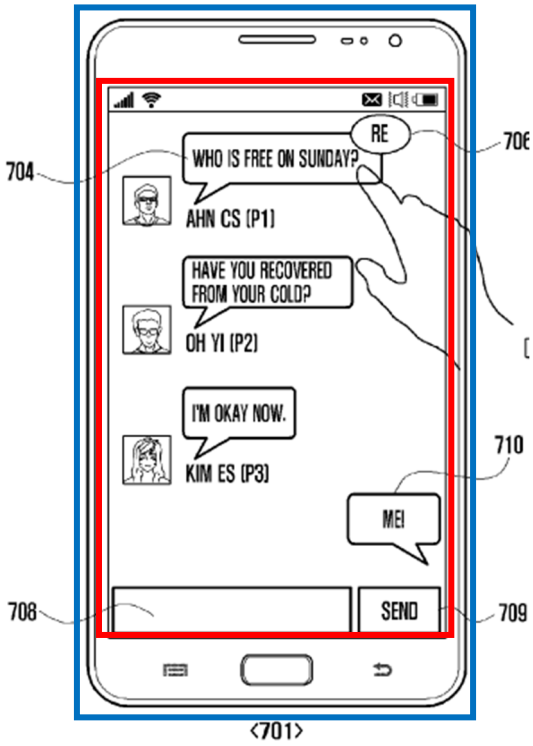
146. *See* [1].

ii. [10a] "providing the discussion interface at a second interface device, wherein the discussion interface includes the first message and a second message;"

147. As discussed in [1a], Chang discloses a "*discussion interface…, wherein the discussion interface includes the first message and a second message*" because Chang's chat window ("*discussion interface*") can include various private and group messages ("*the first message and a second message*"). *See* [1a].

148. It would have been obvious to a POSITA that such chat window ("*discussion interface*") can be "*provid[ed]…at a second interface device*" because

Oh describes that there are multiple participants to a chat conversation, that another participant to a conversation may have her/his own mobile terminal ("*second interface device*"), that messages for the conversation are sent and received between mobile terminals, and that such mobile terminals display or provide "a dialog window" or "chat window" ("*discussion interface*"), as shown in FIG. 7.



EX1007, FIG. 7, [0010], [0013], [0035] ("messages to and from ***another*** mobile terminal"), [0090], [0181]. Oh states, e.g.: "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*., [0013]. Based on Oh's disclosure, common sense and experience, it would have been obvious to a POSITA that there would be a dialog window ("*discussion interface*")

on the respective mobile terminal ("*second interface device*") of another participant to a conversation, and that such window would display the same messages of the conversation (including the "*first message and a second message*") seen by the user of the first mobile terminal.

iii. [10b] "receiving, at the second interface device, the first indication;"[8]

149. As discussed in [1c], Chang discloses "*the first indication*" as a user's touch input to select a chat or conversation with which to correlate a new message. *See* [1c].

150. A POSITA would have found it obvious and motivated to combine Chang and Oh such that the user's input ("*the first indication*") is "*receiv[ed]…at the second interface device*" because Oh recognizes that "***each*** user [participating in a conversation] may experience difficulty in reading related messages together on the dialog window." EX1007, [0013]. Sending a message alone, without any other information, does not allow that message to be correlated to an existing conversation. To address this problem, Oh describes a "conversation operation method…so that conversation participants are clearly aware of the context of messages forming the conversation." *Id*., [0117]. "The user selects a particular

[8] I understand that Petitioner reserves the right to challenge this limitation as indefinite.

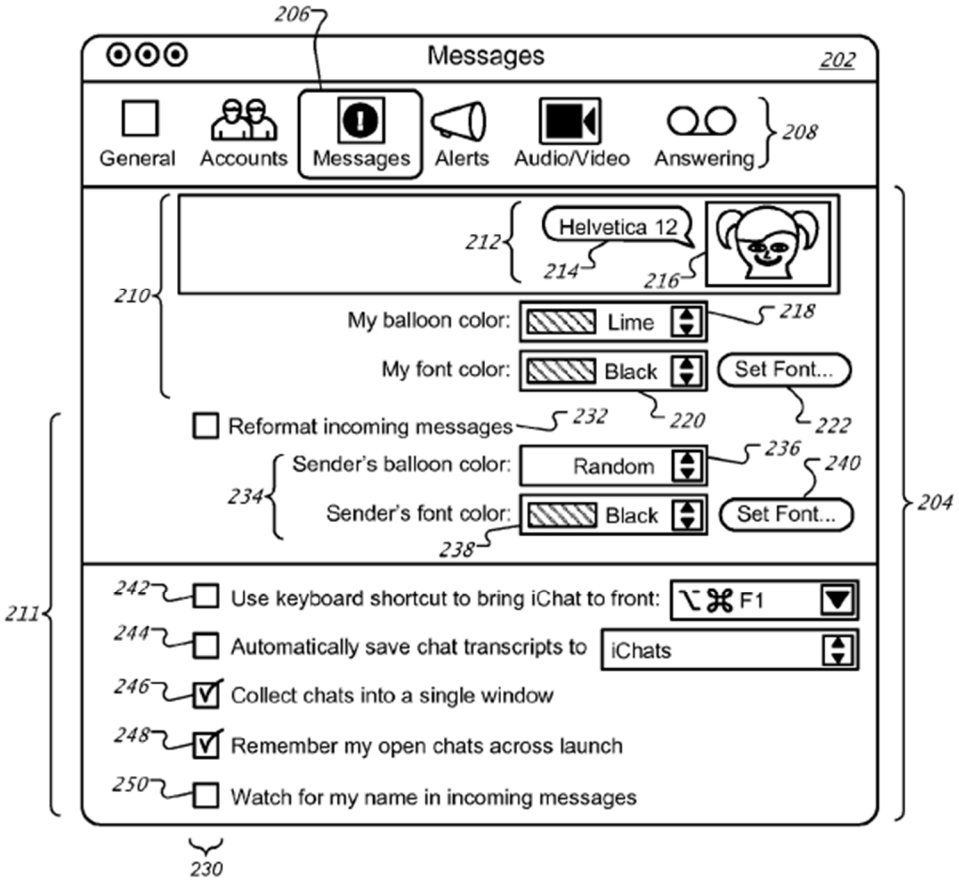
message sent by a given counterpart, attaches a context-linking item to the selected message, and sends a message corresponding to the selected message." *Id*., [0129]. A POSITA would thus have been motivated and found it obvious to send information about the user's touch input ("*first indication*" selecting a particular conversation) from that user's mobile terminal so that it is received at the other conversation participant's mobile terminal ("*the second interface device*") in order that some form of context linking or message correlation can be provided at the other terminal. Indeed, this is consistent with the disclosure of the '857 Patent, which states: "[W]hen the first user 110a taps a message, defining a conversation,…new messages entered at the second interface device 100b will not be automatically associated with that conversation." EX1001, 6:7-13. Something more is needed. To this end, the '857 Patent "creates linkages between messages that are part of a conversation." *Id*. Messages "may be received with indications assigning them to [particular] conversations." *Id*., 7:48-56. A POSITA would have reasonable expectation of success for combining Chang and Oh, for the reasons already discussed.

iv. [10c] "displaying the first new message at the second interface device, wherein the displaying of the first new message incorporates a third visual cue shared solely by messages associated with the active conversation of the first indication."

151. Chang and Oh disclose "*displaying the first new message at the second interface device*." As discussed in [1e], Chang describes that its mobile terminal receives the "*first new message*" which may relate to a conversation or chat. *See* [1e]. Chang and Oh both describe that such message may be transmitted from the mobile terminal to another device ("*second interface device*"). EX1005, 11:40-53; EX1007, [0034], [0090]("sends a message written on the dialog window to another mobile terminal"). Oh describes that at the receiving mobile terminal ("*second interface device*"), "a message received from a different mobile terminal" may be output or displayed "on the display panel 141" ("*displaying the first new message*). EX1007, [0092].

