

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS INC.,

Petitioner,

v.

PANTECH CORPORATION

Patent Owner.

Case IPR2023-01271

U.S. Patent No. 7,283,839

**DECLARATION OF VIJAY K. MADISETTI IN SUPPORT OF PETITION
FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,283,839**

TABLE OF CONTENTS

	Page
I. INTRODUCTION.....	1
II. QUALIFICATIONS.....	4
III. LEGAL UNDERSTANDING.....	9
A. My Understanding of Claim Construction.....	9
B. My Understanding of Anticipation.....	10
C. My Understanding of Obviousness.....	12
IV. Background of the Technology.....	17
V. THE '839 Patent.....	19
A. '839 Patent Overview.....	19
B. Prosecution History of the '839 Patent.....	22
VI. THE '839 Patent PRIORITY DATE.....	23
VII. LEVEL OF ORDINARY SKILL IN THE ART.....	23
VIII. CLAIM CONSTRUCTION.....	28
A. Preambles.....	28
B. “the description data” (Claim 2).....	29
IX. GROUNDS OF UNPATENTABILITY.....	29
A. Ground 1: Lemay Anticipates and Renders Obvious Claims 1-2.....	36
1. Overview of Lemay.....	36
2. Invalidity of Claims 1-2 Over Lemay.....	42
(a) Element [1.pre].....	42
(b) Element [1.a].....	46
(c) Element [1.b].....	54
(d) Element [1.c].....	61
(e) Element [1.d].....	66
(f) Element [1.e(i)].....	75

	(g) Element [1.e(ii)]	83
	(h) Element [1.e(iii)]	94
	(i) Element [1.e(iv)]	100
	(j) Element [1.e(v)].....	102
	(k) Element [1.e(vi)]	109
	(l) Elements [1.e(vii)]-[1.e(viii)]	113
	(m) Element [1.e(ix)]	122
	(n) Claim [2].....	127
B.	Ground 2: Maguire in view of Kang Renders Obvious Claims 1-2	137
1.	Overview of Maguire.....	137
2.	Overview of Kang.....	140
3.	Motivation to Modify Maguire with Kang's Teachings	144
4.	Invalidity of Claims 1-2 Over Maguire in view of Kang.....	149
	(a) Element [1.pre]	149
	(b) Element [1.a]	152
	(c) Element [1.b]	156
	(d) Element [1.c]	163
	(e) Element [1.d]	172
	(f) Element [1.e(i)]	187
	(g) Element [1.e(ii)]	198
	(h) Element [1.e(iii)]	216
	(i) Element [1.e(iv)]	223
	(j) Element [1.e(v)].....	226
	(k) Element [1.e(vi)]	228
	(l) Element [1.e(vii)]	234
	(m) Element [1.e(viii)]	241
	(n) Element [1.e(ix)]	242
	(o) Claim [2].....	245
C.	Grounds 3-4: Grounds 1-2 in further view of RFC2822 Renders Obvious Claims 1-2	252
X.	SECONDARY CONSIDERATIONS.....	257
XI.	CONCLUSION	257

I. INTRODUCTION

1. I have been retained by LG Electronics Inc. (which I will refer to as “LGE” or “Petitioner”) to provide my opinions on certain issues related to U.S. Patent No. 7,283,839 (the “’839 Patent,” which I understand has been designated as Exhibit 1001) in connection with the above-captioned *inter partes* review (IPR) proceeding. In particular, I have been asked to provide my insights, analysis, and opinions regarding whether claims 1-2 of the ’839 Patent (“Challenged Claims”) are anticipated by or obvious over the prior art references identified below and as to whether persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence could have located these references. A listing of the Challenged Claims, including the element numbers assigned to each element in those claims, is attached to this declaration as **Appendix C**.

2. I understand the ’839 Patent is titled “Wireless Communicating Terminal for Providing Integrated Messaging Service and Method Thereof,” identifies as its named inventors Jin-Woo You and SangWoo Suk, and is currently owned by Pantech Corporation. I have considered the ’839 Patent while arriving at my opinions in this declaration.

3. I understand that the file history of the ’839 Patent has been designated as Exhibit 1002. I have considered this file history, and I will refer to it as the “’839 File History” or by its exhibit number.

4. I understand that the '839 Patent was filed as U.S. Patent Application 11/106,160 on April 13, 2005.

5. I understand that the '839 Patent claims priority to two Korean patent applications: KR 10-2004-0025882 filed April 10, 2004; and KR 10-2004-0083073 filed October 18, 2004.

6. I have considered the prior art cited in my declaration, including:

- **U.S. Patent No. 8,020,105** to Lemay et al. ("Lemay"), titled "Unified User Interface for Instant Messaging and Email," filed December 19, 2003 and issued September 13, 2011. I understand that a copy of this patent has been designated as Exhibit 1005.
- **U.S. Patent No. 7,765,263** to Alfke ("Alfke"), titled "Method and Apparatus for Processing Electronic Messages," filed December 19, 2003 and issued July 27, 2010. I understand that a copy of this patent has been designated as Exhibit 1006.
- **PCT Patent Application Publication No. WO2003/056789A1** to Maguire et al. ("Maguire"), titled "User Interface and Method of Viewing Unified Communications Events on a Mobile Device," filed December 23, 2002 and published July 10, 2003. I understand that a copy of this patent publication has been designated as Exhibit 1007.

- **U.S. Patent Application Publication No. 2002/0152220** to Kang et al. (“Kang”), titled “Unified Management Method of Various Types of Messages of a Personal Information Terminal,” filed April 10, 2002 and published October 17, 2002. I understand that a copy of this patent publication has been designated as Exhibit 1008.
- *Network Working Group Request for Comments: 2822. Internet Message Format*, (“RFC2822”), published April 2001. I understand that a copy of this reference has been designated as Exhibit 1009.

7. I am being compensated by LGE at my standard hourly consulting rate of \$600 for my time on this matter. My compensation is not dependent on the outcome of this proceeding.

8. In forming my opinions, I relied on the documents cited in this declaration and the documents identified in the attached Appendix B. These documents comprise patents, file histories, printed publications, and other related documents.

9. As discussed below, each document is a type that experts in my field would have reasonably relied upon when forming their opinions. Further, experts in my field would have had access to each document either through the applicable patent offices and/or well-known libraries, conferences, or publications in the field. My opinions are also based upon my personal and professional experience.

10. In parallel with this declaration, I have prepared a declaration for IPR2023-01268. I also understand that declarations are being prepared by other experts in IPR2023-01267, IPR2023-01269, IPR2023-01270, IPR2023-01272, and IPR2023-01273. Due to overlap in prior art and subject matter and similarities in corresponding analyses, I understand that some parts of my declaration may bear superficial similarities to documents filed in these other IPRs, but all analysis and opinions presented herein are my own.

II. QUALIFICATIONS

11. I received my Bachelor of Technology (Honors) in Electronics and Electrical Communication Engineering at the Indian Institute of Technology (IIT) in Kharagpur, India in 1984. I obtained my Ph.D. in Electrical Engineering and Computer Science at the University of California, Berkeley, in 1989. I received the Demetri Angelakos Outstanding Graduate Student Award from the University of California, Berkeley and the IEEE/ACM Ira M. Kay Memorial Paper Prize in 1989.

12. I am a tenured Full Professor in the Colleges of Computing and Engineering at Georgia Tech. I am knowledgeable and familiar with topics including software engineering, web applications, cloud computing, user interface design, data analytics, wireless communications, messaging protocols, microprocessor architecture, hardware, RF, cellular networks, computer engineering, digital signal processing, and associated software and firmware design. I have created and taught

undergraduate and graduate courses in hardware and software design for computer science and engineering applications at Georgia Tech for the past thirty years. I have been the principal investigator (“PI”) or co-PI in several active research programs in these areas, including DARPA’s Rapid Prototyping of Application Specific Signal Processors, the State of Georgia’s Yamacraw Initiative, the United States Army’s Federated Sensors Laboratory Program, and the United States Air Force Electronics Parts Obsolescence Initiative. I have received an IBM Faculty Award and NSF’s Research Initiation Award.

13. I have designed several specialized computer and communication systems over the past two decades at Georgia Tech for tasks such as wireless audio/video processing and messaging/protocol processing for portable platforms, such as cell phones and Personal Digital Assistants. I also developed UIs for tools for electronic design automation of complex chipsets and their reverse engineering processes for U.S. Air Force and Lockheed Martin and Boeing in the late 1990s and early 2000s. I have worked on designing systems that are efficient from performance, size, weight, area, and thermal considerations. I have developed courses and classes for the industry on these topics, and many of my lectures in advanced computer system design, developed under the sponsorship of the United States Department of Defense in the late 1990s, and have been used by several U.S. and international

universities as part of their course work. I graduated more than 20 Ph.D. students that now work as professors or in technical positions around the world.

14. Over the years, I have been an active consultant to industry and various research laboratories (including Massachusetts Institute of Technology Lincoln Labs and Johns Hopkins University Applied Physics Laboratory). I have founded three companies in the areas of embedded software, military chipsets involving imaging technology, and wireless communications. The first of these companies, VP Technologies, offers computing systems for helicopter imaging systems for the United States Air Force. The second of these companies, Soft Networks, LLC, offers software for multimedia and wireless computing platforms, including the development of a set-top box for Intel that decodes MPEG-2 video streams and imaging codes for multimedia phones. The third of these companies, Elastic Video, uses region-of-interest based video encoding to capture high quality video at low bit rates, with primary application for wireless video systems. I also developed user interfaces through my work on developing a crypto exchange prototype, and my work on a web-based document management environment, called CatchUp, that is now commercialized as CatchUp Cloud (<https://catchup.cloud>).

15. I have authored more than sixty refereed journal publications and around forty peer-reviewed conference publications. I have served as associate editor or on the editorial board for technical journals, including IEEE Transactions

on Circuits & Systems II, International Journal in Computer Simulation, and International Journal in VLSI Signal Processing. I have also authored or co-authored several books, including VLSI Digital Signal Processors (IEEE Press 1995) and the Digital Signal Processing Handbook (CRC Press, 1998, 2010).

16. My experience is relevant to this case. I have worked in the area of user interfaces over the past twenty years as part of my extensive development in mobile and portable applications for mobile phones and portable devices since the early 2000 timeframe. I developed commercial products for leading companies, and was part of the team that developed the user interfaces for a Soft Switch, called SNX 8500, that provides voice and VOIP services for enterprises. In addition to authoring textbooks and research papers in the area of wireless messaging interfaces, I have developed web-based document management systems and web-based fintech applications. I have submitted approximately 100 invention disclosures and provisional patents over the past ten years. I am listed as a first inventor on over thirty issued US patents, and am listed as an inventor on several patents related to wireless messaging. Many of my patents also disclose techniques for efficient user interface design including use of multilevel hierarchies and other UI innovations in the area of user interfaces for work environments.

17. I have been extensively involved in the activities of one of the premier standard setting organizations in the world, the IEEE, since the 1980s, and was a

member of the IEEE Press Board from 1995-1997. I was the Technical Program Chair of IEEE ICASSP in 1996. I was also the Associate Editor of IEEE Transactions on Circuits & Systems II from 1994 to 1997. I am also the director of the IEEE Atlanta Chapter, and the author of several drafts of IETF proposals in the area of VOIP and Voice/Video streaming over the internet. I have been elected a Fellow of the IEEE. The Fellow is the highest grade of membership of the IEEE, a world professional body consisting of over 300,000 electrical and electronics engineers, with only one tenth of one percent (0.1%) of the IEEE membership being elected to the Fellow grade each year. Election to Fellow is based upon votes cast by existing Fellows in IEEE.

18. I have also been awarded the 2006 Frederick Emmons Terman Medal by the American Society of Engineering Education for contributions to Electrical Engineering, including authoring a widely used textbook in the design of VLSI digital signal processors. I was awarded VHDL International Best Ph.D. Dissertation Advisor Award in 1997 and the NSF RI Award in 1990. I was Technical Program Chair for both the IEEE MASCOTS in 1994 and the IEEE Workshop on Parallel and Distributed Simulation in 1990. In 1989, I was recognized with the Ira Kay IEEE/ACM Best Paper Award for Best Paper presented at the IEEE Annual Simulation Symposium.

19. I have attached a more detailed list of my qualifications as **Appendix A**.

III. LEGAL UNDERSTANDING

20. I have been asked to consider the validity of claims 1 and 2 of the '839 Patent, which I refer to as the “Challenged Claims.” I understand that for *inter partes* reviews, invalidity must be shown under a preponderance of the evidence standard. I have concluded that each of Challenged Claims is anticipated and rendered obvious by the prior art based on the references described below and as explained herein.

A. My Understanding of Claim Construction

21. I have been informed that patent claims are construed from the viewpoint of a person of ordinary skill in the art of the patent at the time of the invention. I have been informed that patent claims generally should be interpreted consistent with their plain and ordinary meaning as understood by a person of ordinary skill in the art in the relevant time period (i.e., at the time of the purported invention, or the so called “effective filing date” of the patent application), after reviewing the patent claim language, the specification, and the prosecution history (i.e., the intrinsic record).

22. I have further been informed that a person of ordinary skill in the art must read the claim terms in the context of the claim itself, as well as in the context of the entire patent specification. I understand that in the specification and prosecution history, the patentee may specifically define a claim term in a way that differs from the plain and ordinary meaning. I understand that the prosecution

history of the patent is a record of the proceedings before the U.S. Patent and Trademark Office, and may contain explicit representations or definitions made during prosecution that affect the scope of the patent claims. I understand that an applicant may, during the course of prosecuting the patent application, limit the scope of the claims to overcome prior art or to overcome an examiner's rejection, by clearly and unambiguously arguing to overcome or distinguish a prior art reference, or clearly and unambiguously disavowing claim coverage.

23. In interpreting the meaning of the claim language, I understand that a person of ordinary skill in the art may also consider “extrinsic” evidence, including expert testimony, inventor testimony, dictionaries, technical treatises, other patents, and scholarly publications. I understand this evidence is considered to ensure that a claim is construed in a way that is consistent with the understanding of those of ordinary skill in the art at the time of the claimed invention. For example, this can be useful for a technical term whose meaning may differ from its ordinary English meaning. I understand that extrinsic evidence may not be relied on if it contradicts or varies the meaning of claim language provided by the intrinsic evidence, particularly if the applicant has explicitly defined a term in the intrinsic record.

B. My Understanding of Anticipation

24. I understand that a patent claim is invalid as “anticipated” if all of the limitations of the claim are present, either expressly or inherently, in a single

previous device, or described, either expressly or inherently, in a single prior art publication or patent. I understand that, in the relevant time period, 35 U.S.C. § 102 stated that a person shall be entitled to a patent unless, among other bases:

- The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
- The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- The invention was described in—(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

25. I also understand that a prior art reference can disclose a claimed feature because the feature is expressly described or because the feature is inherent in the disclosure. I understand that something is inherent in a prior art reference if the missing descriptive matter must necessarily be present, not merely probably or possibly present, and it would be so recognized by a person of ordinary skill in the art as of the priority date of the patent. I understand that it is acceptable to examine evidence outside of the prior art reference (i.e., extrinsic evidence) in determining whether a feature, while not expressly discussed in the reference, is necessarily present in it.

C. My Understanding of Obviousness

26. I understand that a claim may be invalid if the subject matter described by the claim as a whole would have been obvious to a hypothetical person of ordinary skill in the art in view of a prior art reference or in view of a combination of references at the time the claimed invention was made. Therefore, I understand that obviousness is determined from the perspective of a hypothetical person of ordinary skill in the art and that the asserted claims of the patent should be read from the point of view of such a person at the time the claimed invention was made. I further understand that a hypothetical person of ordinary skill in the art is assumed to know and to have all relevant prior art in the field of endeavor covered by the patent in suit.

27. I have been informed that there are two criteria for determining whether prior art is analogous and thus can be considered prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the patentee's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the patentee is involved. I have also been informed that the field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field. I have also been informed that a reference is reasonably pertinent if, even though it may be in a different field from that of the patentee's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to a patentee's attention in considering their problem.

28. I have also been advised that an analysis of whether a claimed invention would have been obvious should be considered in light of the scope and content of the prior art, the differences (if any) between the prior art and the claimed invention, and the level of ordinary skill in the pertinent art involved. I understand as well that a prior art reference should be viewed as a whole.

29. I have also been advised that in considering whether a claimed invention could be obvious over a combination of prior art references, I may assess whether there are apparent reasons to combine known elements in the prior art in the

manner claimed in view of interrelated teachings of multiple prior art references, the effects of demands known to the design community or present in the marketplace, and/or the background knowledge possessed by a person of ordinary skill in the art. I understand that other principles may be relied on in evaluating whether a claimed invention would have been obvious, and that these principles include the following:

- A combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results;
- When a device or technology is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or in a different one, so that if a person of ordinary skill can implement a predictable variation, the variation is likely obvious;
- If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond their skill;
- An explicit or implicit teaching, suggestion, or motivation to combine two prior art references to form the claimed combination may demonstrate obviousness, but proof of obviousness does not

depend on or require showing a teaching, suggestion, or motivation to combine;

- Market demand, rather than scientific literature, can drive design trends and may show obviousness;
- In determining whether the subject matter of a patent claim would have been obvious, neither the particular motivation nor the avowed purpose of the named inventor controls whether the claim is obvious;
- One of the ways in which a patent's subject can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims;
- Any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed;
- "Common sense" teaches that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle;

- A person of ordinary skill in the art is also a person of ordinary creativity, and is not an automaton;
- A patent claim can be proved obvious by showing that the claimed combination of elements was “obvious to try,” particularly when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions such that a person of ordinary skill in the art would have had good reason to pursue the known options within his or her technical grasp; and
- One should be cautious of using hindsight in evaluating whether a claimed invention would have been obvious.

30. I further understand that, in making a determination as to whether the claimed invention would have been obvious to a person of ordinary skill, the Board may consider certain objective factors if they are present, such as: commercial success of products practicing the claimed invention; long-felt but unsolved need; teaching away; unexpected results; copying; and praise by others in the field. These factors are generally referred to as “secondary considerations” or “objective indicia” of nonobviousness. I understand, however, that for such objective evidence to be relevant to the obviousness of a claim, there must be a causal relationship (called a “nexus”) between the claim and the evidence and that this nexus must be based on a novel element of the claim rather than something in the prior art. I also understand

that even when they are present, secondary considerations may be unable to overcome primary evidence of obviousness (such as motivation to combine with predictable results) that is sufficiently strong.

IV. BACKGROUND OF THE TECHNOLOGY

31. As discussed in greater detail in Section V.A, the purported invention of the '839 Patent is directed to wireless communication terminals with an “integrated messaging service program” for “transmitting and receiving” different kinds of messages, including those formatted as “text” and “multimedia” messages. '839 Patent, 1:55-62. The Challenged Claims recite a wireless communication terminal with a controller that: (i) provides an integrated user interface (IUI) to a display and a keypad, (ii) determines the message kind of a message to be transmitted, (iii) includes in an outgoing message data corresponding to that message kind, (iv) determines the message kind of a received message, and (v) displays the message content and message description data, which can include, for example, a time-stamp or message sender, for both the outgoing and received message. '839 Patent, 4:47-61.

32. During prosecution of the '839 Patent, the Challenged Claims were allowed under the Examiner's theory that the known or disclosed prior art failed to disclose a controller that provides these claimed features and controls elements of the terminal. Based on my experience in the field, however, the functionalities that

are claimed in the '839 Patent were well-known in the art prior to the '839 Patent's priority date.

33. One example of such prior art is U.S. Patent No. 8,020,105 ("Lemay"), which was originally assigned to Apple Computer, Inc., and identifies Lemay as its first named inventor. I understand that a copy of Lemay has been designated as Exhibit 1005. Lemay discloses a cellular telephone with a unified user interface that processes and displays the content of both incoming and outgoing messages—including instant messages and email—along with time-stamps and data identifying the sender of each message. Lemay, Abstract, 1:39-62, 5:16-33, 5:55-6:20.

34. Another relevant prior art reference is PCT Patent Application Publication No. WO2003/056789A1 ("Maguire"), which was filed by Research In Motion Limited, and which identifies Maguire as the first named inventor. I understand that a copy of Maguire has been designated as Exhibit 1007. Maguire discloses a mobile device with an integrated application that handles messages in various different formats such as SMS, email, and WAP, which displays both the messages and accompanying description data on the screen. Maguire, [0022], [0024]-[0026], Fig. 5. Different message formats included different information in the message headers, and when receiving an incoming message, Maguire's mobile device uses the data contained in message headers to determine message type. Maguire, [0004], [0012], [0021]-[0022], [0029], Fig. 3.

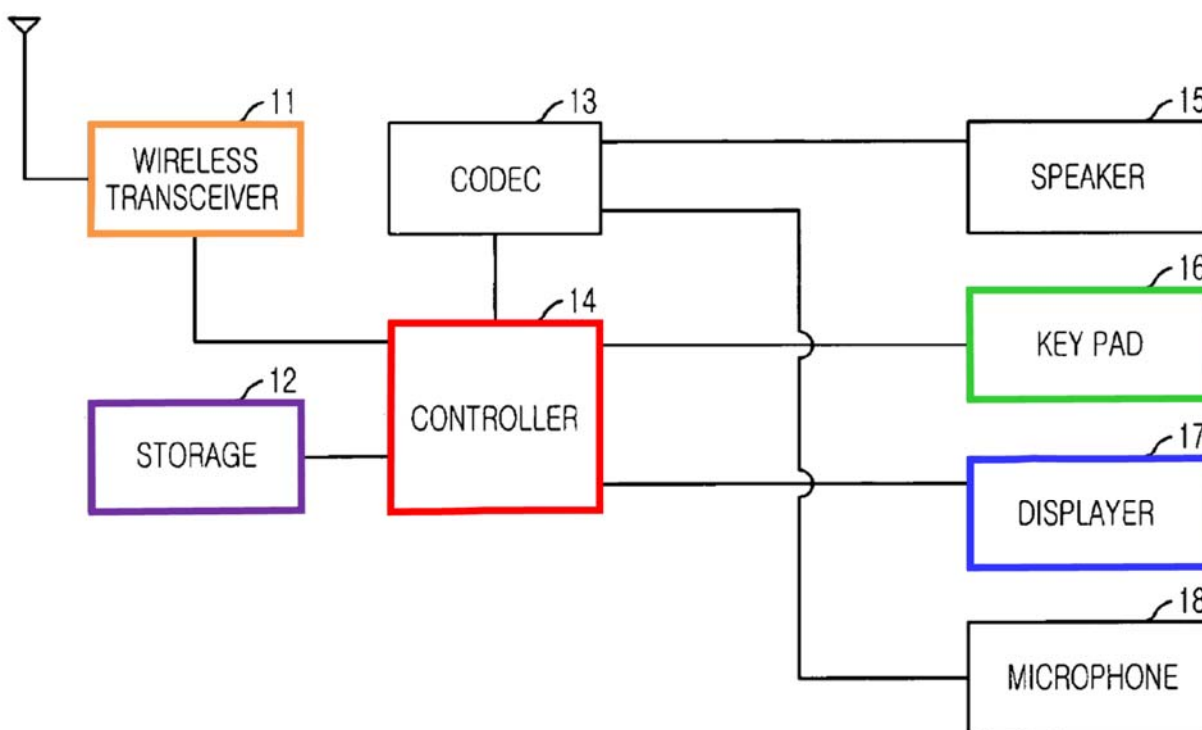
35. These references, as well as the other references discussed in greater detail in Section IX below, disclose and/or render obvious Challenged Claims 1-2. None of the features recited in the Challenged Claims of the '839 Patent was novel at the time of the alleged invention, and there was nothing novel as to the manner in which the '839 Patent combined those features. As I discuss below, the Challenged Claims are anticipated by and obvious over the prior art. Further, there were no technological barriers to combining these elements to arrive at the claimed invention. A person of ordinary skill in the art would have been motivated to combine these elements, and it would be little more than combining known elements according to known techniques to yield predictable results.