152. Chang, Oh, and Stochosky suggest "*wherein the displaying of the first new message incorporates a third visual cue shared solely by messages associated with the active conversation of the first indication*." As discussed in [1g], Chang discloses that a "*new message*" entered by a user may "*incorporate*" the same background color or "*visual cue*" that is "*shared*" by the rest of the messages for a particular conversation selected by the user's touch input ("*messages associated with the active conversation of the first indication*"). *See* [1g]. Stochosky teaches

that the visual characteristics of a chat message can be controlled by a user with a messaging component. EX1006, FIGS. 1, 2, 2:34-42, 3:12-14. As discussed in the Motivation to Combine section, it would have been obvious to a POSITA to modify Chang's mobile terminal to incorporate Stochosky's messaging component, with the motivation to combine being so that the user can "control the look and feel" of chat messages so that the messages are presented "in styles and/or formats that can be more visually pleasing to the user." *Id*., 3:9-14. When such a modified mobile terminal is used by another party who is receiving the new message in connection with the selected conversation or chat, as taught by Oh (and thus, would be the "*second interface device*"), such party does not have to use the same background color or "*visual cue*" apparent at the sending user's mobile terminal. Instead, the receiving party can control or define look and feel of the messages or chats on her/his own device using Stochosky's messaging component dialog, as seen in FIG. 2, so that the received message "*incorporates*" a different visual effect or characteristic ("*third visual cue*").



EX1006, FIG. 2. As seen in the figure, the user of the receiving terminal can "reformat incoming messages," adjusting or defining the "balloon color" or "font color." *Id*., FIG. 2, 4:51-67. "A sender's balloon (or bubble) color control 236 can be used, for example by the recipient, to override the color specified by the sender." *Id*., 5:4-13. It would thus have been obvious to a POSITA, based on Stochosky, that the receiving user could choose a different background color ("*third visual cue*") from the colors used at the transmitting terminal (which include a "*first visual cue*" and a "*second visual cue*" as discussed in [1d],[6e]). This visual effect may be shared "*solely*" by the messages to the particular

conversation based on the receiving party's choices, e.g., selecting a unique color for those messages.

b. Claim 11

i. [11] "The computer based method of claim 10 wherein the first indication is generated at the first interface device and is received at the second interface device from one of a server or the first interface device."

153. Chang discloses that the user's touch input ("*first indication*") is "*generated at the first interface device*" because, as discussed in [1c], Chang's mobile terminal ("*first interface device*") includes a "touch screen," "touch sensor," or the like that generates the user input. *See* [1c]; EX1005, 6:55-59 ("When the user applies a touch input to the touch sensor, a signal corresponding to the touch input may be transmitted to a touch controller.").

154. As discussed in [10b], based on the disclosure of Chang in view of Oh, a POSITA would have found it obvious to send the user input ("*first indication*") from the user's mobile terminal ("*from one of a server or the first interface device*") so that it is received at another conversation participant's mobile terminal ("*received at the second interface device*") so that the other participant can be made aware of the context of messages. *See* [10b].

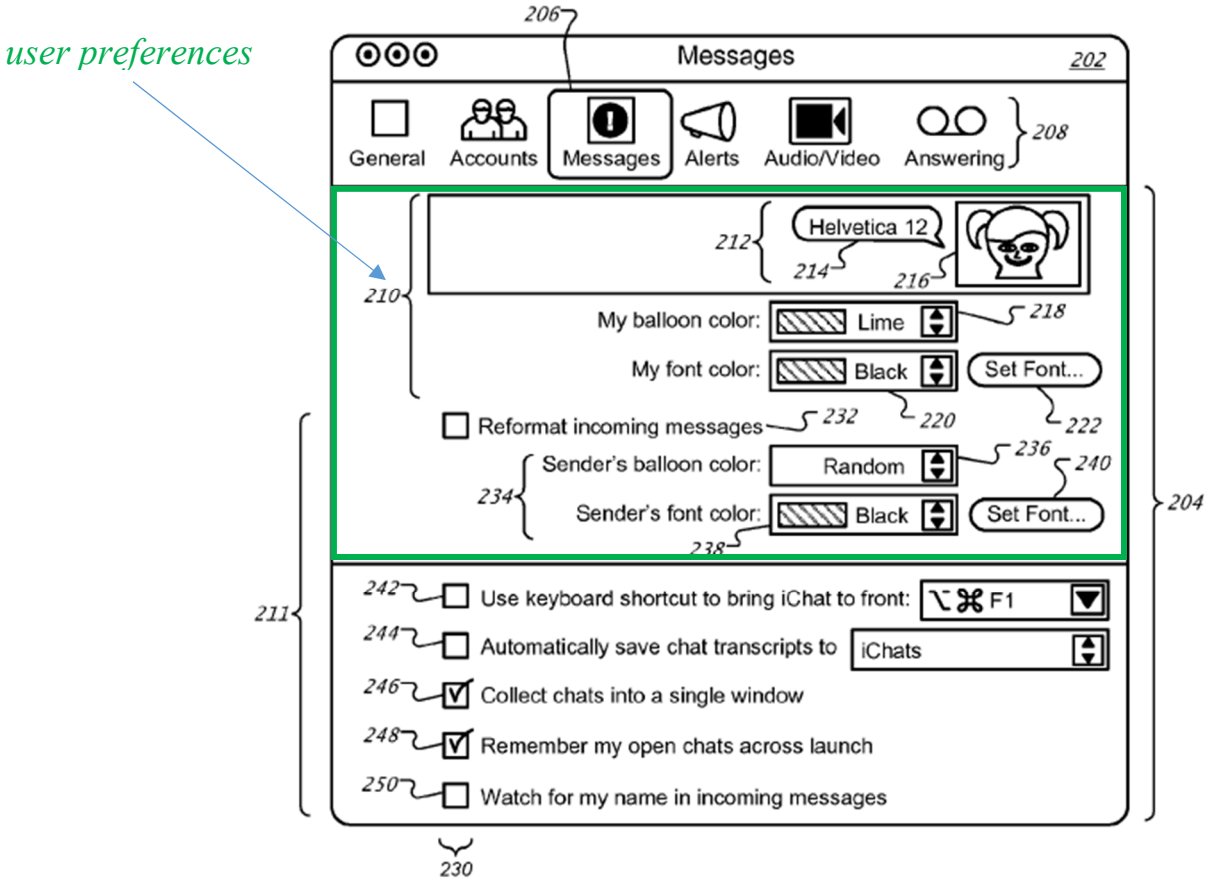
c. Claim 12

i. [12] "The computer based method of claim 10 wherein the first visual cue and the third visual cue differ and are based on user preferences at each of the first user interface device and the second user interface device."

155. As discussed in [1d], [10c], the combination of Chang, Oh, and Stochosky disclose "*first visual cue*" and "*third visual cue*"[9] in the form of color or other visual effect for chat messages input and displayed at the user's mobile terminal ("*first user interface device*") and a receiving party's terminal ("*second user interface device*"). *See* [1d], [10c].

156. It would have been obvious, and a POSITA would have been motivated to combine these references, such that the background color or other visual effect ("*visual cues*") may "*differ and are based on user preferences.*" Stochosky describes that its messaging component 118 "allows users to control the visual characteristics" (e.g., size, color, font, etc.) ("*based on user preferences*") of the chat messages using a dialog, as seen in FIG. 2.

[9] The term "*second visual cue*" appears in claims 6 and 8.



EX1006, FIG. 2, 3:43-5:13. The user can change the color of the balloon and font for her/his messages, as well as "reformat incoming messages" to change their balloon and font colors. *Id.*, 5:4-6 ("[a] sender's balloon (or bubble) color control 236 can be used, for example by the recipient, to override the color specified by the sender"). Based on this disclosure, it would have been obvious to a POSITA that the "*first visual cue*" (used by the sending user) can "*differ*" from the "*third visual cue*" (used by the receiving user). A POSITA would have a reasonable expectation of success for the reasons already discussed.

d. Claim 18

i. [18] "The system of claim 15, wherein the memory further stores user preferences, and wherein the visual cues are defined in the user preferences."

157. As discussed in [12], Chang and Stochosky disclose or teach that the background color, shade, shape, or other visual effects ("*visual cues*") for text or chat messages can be configured or defined by the user ("*defined in the user preferences*"). *See* [12]; EX1006, 3:43-50.

158. A POSITA would have been motivated and found it obvious to store the user preferences in the "*memory*" of Chang's mobile terminal. *See* [15a]; EX1005, 8:4-6. Stochosky describes that "controls can exist for setting or restoring system defaults, such as default bubble and format styles associated with the messaging system." EX1006, 4:6-8. Based on these prior art teachings and common sense, it would have been obvious to a POSITA that in order for the "*user preferences*" for styles to be set or restored, such styles (e.g., colors) could be stored in the memory. EX1007, [0073] ("database 153…stores information regarding context-linking items attached to related messages").