V. THE '839 PATENT

A. '839 Patent Overview

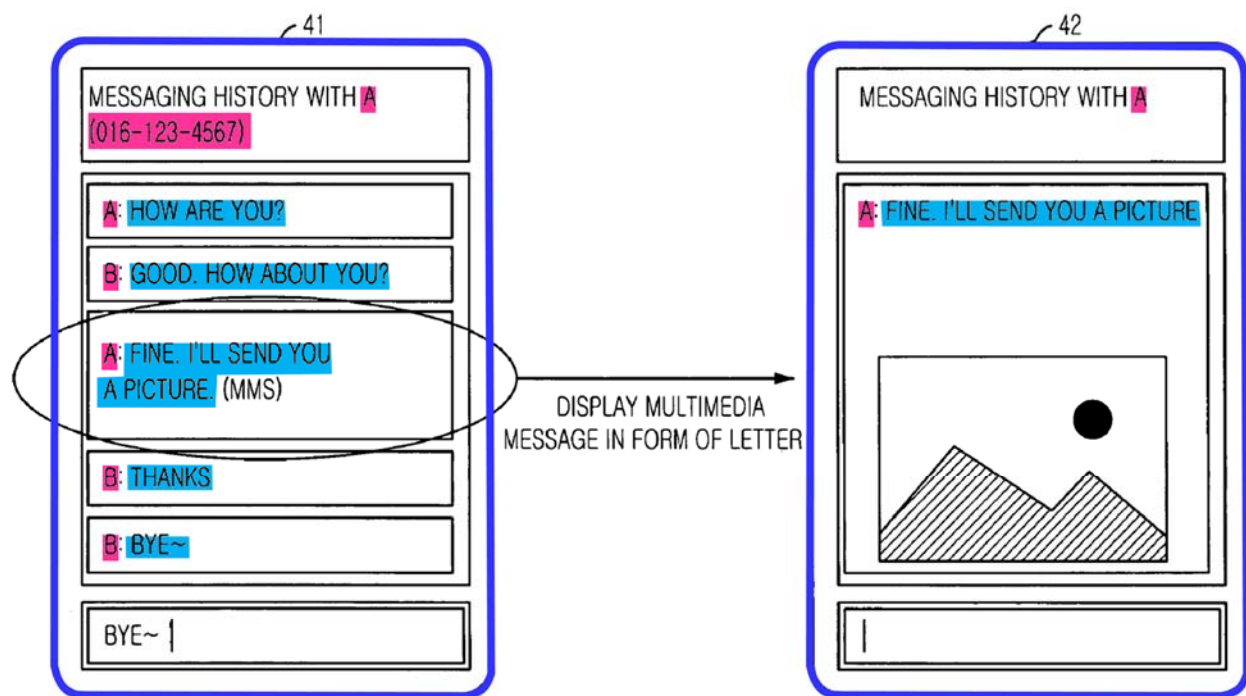
36. The '839 Patent is titled “Wireless Communicating Terminal for Providing Integrated Messaging Service and Method Thereof.” The purported invention of the '839 Patent “relates to a wireless communication terminal having a function of providing an integrated messaging service.” '839 Patent, 1:27-41. Challenged Claims 1 and 2 of the '839 Patent are generally directed to a wireless communication terminal with an “integrated messaging service” for receiving “different kinds of messages,” such as “text” and “multimedia” messages. '839 Patent, 1:55-62, Claims 1-2.

37. Fig. 1 shows an embodiment of the wireless communication terminal:



'839 Patent, Fig. 1. The terminal transmits and receives messages through a wireless network and displays them in the IUI. '839 Patent, 1:63-2:19. The terminal includes a **wireless transceiver** for transmitting and receiving messages, **storage** for storing the integrated messaging service, a **keypad** for receiving user input, a **displayer** for displaying message content and description data within the IUI. '839 Patent, 1:63-2:8, 3:15-19. The terminal also includes a **controller** for executing the integrated messaging program and thereby providing the IUI to the **keypad** and **displayer**. '839 Patent, 1:63-2:8, 3:38-58. For outgoing messages, the controller determines a message kind. '839 Patent, 2:8-11, 3:38-58, 4:14-25.

38. Fig. 4b shows an embodiment of the IUI:



'839 Patent, Fig. 4b. Based on whether the message to be transmitted includes a multimedia file, *e.g.*, "a file including text image, voice and/or moving pictures," the **controller** determines a message kind for outgoing messages. '839 Patent, 2:8-11, 3:38-58, 4:14-25. The **controller** then generates the message—including associated "identification data" corresponding to the message kind—for transmission. '839 Patent, 2:8-11, 4:37-42. After the outgoing message is transmitted, the **message content** is **displayed on the IUI** along with associated "**description data.**" '839 Patent, 4:43-63; 6:22-32. **Description data** may include, for example, data representing whether the message is transmitted or received. '839 Patent, 4:43-63; 6:22-32.

39. Received messages are processed by the messaging system's **controller** in a similar manner. '839 Patent, 2:14-19, 3:38-58. For example, using "identification data" of the incoming message, the **controller** determines a message type and "divides" the message into **message content** and **description data**. '839 Patent, 2:14-17, 3:38-58, 5:25-28, 5:32-38, 5:43-48. The **controller** then displays the received **message content** and **description data** in the IUI. '839 Patent, 2:16-17, 3:38-58, 4:47-53, 5:37-38, 5:43-51.

B. Prosecution History of the '839 Patent

40. The '839 Patent matured from U.S. App. No. 11/106,160, filed on April 13, 2005. The application claims priority to Korean application Nos. 10-2004-0025882 filed on April 14, 2004 and 10-2004-0083073 filed on October 18, 2004. '839 File History (Ex. 1002), 37.

41. In an Office Action dated September 8, 2006, the Examiner issued a restriction requirement identifying three distinct sets of claims related to wireless communication terminals. '839 File History, 256–59. The Applicant elected to prosecute pending claims 1-5 (corresponding to issued claims 1-5) directed to an "integrated messaging service" and withdrew claims 6-15 from prosecution. '839 File History, 262–67.

42. The Examiner issued a Notice of Allowance on June 29, 2007 stating the prior art of record failed to disclose the claim language recited in claim elements

[1.e(i)]-[1.e(ix)]. '839 File History, 271–78. The Notice of Allowance further included an Examiner's Amendment to cancel Applicant's withdrawn claims 6-15. '839 File History, 275. The '839 Patent issued on 10/16/2007. '839 File History, 289.

VI. THE '839 PATENT PRIORITY DATE

43. I understand the '839 Patent was filed on April 13, 2005. I have not formulated any opinion about the correct priority date for the '839 Patent. For purposes of this declaration, I was asked to assume, with respect to each of the prior art Grounds discussed in this declaration, that the '839 Patent is entitled to the earliest claimed priority date of April 14, 2004. I have been instructed to consider the patent and the prior art from the perspective of a person of ordinary skill in the art as of April 13, 2004. However, my opinions would be the same even if the '839 Patent were treated as having a different priority date, such as the April 13, 2005 filing date of the '839 Patent, or the October 18, 2004 filing date of the other Korean priority application listed on the face of the patent.

VII. LEVEL OF ORDINARY SKILL IN THE ART

44. In rendering the opinions set forth in this declaration, I was asked to consider the patent claims and the prior art through the eyes of a person of ordinary skill in the art at the time of the alleged invention. I understand that the factors considered in determining the ordinary level of skill in a field of art include the level

of education and experience of persons working in the field; the types of problems encountered in the field, the teachings of the prior art, and the sophistication of the technology at the time of the alleged invention. I understand that a person of ordinary skill in the art is not a specific real individual, but rather is a hypothetical individual having the qualities reflected by the factors above. I understand that a person of ordinary skill in the art would also have knowledge from the teachings of the prior art, including the art cited below.

45. With respect to all of the Grounds, I have been asked to assume that the '839 Patent is entitled to the priority date of April 14, 2004. Upon consideration of these factors, in my opinion, on or before this priority date, a person of ordinary skill in the art relating to the technology of the '839 Patent would have had a minimum of a bachelor's degree in electrical or computer engineering or computer science, or a related field, along with at least two years of professional experience in messaging services for wireless communication terminals. *See, e.g.,* '839 Patent 1:8-50 (summarizing the "Field" and "Related Art" of the '839 Patent as relating to "a wireless communication terminal and a method for transmitting and receiving various kinds of messages"). Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

46. I am qualified to opine concerning what a person of ordinary skill in the art would have known and understood at the time of the '839 Patent's purported invention. Well before April 14, 2004, my level of skill in the art was at least that of a person of ordinary skill in the art. My analysis and conclusions herein are from the perspective of a person of ordinary skill in the art as of April 14, 2004.

47. I understand that in the pending district court litigation, Patent Owner has submitted the Claim Construction Expert Report of Charles Mauro CHFP, who has attested that a person of ordinary skill in the art should be defined as follows:

[A] person of ordinary skill in the art would be an individual with either undergraduate or graduate level education in human factors engineering theory and practice with specific training in human computer interaction design for modern mobile devices including wireless communications terminals. They should have a minimum of one year of industry experience in the design and user testing of modern mobile GUI systems and have designed production modern mobile GUI utilizing common screen design interaction elements.

Mauro Decl. (Ex. 1029) at ¶27. Even under Mr. Mauro's definition, I would have qualified as a person of ordinary skill in the art. I am familiar with user interface design, particularly in the context of mobile devices and communication terminals, and my expertise in developing high-quality hardware and software products over the last thirty-plus years included both graduate education and relevant experience as discussed in Section II. This includes, for example, my work developing

interfaces in the late 1990s and early 2000s for professional-quality tools for electronic design automation of complex chipsets and their reverse engineering processes for the U.S. Air Force, Lockheed Martin, and Boeing, as well as my work relating to companies including Soft Networks, LLC and CatchUp, which included experience developing human factors-related aspects of technology for modern mobile devices. Additionally, I developed mobile device user interfaces with Ericsson in the 2002-2006 timeframe, which included developing human factors-related aspects of both mobile device hardware and software applications. I have also considered whether my opinions would differ under Mr. Mauro's proposed definition of a person of ordinary skill in the art, and I have concluded that his proposed definition would not materially affect my opinions set forth in this declaration.

48. While in my opinion any difference between the proposed definitions of a person of ordinary skill in the art is immaterial to my opinions in this declaration, to the extent Patent Owner or Mr. Mauro disputes my definition of a person of ordinary skill, I maintain that my proposed definition accurately defines a person of ordinary skill in the art. The '839 Patent states that the field of the purported invention is:

a wireless communication terminal having a function of providing an integrated messaging service; and, *more particularly, to a wireless communication terminal and a*

method for transmitting and receiving various kinds of messages, e.g., a text message and a multimedia message, by using an integrated messaging service program without changing a transmission protocol or a network.

'839 Patent 1:8-15.

49. The claims of the '839 Patent recite features for which a person of ordinary skill in the art would have had a degree in electrical or computer engineering or computer science, or a related field, and are less relevant to other aspects of human computer interaction design. For example, functionalities such as receiving and then dividing a received message into a message content and description data, as recited in claim 1, accessing a multimedia contents server based on a Uniform Resource Locator (URL) included in an informing message and receiving a multimedia message, as recited in claim 3, as well as specification discussions relating to these elements (including, for example, '839 patent, 3:15-24, 3:38-58, 5:4-15, 5:20-62, 6:33-64, Figure 3), describe subject matter that better falls within my definition of a person of ordinary skill in the art, and is less relevant to other aspects of human computer interaction design. Moreover, it would have been well-understood to persons qualifying as persons of ordinary skill in the art under my definition that mobile terminal design includes human computer interaction design work in order to develop and implement the user interface for such a device.

VIII. CLAIM CONSTRUCTION

50. I have been instructed that the Challenged Claims of the '839 Patent are to be given their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the alleged invention in light of the specification and the prosecution history pertaining to the patent. I have followed these principles in my analysis set forth in this document.

51. I understand that there is a pending district court litigation between Petitioner and Pantech ("LGE Litigation") involving the '839 Patent, and the parties have proposed the constructions reflected in Exhibit 1027. These constructions do not impact my opinions as the limitations of the Challenged Claims are met under either parties' proposed construction for the reasons I discuss below in Section IX.

A. Preambles

52. I understand the preamble of a claim may or may not be limiting. For purposes of this declaration, I have not been asked to formulate any opinion as to whether any claim preamble is limiting, and have not formulated any such opinion. Instead, I have been instructed to consider whether the prior art discloses the preambles, to the extent they are limiting. To the extent they are limiting, they are disclosed by the prior art as discussed in Section IX.

B. “the description data” (Claim 2)

53. There are several instances of “description data” recited in claim 1, including description data displayed by a displayer, description data of an outgoing message, and description data resulting from dividing a received message. For example, claim 1 recites: “*displaying ... description data in the IUT*” (limitation [1.d]), “*displaying ... description data of the outgoing message*” (limitation [1.d]), and “*dividing the received message into ... description data*” (limitation [1.e(vii)]). The '839 Patent specification and prosecution history fail to provide guidance sufficient to identify, with reasonable certainty, which potential antecedents “the description data” refers to as used in claim 2. Nonetheless, the Grounds discussed below demonstrate that this limitation would be met under any reasonable interpretation of the claim language. See Section IX.

IX. GROUNDS OF UNPATENTABILITY

54. As I explain above in Section IV, wireless communication terminals with integrated messaging service programs for transmitting, receiving, processing, and displaying different kinds of messages were well-known in the art.

55. In this section, I will explain why the teachings or combinations of teachings from the following references either anticipate or render obvious each of the Challenged Claims:

Name	Patent/ Title	Exhibit	Filed	Published/ Issued
Lemay	US 8,020,105	1005	12/19/2003	09/13/2011
Alfke	US 7,765,263	1006	12/19/2003	07/27/2010
Maguire	WO2003/056789A1	1007	12/23/2002	07/10/2003
Kang	US2002/0152220	1008	04/10/2002	10/17/2002
RFC2822	Internet Message Format	1009	N/A	2001

I have been instructed to assume that each of these references qualifies as prior art.

56. As I explain below, the Challenged Claims are invalid based upon the following prior art grounds:

- **Ground 1:** Challenged Claims 1-2 of the '839 Patent are anticipated or rendered obvious by Lemay.
- **Ground 2:** Challenged Claims 1-2 of the '839 Patent are rendered obvious by Maguire in view of Kang.
- **Ground 3:** Challenged Claims 1-2 of the '839 Patent are rendered obvious by Ground 1 in further view of RFC2822.
- **Grounds 4:** Challenged Claims 1-2 of the '839 Patent are rendered obvious by Ground 2 in further view of RFC2822

57. Alfke is incorporated by reference by Lemay, and is part of the Lemay disclosure. Lemay, 11:33-41. Similarly, Lemay is incorporated by reference by Alfke, and is part of the Alfke disclosure. Alfke 11:4-10. I have been asked to treat

them as a single reference. However, even if they were treated as separate references, a person of ordinary skill in the art would have found it obvious to modify Lemay with Alfke's teachings in view of the explicit incorporation of Alfke into Lemay, and my conclusions regarding patentability of the Challenged Claims would not change.

58. RFC2822 is a "Request for Comment" (RFC) disseminated by the Internet Engineering Task Force (IETF) through their website, "ietf.org." Based on my prior work and experience, I am closely familiar with the IETF and its publication processes, including based on my experience drafting several IETF proposals relating to VOIP and Voice/Video streaming over the internet. I am also closely familiar with the IETF and these publication processes based upon my extensive involvement with IEEE, including with respect to networking-related activities. Because the IETF promulgates and publishes networking-related standards, my work with IEEE is closely intertwined with such IETF standards and its standardization process. The IETF is an international standard setting organization that puts out standards, technical publications, and commentary for various internet protocols and messaging standards. It has operated in its current form since at least the 1980's, and is an open community of researchers, engineers, network operators, equipment vendors, and other specialists with an interest in internet-based protocols and network communications. According to Nathaniel E.

Frank White, the Records Request Processor at the Internet Archive, RFC2822 was available online at the following web address on the ietf.org website at least as of May 4, 2001, well before the earliest possible priority date of the '839 patent. *See* Ex. 1010 (“White Decl.”) at 95-123 (archived version of rfc2822 available at <https://www.ietf.org/rfc/rfc2822.txt>).

59. The IETF publishes technical documentation as “Requests for Comments,” or RFCs, which are freely available to the public. The IETF has been publishing RFCs for decades, and continues to do so today. RFCs are sequentially numbered, starting with RFC 1 published in 1969 (the RFC series predates the IETF). It is the policy of the IETF community that once an RFC is published, it is never revised. Changes are instead made by re-publishing the standard in another RFC that “obsoletes” the first. If a technical or editorial error is found in an RFC, an errata may be linked to the RFC and/or held for the next document update. RFC2822 on its face states that it was first published April 2001.

60. For at least the last thirty years, including the period encompassing the earliest possible priority date of the '839 patent, a person of ordinary skill in the art would have understood that RFCs are one of the foremost sources for internet-related standards and protocols, and a common resource for anybody interested in learning about internet-related protocols, including commonly used messaging protocols and network communications for online communications. I have personally located,

obtained, and reviewed multiple RFCs from the IETF website. The prominence of the IETF and its usefulness as a repository of information for a person of ordinary skill in the art is further underscored by Lemay's explicit suggestion that its disclosed messaging clients can use "a variety of communication protocols, such as, for example... the instant messaging and presence protocol proposed by the IETF." Alfke 6:37-56.

61. The RFC Editor website is the authoritative repository for RFCs, located online at www.rfc-editor.org. Additionally, copies of the RFCs that I rely upon in my declaration are also available from the IETF webpage. I have compared these RFCs that I rely upon as they were made available from the IETF web page and the RFC Editor web page and confirmed that these copies of the RFCs are substantively identical. The RFC Editor has standard search capabilities, and it allowed interested parties—including a person of ordinary skill in the art—to search for relevant RFC documents by several different parameters, including "Number," "Title," "Author," and "Keywords" as early as August 2001, as shown below:

**RFC
Index Search Engine** [Help](#)

Search Request:

Search for:

All Fields

SEARCH

All Fields

Number

Title

Author

Keywords

Search : ☐ All ☐ RFC ☐ STD ☐ BCP ☐ FYI

Match : ☐ Prefix ☐ Entire Word

Result Order : ☐ Descending ☐ Ascending

Results Per Page:

25

Search Results Link to: ☐ FTP ☐ HTTP

Show Abstract: ☐ On ☐ Off

Show Keywords: ☐ On ☐ Off

[Return to Finding&Retrieving: page](#) [Go to home page](#)
[Send mail to the RFC-Editor about this page](#)

Funding for the RFC Editor function is provided by the Internet Society.

See Ex. 1010 at 55–56 (archived version of rfc-editor search page). There was also an additional version of the search tool available as early as June 2, 2001 that enabled interested parties to use “extended regular expressions to search through all RFCs.” See Ex. 1010 at 53–54 (archived version of rfc-editor extended search page). Moreover, instructions for using those search features to locate RFCs were widely disseminated by 2001 and also available to interested parties. See, e.g., Ex. 1010 at 57-58 (archived June 3, 2001 version of the rfc-editor website’s guide for “Searching and Retrieving RFCs from the RFC Editor Site”), 59-60 (archived June 3, 2001 version of the rfc-editor website’s listing of “RFC Repositories”), 61-65 (archived August 20, 2001 version of the University of California Information Science Institute’s guide to “where and how to get new RFC’s” describing the rfc-editor and other repositories).

62. A researcher interested in internet protocols, messaging, and communications, including a person of ordinary skill in the art, would have been aware of the IETF and the RFC Editor as a reliable source for learning about new

34

IPR2023-01271 Page 37

technological developments. Moreover, a person of ordinary skill in the art exercising reasonable diligence would have been able to locate RFC2822 using the RFC Editor search tools through simple keyword searches, or through regular expression searches. This is further confirmed by archived versions of the RFC Editor website showing that RFC2822 was available through the site as early as May 6, 2001. *See* Ex. 1010 at 66-94 (archived version of RFC2822 available through rfc-editor.org); *see also id.* at 4-5, 9 (archived version of the rfc-editor's "RFC Index" showing RFC2822 was indexed and available by at least June 11, 2011).

63. Further evidence that RFC2822 was readily available to a person of ordinary skill is that it was referenced in a number of prior art publications. For example, U.S. 2003/0229672 to Kohn (Ex. 1012) entitled "Enforceable spam identification and reduction system, and method thereof" was filed June 5, 2002 and generally relates to methods for reducing email spam. Kohn explicitly incorporates RFC2822 by reference, and notes that the "(RFC) 2822 document...specifies a syntax" for "electronic mail." Kohn, [0025]. The citation to RFC2822 and incorporation by reference into Kohn demonstrates that RFC2822 was accessible and actually accessed by researchers interested in internet-based protocols and mail messages as of at least June 5, 2002. Similarly, U.S. 2003/0220978 to Rhodes (Ex. 1013) entitled "System and method for message sender validation" was filed May 13, 2003 and generally relates to methods of "handling delivery of email." Rhodes,

[0004]. Rhodes states that mail messages may use “an Internet message format (e.g., as specified in IETF RFC 2822).” Rhodes, [0039]. As before, the citation to RFC2822 in Rhodes further demonstrates that RFC2822 was accessible and actually accessed by researchers interested in internet-based protocols and mail messages as of at least May 13, 2003. These are only a select set of examples of prior art references to RFC2822; based on my review of the relevant art, numerous other references to RFC2822 also existed in the relevant time period.

64. Based on the available evidence, it is my opinion that RFC2822 was publicly accessible well before the earliest priority date of the '839 patent, and was publicly accessible as early as April 2001.

65. It is my opinion that Challenged Claims of the '839 Patent are unpatentable as explained below. I note that in this discussion, I may focus on the specific language in the claims under discussion, but it should be understood that my analysis applies to the corresponding elements of all Challenged Claims containing identical or substantially identical language.

A. Ground 1: Lemay Anticipates and Renders Obvious Claims 1-2

1. Overview of Lemay

66. Lemay is titled “Unified User Interface for Instant Messaging and Email” and relates to a “unified user interface” “for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.)

electronic communication” such as “instant messaging and electronic mail.” Lemay, 1:18-22. Lemay incorporates by reference Alfke, which is thus part of Lemay’s disclosure. *See* Lemay, 11:33-41; *see also* Alfke, 11:4-12 (incorporating Lemay).

67. Lemay discloses computing systems, including “cellular telephones,” with a unified user interface for handling electronic communications. 1:18-22, 1:49-62, 2:52-3:23. The device includes a “**processing unit**,” which can be a “conventional microprocessor,” coupled to a “display controller” and “I/O controller” through a bus. 4:5-49. It also includes “**input/output devices**,” which may include “a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device” for inputting text or other message content into the device. Lemay, 4:6-49, 6:21-25, 6:65-7:9, 9:20-28. A “**memory**” and “**non-volatile storage**” are coupled to the processor and used during “execution of software in the computer system.” Lemay, 4:6-49. The device also includes a “**network interface**” for coupling the system to other external computing systems through a network, which includes connecting to other devices through “the Internet.” Lemay, 2:66-3:23, 4:6-49. The generated user interface is presented on a “**display**” such as a “liquid crystal display (LCD),” which is controlled through the “display controller.” Lemay 4:6-49, 6:65-7:9, Fig. 2C; Alfke, 3:65-4:10, 5:23-49, 9:6-10, Fig. 2A. Fig. 1B shows an embodiment of the device:

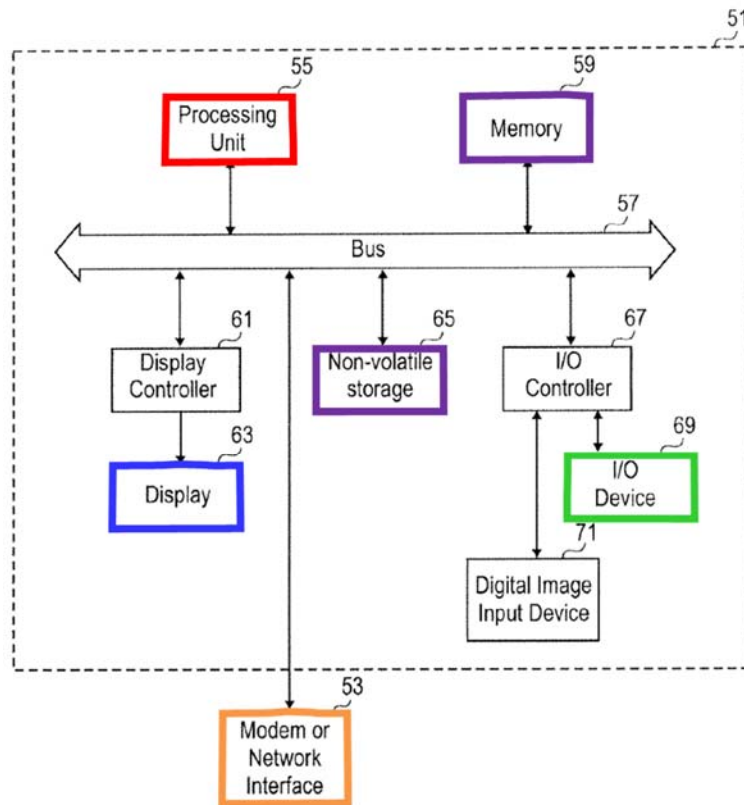


FIG. 1B

68. Lemay's "**processing unit**" will execute stored "software" to generate a "unified user interface" in the **display** that provides "display and control functions for processing messaging records" of different types including, *e.g.*, sent and received "email" messages, "instant messages," "SMS" text messages, and "other types of media data, such as images, video or audio data." Lemay, 1:18-22, 1:63-2:3, 2:66-3:23, 4:21-49, 5:16-33, 9:29-52, 11:8-32. The device is also configured to send and receive those different types of messages. *Id.* The computing system will continuously monitor which other users are online and available to receive messages through the alternative messaging service, and will use that information in order to

determine whether outgoing email messages inputted into the device will be transmitted using standard mail protocols (e.g., “POP,” “SMTP,” or “IMAP”), or repackaged to be sent using the alternative messaging service. Lemay 6:26-42; Alfke, 5:50-6:4, 6:17-36, 7:24-38, 7:49-63, 8:6-34, 13:25-40. For example, outgoing email messages may be sent using a normal mail server if the recipient is offline, or the message may be “repackaged” into a “format compatible with the message requirement of the alternative delivery system” and transmitted using the alternative delivery service if the recipient is online. *Id.* To help differentiate between different types of messages sent and received using the alternative delivery service, outgoing messages are automatically “tagged with an identification” of message type to indicate that the “message being delivered is an email message” that has been repackaged rather than, *e.g.*, an instant message or other type of message being sent by the “alternative delivery system.” Alfke, 6:17-36. To process received messages on the other side, “when an incoming message is received” the message is “examined” via the “tagged information” to determine the message type—e.g., a repackaged mail message as opposed to an instant message—and how it should be displayed by the user interface. Alfke, 2:21-29, 6:17-36, 8:35-44, 12:39-46. Fig. 2C shows an example of the unified user interface displaying multiple types of messages:

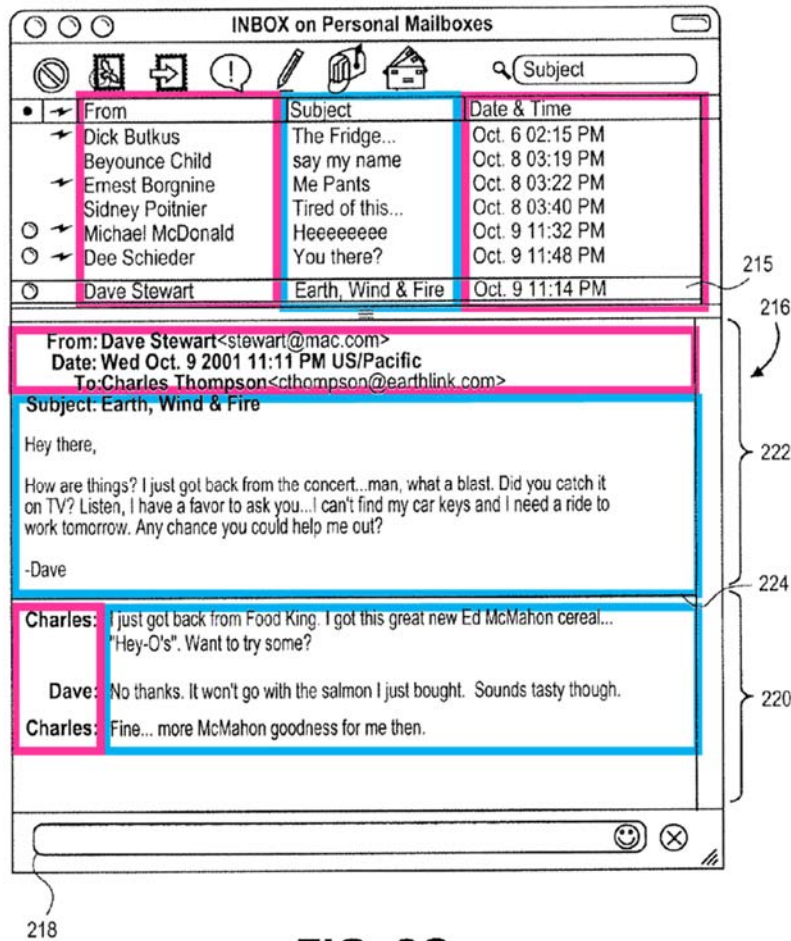


FIG. 2C

69. As shown in Fig. 2C, Lemay provides a “unified graphical user interface” with a “table of contents (TOC) pane” that “lists messaging records,” and separate panes—such as “preview pane 216”—that displays “email content 222” and “instant messaging content 220” for a record selected in the table of contents. Lemay 5:16-33, 5:56-6:20, 6:65-7:9, 8:57-9:4. Although Fig. 2C only shows incoming emails in the table of contents, Lemay discloses that a similar table of contents can be used for “sent” messages as well, or for “user generated folders” which a person of ordinary skill in the art would have understood to include custom folders with

both sent and received messages. Lemay, 8:57-9:4. Lemay also discloses that the table of contents is not limited to emails and may also include other types of messages such as “instant messaging sessions, and messaging records including both email and instant messaging content.” Lemay, 8:61-9:3. For each of the records shown in “unified graphical user interface”—e.g., the sent and received messages shown in the table of contents—the **message contents** are shown alongside additional description data describing each message, including a “**date and time**” that the message was received, and “**the name of the user from which the record originated**” which indicates whether a given message was sent or received. Lemay, 5:16-65, 6:65-7:9, 7:10-7:23. For example, the table of contents shown in Fig. 2C includes columns displaying “**the subject of the corresponding record**,” “**date and time of the record**,” and the “**name of the user from which the record originated**” for each message, and that information is also shown in “preview pane 216” for a selected record. Lemay, 5:16-65. As another example, the pane containing “**instant messaging content 220**” displays each message alongside the **name of the person who sent each message**—e.g., showing whether each message was sent by “Charles” or “Dave.” Lemay, Fig. 2C, 6:65-7:9.

2. Invalidity of Claims 1-2 Over Lemay

(a) Element [1.pre]

70. Element [1.pre] recites “A wireless communication terminal having a function of providing an integrated messaging service, the wireless communication.” This element is met by Lemay.

71. Lemay discloses a wireless communication terminal (*e.g.*, “cellular telephone[.]”) having a function of providing an integrated messaging service (*e.g.*, providing a “unified user interface” for displaying “instant messages,” “email,” and other “messaging records”). *See, e.g.*, Lemay (emphasis added):

- Lemay, Figures 1B, 2C, 3-4

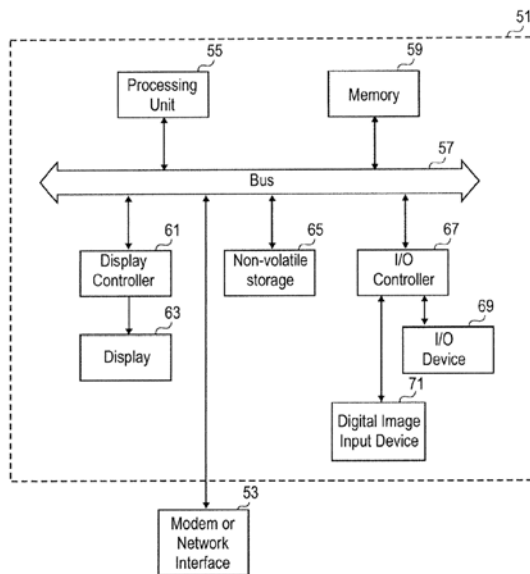


FIG. 1B

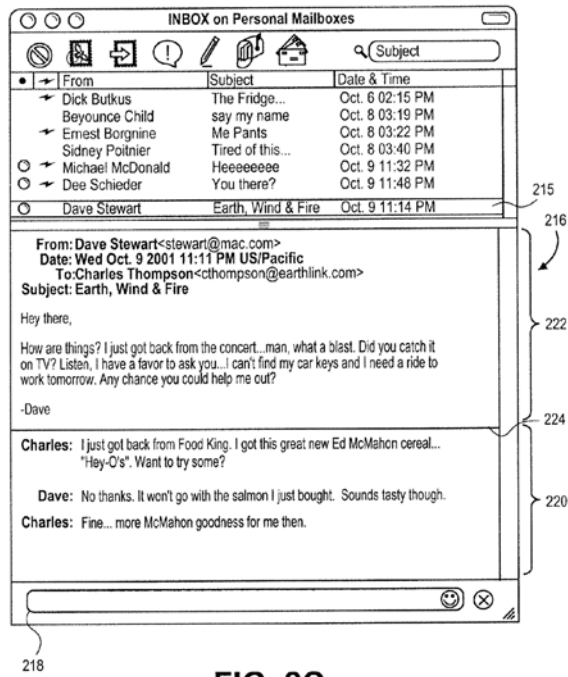


FIG. 2C

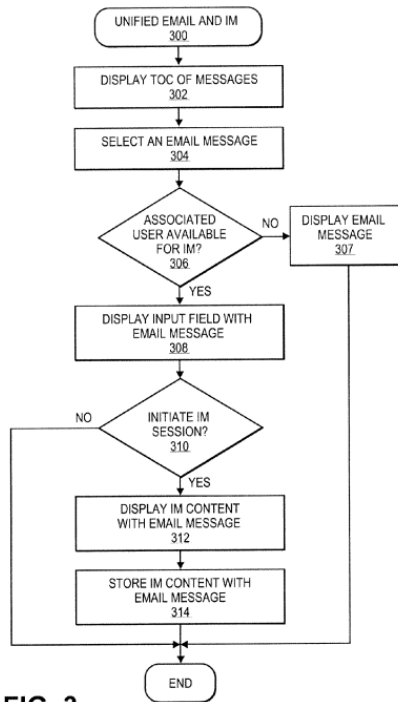


FIG. 3

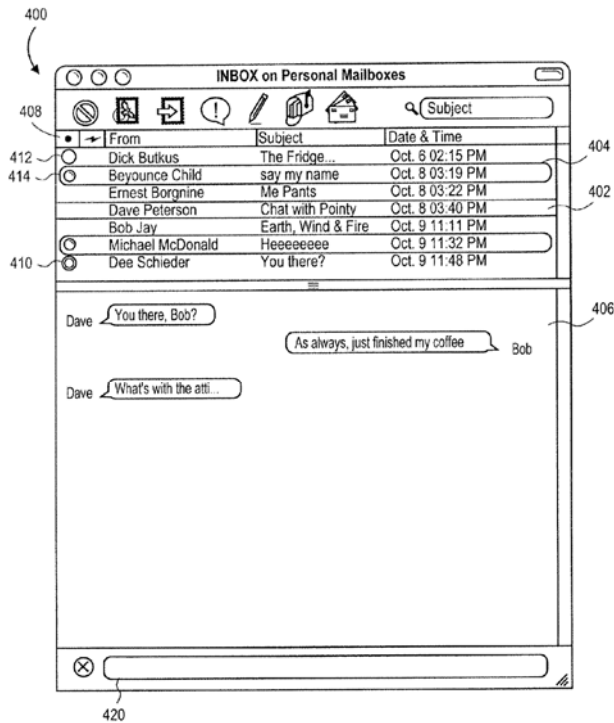


FIG. 4

- Lemay, Abstract** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.*”);
- Lemay, 1:49-62** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one exemplary aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in*

one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.”);

- **Lemay, 2:52-65** (“The following description of FIGS. 1A and 1B is intended to provide an overview of computer hardware and other operating components suitable for implementing embodiments of the invention described below, but is not intended to limit the applicable environments. *One of skill in the art will immediately appreciate that the invention can be practiced with other computer system configurations, including hand-held devices, cellular telephones, multiprocessor systems, microprocessor-based or programmable consumer electronics/appliances, network PCs, minicomputers, mainframe computers, and the like.* Embodiments of the invention can also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network.”);
- **Lemay, 5:30-33** (“*A table of contents (TOC) pane 202 lists messaging records.* For example, in the embodiment illustrated in FIG. 2A, the TOC 202 lists received messaging records. In one embodiment, email messages or instant messaging sessions appear as records or items in the TOC 202.”).
- **See also Lemay, Figures 2D, 3, 5:16-6:20, 8:14-33, 8:57-9:4, 9:29-52; 11:8-17.**

72. Lemay discloses “hand-held” devices, such as “cellular telephones,” that provide “a unified user interface for instant messaging and electronic mail,” along with other message types. Lemay, Abstract, 1:49-62, 2:52-65. For example, as shown in Figure 2C the interface is a “single application” that displays messages, including for example “email” and “[i]nstant messages,” “within a common window.” Lemay, 1:49-62.

(b) Element [1.a]

73. **Element [1.a] recites “a wireless transceiver for transceiving a message to/from an outside device through a wireless network.”** This element is met by Lemay.

74. **Lemay discloses a wireless transceiver** (e.g., “wireless” “network interface” for “cellular telephone[]”) **for transceiving a message to/from an outside device** (e.g., “transmitting and/or receiving” “instant messaging” and “email” messages with other “systems”) **through a wireless network** (e.g., through a “wireless network”). See, e.g., Lemay (emphasis added):

- **Lemay, Figure 1B**

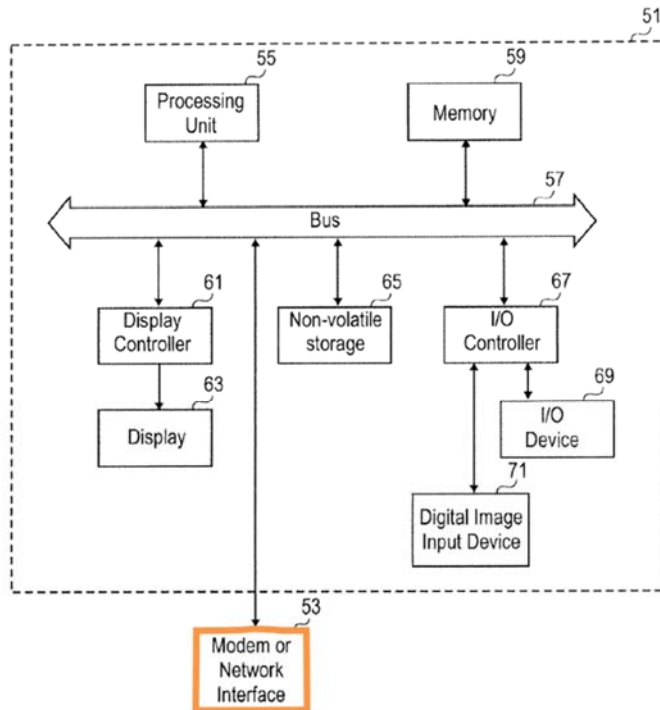


FIG. 1B

- **Lemay, 1:18-22** (“*This disclosure relates generally to user interfaces for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.) electronic communication, and in particular, relates to a unified user interface for instant messaging and electronic mail.*”);
- **Lemay, 2:52-65** (“The following description of FIGS. 1A and 1B is intended to provide an overview of computer hardware and other operating components suitable for implementing embodiments of the invention described below, but is not intended to limit the applicable environments. *One of skill in the art will immediately appreciate that the invention can be practiced with other computer system configurations, including hand-held devices, cellular telephones, multiprocessor systems, microprocessor-based or programmable consumer electronics/appliances, network PCs, minicomputers, mainframe computers, and the like.* Embodiments of the invention can also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network.”);
- **Lemay, 2:66-3:23** (“FIG. 1A shows *several computer systems 1 that are coupled together through a network 3, such as the Internet.* The term “Internet” as used herein refers to a network of networks which uses certain protocols, such as the TCP/IP protocol, and possibly other protocols such as the hypertext transfer protocol (HTTP) for hypertext markup language (HTML) documents that make up the World Wide Web (web). The physical connections of the Internet and the protocols and communication procedures of the Internet are well known to those of skill in the art. Access to the Internet 3 is typically provided by Internet service providers (ISP), such as the ISPs 5 and 7. Users on client systems, such as client computer systems 21, 25, 35, and 37 obtain access to the Internet through the Internet service providers, such as ISPs 5 and 7. *Access to the Internet allows users of the client computer systems to exchange information, receive and send emails and instant messages, and view documents, such as documents which have been prepared in the HTML format.* These documents are often provided by web servers, such as web server 9 which is considered to be “on” the Internet. Often these web servers are provided by the ISPs, such as ISP 5, although a computer system can be set up and connected to the Internet without that system being also an ISP as is well known in the art.”);

- **Lemay, 3:41-57** (“The ISP 5 provides *Internet connectivity to the client computer system 21 through the modem interface 23* which can be considered part of the client computer system 21. *The client computer system can be* a personal computer system, consumer electronics/appliance, a network computer, a Web TV system, *a handheld device*, or other such computer system. Similarly, the ISP 7 provides Internet connectivity for client systems 25, 35, and 37, although as shown in FIG. 1A, the connections are not the same for these three computer systems. Client computer system 25 is coupled through a modem interface 27 while client computer systems 35 and 37 are part of a LAN. *While FIG. 1A shows the interfaces 23 and 27 as generically as a “modem,” it will be appreciated that each of these interfaces can be* an analog modem, ISDN modem, DSL modem, cable modem, *satellite transmission interface*, or other interfaces for coupling a computer system to other computer systems.”);
- **Lemay, 4:6-21** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. *The computer system 51 interfaces to external systems through the modem or network interface 53*. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. *This interface 53 can be* an analog modem, ISDN modem, DSL modem, cable modem, token ring interface, *satellite transmission interface*, or other interfaces for coupling a computer system to other computer systems.”);
- **See also Lemay, 11:8-17.**

- Alfke, Figures 2A-2C

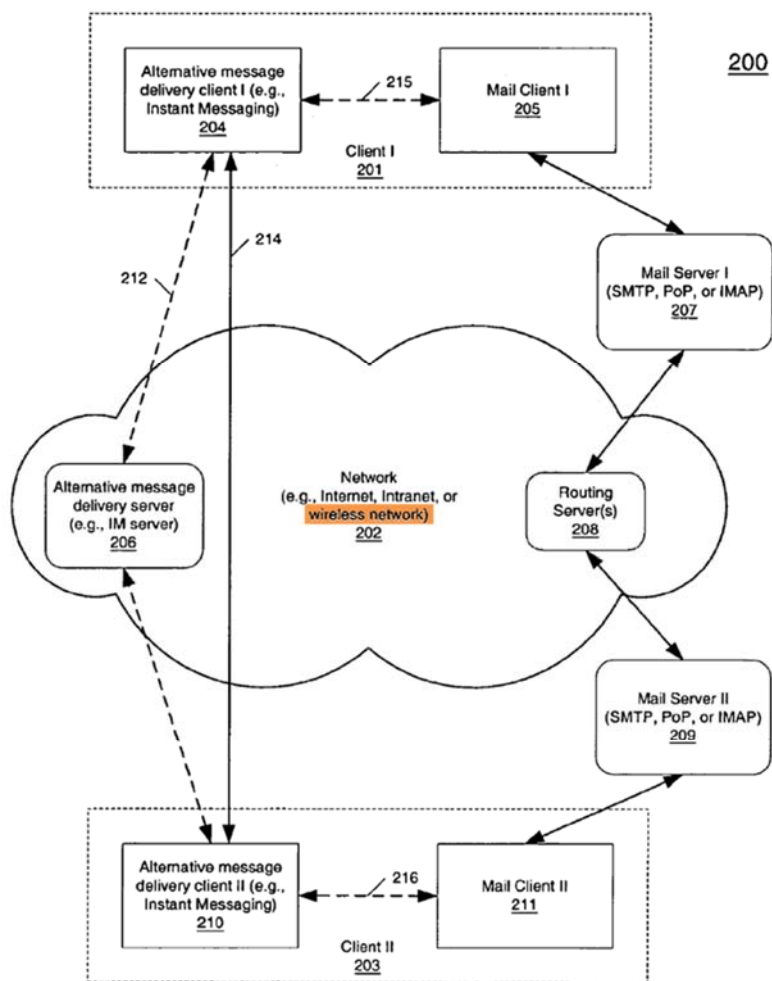


Fig. 2A

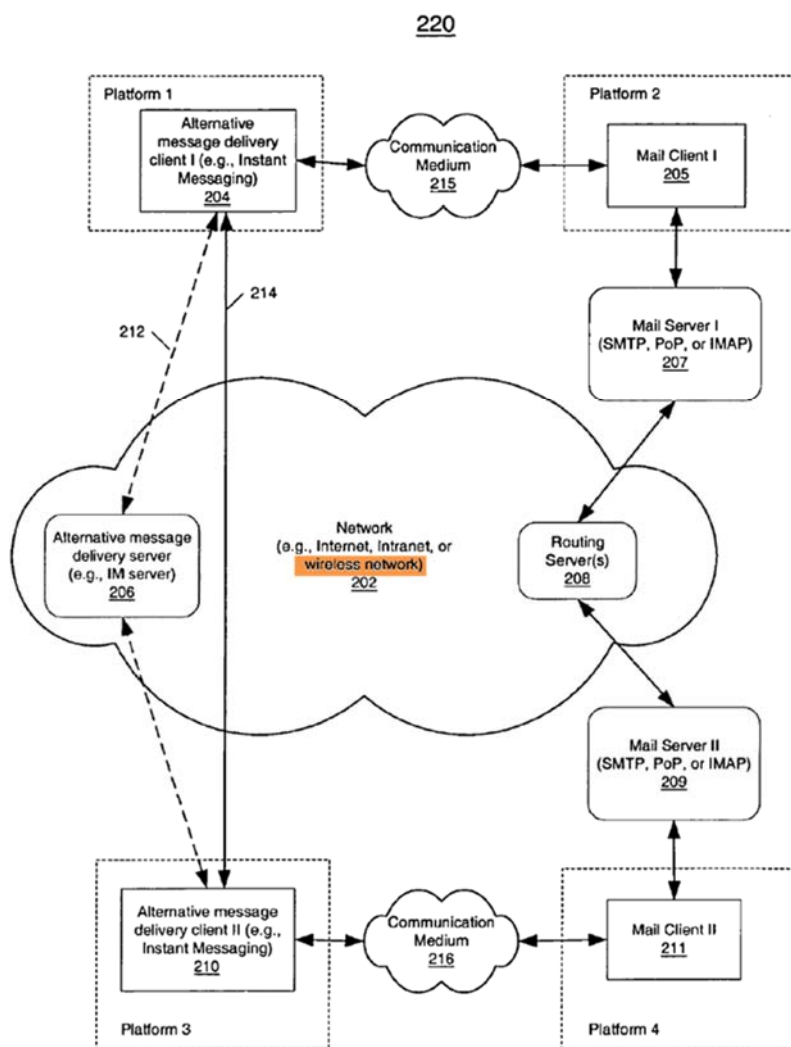


Fig. 2B

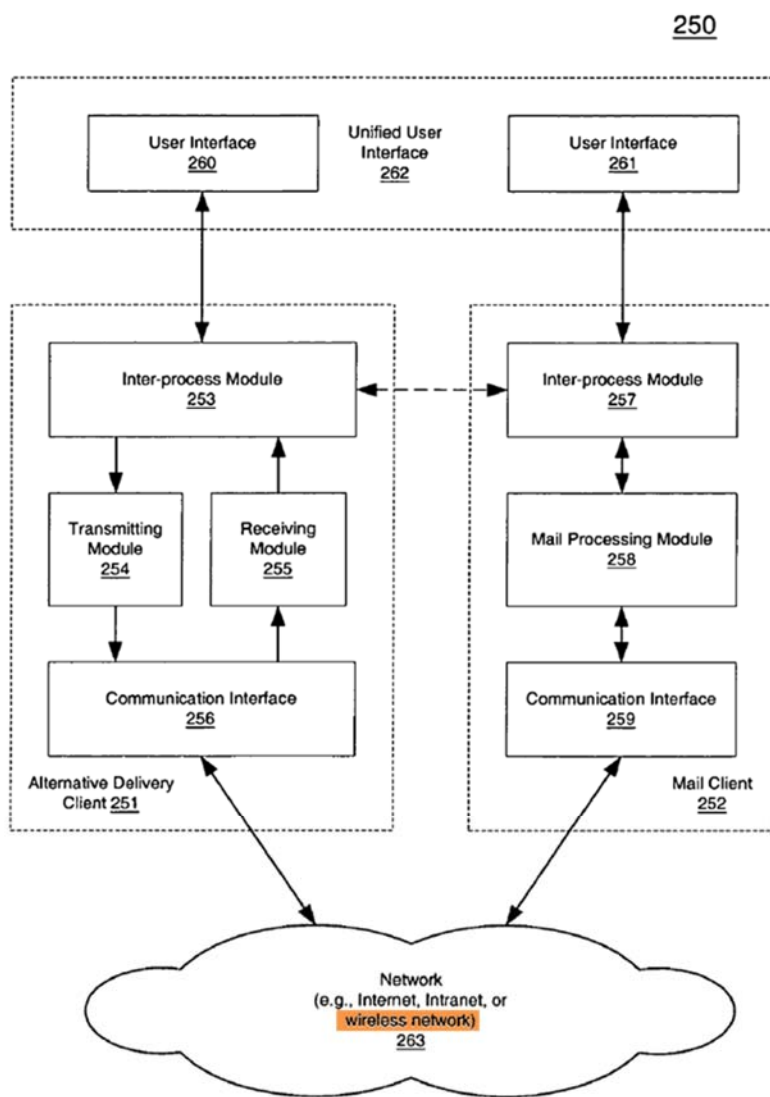


Fig. 2C

- Alfke, 5:23-49** (“*The ISP 124 provides Internet connectivity to the client computer system 102* via a modem interface 106, which may be considered as part of the client computer system 102. *The client computer systems 102, 104, 118, and 120 may be* a conventional data processing system, such as a Power Mac GS or iMac computer available from Apple Computer, Inc., a “network” computer, *a handheld/portable computer, a cell phone with data processing capabilities*, a Web TV system, or other types of digital processing systems (e.g., a personal digital assistant (PDA)). Similarly, the ISP 126 provides Internet connectivity for the client computer systems 102, 104, 118, and 120. However, as depicted in FIG. 1, such

connectivity may vary between various client computer systems, such as the client computer systems 102, 104, 118, and 120. For example, as shown in FIG. 1, the client computer system 104 is coupled to the ISP 126 through a modem interface 108, while the client computer systems 118 and 120 are part of a local area network (LAN). ***The interfaces 106 and 108, shown as modems 106 and 108, respectively, may represent an analog modem, an ISDN modem, a DSL modem, a cable modem, a wireless interface, or other interface for coupling a digital processing system, such as a client computer system, to another digital processing system.*** The client computer systems 118 and 120 are coupled to a LAN bus 112 through network interfaces 114 and 116, respectively. The network interface 114 and 116 may be an Ethernet-type, asynchronous transfer mode (ATM), or other type of network interface. The LAN bus is also coupled to a gateway digital processing system 110, which may provide firewall and other Internet-related services for a LAN. The gateway digital processing system 110, in turn, is coupled to the ISP 126 to provide Internet connectivity to the client computer systems 118 and 120. The gateway digital processing system 110 may, for example, include a conventional server computer system. Similarly, the Web server 128 may, for example, include a conventional server computer system.”);