C. Challenge 3: Claims 1-2, 4-5, 15-16 are unpatentable over Oh

159. I am informed that in Litigation, Patent Owner asserts that the meaning of the claim term "*changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by*

messages associated with the active conversation" is broad enough to cover a change in the text appearing in the input box for a message entry location—i.e., changing "iMessage" to "Reply"—and doing so such that the "*chang[ed] visual element*" is not the same as the "*first visual cue*." *See* EX1008.

160. To the extent that the claim terms are construed as broadly as the Patent Owner is asserting, it is my opinion that Oh, in view of the knowledge and experience of a POSITA, discloses or suggests to a POSITA, the subject matter of each and every limitation of claims 1-2, 4-5, 15-16 of the '857 Patent.

1. Detailed Invalidity Analysis

a. Claim 1

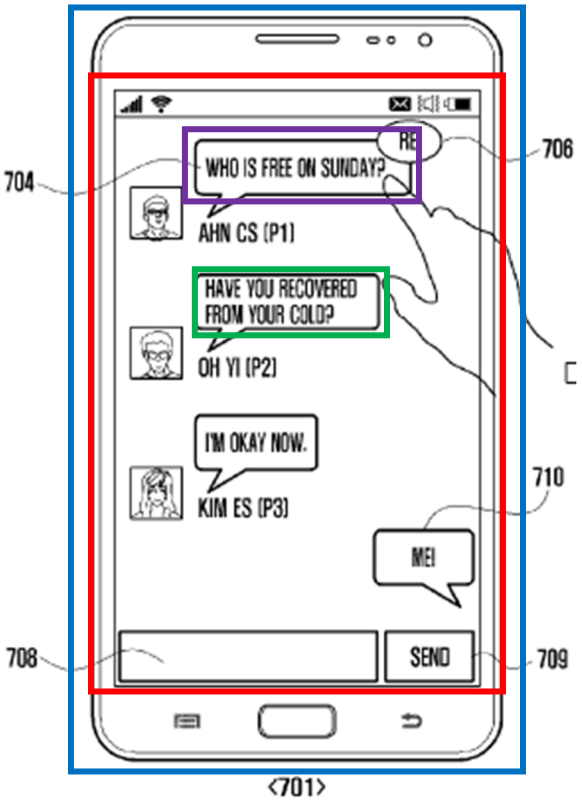
i. [1pre] "*A computer based method for correlating conversations in a messaging environment, the method comprising:*"

161. Oh discloses a "*computer based method*" because it describes "a conversation operation method for a mobile terminal" that can be "a smartphone, a laptop computer, or a handheld computer." EX1007, [0003], [0234].

162. Oh's method is "*for correlating conversations in a messaging environment*" because it "can assign contextual information to messages forming a conversation, and rearrange the messages according to the contextual information." EX1007, [0003], FIGS. 3-6.

ii. [1a] "providing a discussion interface at a first interface device, wherein the discussion interface displays a first message and a second message;"

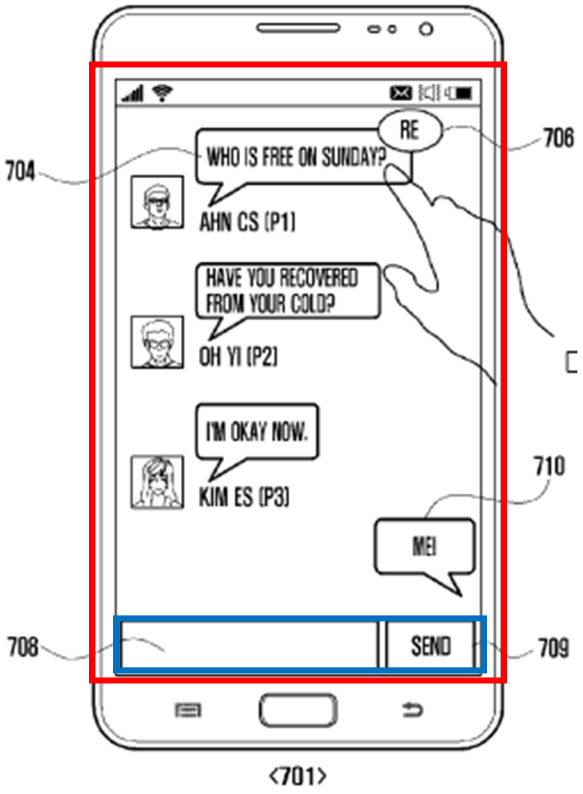
163. Oh discloses "*providing a discussion interface at a first interface device*" because Oh's mobile terminal ("*interface device*") provides a "dialog window" ("*discussion interface*"), as shown in FIG. 7.



EX1007, FIG. 7, (57), [0005]-[0008], [0119], [0181], [0234]. Oh discloses "*the discussion interface displays a first message and a second message*" because a "*first message*" and a "*second message*" may be displayed on the "*discussion interface*." *Id*.

iii. [1b] "providing a message entry location for inputting new messages, the message entry location associated with the discussion interface,"

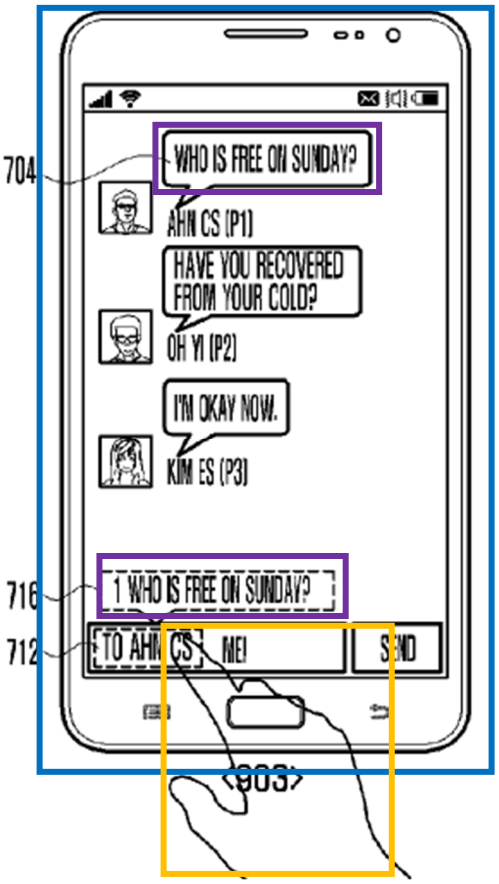
164. Oh discloses a "*providing a message entry location for inputting new messages*" because it describes that "the user enters a new message in the input field 708" ("*message entry location*"), as seen in FIG 7.



EX1007, FIG. 7, [0185], [0190]. Oh discloses "*the message entry location associated with the discussion interface*" because the input field ("*message entry location*") is on the same screen as the dialog window ("*discussion interface*"). *Id*.

iv. [1c] "receiving, at the first interface device, a first indication that the first message is part of an active conversation;"

165. Oh discloses "*receiving, at the first interface device, a first indication*" because the mobile terminal ("*first interface device*") may receive input ("*a first indication*") triggered by a user's "touch events…generated by a touch panel 143 of the display unit 140" of the mobile terminal. EX1007, FIGS. 1, 8, [0006]-[0007], [0053]-[0056]. As seen in FIG. 9, the "*first indication*" corresponds to the user's finger.