- **Alfke, 9:52-10:3** (“FIG. 2B is a block diagram illustrating an exemplary message processing system according to an alternative embodiment of the invention. Referring to FIG. 2B, alternatively message delivery client 204 and mail client 205 are located within different platforms (e.g., platform 1 and 2) respectively. Platforms 1 and 2 are controlled by a sender or a recipient. Similarly, alternatively message delivery client 210 and mail client 211 are located within different platforms (e.g., platform 3 and 4) respectively. Platforms 3 and 4 are controlled by a sender or a recipient. Alternatively message delivery clients 204 and 210 and mail clients 205 and 211 communicate with each other via communication mediums 215 and 216 respectively. Communication mediums 215 and 216 may be a wired communication medium, such as, for example, a local network area (LAN) connection or a modem connection. ***Alternatively, communication medium 215 may be a wireless connection, such as, for example, an infrared or a home networking connection (e.g., IEEE 802.xx, such as Bluetooth or WiFi).***

For example, platform 1 may represent a desktop computer having a network interface to network 202 while platform 2 may be a handheld device, such as, a cellular phone, a Palm pilot, a two-way pager, or an email

platform (e.g., a BlackBerry platform from Research In Motion of Waterloo, ON), etc. When a sender represented by platforms 1 and 2 desires to send a mail message to a recipient represented by platforms 3 and 4, mail client 205 communicates with alternative message delivery client 204 to determine whether alternative message delivery client 204 is available and able to handle mail message via communication medium 215. If alternative message delivery client 204 is available and able to handle mail message, mail client 205 transmits the mail message from platform 2 to platform 1 via communication medium 215. Alternative message delivery client 204 then sends the mail message via the associated messaging system to the corresponding alternative message delivery client 210 of platform 3, which is controlled by the recipient. Thereafter, alternative message delivery client 210 of platform 3 forwards the received message to mail client 211 of platform 4, which is also controlled by the recipient, using one of the aforementioned techniques.”).

- ***See also Alfke, 5:50-6:4, 6:37-56, 15:51-16:13*** (“wireless network”/“cellular network”), **Figure 1.**

75. See my discussion of element [1.pre]. As explained for element [1.pre] above, Lemay discloses a wireless terminal that communicates messages. See [1.pre]. Lemay further discloses using a “wireless” “network interface” for “transmitting and/or receiving” messages, such as email and instant messages, over a “wireless network,” such as a “cellular” network. Lemay, Figure 1B, 1:18-22, 2:52-3:23, 4:6-21; Alfke, Figure 2A, 5:23-49, 9:52-10:3, 15:51-16:13. Specifically, the device’s “network interface” permits the device to “interface[] to external” networks and “systems” to send and receives messages and other communications. Lemay, 4:6-21; Alfke, 9:52-10:3. The interface includes a transceiver in order to perform “transmitting and/or receiving” of messages. Lemay, 1:19-22. At a

minimum, a person of ordinary skill in the art would have understood and at least found it obvious to use a transceiver in Lemay's interface in order to transmit and receive messages as transceivers were commonly used for this purpose. *See, e.g.*, Rathonyi (Ex. 1011), 1:10-39, 15:64-66 (describing a "cellular radiotelephone system" in which a "mobile" device performs data packet transmit and receive processing functions "in a transceiver"). Thus, Lemay affirmatively discloses, or at least renders obvious, that Lemay's system includes a wireless transceiver for transmitting and receiving messages to/from an outside device. *See* Lemay, 4:6-21; Alfke, 9:52-10:3.

(c) Element [1.b]

76. **Element [1.b] recites "a storage for storing an integrated messaging service program and messages in order to provide an integrated user interface (IUI)." This element is met by Lemay.**

77. Lemay discloses a storage (*e.g.*, "memory" or "non-volatile storage") for storing an integrated messaging service program in order to provide an integrated user interface (IUI) (*e.g.*, for "stor[ing]" "a computer program" and "messaging record[s]" to provide a "unified user interface" for messaging and email). *See, e.g.*, Lemay (emphasis added):

- Lemay, Figures 1B, 3

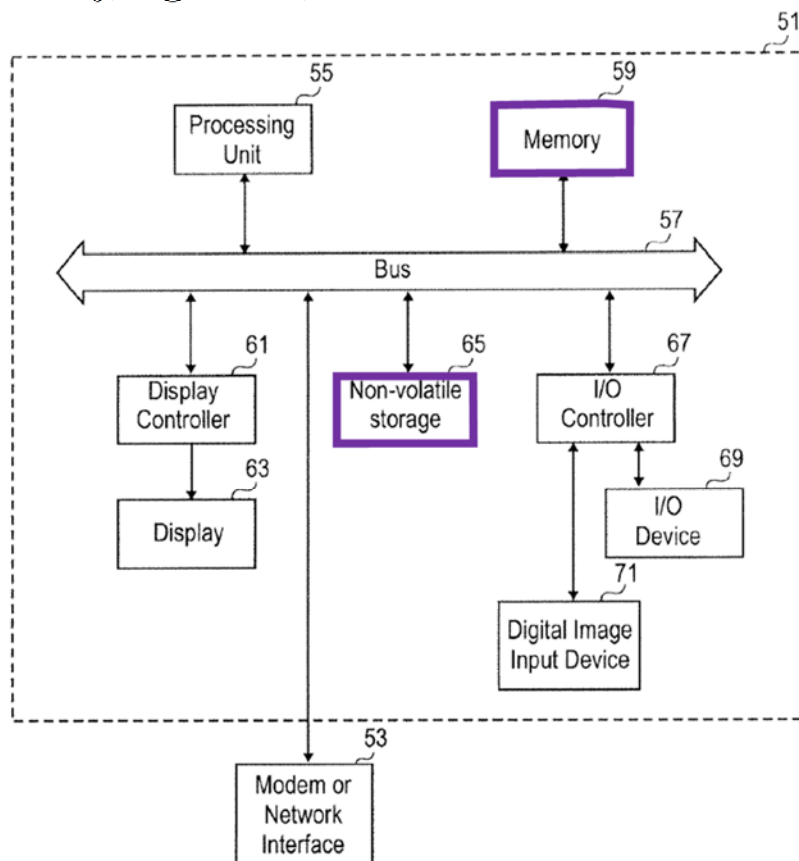


FIG. 1B

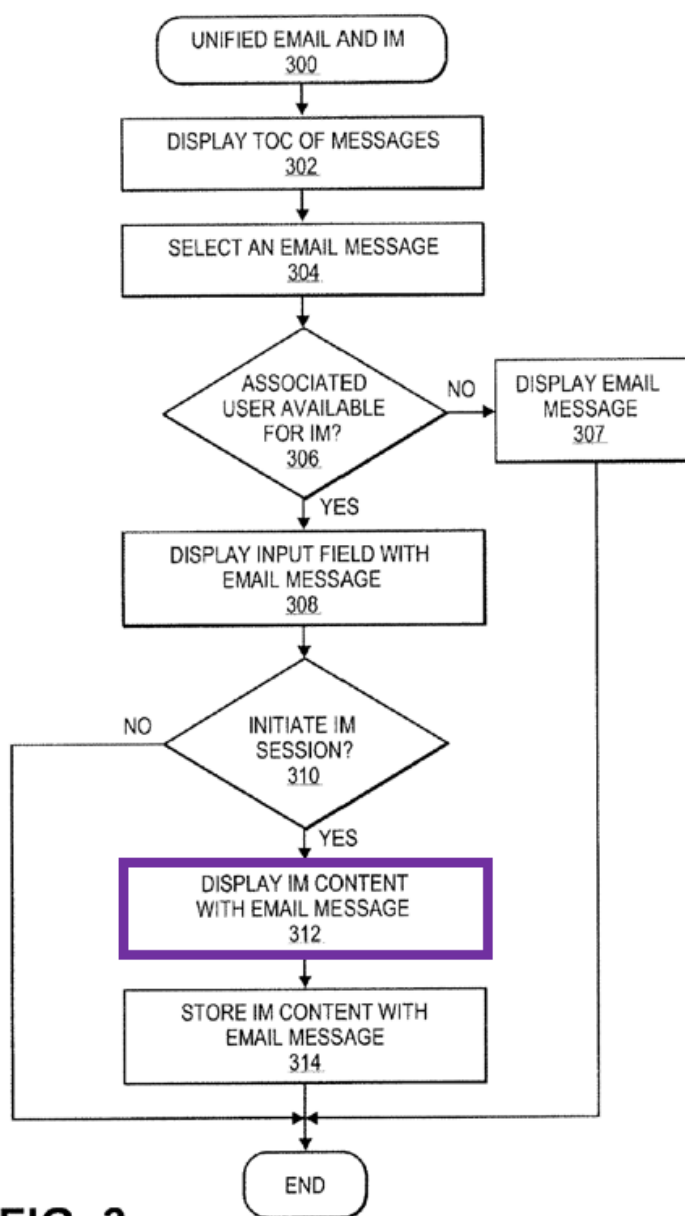


FIG. 3

- **Lemay, Abstract** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be*

managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.”);

- **Lemay, 1:49-62** (“*The present invention relates to a unified user interface for instant messaging and electronic mail.* In one exemplary aspect, a single user interface is provided to allow a user to view email and instant messages. *Instant messages and email are received and displayed within a common window within a single application.* In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.”);
- **Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem, ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. *The computer system 51 includes a processing unit 55*, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). *The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk*

drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. ***The display controller 61 and the I/O controller 67 can be implemented with conventional well known technology.*** A digital image input device 71 can be a digital camera which is coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. ***The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.*** One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);

- ***Lemay, 9:20-28 (“In one embodiment, a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email message in the preview pane (Block 312). In one embodiment, as instant messaging replies are sent and received by the user, the messaging content is updated in the preview pane. The instant messaging content is stored along with the email message as a single messaging record (Block 314).”).***
- ***See also Lemay, 5:3-15, 6:21-25, 7:10-23, 8:27-32.***

- **Alfke, Figure 7**

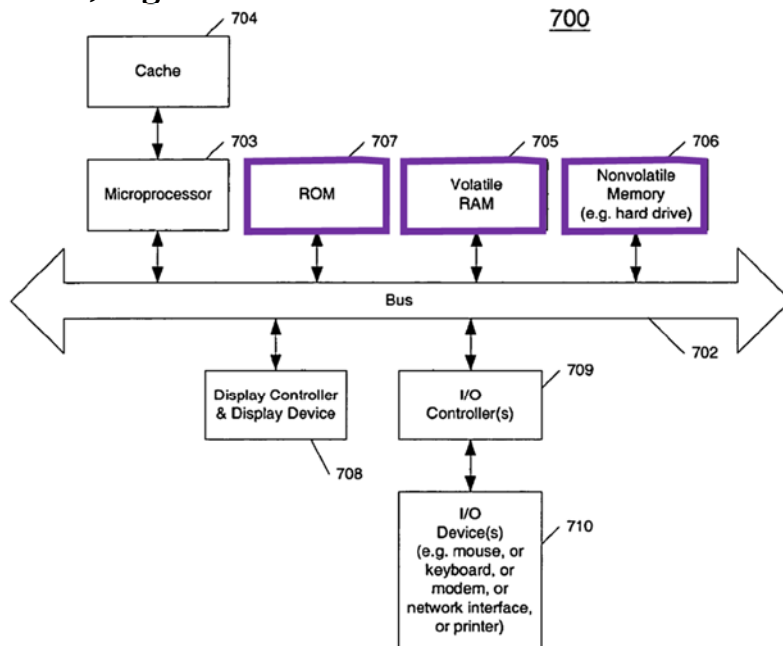


Fig. 7

- **Alfke, 3:65-4:22** (“The present invention also relates to apparatus for performing the operations herein. This apparatus may be specially constructed for the required purposes, or it may comprise a general purpose computer selectively activated or reconfigured by *a computer program stored in the computer. Such a computer program may be stored in a computer readable storage medium*, such as, but is not limited to, any type of disk including floppy disks, optical disks, CD-ROMs, and magnetic-optical disks, read-only memories (ROMs), random access memories (RAMs), EPROMs, EEPROMs, magnetic or optical cards, or any type of media suitable for storing electronic instructions, and each coupled to a computer system bus.

The algorithms and displays presented herein are not inherently related to any particular computer or other apparatus. Various general purpose systems may be used with programs in accordance with the teachings herein, or it may prove convenient to construct more specialized apparatus to perform the required method steps. The required structure for a variety of these systems will appear from the description below. In addition, the present invention is not described with reference to any particular programming language. It will be appreciated that *a variety of programming languages*

may be used to implement the teachings of the invention as described herein.”);

- **Alfke, 9:6-10** (“Furthermore, if IM client 210 determines that mail client 211 is not running, IM client 210 may simply *store the message at a storage (e.g., a hard drive) of the recipient 203*. The stored message may be retrieved and displayed when the user launches his or her email client 211.”).
- **See also Alfke, 4:23-30, 4:58-5:2.**

78. See my discussion of element [1.pre]. As explained for element [1.pre] above, Lemay discloses an integrated messaging service. See [1.pre]. Lemay further discloses a “memory” and “non-volatile storage” that stores the “computer program” that provides the disclosed interface when executed by a processor, as well as local copies of the “messaging record[s].” Lemay 4:21-29, 9:20-28; Alfke, 3:65-4:22. It was well-understood to a person of ordinary skill in the art that systems with memory and non-volatile storage use memory for short-term storage of information associated with active processes, while long-term information to be saved for later retrieval, for example, is stored in long-term storage. As such, the underlying data for programs, including for example a messaging program, as well as the messaging records used by that program, are both preserved in non-volatile storage such that they can be retrieved and/or run when requested. When programs are running, they use memory to handle active processes (e.g., the computer program that is running) and data for those processes (e.g., displayed messaging records currently being

handled by a messaging program). Accordingly, each of Lemay's memory and non-volatile storage affirmatively disclose, or at least renders obvious, a storage for both the program and the messages used to provide the "unified user interface for instant messaging and electronic mail" to the user. Lemay, Figure 1B, 1:49-62, 4:21-49, 9:20-28; Alfke, 3:65-4:10, 9:6-10.

(d) Element [1.c]

79. **Element [1.c] recites "a keypad for receiving a message content and a menu selecting signal in the IUI."** This element is met by Lemay.

80. **Lemay discloses a keypad for receiving a message content** (*e.g.*, "keyboard" used to "receive input, such as text" for messages) **and a menu selecting signal in the IUI** (*e.g.*, use keyboard to press "a button or setting in a preferences menu" in the IUI (*see* [1.b])). *See, e.g.*, Lemay (emphasis added):

• Lemay, Figures 1B, 2C

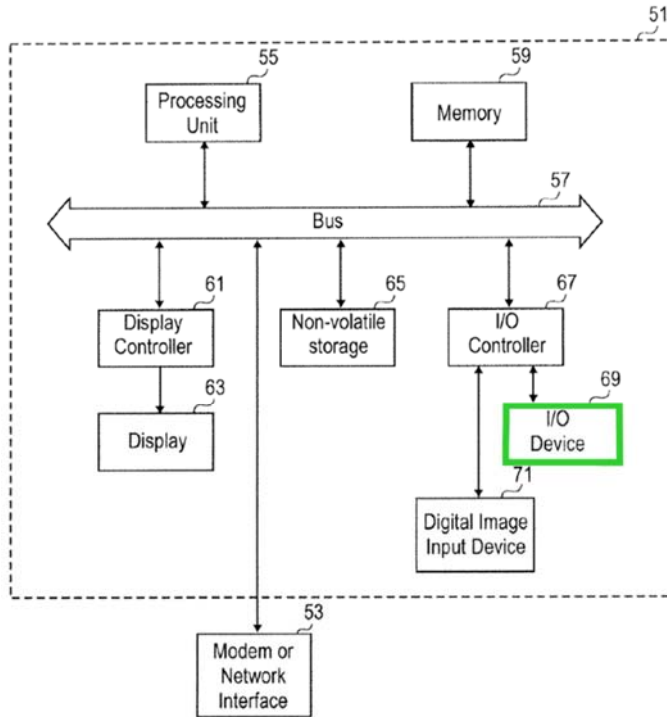


FIG. 1B

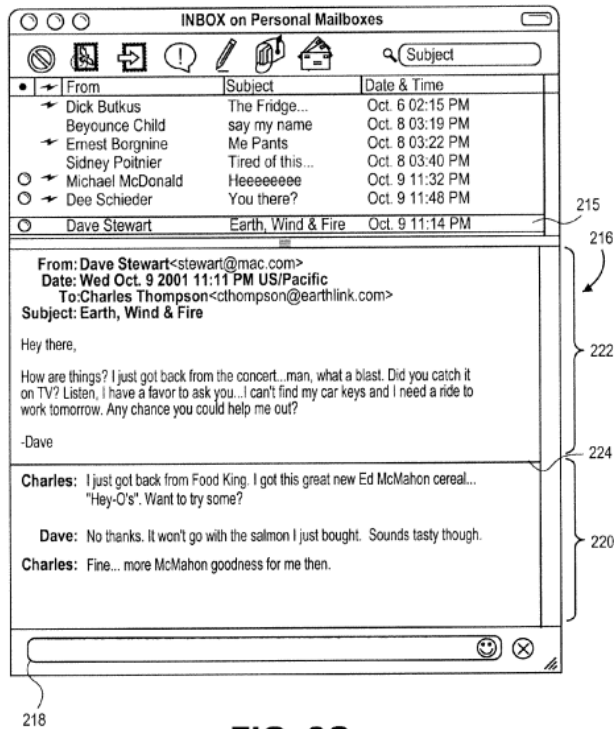


FIG. 2C

- **Lemay, 3:41-57** (“The ISP 5 provides *Internet connectivity to the client computer system 21 through the modem interface 23* which can be considered part of the client computer system 21. *The client computer system can be* a personal computer system, consumer electronics/appliance, a network computer, a Web TV system, *a handheld device*, or other such computer system. Similarly, the ISP 7 provides Internet connectivity for client systems 25, 35, and 37, although as shown in FIG. 1A, the connections are not the same for these three computer systems. Client computer system 25 is coupled through a modem interface 27 while client computer systems 35 and 37 are part of a LAN. *While FIG. 1A shows the interfaces 23 and 27 as generically as a “modem,” it will be appreciated that each of these interfaces can be* an analog modem, ISDN modem, DSL modem, cable modem, *satellite transmission interface*, or other interfaces for coupling a computer system to other computer systems.”);
- **Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem, ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. *The computer system 51 includes a processing unit 55*, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). *The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. The display controller 61 and the I/O*

controller 67 can be implemented with conventional well known technology. A digital image input device 71 can be a digital camera which is coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. *The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.* One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);

- **Lemay, 6:21-25** (“In one embodiment, *an input object includes functionality to receive input, such as text entered from a keyboard, or handwriting entered through the use of a pen or stylus.* In other embodiments, input object may include functionality for *receiving other input, such as video or audio.*”);
- **Lemay, 6:65-7:9** (“*FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220.* In one embodiment, *where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216.* As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, *instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222.*”);
- **Lemay, 7:45-49** (“A chatting session may also be implemented in other ways. For example, in one embodiment, a user may initiate an instant messaging session which is displayed in pane 216 *by clicking on a button.*”);
- **Lemay, 10:63-11:12** (“In another embodiment of the present invention, a user may disable or ‘turn off’ the instant messaging capabilities of the GUI and the associated application. The disabling may be temporary or permanent. For example, *a button or setting in a preferences menu* may be used to control this feature. In a software application embodying the present

invention, this feature may be useful to users who prefer to use only the email aspects of the application. Likewise, in another exemplary embodiment, a user may disable or ‘turn off’ the email capabilities of the GUI and the associated application, such that a software application embodying the present invention may be used primarily for managing instant messaging records.”).

- ***See also Lemay, 9:20-27, 10:25-41.***

81. See my discussion of elements [1.pre], [1.b]. As explained for [1.pre] and [1.b] above, Lemay discloses an integrated user interface. See [1.pre], [1.b]. Lemay further discloses its “handheld device” includes a “keyboard” “input/output device[.]” Lemay, 2:52-65, 3:41-67, 4:21-49. A user uses the keypad to enter message content into an “input field” and select “a button or setting in a preferences menu.” Lemay, 6:21-25, 6:65-7:9, 10:63-11:12. Keypads for mobile devices were well-known and well-understood in the art. For example, Varanda (Ex. 1014) discloses “virtual keypads” for “touchscreen display” on a “wireless communications device.” Varanda, ¶¶1, 3, 70, Figures 11-15. See also Engstrom, ¶5 (“User interfaces for wireless mobile devices . . . often times us[e] a standard 12 key keypad and/or a touch pad.”); Nielson (Ex. 1016), 3:15-25 (“[M]obile telephone . . . user interface includes a display 22 and an input keypad 20.”); Kinnunen (Ex. 1017), ¶15 (“[U]ser operates the radiotelephone by . . . a keypad 7.”). Accordingly, Lemay’s device keyboard not only renders obvious, but affirmatively

discloses, that the handheld device includes an integrated keypad for receiving message content from the user. *See* Lemay, 2:52-65, 3:39-50.

(e) Element [1.d]

82. **Element [1.d] recites “a displayer for displaying the message content and description data in the IUI.”** This element is met by Lemay.