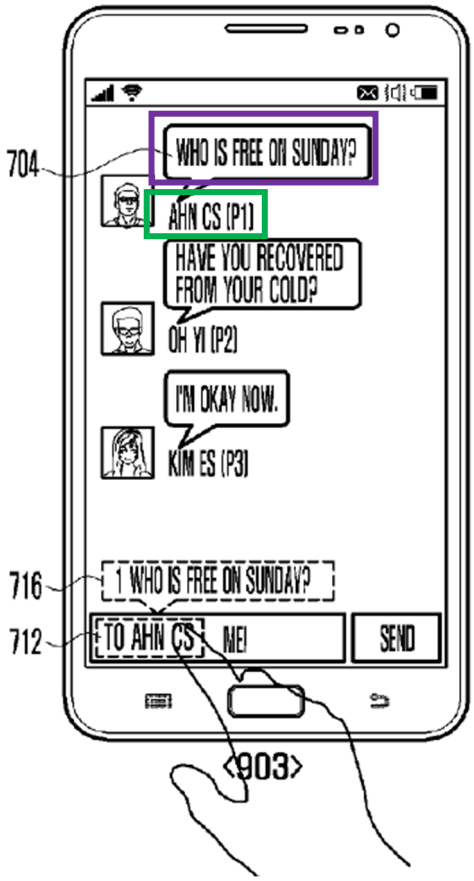
Id., FIG. 9. The user's touch input ("*first indication*") indicates "*that the first message is part of an active conversation*" because the touch input invokes a "message list" from which "the user selects the latest message 'Who is free on Sunday?'" ("*first message*"). *Id*., [0127]-[0131]. A POSITA would have understood—as a matter of common sense and experience—that, in the example of FIG. 9, the "*first message*" is part of the existing or "*active conversation*" relating to the availability of the chat participants on a particular day. *Id*., [0008] ("users create an instant conversation through dialog windows displaying…messages"), [0070]. In general, whichever conversation that the user is engaging in at a particular moment is the "*active conversation*."

v. [1d] "changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue shared by messages associated with the active conversation;"

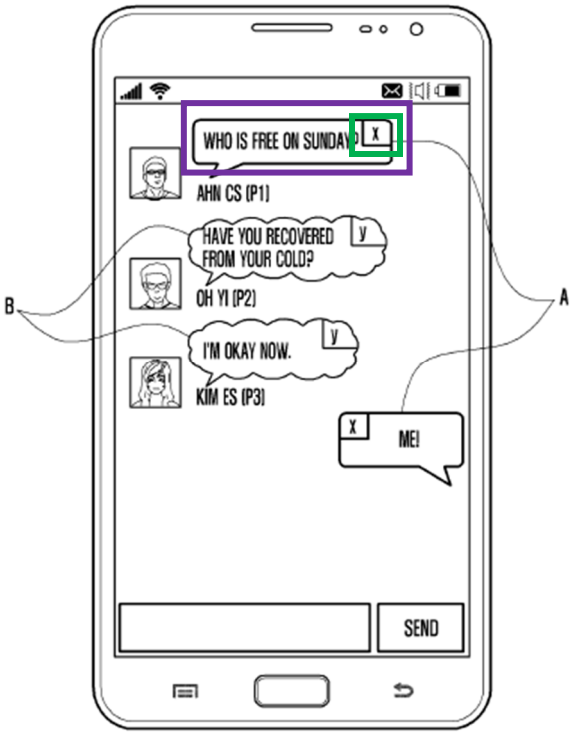
166. Oh discloses "*messages associated with the active conversation*" because different "*messages*" appearing in the chat window can belong or be "*associated with*" different conversations, covering different topics (e.g., "Who is free on Sunday?") or with different parties (e.g., "Ahn CS," "Oh Yi, or "Kim ES"). EX1007, FIGS. 7-11.

167. Oh discloses "*a first visual cue shared by*" the messages of a conversation because a context linking item or link symbol ("*first visual cue*")—which can be "represented as different digits, symbols, characters, or figures" or

"[c]olors shapes or sizes"—correlates or is "*shared by*" the associated messages. EX1007, [0045]-[0046], [0191]-[0196], [0213]-[0215]. One example of a "*first visual cue*" can be a word balloon with the name of the person who generated the message, as seen in FIG. 9.



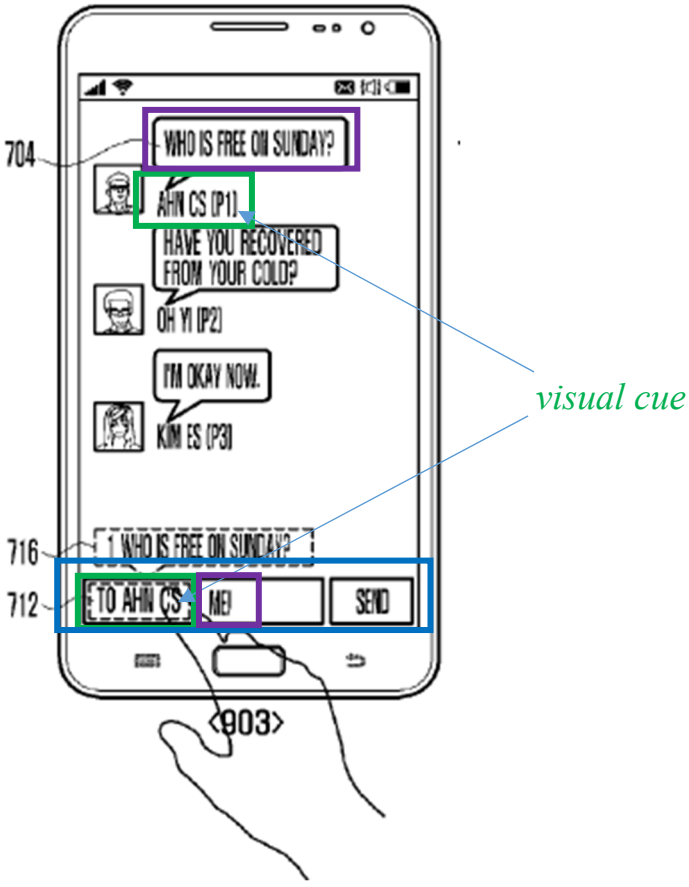
Id., FIG. 9. Another example of a "*first visual cue*" can be the same "character" (such as "x" or "y") that "is attached to portions of word balloons," as shown in FIG. 11.



Id., FIG. 11, [0200]. "A character attached to portions of word balloons related in context is referred to as a link symbol." *Id*.

168. To the extent Patent Owner asserts that "*changing a visual element of the message entry location upon receipt of the first indication to match a first visual cue*" covers changing the text appearing in an input message box, and insofar as Patent Owner further asserts that a visual element of the message entry location may "*match a first visual cue*" without being the same as this visual cue, Oh discloses this limitation. Oh describes that when the user would like to enter a new message (e.g., "ME!") for a conversation, e.g., by touching the screen of the mobile terminal (thus triggering "*receipt of the first indication*"), the name of the counterpart participant "AHN CS" ("*visual element*") to whom the new message is

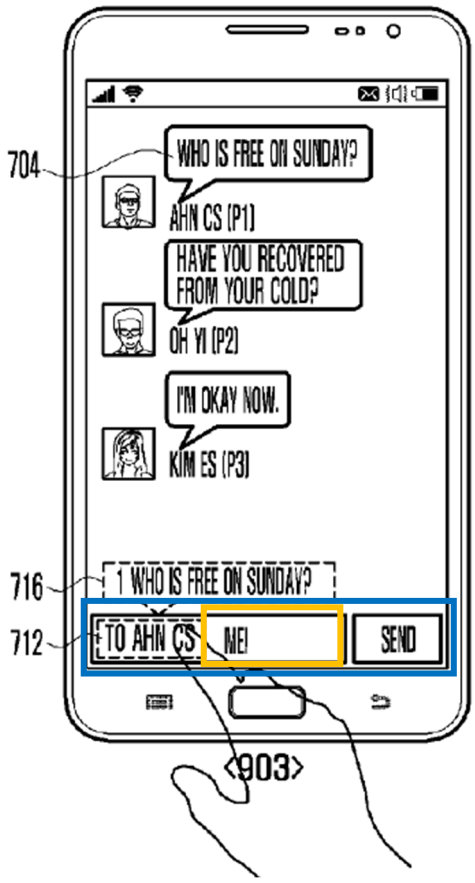
directed is displayed at the input field in the dialog window" ("*message entry location*"), as seen in FIG. 9. EX1007, FIG. 9, [0134]-[0140]. Thus, Oh discloses that the "*visual element*" (the name of the counterpart participant "AHN CS") of the input field ("*message entry location*") is changed upon receiving the user's touch input to enter a new message ("*upon receipt of the first indication*"). Furthermore, the name "AHN CS" ("*visual element*") appearing in the input field "*matches*" the participant's name for the selected message ("*first visual cue shared by messages*"), as seen in FIG. 9.



Id., FIG. 9, [0121], [0134], [0187].

vi. [1e] "receiving a first new message at the message entry location; and"

169. Oh discloses "*receiving a first new message at the message entry location"* because "the user enters a new message" ("ME!") ("*first new message*") "in the input field" ("*message entry location*") as shown in FIG. 9.