83. **Lemay discloses a displayer** (*e.g.*, “display”) **for displaying the message content and description data** (*e.g.*, for displaying instant messaging and email “content,” and the name of the “user from which the record originated” and a “time”) **in the IUI** (*see* [1.b]). *See, e.g.*, Lemay (emphasis added):

• Lemay, Figures 2C-2D

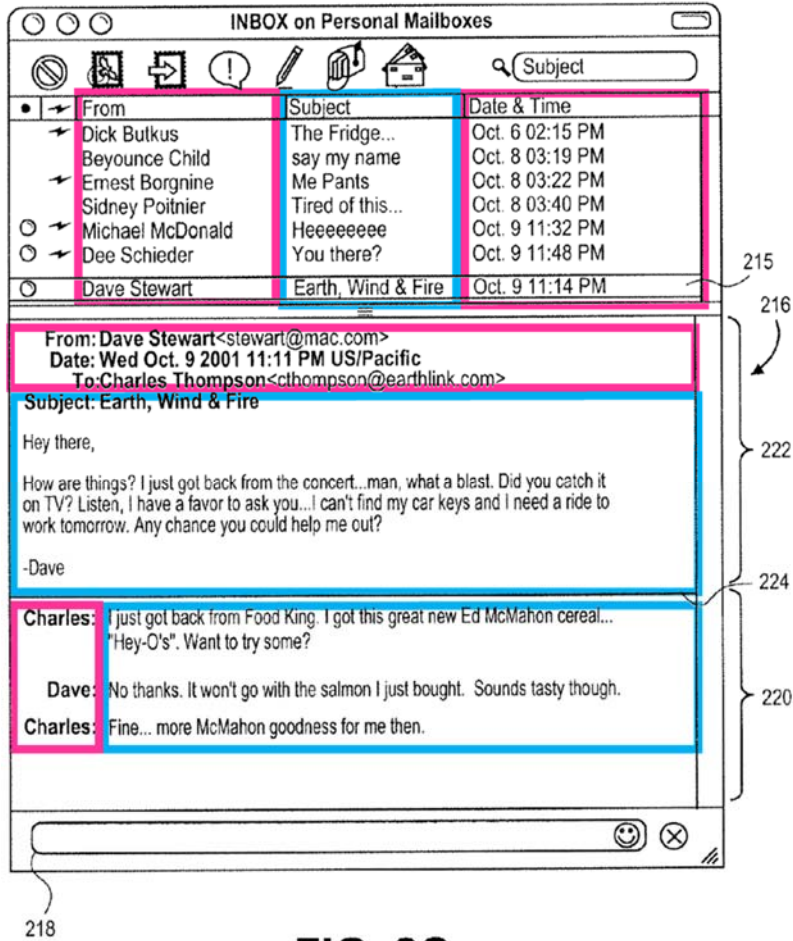


FIG. 2C

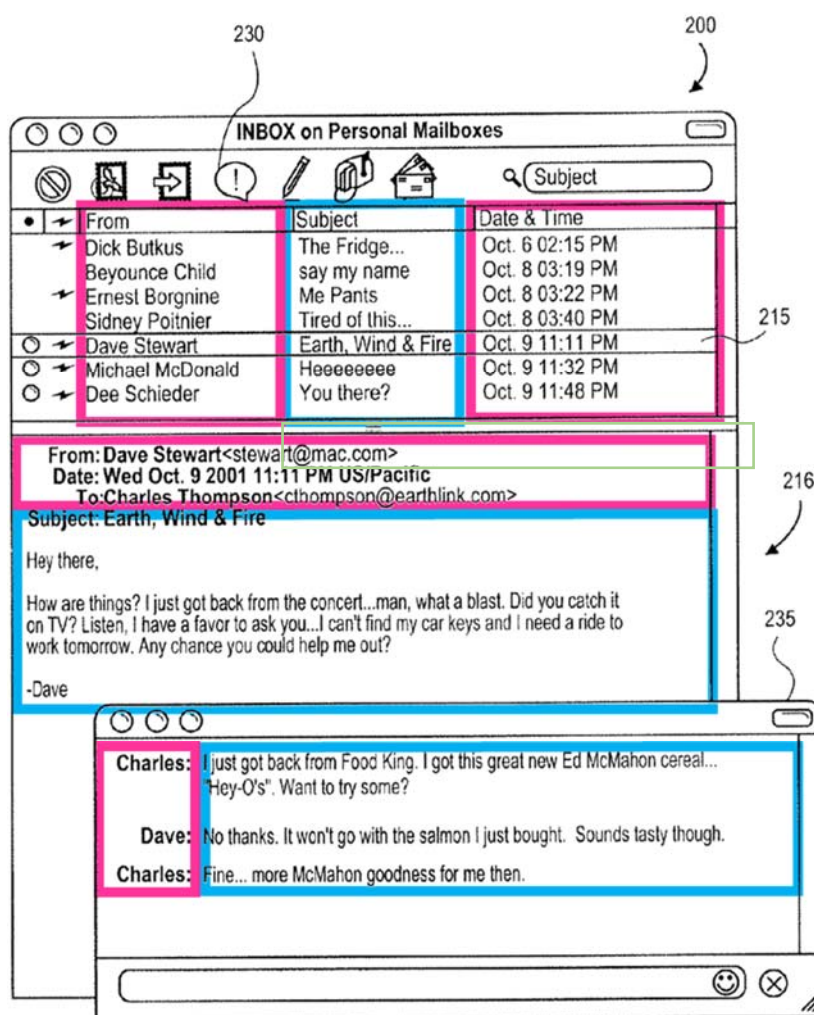


FIG. 2D

- Lemay, Abstract** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.*”);

- **Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem, ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. *The computer system 51 includes a processing unit 55*, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). *The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. The display controller 61 and the I/O controller 67 can be implemented with conventional well known technology.* A digital image input device 71 can be a digital camera which is coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. *The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.* One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);
- **Lemay, 5:16-6:20** (“Embodiments of the present invention are described with respect to FIGS. 2A-2C. *FIG. 2A illustrates an embodiment of a*

unified graphical user interface (GUI) for instant messaging and email.

As illustrated, ***the unified GUI, which is typically displayed as a window 200 on a display of a computer or other digital processing system,*** includes a number of display and control functions for processing messaging records. Messaging records refers to records which contain electronic mail (email), instant messaging sessions, or records which include both email and instant messaging content. In one embodiment, messaging records may also contain other types of media data, such as images, video or audio data. ***The window 200 includes a plurality of panes, which separate the window 200 into portions. A table of contents (TOC) pane 202 lists messaging records.*** For example, in the embodiment illustrated in FIG. 2A, the TOC 202 lists received messaging records. In one embodiment, email messages or instant messaging sessions appear as records or items in the TOC 202.

The TOC 202 includes columns which contain information for each record. Column 204 indicates the status of a record. For example, in one embodiment, the color of the indicator in column 204 reflects whether the corresponding record has content which has not yet been viewed. ***Column 208 displays the name of the user from which the record originated.*** ***Column 210 displays the subject of the corresponding record,*** and ***column 212 displays the date and time of the record.*** According to one aspect of the invention, ***column 206 includes a visual indicator to indicate whether the user from which the record originated is available for instant messaging.*** For example, in one embodiment, ***column 206 displays an icon of a lightning bolt*** to indicate that the user from which the corresponding record originated is online, and is accepting instant messaging requests. In other embodiments, ***other icons, such as for example an ellipsis (e.g. three dots)*** may be displayed in column 206 to indicate the same.

In one embodiment, the date and time of a record is updated as new content is added to the record, as described below. Messaging records listed in the TOC 202 may be sorted based on the information displayed in any of columns 204, 206, 208, 210 and 212. A splitter 214 separates the TOC 202 from the preview pane 216. ***Preview pane 216 displays the content of a record 215 which is selected in the TOC 202.*** As illustrated in FIG. 2A, the record 215 from Dave Stewart is currently selected, and hence the email message content of the record is displayed in preview pane 216.

FIG. 2B illustrates an embodiment of the GUI as illustrated in FIG. 2A, with

the addition of an messaging input object. In one embodiment, the messaging input object is an input field 218. Input field 218 allows a user to initiate an instant messaging session with another user associated with the record which is currently selected in the TOC 202, for example, the sender of an email. In one embodiment, input field 218 appears in pane 216 when a user associated with a selected record is available for an instant messaging session. For example, ***in the embodiment illustrated in FIG. 2B, when the email record from Dave Stewart is selected in the TOC 202, the email message content will appear in the preview pane 216.*** Additionally, since the user associated with the email message, in this case Dave Stewart, is available for an instant messaging session, as indicated by the icon in column 206, the input field 218 will appear. This provides a user with a way to conveniently initiate an instant messaging session with another user associated with the selected record in the TOC 202. In one embodiment, if the user associated with the selected record in the TOC 202 is offline or is otherwise not currently available for instant messaging, then input field 218 does not appear in pane 216.”);

- **Lemay, 6:65-7:9 (“FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220. In one embodiment, where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216. As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, *instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222.*”);**
- **Lemay, 7:10-23 (“In one embodiment, *the instant messaging content 220 is combined with the email content 222 to create a combined messaging record including both email and instant messaging content.* In other words, the instant messaging session is integrated with the email message into a new messaging record. In one embodiment, the record may be updated with any new instant messaging content.”);**
- **Lemay, 8:57-9:4 (“Although *FIGS. 2A-2C are illustrates embodiments using an Inbox, it will be appreciated that embodiments of the present invention may be applied to other folders, such as for example a Sent***

folder, or other user generated folders.

FIG. 3 illustrates an embodiment of a method 300 for unified email and instant messaging content. A list or table of contents (TOC) of messaging records is displayed by the method 300 (Block 302). ***For example, in one embodiment, the list is the TOC 202 illustrated in FIGS. 2A-2C. In addition to email messages, the TOC may also include instant messaging sessions, and messaging records including both email and instant messaging content.*** A user selects an email message from the TOC (Block 304). For example, the user may use a cursor control device, such as a mouse, to select or click an item in the TOC.”);

- **Lemay, 9:20-28** (“*In one embodiment, a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email message in the preview pane (Block 312). In one embodiment, as instant messaging replies are sent and received by the user, the messaging content is updated in the preview pane. The instant messaging content is stored along with the email message as a single messaging record (Block 314).*”);
- **See also Lemay, Figures 2A-2B, 1:18-22, 9:53-10:10, 11:8-17.**
- **Alfke, 15:51-67** (“Furthermore, the non-mail messaging system is not limited to a traditional IM system available to a wired network. It will be appreciated that other types of network, such as a wireless network (e.g., a cellular network or a home networking environment, such as an IEEE 802.xx network), may utilize the techniques described above. For example, network 605 may include a cellular network and application 601 may be an application running at a portable PDA (personal digital assistant) or a cellular phone capable of sending or receiving mail messages. ***In addition, application 601 may also be capable of receiving wireless instant messages, such as SMS (short message service) messages*** available in a cellular network to substantially instantly transmit a message to a recipient's counterpart, which forwards the message to its mail client ***and displays the message as a mail message in an Inbox of the recipient's mail.*** Other configurations apparent to one with ordinary skill in the art may exist.”).

84. See my discussion of elements [1.pre], [1.b]-[1.c]. As explained for elements [1.pre], [1.b]-[1.c], Lemay discloses an integrated user interface and

message content. See [1.pre], [1.b]-[1.c]. Lemay further discloses its “unified graphical user interface (GUI)” is “displayed . . . on a display” of the device. Lemay, 5:16-6:20. The GUI displays a “record” of sent and received “email” and “instant messaging” “content.” Lemay, 5:16-6:20, 6:65-7:23, 8:57-9:4. It also displays description data for each of the messages, such as message “date and time,” and “the name of the user from which the record originated,” or messaging correspondent. Lemay, 5:16-6:20, Figures 2A-2D. This data conforms to the ’839 Patent’s disclosed examples of description data. See ’839 Patent, 4:47-61 (“data for indicating the incoming message or the outgoing message,” “sender/recipient name”).

85. Further, a person of ordinary skill in the art would have understood, and at a minimum found it obvious for Lemay’s displayed description data (e.g., addresses and date/time fields for messages) to also be included in the transmitted messages because doing so was well-known and well-understood in the art. For example, RFC2822 describes address and date/time fields, which are description data, included in emails. RFC2822, at 14-16 (“Date and time occur in several [email] header fields.”), 15-16 (“Addresses...in several [email] header fields to indicate senders and recipients of messages.”). Additionally, RFC 2779 (Ex. 1018) defines the “common message format” for interoperable “instant messaging” programs, and states that instant messages “MUST identify the sender and intended recipient.”

RFC 2779 at pp. 1, 9. *See also* 3GPP TS 24.011 v5.2.0 (Ex. 1019), 31 (requiring transmitted and received SMS messages to include “Originator Address” and “Destination Address” information); 3GPP TS 23.140 v6.4.0 (Ex. 1020) at 30-31 (disclosing “Date and Time” information elements are included in “MMS” messages), 50, 57; WAP MMS Encapsulation Protocol (Ex. 1021) at 23 (disclosing “Delivery-Time” header field value in MMS messages); RFC 1889 (Ex. 1022), 1 (describing “timestamping” format for real-time transport protocol communication). Indeed, the ’839 Patent itself purports to address conformance to message transmission protocols. *See, e.g.,* ’839 Patent, 1:8-15 (“The present invention relates to ... ***using an integrated messaging service program without changing a transmission protocol or a network.***”), 1:55-62. Thus, it was well-understood and well-known to include sender/receiver addresses and/or names and time stamp information in messages. *See* Lemay, 5:16-6:20, 6:65-7:23, Figures 2A-2D. For example, where a message is not already associated with a particular name (e.g., as part of saved contact information in an address book), it would have been obvious to display the correspondent’s address/number that was contained in the message itself. *See* Lemay, 5:16-6:20; Alfke, 15:51-67. Similarly, it would have been obvious to display the same time and date information contained in the message, as opposed to separately generated time and date information.

(f) Element [1.e(i)]

86. **Element [1.e(i)] recites “a controller for providing the IUI to the keypad and the displayer by operating the integrated messaging service program.”** This element is met by Lemay.

87. **Lemay discloses a controller for providing the IUI to the keypad and the displayer by operating the integrated messaging service program** (*e.g.*, “processor” executes “software in the computer system” to generate the “user interface” to the keypad and the “display”). *See, e.g.*, Lemay (emphasis added):

- **Lemay, Figures 1B, 2C-2D, 3-4**

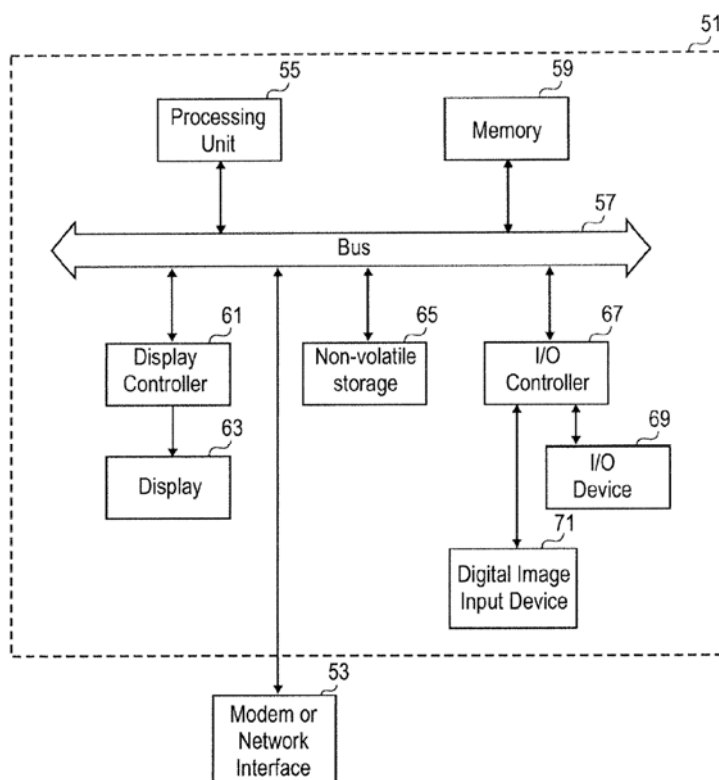


FIG. 1B

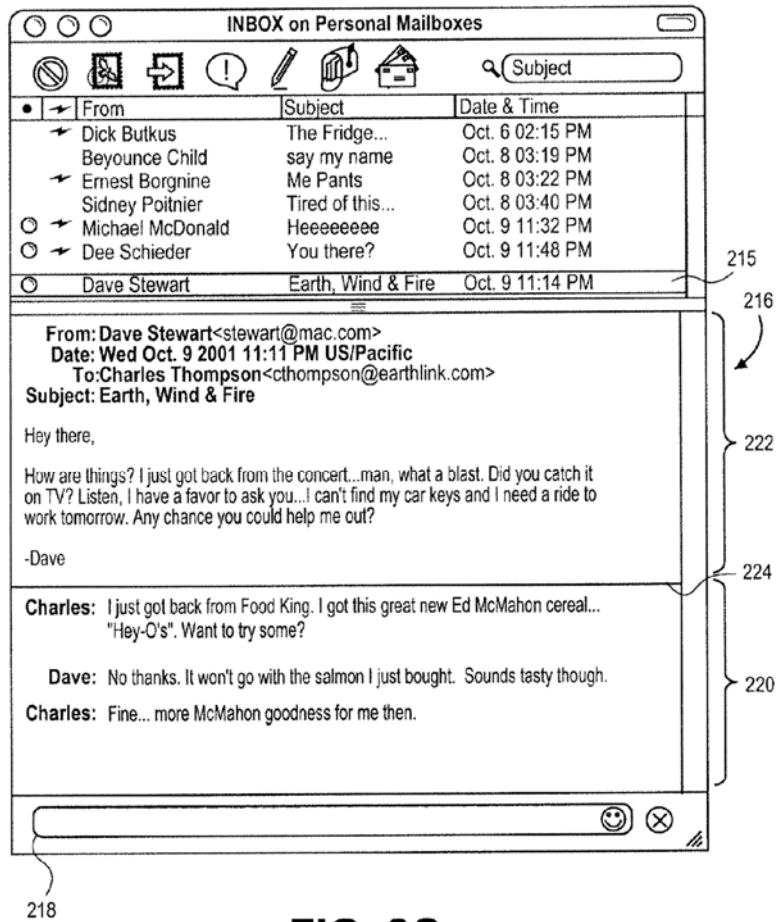


FIG. 2C

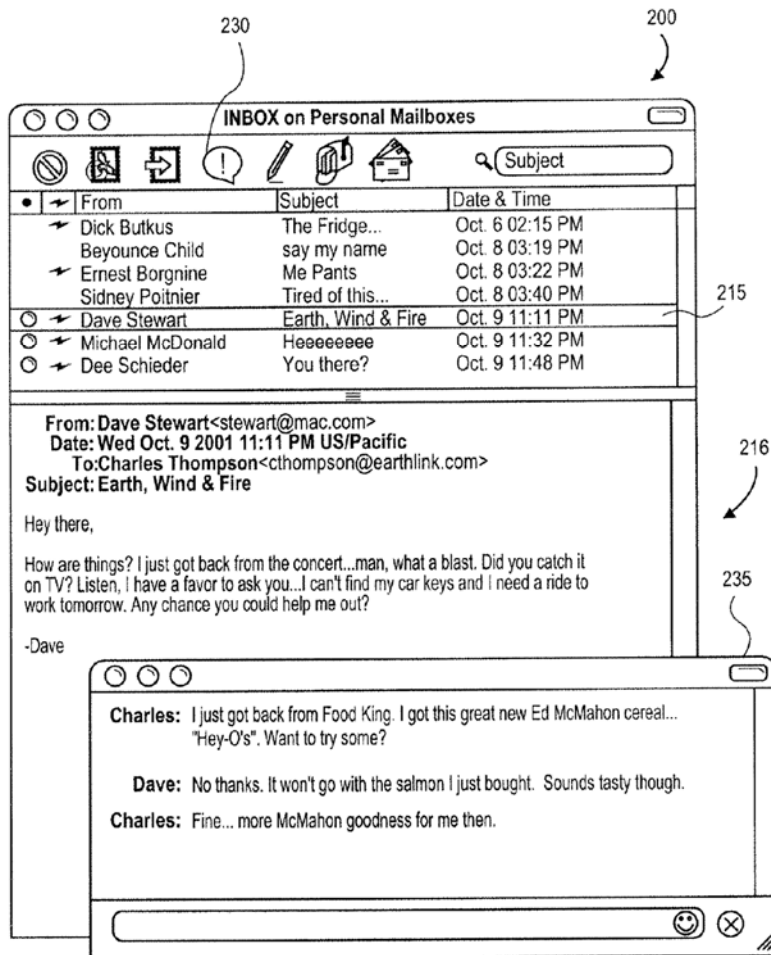


FIG. 2D

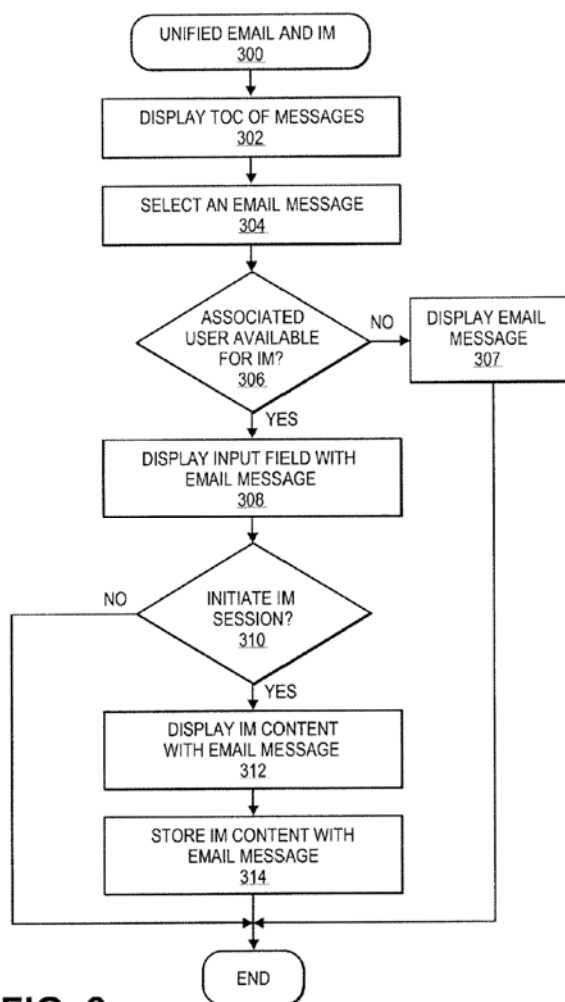


FIG. 3

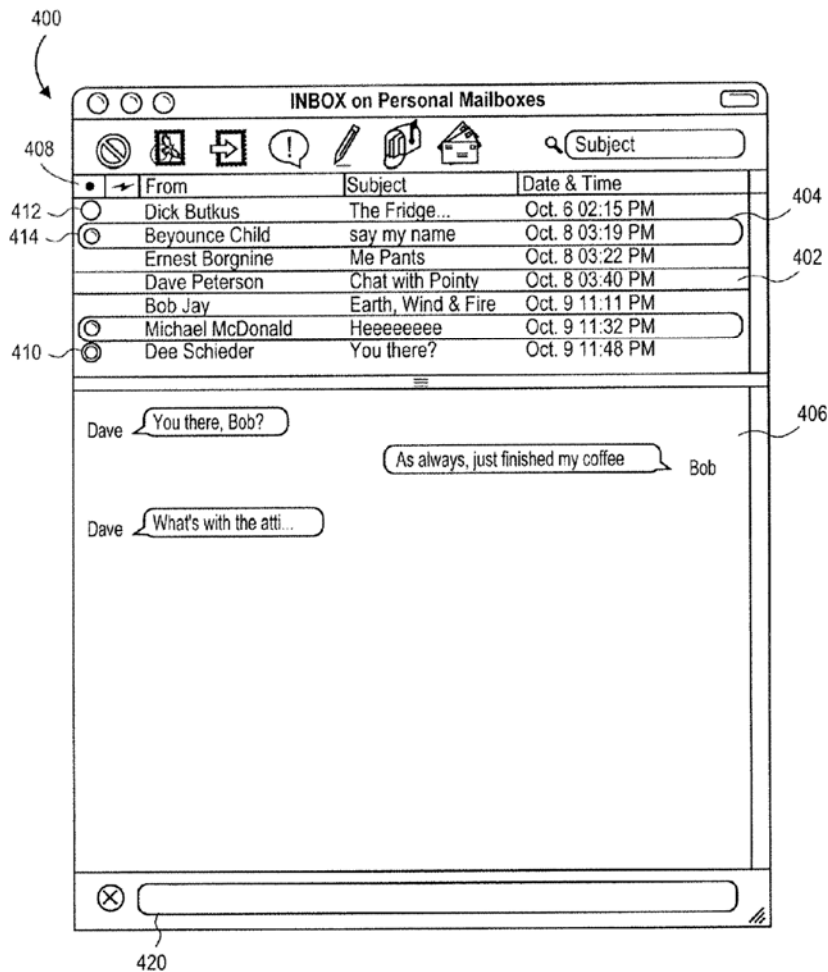


FIG. 4

- Lemay, Abstract** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.*”);

- **Lemay, 1:49-62** (“*The present invention relates to a unified user interface for instant messaging and electronic mail.* In one exemplary aspect, a single user interface is provided to allow a user to view email and instant messages. *Instant messages and email are received and displayed within a common window within a single application.* In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.”);
- **Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem, ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. *The computer system 51 includes a processing unit 55*, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). *The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. The display controller 61 and the I/O controller 67 can be implemented with conventional well known technology.* A digital image input device 71 can be a digital camera which is

coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. ***The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.*** One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);

- **Lemay, 5:3-15** (“It will also be appreciated that ***the computer system 51 is controlled by operating system software which includes a file management system***, such as a disk operating system, which is part of the operating system software. One example of an operating system software with its associated file management system software is the family of operating systems known as Mac® OS operating system from Apple Computer, Inc. of Cupertino, Calif., and their associated file management systems. ***The file management system*** is typically stored in the non-volatile storage 65 and ***causes the processor 55 to execute the various acts required by the operating system to input and output data*** and to store data in memory, including storing files on the non-volatile storage 65.”);
- **Lemay, 6:21-25** (“In one embodiment, ***an input object includes functionality to receive input, such as text entered from a keyboard, or handwriting entered through the use of a pen or stylus***. In other embodiments, input object may include functionality for ***receiving other input, such as video or audio***.”);
- **Lemay, 6:65-7:9** (“***FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220***. In one embodiment, ***where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216***. As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, ***instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222***.”).