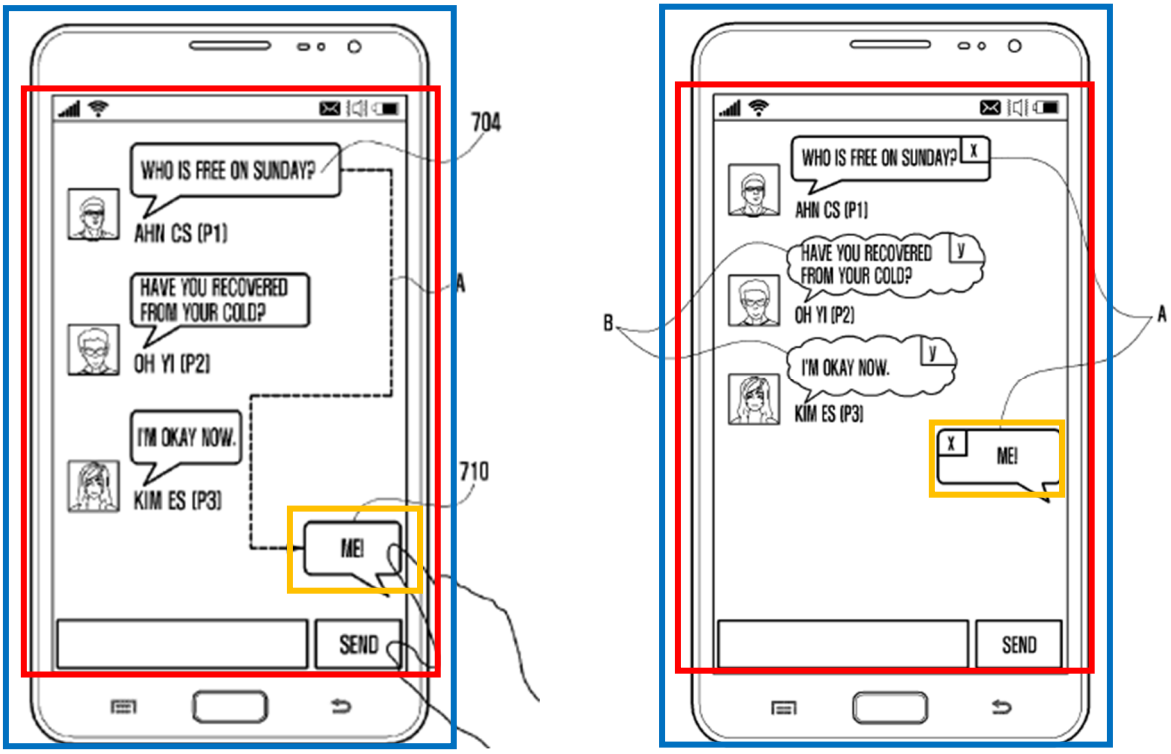


EX1007, FIG. 9, [0098], [0130]-[0140], [0185].

vii. [1f] "displaying the first new message within the discussion interface at the first interface device,"

170. Oh discloses "*displaying the first new message within the discussion interface at the first interface device*" because after the user has entered the

message "ME!", this "*first new message*" is displayed alongside other messages in the chat window ("*discussion interface*") at the mobile terminal ("*first interface device*"), as seen in FIGS. 9, 11.



EX1007, FIGS. 9, 11, [0200].

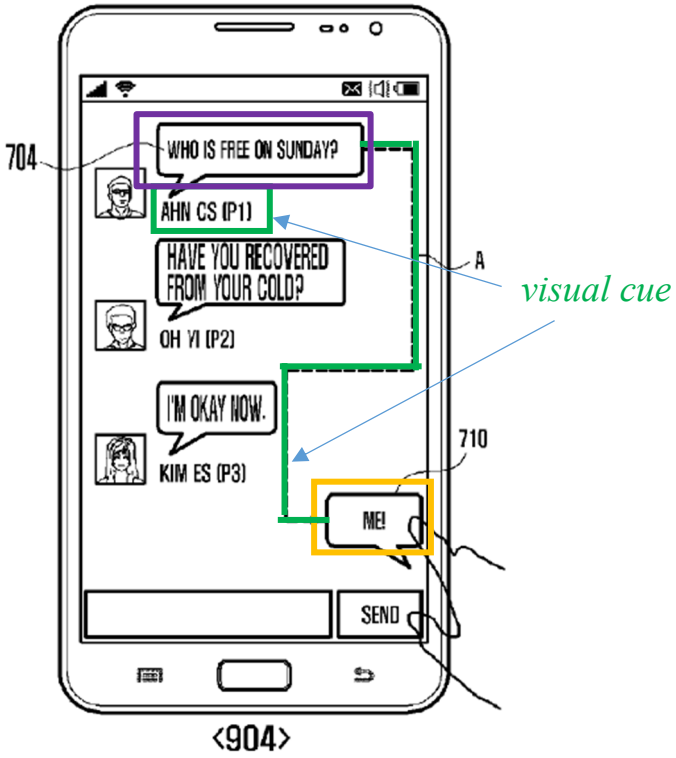
viii. [1g] "wherein the displaying of the first new message incorporates the first visual cue shared by messages associated with the active conversation."

171. As discussed above in [1d], Oh discloses the "*the first visual cue shared by messages associated with the active conversation*" because messages associated with the conversation on a particular topic or with a particular participant ("*messages associated with the active conversation*") may be connected

with text for the name of the participant or a character (such as "x" or "y") ("*first visual cue*") attached to the word balloon. *See* [1d]; EX1007, [0187].

172. Oh further discloses "*the displaying of the first new message incorporates first visual cue*" in at least two ways.

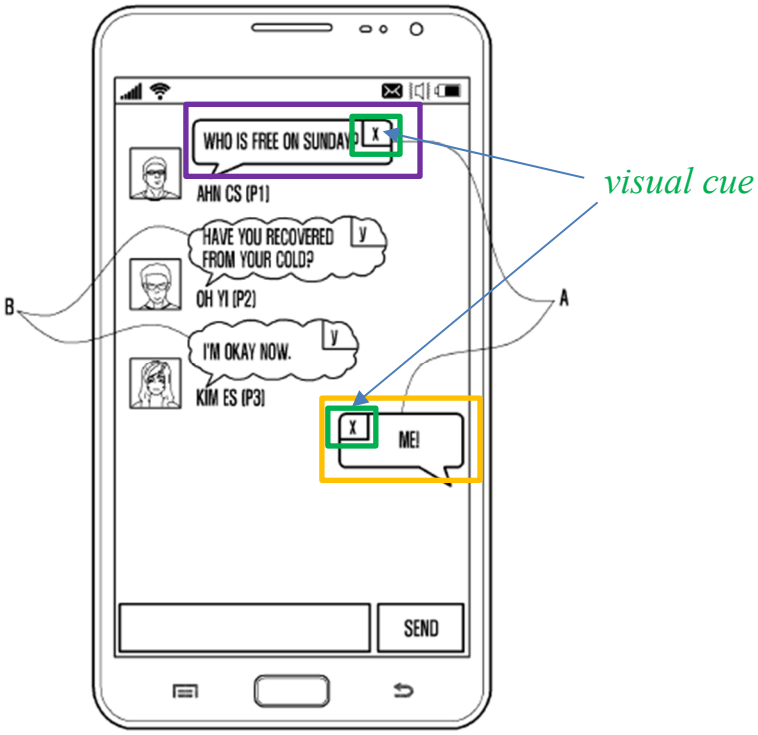
173. First, Oh describes that the name of the counterpart participant for the selected message ("*first visual cue*") is "*incorporate[d]*" or linked to the "*first new message*," as seen in FIG. 9.



EX1007, FIG. 9. "[T]he new message is output on the dialog window and a context-linking item is automatically displayed. That is, a link line linking the

latest word balloon of the selected counterpart and the new word balloon of the user is drawn…." *Id.*, [0140], [0134].

174. Second, Oh describes that the particular character (such as "x" or "y") ("*first visual cue*") is attached to the word balloon for the "*first new message*," as seen in FIG. 11.



EX1007, FIG. 11. "The same character such as 'x' or 'y' is attached to portions of word balloons related in context." *Id.*, [0200].

b. Claim 2

i. [2] "The computer based method of claim 1 wherein the first indication is generated by a tapping input at a touch sensitive display of the first interface device."