- ***See also* Lemay, 1:18-22, 2:52-65, 6:24-44.**

88. See my discussion of elements [1.pre], [1.b]-[1.d]. As explained for elements [1.pre] and [1.b], Lemay discloses an integrated messaging service program. See [1.pre], [1.b]. As further explained for elements [1.c]-[1.d], Lemay discloses a keypad and a displayer. See [1.b]-[1.d]. Lemay further discloses that “processor 55” is coupled to “display controller 61 and the input/output (I/O) controller 67” which, in turn, control the display and the input/output devices included in the system. Lemay, Figure 1B, 4:21-49. The processor then executes “software in the computer system” in order to provide the generated “unified user interface” to the keypad and the “display.” Lemay, 1:49-62, 4:21-49, 6:65-7:9, Figure 2C.

(g) Element [1.e(ii)]

89. **Element [1.e(ii)] recites “determining a message kind of the message to be transmitted which is inputted in the IUI.”** This element is met by Lemay.

90. **Lemay discloses determining a message kind of the message to be transmitted which is inputted in the IUI** (*e.g.*, determining whether to transmit an inputted message as an “email” or “instant message[]”). See, *e.g.*, Lemay (emphasis added):

- **Lemay, Figures 2C, 2D, 3**

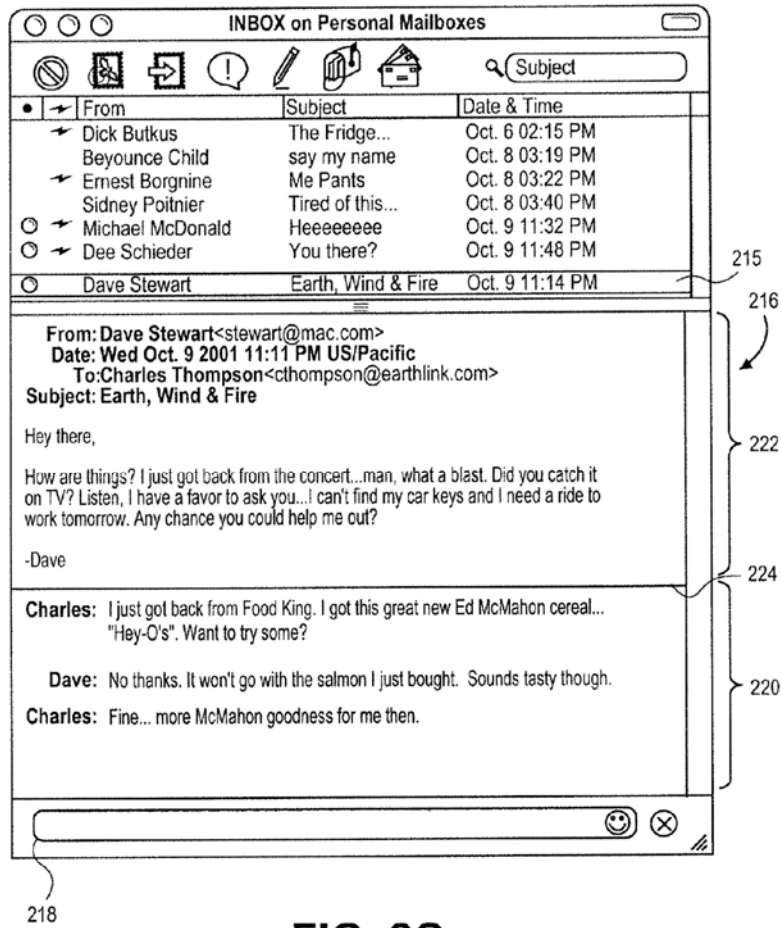


FIG. 2C

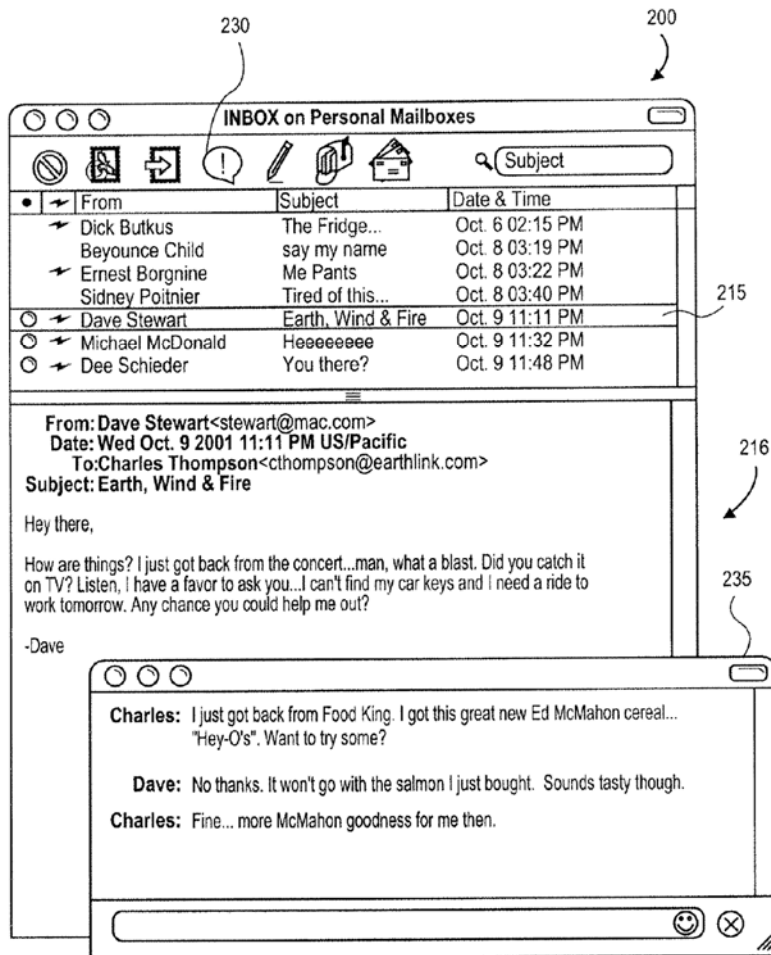


FIG. 2D

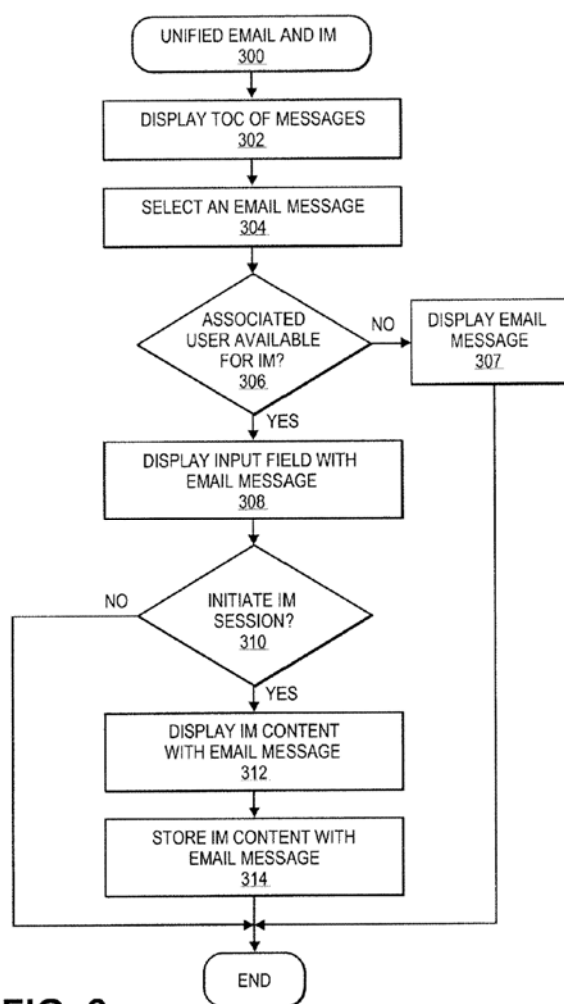


FIG. 3

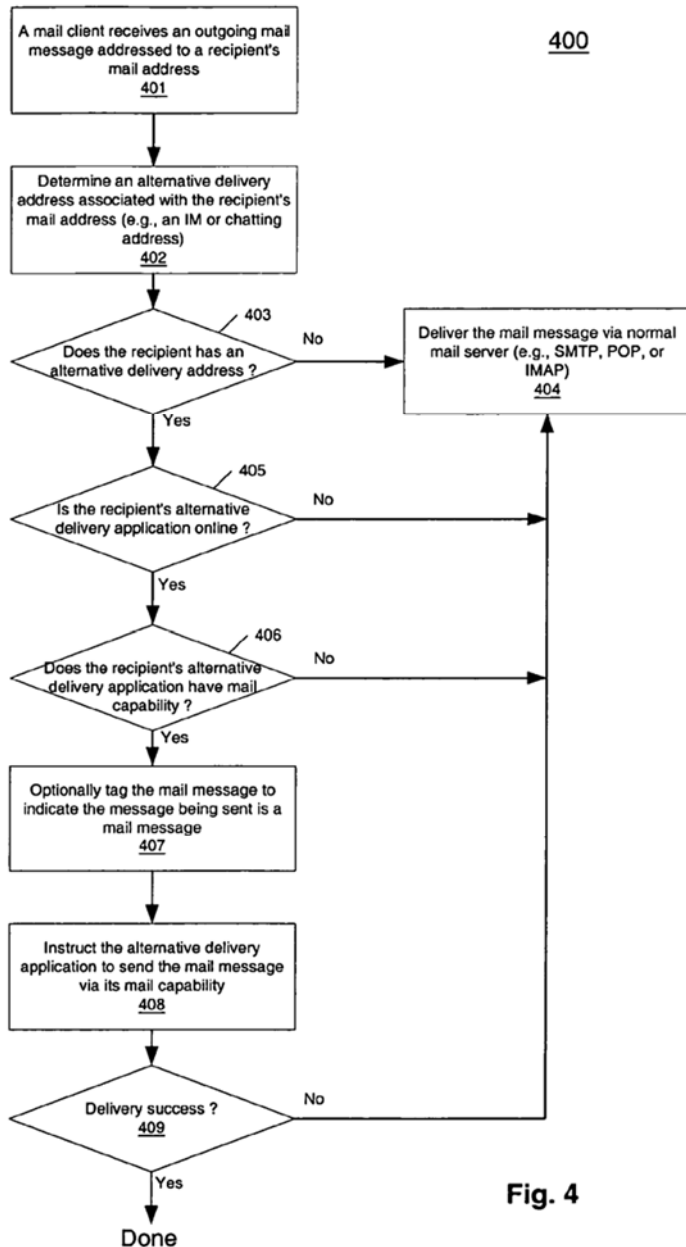
- **Lemay, 1:18-22** (“*This disclosure relates generally to user interfaces for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.) electronic communication, and in particular, relates to a unified user interface for instant messaging and electronic mail.*”);
- **Lemay, 1:63-2:3** (“In another aspect, an email message is displayed in a first graphical user interface window. It is then detected whether a user associated with the email message is available for a messaging session. If the user associated with the email message is available for messaging, messaging session controls are displayed in the first window. *The messaging session controls are to send messaging session content to the user or to receive messaging session content from the user.*”);

- **Lemay, 2:66-3:23** (“FIG. 1A shows *several computer systems 1 that are coupled together through a network 3, such as the Internet*. The term “Internet” as used herein refers to a network of networks which uses certain protocols, such as the TCP/IP protocol, and possibly other protocols such as the hypertext transfer protocol (HTTP) for hypertext markup language (HTML) documents that make up the World Wide Web (web). The physical connections of the Internet and the protocols and communication procedures of the Internet are well known to those of skill in the art. Access to the Internet 3 is typically provided by Internet service providers (ISP), such as the ISPs 5 and 7. Users on client systems, such as client computer systems 21, 25, 35, and 37 obtain access to the Internet through the Internet service providers, such as ISPs 5 and 7. *Access to the Internet allows users of the client computer systems to exchange information, receive and send emails and instant messages, and view documents, such as documents which have been prepared in the HTML format*. These documents are often provided by web servers, such as web server 9 which is considered to be “on” the Internet. Often these web servers are provided by the ISPs, such as ISP 5, although a computer system can be set up and connected to the Internet without that system being also an ISP as is well known in the art.”);
- **Lemay 6:26-42** (“Input field 218 may be displayed in various ways. In one embodiment, input field 218 appears simultaneously with the messaging record content in preview pane 216 when the record is selected in the TOC 202, if the user associated with the record is available for instant messaging. *In another exemplary embodiment, if a user associated with a record becomes available for instant messaging while the message is currently being browsed, input field 218 appears by animating up (e.g. popping up) from the lower portion of pane 216*. In yet another embodiment, input field 218 includes an affordance, i.e. a visual clue to the function of the input field 218. For example, in the embodiment illustrated in FIG. 2B, when input field 218 appears, a clue stating “Click here to begin chat . . .” appears to assist the user. In another embodiment, a button becomes active (clickable) or changes appearance to denote the availability of an associated user for a messaging session, such as an instant messaging session.”)
- **Lemay, 9:20-28** (“In one embodiment, *a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email message in the preview pane (Block 312). In one embodiment, as instant*

messaging replies are sent and received by the user, the messaging content is updated in the preview pane. *The instant messaging content is stored along with the email message as a single messaging record (Block 314).*”);

- **Lemay, 9:29-52** (“In one embodiment, *dropping an email message pastes the text of the email message into the selected instant messaging session 402*. In another embodiment, dropping the email on an instant messaging record causes *the email to be sent* to the associated user through a file transfer protocol. *Similarly, in another embodiment, an instant messaging record may be dragged and dropped into an new email message*, or an instant messaging session, to insert a transcript of the instant messaging session.”);
- **Lemay, 11:18-32** (“In another exemplary embodiment, *the user interface may incorporate functionality for receiving, sending and managing other types of messaging*, such as video chats, video conferencing, or audio communications. For example, in one embodiment, where it is detected that a sender of an email message is available for a video chat or otherwise receiving real time video content from the user, controls for sending or initiating the video chat will appear in the same window of user interface in which the email messaging record appears. In one embodiment, such controls may include, for example, on, off, play, pause, fast forward, and rewind, among others. Similarly, in another embodiment, when it is detected that a sender of a messaging record is available for receiving audio communications, controls for initiating an audio Communication session will be displayed in the user interface.”).
- **See also Lemay, 5:16-6:20, 6:26-42, 9:29-52, 10:42-62, 11:8-17.**

- **Alfke, Figure 4**



- **Alfke 5:50-6:4** (“Client computers 102, 104, 118, and 120 may be able to send and receive email messages from each other. The email systems used by client computers 102, 104, 118, and 120 may be proprietary email systems, such as IBM Lotus Notes. Alternatively, *the email systems used by the client computers may be standard email systems, such as email systems using POP3 (post office protocol), SMTP (simple mail transport protocol), or IMAP (Internet message access protocol) protocols.* According to one embodiment, *the email client running at the client computers 102, 104,*

118, and 120 may determine whether there is an alternative message delivery mechanism, such as, for example, instant messaging (IM) system, to deliver the email message quicker. If the sender's email client determines that there is an alternative (e.g., a better alternative) available, the email client may interact with an application of the alternative delivery mechanism. *The alternative delivery mechanism may deliver the email message to the recipient via the alternative delivery system, instead of going through the normal email server* which routes the email message (via one or more routing servers) to the recipient's email server, and thereafter, the recipient's email server forwards the message to the recipient.”)

- **Alfke, 6:17-36** (“According to one embodiment, in order *to distinguish the email message from other messages delivered by the alternative delivery system, the email message may be tagged with an identification indicating the message being delivered is an email message and repackaged in a format compatible with the message requirement of the alternative delivery system.* On the other side, when a recipient’s counterpart alternative delivery system (e.g., IM client) receives the message, the message may be examined (via the tagged identification) to determine whether the message is an email message. If the message is an email message, the recipient's counterpart may reroute the message to the email client of the recipient. In one embodiment, either the alternative delivery system or the email client repackages the message as an ordinary email message and the email client displays the message as if it is received from the corresponding email server. Such actions are performed transparently to a user of the recipient and the user does not know whether the email message may be received via the alternative delivery system.”);
- **Alfke, 7:24-38** (“According to one embodiment, IM clients 204 and 210 may interact with mail clients 205 and 211 respectively, such that mail messages of mail clients 205 and 211 may be delivered or received via the IM clients 204 and 210 utilizing the advanced features of the IM system, which will be described in details further below. In one embodiment, *when mail client 205 is launched and initialized, mail client 205 may register, via path 215, with IM client 204 to enable mail client 205 to transmit and receive mail messages via IM client 204.* After mail client 205 has registered with IM client 204, IM client 204 may broadcast or advertise, via IM server 206, in the IM community that IM client 204 is capable of handling mail messages. Other members of the IM community, such as IM

client 210, receives such advertisement and may send further mail messages to IM client 204 subsequently.”)

- **Alfke 7:49-63** (“For example, according to one embodiment, *when mail client 205 receives a mail message from a user addressed to mail client 211 of a recipient, mail client 205 determines, without involving corresponding mail server 207, whether there is an alternative messaging system, such as IM client 204, available.* The determination may be performed based on whether mail client 205 has registered with IM client 204 successfully. If there is no alternative messaging system available, mail client 205 may fall back to its mail server 207 to handle the incoming and outgoing mail messages. In one embodiment, such determination may be performed based on whether the alternative messaging system is installed or whether mail client 205 fails to register with the alternative messaging system, such as IM client 204, using one of the aforementioned techniques.”)
- **Alfke 8:6-34** (“If it is determined that the recipient's alternative messaging counterpart is activated, *mail client 205 may determine, via alternative messaging system 204, whether the recipient alternative messaging counterpart (e.g., alternative messaging system 210) is capable of handling mail messages.* The determination may be performed based on whether the recipient's mail client 211 has successfully registered with its alternative messaging system 210, which advertises such capability in the associated community, using one of the aforementioned techniques. If it is determined that the recipient's alternative messaging counterpart is unable to handle mail messages, mail client 205 may fall back to its mail server 207 to handle the mail messages.

If the recipient's alternative messaging system is able to handle mail messages, according to one embodiment, *mail client 205 may optionally tag an identification with the mail message to indicate that the message being sent is a mail message.* Alternatively, according to another embodiment, the tagging may be performed by alternative messaging client 204. *Thereafter, mail client 205 transmits the mail message to alternative messaging client 204 where the mail message may be repackaged in a format compatible with the alternative messaging system (e.g., an IM message packet).* Alternatively, the mail message may be repackaged by mail client 205. Furthermore, if the message is routed by the alternative messaging server 206, the message may be repackaged by the server 206. *The mail message is*

then sent to the recipient's alternative messaging counterpart 210 over network 202, directly via path 214 or indirectly via server 206.”);

- **Alfke 11:29-58** (“In one embodiment, when *a sender prepares an outgoing message using user interface 261*, user interface 261 transmits the outgoing message to inter-process module 257. Inter-process module 257 determines whether client 250 has an alternative delivery mechanism. In one embodiment, an alternative delivery mechanism may be identified through a lookup operation in an address book associated with mail client 252. If inter-process module 257 determines that an alternative delivery mechanism exists, inter-process module 257 may communicate with the associated alternative delivery client 251 via the previously established inter-process connection. Alternatively, inter-process module 257 may dynamically launch the alternative delivery client 251 and establish such an inter-process connection.

If the alternative delivery client 251 is up and running, inter-process module 257 of mail client 252 may interrogate with alternative delivery client 251 via respective inter-process module 253 to determine whether an intended recipient's corresponding alternative delivery mechanism is online and whether the intended recipient's alternative delivery mechanism is capable of receiving a mail message (e.g., whether it is able to redirect an incoming message to a mail client of the recipient). *If it is determined that the recipient's alternative delivery mechanism is online and capable of handling mail messages, inter-process module 257 transmits the outgoing mail message to the alternative delivery client 251.* Otherwise, inter-process module 257 transmits the outgoing mail message to mail processing module 258 and the mail processing module 258 processes the outgoing mail message as an ordinary mail message.”);

- **Alfke, 13:25-40** (“FIG. 4 is a flow diagram illustrating an exemplary process for delivering an electronic message according to one embodiment of the invention. Exemplary process 400 may be performed by a processing logic that may comprise hardware (circuitry, dedicated logic, etc.), software (such as is run on a general purpose computer system or a dedicated machine), or a combination of both. In one embodiment, *exemplary process 400 includes receiving, at a mail client, a mail message addressed to a mail address of a recipient at a remote site, determining, at the mail client, whether there is an alternative delivery mechanism available for the recipient, delivering*

the mail message to the recipient via the alternative delivery mechanism, if the alternative delivery mechanism is available, and delivering the mail message to a mail server which forwards the mail message to the recipient, if the alternative delivery mechanism is unavailable.”);

- **Alfke, 16:1-23** (“According to one embodiment, more than one alternative delivery mechanisms, such as, for example, IM, wireless SMS (short message services), two-way paging system, or facsimile application, etc., may be available for the sender to select. *The mail client may select from the multiple alternative delivery mechanisms a most appropriate delivery mechanism to deliver the mail message. In one embodiment, the mail client may select the most appropriate delivery mechanism based on an attribute of the mail message, the user configuration, or the user preferences.* For example, the mail client may select the IM or cellular SMS services to deliver the message if it is determined that the message needs to be delivered in the fastest manner. Alternatively, the mail client may select a facsimile service to deliver the message if it is determined that the message needs to be sent in the most secure manner. The recipient's addresses or the fax numbers of the alternative delivery mechanisms may be stored in an address book of the sender. The mail client may perform a lookup operation in the address book to discover the multiple alternative delivery mechanisms. *The mail client may interrogate the respective system to determine whether the recipient's counterpart application is online and has the capability to handle the message that is about to send.”).*
- **See also Alfke, 1:17-20, 2:9-20, 5:58-6:16, 6:37-56, 7:39-48, 7:64-8:5, 9:52-10:3, 11:29-58, 13:41-56, 14:10-18.**

91. See my discussion of elements [1.pre]-[1.b], [1.e(i)]. As explained for elements [1.pre]-[1.b] and [1.e(i)] above, Lemay discloses a message to be transmitted and an integrated user interface. See [1.pre]-[1.b], [1.e(i)]. While a message is being entered by the user and prepared for transmission, Lemay discloses this limitation at least two ways. First, the device continuously monitors the online status of other users and whether they are available to receive messages in the

alternative format (e.g., instant messages); that information is then used to determine whether to send an inputted mail message as an email (e.g., using traditional mail servers) or by repackaging it into “a format compatible with the message requirement of the alternative delivery system” (e.g., a format compatible with an instant messaging service) in order to send it using the “alternative” delivery system. Lemay 2:66-3:23, 6:26-42; Alfke, 5:50-6:4, 6:17-36, 7:49-63, 8:6-34, 11:29-58, 13:25-40. Second, Lemay discloses that repackaged emails are “tagged with an identification indicating the message being delivered is an email message,” as opposed to some alternative type of message, when they are packaged and sent via alternative messaging clients. Alfke, 6:17-42, 8:6-34. For example, when the alternative messaging client is configured to transmit only email messages and instant messages, the tagged information is added “in order to distinguish the email message” from an instant message that is sent using the alternative messaging client. *Id.* In this situation, the tagged information—or absence thereof—indicates whether a transmitted message is an email message or an instant message.