175. As discussed in [1c], Oh describes an input ("*first indication*") that is "*generated by*" user's touch at the mobile terminal's "touch panel 143" and a "display unit 140 [which] is a touchscreen" ("*touch sensitive display of the first interface device*"). *See* [1c]. A POSITA would have understood that such a user's touch input can be in the form of a "*tapping input*." EX1005, 11:1-9 ("Tapping is an action of…pressing…the touch screen.").

c. Claim 4

i. [4pre] "The computer based method of claim 1 further comprising:"

176. *See* [1].

ii. [4a] "displaying the first new message in the discussion interface without incorporating the first visual cue prior to receiving the first indication, and"

177. As discussed in [1f]. Oh discloses "*displaying the first new message*" "ME!" in the chat window ("*discussion interface*"). *See* [1f].

178. Oh discloses that the new message can be displayed "*without incorporating the first visual cue prior to receiving the first indication*." As discussed in [1d], [1g], Oh discloses that messages associated with a particular

conversation may share the same visual effect ("*first visual cue*") so as to link or correlate those messages. *See* [1d], [1g]. The link is generated based upon the user's touch input ("*first indication*") selecting the message to respond to. *See* [1c]. Oh describes that the user may form such "link between messages ***before*** or ***after***[10] sending the new message." EX1007, [0183], [0124]. In the situation where the link is formed ***before*** sending the message, the visual element is incorporated into new message when it is displayed. *Id*., [0184]-[0185] ("mobile terminal 100 outputs a word balloon 710 corresponding to the new message and displays a context-linking item between the selected word balloon 704 and the new word balloon 710"). In contrast, in the situation where the link is formed ***after*** sending the message, the new message is first displayed "*without incorporating*" the correlating visual element ("*first visual cue*") since the link has not yet been formed. Such situation may arise, e.g., when a user is so excited upon seeing a chat from another party that the user types a reply message without first selecting the chat or conversation via a touch input ("*prior to receiving the first indication*"). Indeed, Oh recognizes that "as users send and receive messages in real-time during message-based conversation, many messages [are] registered in a short period of time." EX1007, [0009]-[0010].

[10] All emphases added, unless otherwise indicated.

iii. [4b] "displaying the first new message in the discussion interface with the first visual cue incorporated after receiving the first indication."

179. Oh discloses that the new message can be displayed "*with the first visual cue incorporated after receiving the first indication*" because, as discussed in [1f] and [1g], Oh describes that after the user has entered the message (e.g., "ME!"), this "*first new message*" is displayed in the chat window ("*discussion interface*"). *See* [1f], [1g]. Based on Oh's disclosure and common sense, it would be obvious to a POSITA that, in the situation where a user enters a new message without first selecting the message to which it responds, the user may realize after the fact that she/he needs to correlate or link the messages, e.g., by selecting a message with a touch input ("*the first indication*"). Thereafter, as discussed in [1c], [1f]-[1g], the new message ("*first new message*") is displayed in the chat window ("*discussion interface*") with the context-linking item or visual effect ("*first visual cue incorporated*") to show the correlation between the new message and the other messages of the chat selected by the user's touch input ("*after receiving the first indication*"). *See* [1c], [1f]-[1g].

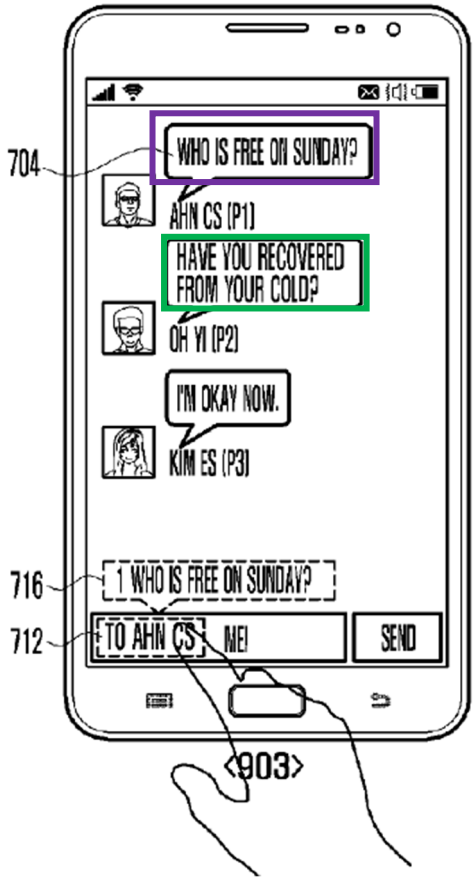
d. Claim 5

i. [5pre] "The computer based method of claim 1,"

180. *See* [1].

ii. [5a] "wherein the first message is part of a first conversation and the second message is part of a second conversation, the method further comprising:"

181. Oh discloses because the "*first message*" ("Who is free on Sunday?") is part of "*a first conversation*" relating to the availability of the chat participants on a particular day, and the "*second message*" ("Have you recovered from your cold?") is part of "*a second conversation*" relating to the health of a participant, as seen in 9.



EX1007, FIG. 9; [1a], [4].

iii. [5b] "defining, upon receiving the first indication, the first conversation as the active conversation, and"

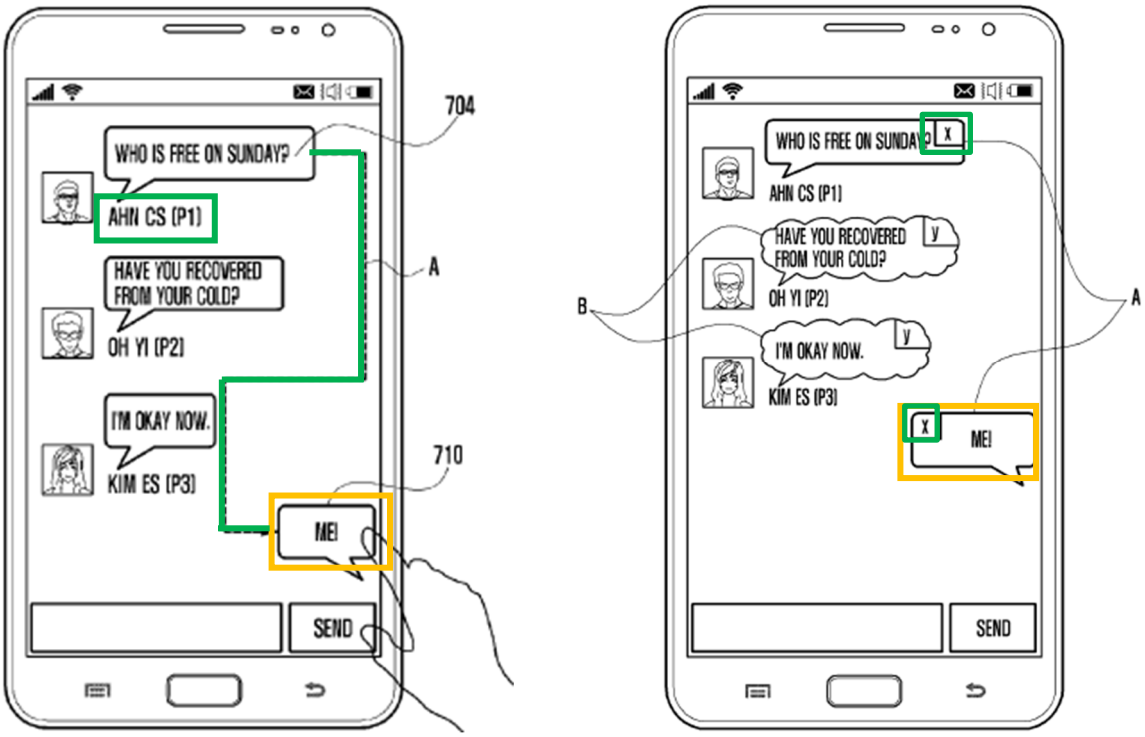
182. As discussed in [1c], Oh discloses "*receiving the first indication*" and "*the active conversation*." *See* [1c].