(h) Element [1.e(iii)]

92. **Element [1.e(iii)] recites “generating an outgoing message including identification data corresponding to the message kind.”** This element is met by Lemay.

93. Lemay discloses generating an outgoing message including identification data corresponding to the message kind (e.g., outgoing message is “tagged” to specify “email” or “instant message[]” “alternative delivery system” messages). See, e.g., Lemay (emphasis added):

- **Lemay, 2:66-3:23** (“FIG. 1A shows *several computer systems 1 that are coupled together through a network 3, such as the Internet*. The term “Internet” as used herein refers to a network of networks which uses certain protocols, such as the TCP/IP protocol, and possibly other protocols such as the hypertext transfer protocol (HTTP) for hypertext markup language (HTML) documents that make up the World Wide Web (web). The physical connections of the Internet and the protocols and communication procedures of the Internet are well known to those of skill in the art. Access to the Internet 3 is typically provided by Internet service providers (ISP), such as the ISPs 5 and 7. Users on client systems, such as client computer systems 21, 25, 35, and 37 obtain access to the Internet through the Internet service providers, such as ISPs 5 and 7. *Access to the Internet allows users of the client computer systems to exchange information, receive and send emails and instant messages, and view documents, such as documents which have been prepared in the HTML format*. These documents are often provided by web servers, such as web server 9 which is considered to be “on” the Internet. Often these web servers are provided by the ISPs, such as ISP 5, although a computer system can be set up and connected to the Internet without that system being also an ISP as is well known in the art.”);
- **Lemay, 5:16-6:20** (“Embodiments of the present invention are described with respect to FIGS. 2A-2C. *FIG. 2A illustrates an embodiment of a unified graphical user interface (GUI) for instant messaging and email*. As illustrated, *the unified GUI, which is typically displayed as a window 200 on a display of a computer or other digital processing system*, includes a number of display and control functions for processing messaging records. Messaging records refers to records which contain electronic mail (email), instant messaging sessions, or records which include both email and instant messaging content. In one embodiment, messaging records may also contain other types of media data, such as images, video or audio data. *The window 200 includes a plurality of panes, which separate the window 200 into*

portions. A table of contents (TOC) pane 202 lists messaging records. For example, in the embodiment illustrated in FIG. 2A, the TOC 202 lists received messaging records. In one embodiment, email messages or instant messaging sessions appear as records or items in the TOC 202.

The TOC 202 includes columns which contain information for each record. Column 204 indicates the status of a record. For example, in one embodiment, the color of the indicator in column 204 reflects whether the corresponding record has content which has not yet been viewed. *Column 208 displays the name of the user from which the record originated. Column 210 displays the subject of the corresponding record, and column 212 displays the date and time of the record.* According to one aspect of the invention, *column 206 includes a visual indicator to indicate whether the user from which the record originated is available for instant messaging.* For example, in one embodiment, *column 206 displays an icon of a lightning bolt* to indicate that the user from which the corresponding record originated is online, and is accepting instant messaging requests. In other embodiments, *other icons, such as for example an ellipsis (e.g. three dots) may be displayed in column 206* to indicate the same.

In one embodiment, the date and time of a record is updated as new content is added to the record, as described below. Messaging records listed in the TOC 202 may be sorted based on the information displayed in any of columns 204, 206, 208, 210 and 212. A splitter 214 separates the TOC 202 from the preview pane 216. *Preview pane 216 displays the content of a record 215 which is selected in the TOC 202.* As illustrated in FIG. 2A, the record 215 from Dave Stewart is currently selected, and hence the email message content of the record is displayed in preview pane 216.

FIG. 2B illustrates an embodiment of the GUI as illustrated in FIG. 2A, with the addition of an messaging input object. In one embodiment, the messaging input object is an input field 218. Input field 218 allows a user to initiate an instant messaging session with another user associated with the record which is currently selected in the TOC 202, for example, the sender of an email. In one embodiment, input field 218 appears in pane 216 when a user associated with a selected record is available for an instant messaging session. For example, *in the embodiment illustrated in FIG. 2B, when the email record from Dave Stewart is selected in the TOC 202, the email message content will appear in the preview pane 216.* Additionally, since

the user associated with the email message, in this case Dave Stewart, is available for an instant messaging session, as indicated by the icon in column 206, the input field 218 will appear. This provides a user with a way to conveniently initiate an instant messaging session with another user associated with the selected record in the TOC 202. In one embodiment, if the user associated with the selected record in the TOC 202 is offline or is otherwise not currently available for instant messaging, then input field 218 does not appear in pane 216.”);

- **Alfke, 6:17-36** (“According to one embodiment, in order *to distinguish the email message from other messages delivered by the alternative delivery system, the email message may be tagged with an identification indicating the message being delivered is an email message* and repackaged in a format compatible with the message requirement of the alternative delivery system. On the other side, when a recipient’s counterpart alternative delivery system (e.g., IM client) receives the message, the message may be examined (via the tagged identification) to determine whether the message is an email message. If the message is an email message, the recipient’s counterpart may reroute the message to the email client of the recipient. In one embodiment, either the alternative delivery system or the email client repackages the message as an ordinary email message and the email client displays the message as if it is received from the corresponding email server. Such actions are performed transparently to a user of the recipient and the user does not know whether the email message may be received via the alternative delivery system.”);
- **Alfke, 8:6-34** (“If it is determined that the recipient’s alternative messaging counterpart is activated, *mail client 205 may determine, via alternative messaging system 204, whether the recipient alternative messaging counterpart (e.g., alternative messaging system 210) is capable of handling mail messages*. The determination may be performed based on whether the recipient’s mail client 211 has successfully registered with its alternative messaging system 210, which advertises such capability in the associated community, using one of the aforementioned techniques. If it is determined that the recipient’s alternative messaging counterpart is unable to handle mail messages, mail client 205 may fall back to its mail server 207 to handle the mail messages.
If the recipient’s alternative messaging system is able to handle mail messages, according to one embodiment, *mail client 205 may optionally tag*

an identification with the mail message to indicate that the message being sent is a mail message. Alternatively, according to another embodiment, the tagging may be performed by alternative messaging client 204. Thereafter, mail client 205 transmits the mail message to alternative messaging client 204 where the mail message may be repackaged in a format compatible with the alternative messaging system (e.g., an IM message packet). Alternatively, the mail message may be repackaged by mail client 205. Furthermore, if the message is routed by the alternative messaging server 206, the message may be repackaged by the server 206. *The mail message is then sent to the recipient's alternative messaging counterpart 210 over network 202, directly via path 214 or indirectly via server 206.*”);

- **Alfke, 11:59-12:7** (“In addition, inter-process module 253 or the transmitting module 254 may repackage the mail message into a message compatible with a communication protocol associated with the alternative delivery mechanism. *Furthermore, inter-process module 253 may further tag the message to indicate that the message is a mail message before transmitting the message to transmitting module 254. Alternatively, the tagging and repackaging may be performed by the mail client 252.*”);
- **Alfke, 16:1-23** (“According to one embodiment, more than one alternative delivery mechanisms, such as, for example, IM, wireless SMS (short message services), two-way paging system, or facsimile application, etc., may be available for the sender to select. *The mail client may select from the multiple alternative delivery mechanisms a most appropriate delivery mechanism to deliver the mail message. In one embodiment, the mail client may select the most appropriate delivery mechanism based on an attribute of the mail message, the user configuration, or the user preferences.* For example, the mail client may select the IM or cellular SMS services to deliver the message if it is determined that the message needs to be delivered in the fastest manner. Alternatively, the mail client may select a facsimile service to deliver the message if it is determined that the message needs to be sent in the most secure manner. The recipient's addresses or the fax numbers of the alternative delivery mechanisms may be stored in an address book of the sender. The mail client may perform a lookup operation in the address book to discover the multiple alternative delivery mechanisms. *The mail client may interrogate the respective system to determine whether the recipient's counterpart application is online and has the capability to handle the message that is about to send.*”).

- ***See also Alfke, 6:28-36, 12:25-46.***

94. See my discussion of elements [1.pre], [1.e(i)]-[1.e(ii)]. As explained for elements [1.pre], [1.e(i)]-[1.e(ii)] above, Lemay discloses an outgoing message that has a determined message kind. See [1.pre], [1.e(i)]-[1.e(ii)]. As I also discuss above for [1.e(ii)], Lemay discloses sending both email messages and other types of messages—such as instant messages—through an alternative delivery system (e.g., an instant messaging client). Alfke, 6:17-36; Lemay, 5:16-55. As also discussed in [1.e(ii)], email messages sent this way are “tagged with an identification” that indicates the message is an “email,” as opposed to some other format that would be transmitted over the “alternative delivery system.” Lemay, 5:16-6:20; Alfke, 6:17-36, 8:6-34, 16:1-23. The data tagging these transmitted messages as emails, rather than an instant message or some other type of message that might be sent by the alternative delivery system, is identification data corresponding to the message kind. See Alfke, 6:17-36. For example, as I explained for element [1.e(ii)], when the alternative messaging client is configured to transmit only email messages and instant messages, the tagged information will “distinguish” email messages and instant messages, and indicates the message type for a given message as either an email message or an instant message. See Alfke, 6:17-36.

(i) Element [1.e(iv)]

95. **Element [1.e(iv)]** recites “transmitting the outgoing message.” This element is met by Lemay.

96. **Lemay discloses transmitting the outgoing message** (e.g., “transmitting” “instant messaging replies” or “email”). See, e.g., Lemay (emphasis added):

• **Lemay, Figure 1B**

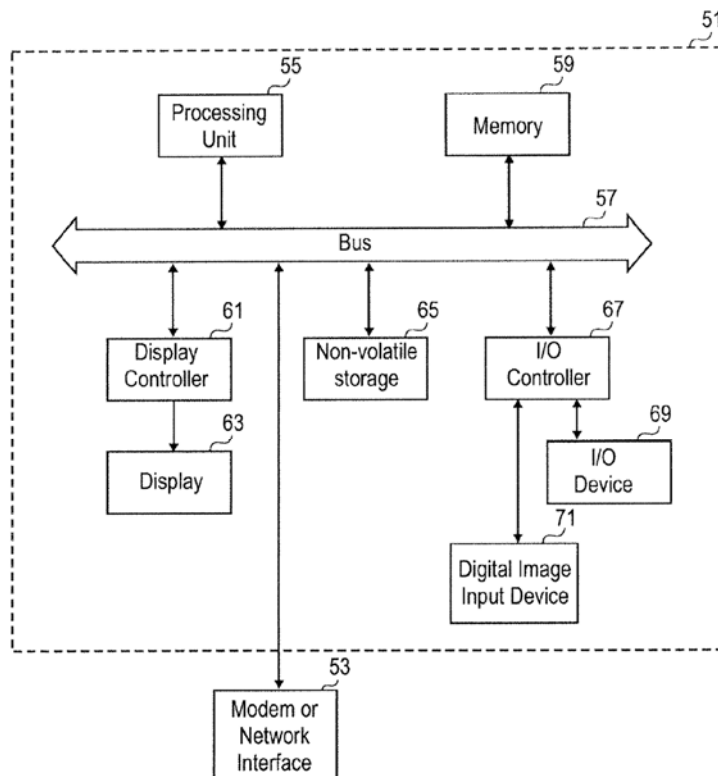


FIG. 1B

- **Lemay, 1:18-22** (“*This disclosure relates generally to user interfaces for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.) electronic communication, and in particular, relates to a unified user interface for instant messaging and electronic mail.*”);

- **Lemay, 1:63-2:3** (“In another aspect, an email message is displayed in a first graphical user interface window. It is then detected whether a user associated with the email message is available for a messaging session. If the user associated with the email message is available for messaging, messaging session controls are displayed in the first window. *The messaging session controls are to send messaging session content to the user or to receive messaging session content from the user.*”);
- **Lemay, 9:20-28** (“*In one embodiment, a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email message in the preview pane (Block 312). In one embodiment, as instant messaging replies are sent and received by the user, the messaging content is updated in the preview pane. The instant messaging content is stored along with the email message as a single messaging record (Block 314).*”);
- **Lemay, 9:29-52** (“In one embodiment, *dropping an email message pastes the text of the email message into the selected instant messaging session 402*. In another embodiment, dropping the email on an instant messaging record causes *the email to be sent* to the associated user through a file transfer protocol. *Similarly, in another embodiment, an instant messaging record may be dragged and dropped into an new email message*, or an instant messaging session, to insert a transcript of the instant messaging session.”).

97. See my discussion of elements [1.pre], [1.e(i)], [1.e(iii)]. As I explained for elements [1.pre], [1.e(i)], and [1.e(iii)], Lemay discloses an outgoing message. Lemay further discloses “transmitting” different kinds of outgoing messages—e.g., email and instant messages—to another user running their own messaging client. Lemay, 1:18-22, 1:63-2:3, 9:20-52.

(j) Element [1.e(v)]

98. **Element [1.e(v)] recites “displaying the message content and the description data of the outgoing message in the IUI.”** This element is met by Lemay.

99. **Lemay discloses displaying the message content and the description data of the outgoing message in the IUI** (*see* [1.d]; message content and description data is shown for outgoing messages (*see* [1.e(iii)])). *See, e.g.,* Lemay (emphasis added):

- Lemay, Figures 2C-2D, 4

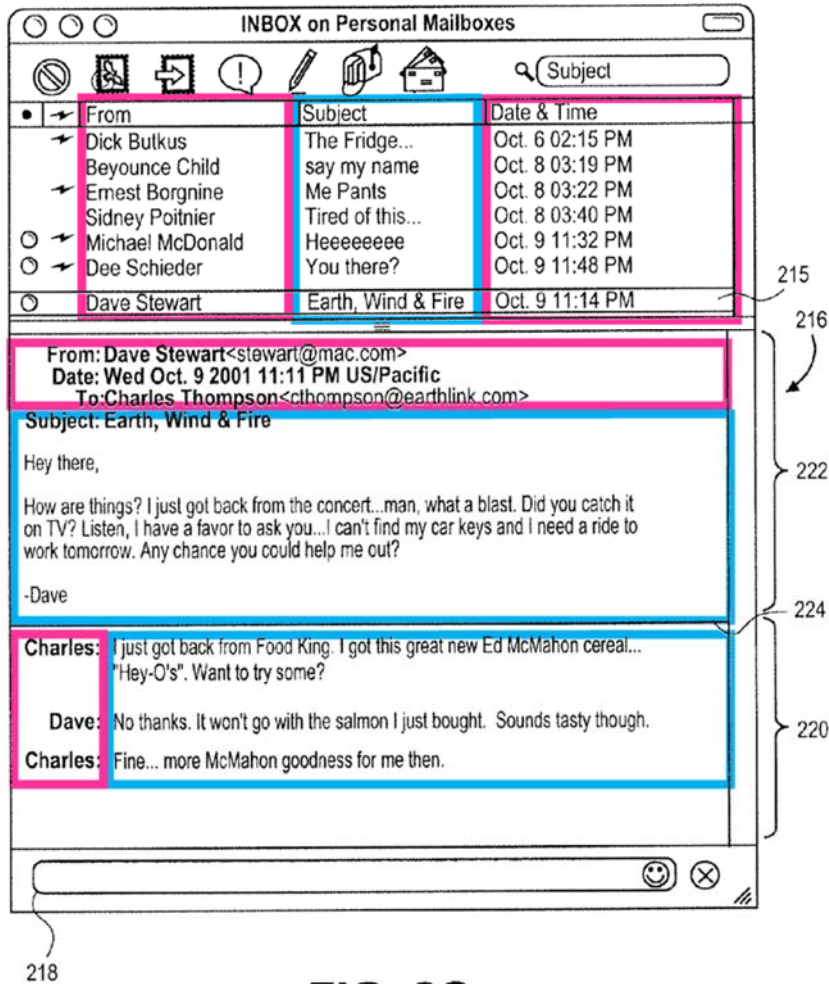


FIG. 2C

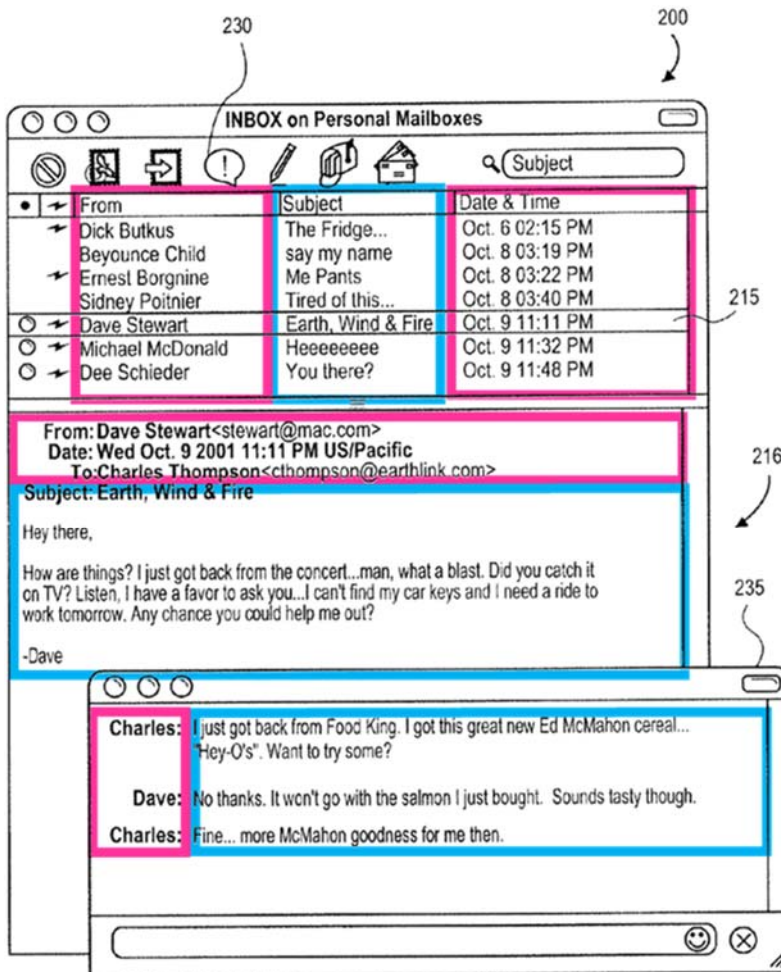


FIG. 2D

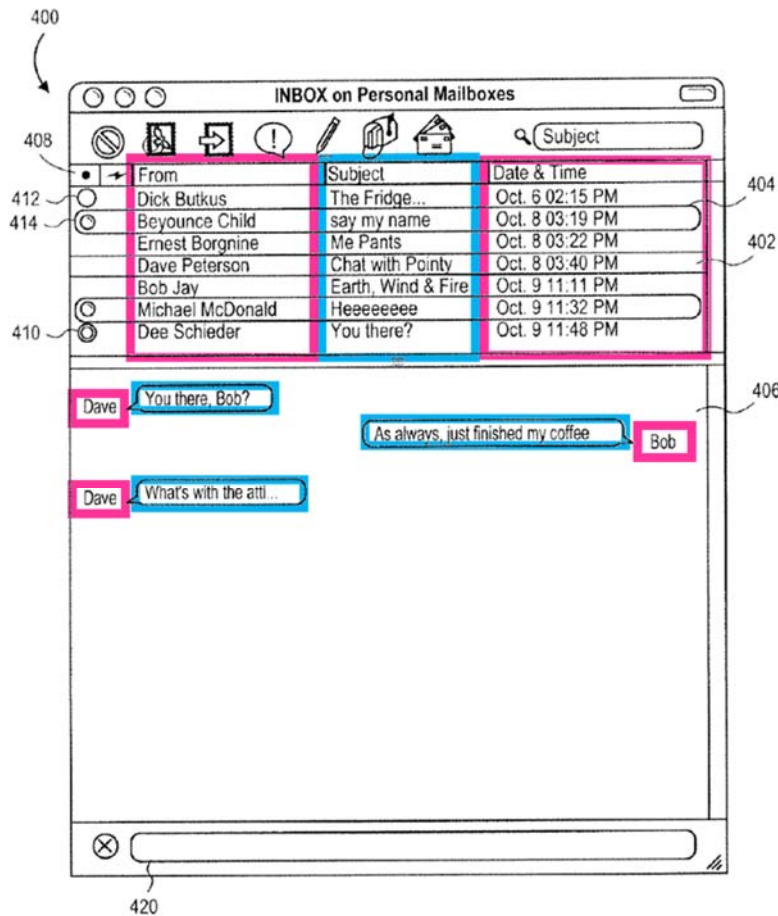


FIG. 4

- **Lemay, 1:18-22** (“*This disclosure relates generally to user interfaces for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.) electronic communication, and in particular, relates to a unified user interface for instant messaging and electronic mail.*”);
- **Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem,

ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. ***The computer system 51 includes a processing unit 55***, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). ***The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. The display controller 61 and the I/O controller 67 can be implemented with conventional well known technology.*** A digital image input device 71 can be a digital camera which is coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. ***The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.*** One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);

- **Lemay, 5:16-6:20** (“Embodiments of the present invention are described with respect to FIGS. 2A-2C. ***FIG. 2A illustrates an embodiment of a unified graphical user interface (GUI) for instant messaging and email.*** As illustrated, ***the unified GUI, which is typically displayed as a window 200 on a display of a computer or other digital processing system,*** includes a number of display and control functions for processing messaging records. Messaging records refers to records which contain electronic mail (email), instant messaging sessions, or records which include both email and instant messaging content. In one embodiment, messaging records may also contain other types of media data, such as images, video or audio data. ***The window 200 includes a plurality of panes, which separate the window 200 into***

portions. A table of contents (TOC) pane 202 lists messaging records. For example, in the embodiment illustrated in FIG. 2A, the TOC 202 lists received messaging records. In one embodiment, email messages or instant messaging sessions appear as records or items in the TOC 202.

The TOC 202 includes columns which contain information for each record. Column 204 indicates the status of a record. For example, in one embodiment, the color of the indicator in column 204 reflects whether the corresponding record has content which has not yet been viewed. *Column 208 displays the name of the user from which the record originated. Column 210 displays the subject of the corresponding record, and column 212 displays the date and time of the record.* According to one aspect of the invention, *column 206 includes a visual indicator to indicate whether the user from which the record originated is available for instant messaging.* For example, in one embodiment, *column 206 displays an icon of a lightning bolt* to indicate that the user from which the corresponding record originated is online, and is accepting instant messaging requests. In other embodiments, *other icons, such as for example an ellipsis (e.g. three dots) may be displayed in column 206* to indicate the same.

In one embodiment, the date and time of a record is updated as new content is added to the record, as described below. Messaging records listed in the TOC 202 may be sorted based on the information displayed in any of columns 204, 206, 208, 210 and 212. A splitter 214 separates the TOC 202 from the preview pane 216. *Preview pane 216 displays the content of a record 215 which is selected in the TOC 202.* As illustrated in FIG. 2A, the record 215 from Dave Stewart is currently selected, and hence the email message content of the record is displayed in preview pane 216.