183. Oh further suggests that receipt of the user's touch input ("*receiving the first indication*") "*defin[es] the first conversation as the active conversation*" because the user's touch input invokes a "message list" from which "[t]he user selects a particular message…." EX1007, [0127]-[0131]. Here, "the user selects the latest message 'Who is free on Sunday?'" ("*first message*"). EX1007, [0131], [0008], [0070]. A POSITA would have understood—as a matter of common sense and experience—that, in the example of FIG. 9, the "*first message*" ("Who is free on Sunday?") is part of the "*conversation*" relating to the availability of the chat participants on a particular day, such conversation defined as the "*active conversation*" so that the user can, e.g., enter a new message in response. *Id*., [0008], [0131]-[0140]. For example, based on common sense, a POSITA would have understood that the question "Who is free on Sunday?" is the first of the messages displayed and read in context relates logically to the questions regarding the availability of chat participants posed in the other related messages "What day is today?" and "When do we meet?" (and not to the question "Have you recovered

from your cold?"). I have been informed that a POSITA is also a person of ordinary creativity, not an automaton.

iv. [5c] "defining the first new message as part of the first conversation,"

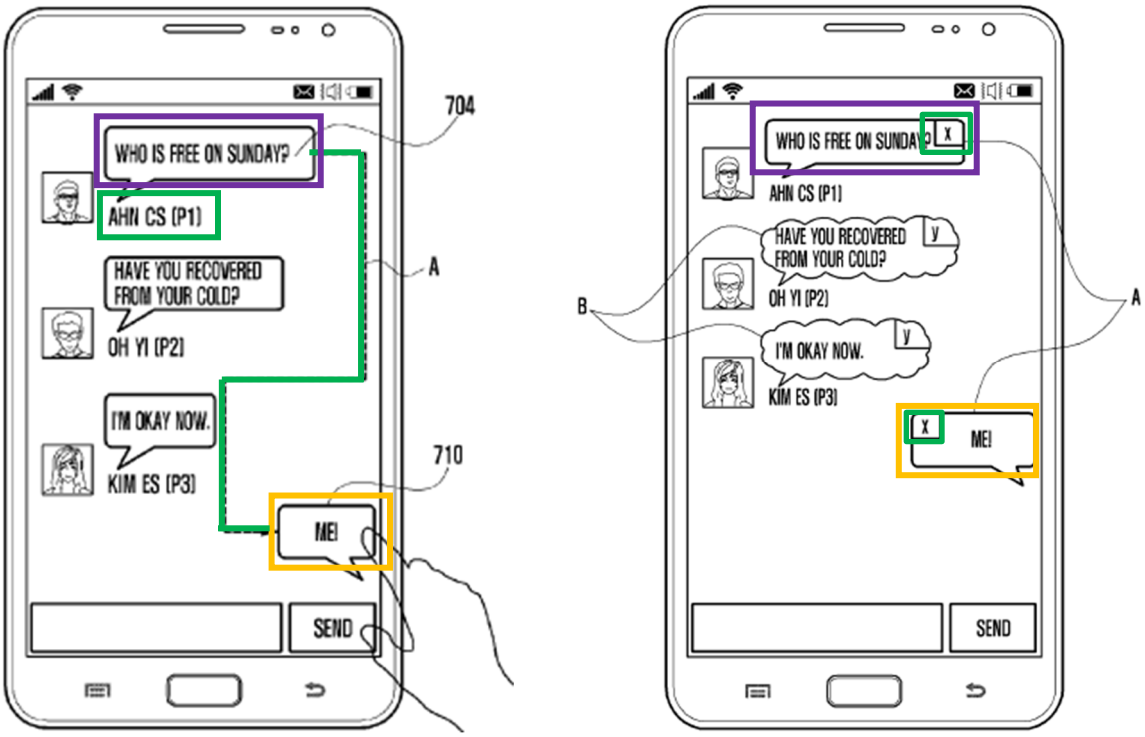
184. Oh discloses this limitation because "the control unit 160 creates a context linking item between the selected message" (relating to the "*first conversation*" about "Who is free on Sunday?") and the new message "ME!" ("*first new message*"). The context-linking item—which "is represented as a link line linking word balloons or as a link symbol" or "by at least one of the color, shape, size"—links, and as such "*define[s]*," the new message "ME!" ("*first new message*") "*as part of the first conversation*" relating to "Who is free on Sunday?" as seen in FIGS. 9, 11.



EX1007, FIGS. 9, 11, [0129]-[0140]. "[W]hen the user enters and sends a new message as indicated by reference numeral 903, the new message is output on the dialog window and a context-linking item is automatically displayed." *Id*., [0140].

v. [5d] "wherein the first visual cue is incorporated into any previously displayed messages that are part of the first conversation."

185. Oh discloses because the text for the name of the participant ("*first visual cue*") or other link symbol is "*incorporated into*" the other "*messages*" that are part of the conversation relating to the topic "Who is free on Sunday?" ("*previously displayed messages that are part of the first conversation*") as seen in FIGS. 9, 11.



EX1007, FIGS. 9, 11.

e. Claim 15

i. [15pre] "A system for correlating conversations, the system comprising an interface device in communication with a computerized network,"

186. As discussed in [1pre], Oh discloses "*correlating conversations*." *See* [1pre].

187. Oh discloses a "*system*" for such correlating where "*the system compris[es] an interface device in communication with a computerized network*." Oh discloses a mobile terminal ("*an interface device*") that is part of a "*system*" and "*in communication with a computerized network*" because the mobile terminal

itself can be "a smartphone, a laptop computer, or a handheld computer" and operates in an environment of "smart devices and communication networks." EX1007, [0008], [0234]; [1a].

ii. [15a] "the interface device comprising: a processor for implementing a software application on the interface device; a memory for storing the software application and for storing a plurality of messages in accordance with the software application; a transmission unit for transmitting messages to the computerized network; and a display, wherein the software application comprises instructions for"

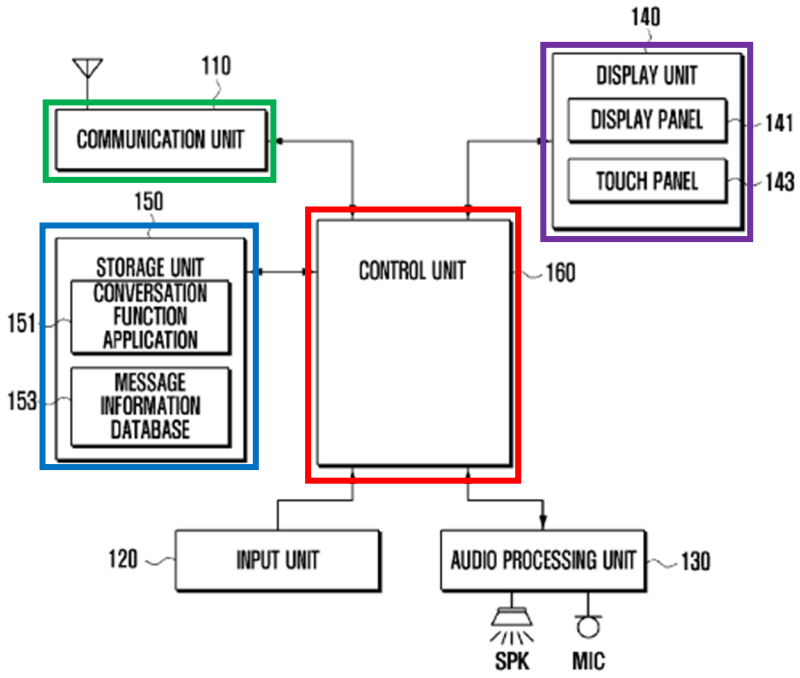
188. Oh discloses this limitation, as shown and described in FIG. 1. Oh discloses a "*processor*" in that the mobile terminal can be "a smartphone, a laptop computer, or a handheld computer" and includes a "control unit 160" which, based on its described operation, a POSITA would have understood to be a computer processor. EX1007, [0161]-[0178], [0234]. Oh discloses that its control unit 160 ("*processor*") is "*for implementing a software application on the interface device*" because the control unit "executes the conversation function application" ("*software application*") "for a multi-party conversation" on the mobile terminal. *Id*., [0119], [0151].

189. Oh discloses "*a memory for storing the software application*" because its mobile terminal includes a "storage unit 150" ("*memory*") which "stores application programs," including the "conversation function application"

("*software application*") "realizing message-based conversation." EX1007, [0065]-[0066]. The "storage unit 150 stores messages" ("*for storing a plurality of messages*"), where "conversation function application 151 supports rearrangement of messages" ("*in accordance with the software application*"). *Id*., [0067]-[0068].

190. Oh discloses a "*transmission unit for transmitting messages to the computerized network*" as a "communication unit 110" which "supports transmission and reception of messages during conversation operation, and may send and receive link information between messages to and from another mobile terminal." EX1007, [0032]-[0035].

191. Oh discloses a "*display*" as a "display unit 140" which may be a "touchscreen." EX1007, [00535]-[0056].



EX1007, FIG. 1.

192. Oh discloses "*wherein the software application comprises instructions*" because the conversation function application 151 ("*software application*") controls or supports various operations of the mobile terminal. EX1007, [0068]-[0072].

iii. [15b] "providing a discussion interface at the display of the user interface device for displaying messages stored in the memory;"

193. As discussed in [1a], Oh discloses "*providing a discussion interface at the display of the user interface device for displaying messages*." *See* [1a]. Oh discloses that the messages of the various chats are "*stored in the memory*" because "storage unit 150 stores messages." EX1007, [0067].

iv. [15c] "providing a message entry location for entering new messages, the message entry location associated with the discussion interface;"

194. *See* [1b].

v. [15d] "recording an indication that one of several conversations, each comprising one or more of the messages stored in memory, is an active conversation;"

195. Oh discloses "*one of several conversations, each comprising one or more of the messages*" because, as discussed in [1pre], [1a], "multiple conversations with different topics are performed between several users," where a

conversation is made up of a number of related messages. *See* [1pre], [1a]; EX1007, [0013]. As discussed in [15b], the messages are "*stored in memory*." *See* [15b].

196. Oh suggests "*recording an indication*" that one of the chats "*is an active conversation.*" As discussed in [1c], Oh describes that the mobile terminal receives an input ("*indication*") in the form of a user's a touch input which may select one of the messages for interaction by the user ("*active conversation*"). *See* [1c]. It would have been obvious to a POSITA that the touch input selecting a message can be stored or "*record[ed]*" in storage unit 150 so that e.g., the new message could be displayed with the same visual element (e.g., background color) as the rest of the messages in the conversation. EX1007, [0134] ("control unit 160 stores the selected message and new message in the storage unit 150 as messages related in context").

vi. [15e] "modifying a visual element of the message entry location based on which of the conversations is the active conversation;"

197. As discussed in [1d], Oh discloses "*modifying a visual element of the message entry location*" because Oh describes presenting a "counterpart selection list" at the input field ("*message entry location*") of the chat window, and modifying that element to be the name of a counterpart participant ("*modifying a*

visual element") for a particular conversation selected by the user ("*based on which of the conversations is the active conversation*"). *See* [1d].

vii. [15f] "receiving at least one new message entered at the message entry location;"

198. *See* [1e].

viii. [15g] "transmitting, using the transmission unit, the at least one new message to the computerized network incorporating an indication of which of the several conversations was the active conversation at the time of entry of the new messages; and"

199. Oh discloses "*transmitting, using the transmission unit, the at least one new message to the computerized network*" because, as discussed in [15a], the communication unit 110 ("*transmission unit*") "supports transmission and reception of messages" ("*transmitting…the at least one new message*"), and "may send and receive link information between messages to and from another mobile terminal" (which is part of "*the computerized network*"). *See* [15a].

200. Oh suggests "*incorporating an indication of which of the several conversations was the active conversation at the time of entry of the new messages*" because its mobile terminal "is configured to support message transmission and reception for the message-based conversation function, and aids the message context setter 163 to create, display, search and manage messages related with newly exchanged messages." EX1007, [0093]. Based on this

disclosure and the knowledge of a POSITA, it would have been obvious that some "*indication of…the active conversation*" is "*incorporat[ed]*" into the transmission so that the device receiving the new message can correlate the message to the corresponding conversation. EX1006, 1:25-28 ("When a new message is received for a particular conversation the message is added to the list that corresponds with the particular conversation."), 3:29-31 ("a received message can be added to a dialog window…containing an ongoing chat conversation").

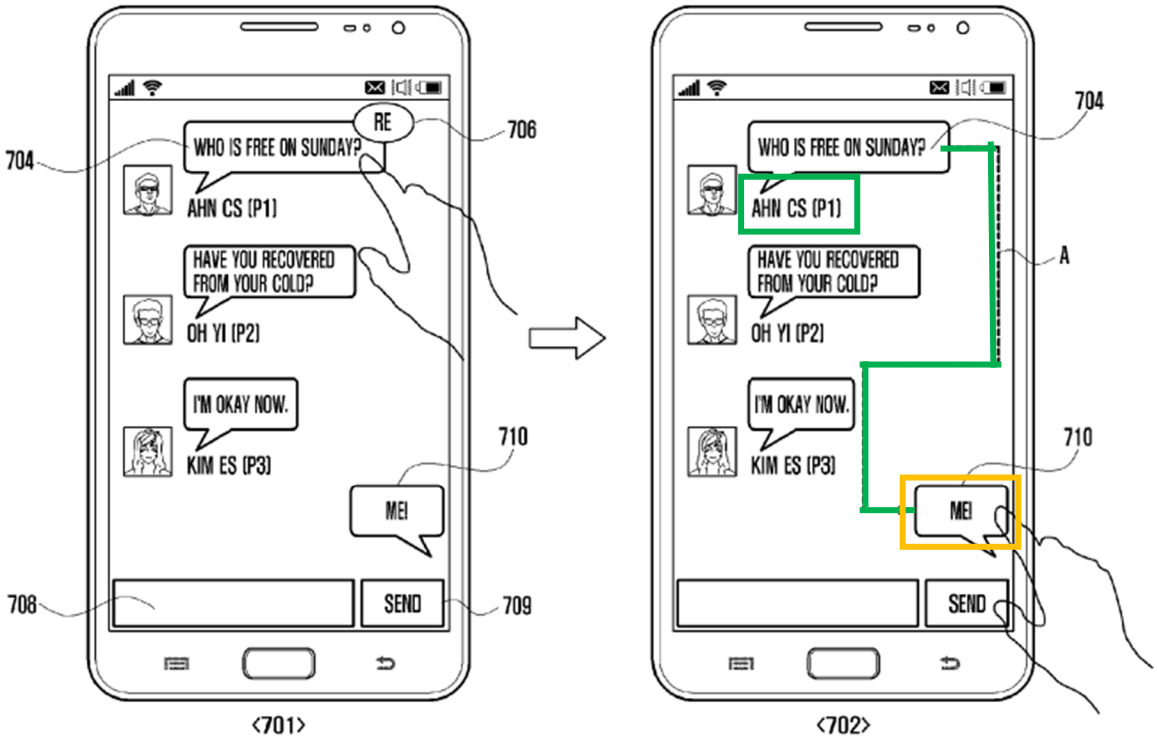
ix. [15h] "displaying, at the display, the at least one new message alongside the several conversations and"

201. *See* [1f], [15b].

x. [15i] "incorporating visual cues shared with any messages that are part of the conversation that was the active conversation upon entry of the at least one new message."

202. For the reasons discussed in [1d],[1g], Oh discloses "incorporating visual cues shared with any messages that are part of the conversation that was the active conversation." *See* [1d], [1g].

203. Oh discloses that incorporating the link symbol ("visual cues") into the new message occurs "upon entry of the at least one new message" as seen in FIG. 7.



EX1007, FIG. 7. Referring to FIG. 7, when the user enters the message "Me!" ("upon entry of the at least one new message"), context-linking item A involving the named participant ("first visual cue") can be provided to link the new message to the conversation "Who is free on Sunday?" *Id.*, [0190]- [0191].

f. Claim 16

i. [16] "The system of claim 15, wherein the display is a touch screen, and wherein the indication recorded that one of the several conversations is the active conversation is a tapping input at the display."

204. *See* [2], [15d].

D. Secondary Considerations

205. Based on my review of the ’857 Patent and its prosecution history, I note that no secondary considerations of non-obviousness were identified in connection with the Challenged Claims.

206. I have seen no evidence of commercial success, skepticism, failure of others, industry praise, unexpected results, or the like. Instead, as discussed above, it is my opinion that the subject matter covered by the Challenged Claims of the ’857 Patent was known in the art.

Conclusion and Declaration

The findings and opinions set forth in this declaration are based on my work and examinations to date. I may continue my examinations. I may also receive additional documentation and other factual evidence over the course of this proceeding that will allow me to supplement and/or refine my opinions. I reserve the right to add to, alter, or delete my opinions and my declaration upon discovery of any additional information. I reserve the right to make such changes as may be deemed necessary. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board ("PTAB" or "Board") of the USPTO. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: 7/3/2025

By: _____