FIG. 2B illustrates an embodiment of the GUI as illustrated in FIG. 2A, with the addition of an messaging input object. In one embodiment, the messaging input object is an input field 218. Input field 218 allows a user to initiate an instant messaging session with another user associated with the record which is currently selected in the TOC 202, for example, the sender of an email. In one embodiment, input field 218 appears in pane 216 when a user associated with a selected record is available for an instant messaging session. For example, *in the embodiment illustrated in FIG. 2B, when the email record from Dave Stewart is selected in the TOC 202, the email message content will appear in the preview pane 216.* Additionally, since

the user associated with the email message, in this case Dave Stewart, is available for an instant messaging session, as indicated by the icon in column 206, the input field 218 will appear. This provides a user with a way to conveniently initiate an instant messaging session with another user associated with the selected record in the TOC 202. In one embodiment, if the user associated with the selected record in the TOC 202 is offline or is otherwise not currently available for instant messaging, then input field 218 does not appear in pane 216.”);

- **Lemay, 6:65-7:9** (“***FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220.*** In one embodiment, *where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216.* As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, *instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222.*”);
- **Lemay, 7:10-23** (“In one embodiment, *the instant messaging content 220 is combined with the email content 222 to create a combined messaging record including both email and instant messaging content.* In other words, the instant messaging session is integrated with the email message into a new messaging record. In one embodiment, the record may be updated with any new instant messaging content.”);
- **Lemay, 8:57-9:4** (“Although ***FIGS. 2A-2C*** are illustrates embodiments using an Inbox, it will be appreciated that embodiments of the present invention may be applied to other folders, such as for example a Sent folder, or other user generated folders.

FIG. 3 illustrates an embodiment of a method 300 for unified email and instant messaging content. A list or table of contents (TOC) of messaging records is displayed by the method 300 (Block 302). ***For example, in one embodiment, the list is the TOC 202 illustrated in FIGS. 2A-2C. In addition to email messages, the TOC may also include instant messaging sessions, and messaging records including both email and instant messaging content.*** A user selects an email message from the TOC (Block

304). For example, the user may use a cursor control device, such as a mouse, to select or click an item in the TOC.”);

- **Lemay, 9:20-28** (“*In one embodiment, a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email message in the preview pane (Block 312). In one embodiment, as instant messaging replies are sent and received by the user, the messaging content is updated in the preview pane. The instant messaging content is stored along with the email message as a single messaging record (Block 314).*”).
- **See also Lemay, Figures 2A-2B, Lemay, 6:21-25, 9:53-10:10.**

100. See my discussion of elements [1.pre], [1.b]-[1.e(i)], [1.e(iii)]. As I explained for elements [1.pre], [1.b]-[1.e(i)], [1.e(iii)] above, Lemay discloses message content and description data, as well as an outgoing message and an integrated user interface. See [1.pre], [1.b]-[1.d], [1.e(i)], [1.e(iii)]. Lemay further discloses that the “unified graphical user interface” displays “instant messaging” and “email content” alongside associated description data such as the “date and time” for a message and the name of the messaging counterpart that a user is corresponding with. Lemay, 5:16-6:20, 6:65-7:9, 7:10-23. This information is displayed for both transmitted and received messages. Lemay, 5:16-6:20, 6:65-7:9, 8:57-9:4.

(k) Element [1.e(vi)]

101. **Element [1.e(vi)]** recites “**determining a message kind of a received message.**” This element is met by Lemay.

102. **Lemay discloses determining a message kind of a received message** (e.g., “examin[ing]” “an incoming message” “to determine whether the message is an email message”). See, e.g., Lemay (emphasis added):

- **Alfke, Figure 5**

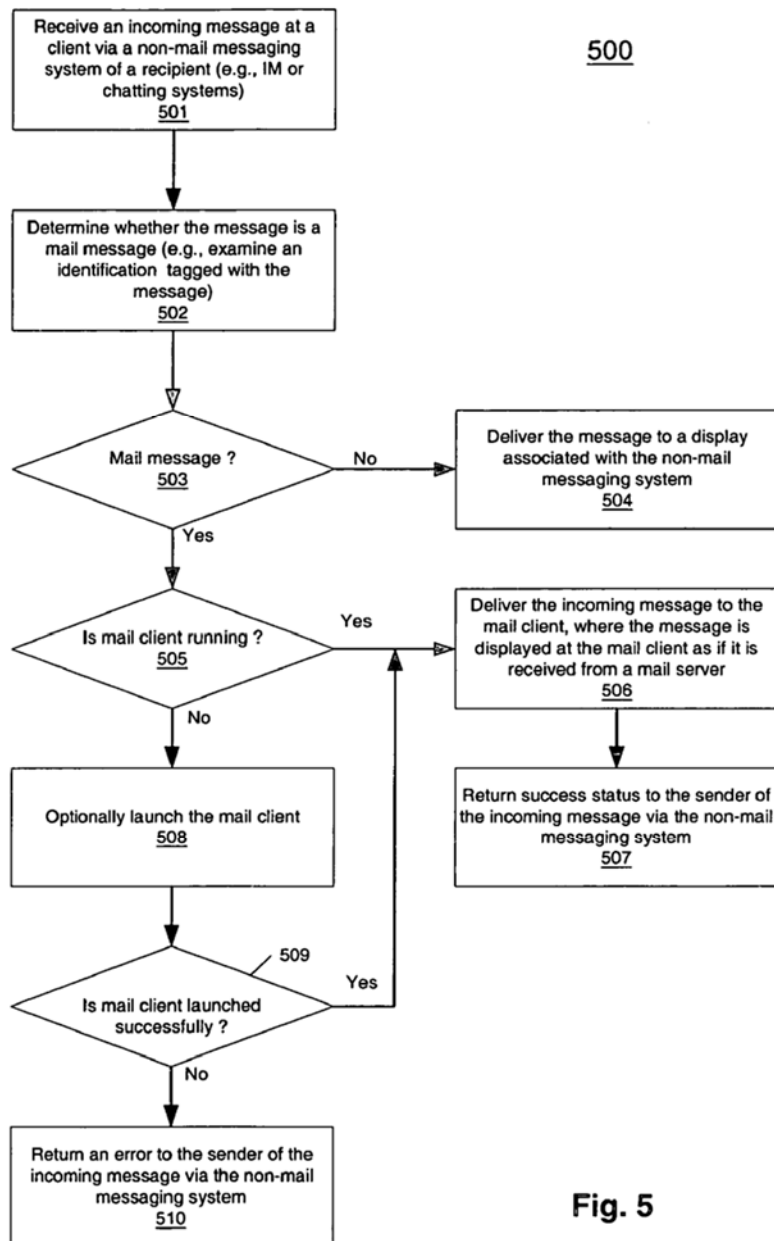


Fig. 5

- **Alfke, 2:21-29** (“In one aspect of an exemplary embodiment of the invention, *when an incoming message is received at an alternative messaging system of a recipient, such as an instant messaging (IM) client, the message is examined whether the message is a mail message.* If it is determined that the message is a mail message, the message is then forwarded to the corresponding mail client of the recipient and displayed as an ordinary mail message as if it is received from the corresponding mail server.”);
- **Alfke, 6:17-36** (“According to one embodiment, in order *to distinguish the email message from other messages delivered by the alternative delivery system, the email message may be tagged with an identification indicating the message being delivered is an email message* and repackaged in a format compatible with the message requirement of the alternative delivery system. On the other side, when a recipient’s counterpart alternative delivery system (e.g., IM client) receives the message, the message may be examined (via the tagged identification) to determine whether the message is an email message. If the message is an email message, the recipient's counterpart may reroute the message to the email client of the recipient. In one embodiment, either the alternative delivery system or the email client repackages the message as an ordinary email message and the email client displays the message as if it is received from the corresponding email server. Such actions are performed transparently to a user of the recipient and the user does not know whether the email message may be received via the alternative delivery system.”);
- **Alfke, 8:35-44** (“*When the recipient's alternative messaging system, such as IM client 210 receives the message* transmitted through either indirectly through server 206 or directly through path 214, according to one embodiment, *IM client 210 examines the message packets to determine whether the message is an email message.* In one embodiment, IM client 210 may examine the identification tagged with the message to determine whether the message is an email message. *If the message is determined to be an ordinary IM message, the message is displayed in a display of the IM client 210.*”);
- **Alfke, 12:39-46** (“Furthermore, if user interfaces 260 and 261 are implemented as unified user interface 262, the message may be directly delivered to the unified user interface 262 by inter-process module 253,

where *the unified user interface 262 may examine the message (e.g., examining the tagged identification) and display the message accordingly*. Other operations apparent to those with ordinary skill in the art may be performed.”).

- ***See also Alfke, 1:17-20, 7:24-38, 12:8-38.***

103. See my discussion of elements [1.pre], [1.e(i)]-[1.e(iii)]. As explained for elements [1.pre], and [1.e(i)]-[1.e(iii)], Lemay discloses determining a message kind for outgoing messages, and tagging messages with identification data to indicate whether a message is an email message. See [1.pre], [1.e(i)]-[1.e(iii)]. Similarly, Lemay further discloses that “when an incoming message is received at an alternative messaging system of a recipient” the system will “examine the identification tagged with the message to determine whether the message is an email message,” as opposed to some other type of message that would be sent through the alternative messaging system, such as an instant message. Alfke, 2:21-29, 6:17-36, 8:35-44, 12:39-46. For similar reasons as I explained for element [1.e(ii)], when the alternative messaging client is configured to exchange only email messages and instant messages, the tagged identification will “distinguish” email messages and instant messages, and the receiving device determines the message type for incoming messages—i.e., as an email message or an instant message—by examining whether a tagged identification was included with the received message. See Alfke, 6:17-36, 8:35-44.

(l) Elements [1.e(vii)]-[1.e(viii)]

104. **Element [1.e(vii)] recites “dividing the received message into a message content and description data” and element [1.e(viii)] recites “displaying the message content and the description data in the IUI.”** Both these elements are met by Lemay.

105. **Lemay discloses dividing the received message into a message content and description data** (*see* [1.d]; “processing” messages to separately display content and description data), **and displaying the message content and the description data in the IUI** (*see* [1.d]; message content and description data is shown for received messages). *See, e.g.,* Lemay (emphasis added):

- Lemay, Figures 2C-2D, 3-4

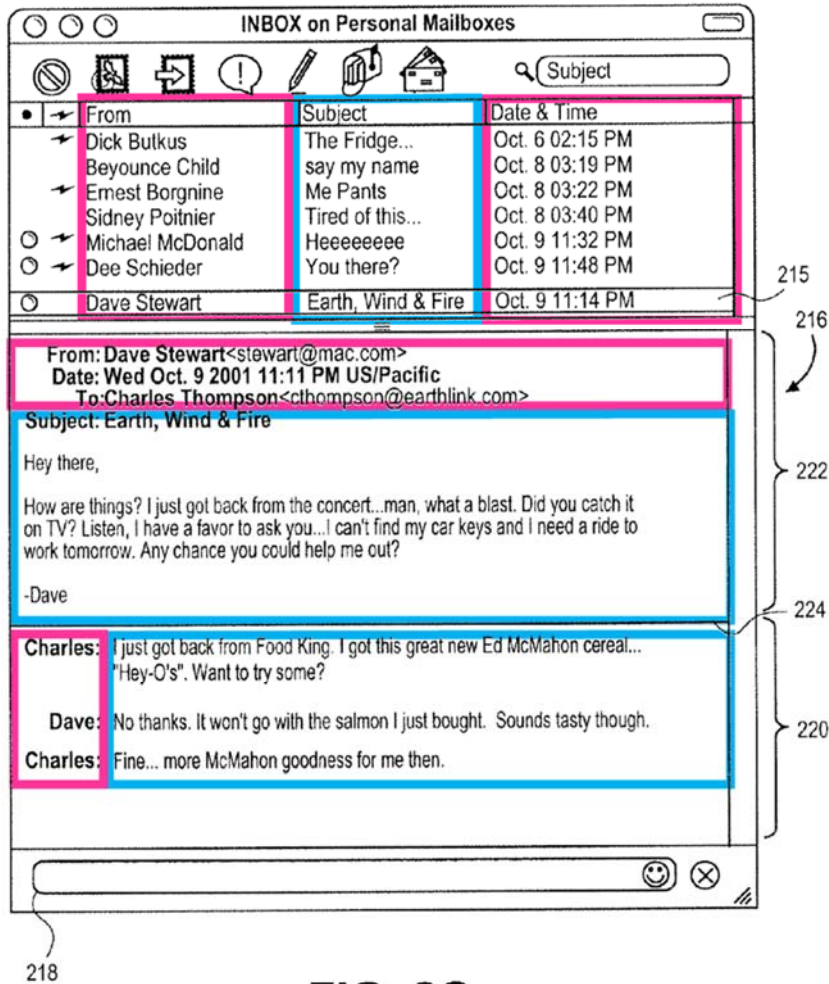


FIG. 2C

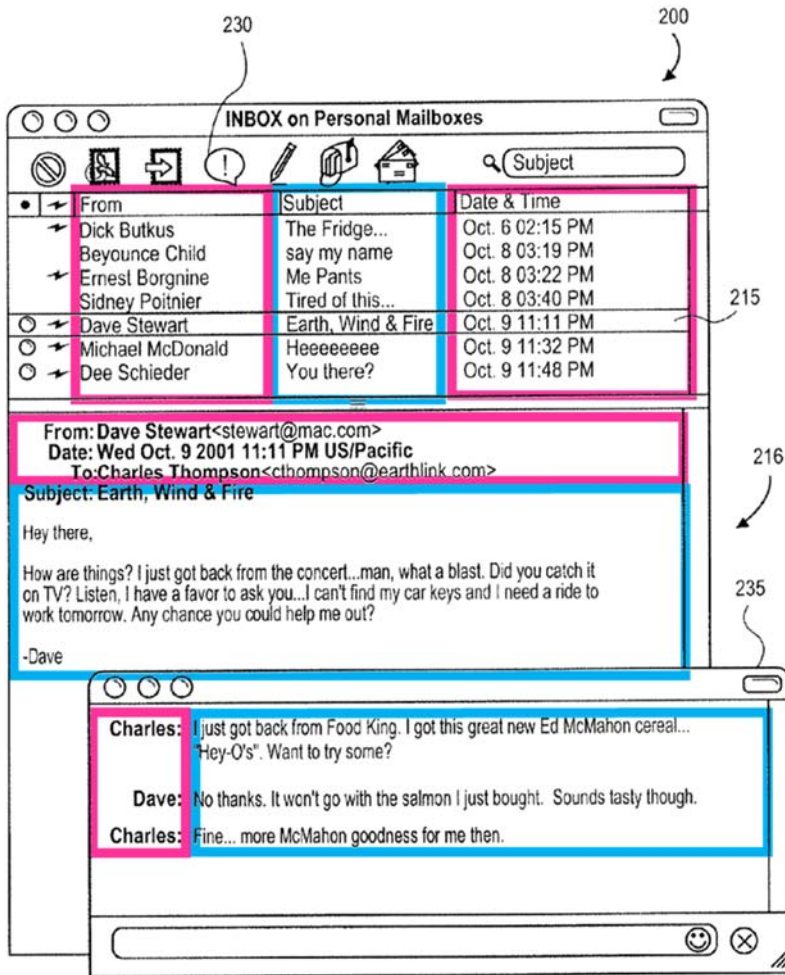


FIG. 2D

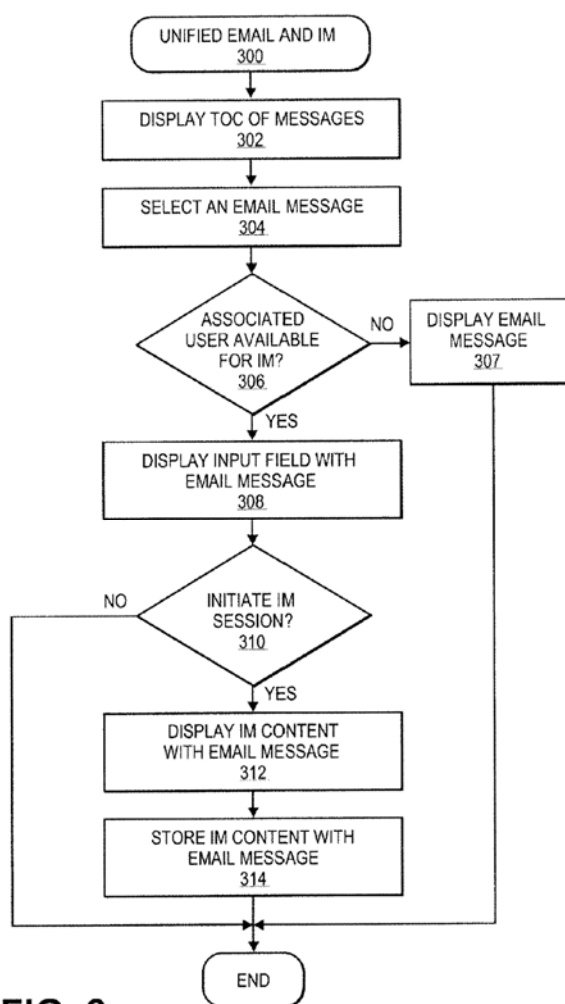


FIG. 3

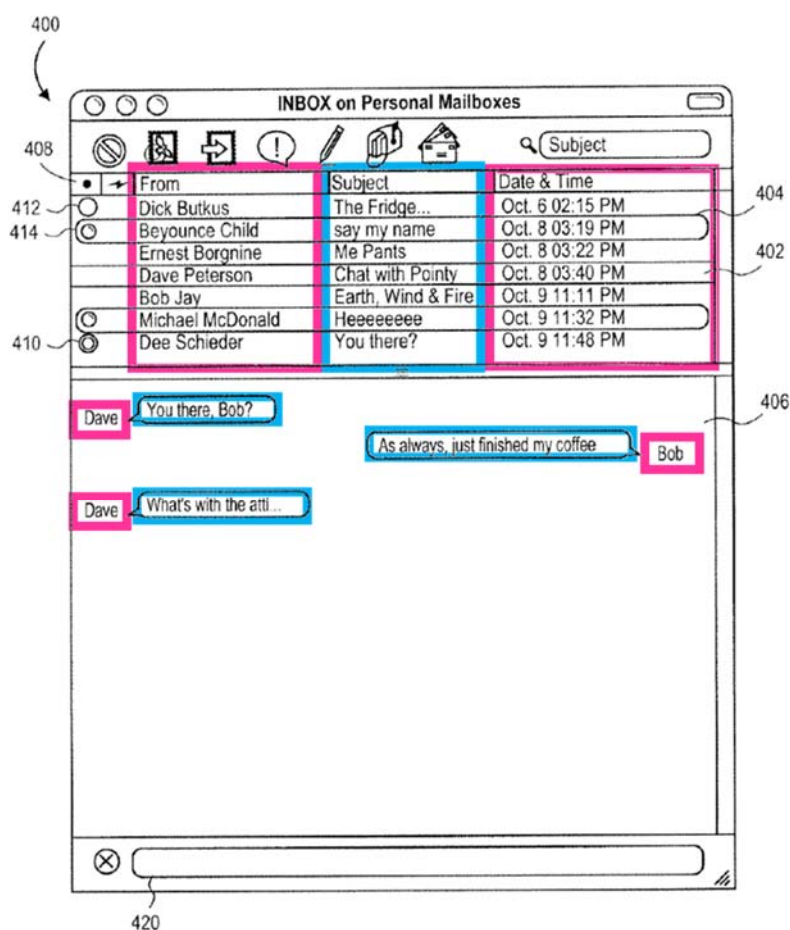


FIG. 4

- Lemay, 1:18-22** (“*This disclosure relates generally to user interfaces for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.) electronic communication, and in particular, relates to a unified user interface for instant messaging and electronic mail.*”);
- Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem,

ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. ***The computer system 51 includes a processing unit 55***, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). ***The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. The display controller 61 and the I/O controller 67 can be implemented with conventional well known technology.*** A digital image input device 71 can be a digital camera which is coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. ***The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.*** One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);

- **Lemay, 5:16-6:20** (“Embodiments of the present invention are described with respect to FIGS. 2A-2C. ***FIG. 2A illustrates an embodiment of a unified graphical user interface (GUI) for instant messaging and email.*** As illustrated, ***the unified GUI, which is typically displayed as a window 200 on a display of a computer or other digital processing system,*** includes a number of display and control functions for processing messaging records. Messaging records refers to records which contain electronic mail (email), instant messaging sessions, or records which include both email and instant messaging content. In one embodiment, messaging records may also contain other types of media data, such as images, video or audio data. ***The window 200 includes a plurality of panes, which separate the window 200 into***

portions. A table of contents (TOC) pane 202 lists messaging records. For example, in the embodiment illustrated in FIG. 2A, the TOC 202 lists received messaging records. In one embodiment, email messages or instant messaging sessions appear as records or items in the TOC 202.

The TOC 202 includes columns which contain information for each record. Column 204 indicates the status of a record. For example, in one embodiment, the color of the indicator in column 204 reflects whether the corresponding record has content which has not yet been viewed. *Column 208 displays the name of the user from which the record originated. Column 210 displays the subject of the corresponding record, and column 212 displays the date and time of the record.* According to one aspect of the invention, *column 206 includes a visual indicator to indicate whether the user from which the record originated is available for instant messaging.* For example, in one embodiment, *column 206 displays an icon of a lightning bolt* to indicate that the user from which the corresponding record originated is online, and is accepting instant messaging requests. In other embodiments, *other icons, such as for example an ellipsis (e.g. three dots) may be displayed in column 206* to indicate the same.

In one embodiment, the date and time of a record is updated as new content is added to the record, as described below. Messaging records listed in the TOC 202 may be sorted based on the information displayed in any of columns 204, 206, 208, 210 and 212. A splitter 214 separates the TOC 202 from the preview pane 216. *Preview pane 216 displays the content of a record 215 which is selected in the TOC 202.* As illustrated in FIG. 2A, the record 215 from Dave Stewart is currently selected, and hence the email message content of the record is displayed in preview pane 216.

FIG. 2B illustrates an embodiment of the GUI as illustrated in FIG. 2A, with the addition of an messaging input object. In one embodiment, the messaging input object is an input field 218. Input field 218 allows a user to initiate an instant messaging session with another user associated with the record which is currently selected in the TOC 202, for example, the sender of an email. In one embodiment, input field 218 appears in pane 216 when a user associated with a selected record is available for an instant messaging session. For example, *in the embodiment illustrated in FIG. 2B, when the email record from Dave Stewart is selected in the TOC 202, the email message content will appear in the preview pane 216.* Additionally, since

the user associated with the email message, in this case Dave Stewart, is available for an instant messaging session, as indicated by the icon in column 206, the input field 218 will appear. This provides a user with a way to conveniently initiate an instant messaging session with another user associated with the selected record in the TOC 202. In one embodiment, if the user associated with the selected record in the TOC 202 is offline or is otherwise not currently available for instant messaging, then input field 218 does not appear in pane 216.”);

- **Lemay, 6:65-7:9** (“**FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220.** In one embodiment, *where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216.* As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, *instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222.*”);
- **Lemay, 7:10-23** (“In one embodiment, *the instant messaging content 220 is combined with the email content 222 to create a combined messaging record including both email and instant messaging content.* In other words, the instant messaging session is integrated with the email message into a new messaging record. In one embodiment, the record may be updated with any new instant messaging content.”);
- **Lemay, 8:61-9:4** (“FIG. 3 illustrates an embodiment of a method 300 for unified email and instant messaging content. A list or table of contents (TOC) of messaging records is displayed by the method 300 (Block 302). *For example, in one embodiment, the list is the TOC 202 illustrated in FIGS. 2A-2C. In addition to email messages, the TOC may also include instant messaging sessions, and messaging records including both email and instant messaging content.* A user selects an email message from the TOC (Block 304). For example, the user may use a cursor control device, such as a mouse, to select or click an item in the TOC.”);
- **Lemay, 9:20-28** (“*In one embodiment, a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email*”);

message in the preview pane (Block 312). In one embodiment, as instant messaging replies are sent and received by the user, the messaging content is updated in the preview pane. The instant messaging content is stored along with the email message as a single messaging record (Block 314).’);

- **Lemay, 9:53-60** (“In one embodiment, a user may sort their messaging records into folders. In addition to email messages, instant messaging records may also be sorted into folders like email. This allows a user to drag and drop instant messaging records from the TOC 404 into appropriate folders for organization. An advantage is that *a user may store all related messaging records (email and instant messages) conveniently in a single folder.*”).
- **See also Lemay, 8:44-56.**

106. See my discussion of elements [1.pre], [1.c]-[1.e(i)], [1.e(vi)]. As I discussed with respect to elements [1.pre], [1.c]-[1.e(i)], and [1.e(vi)] above, Lemay discloses a received message, message content and description data for messages, and an integrated user interface. See [1.pre], [1.c]-[1.e(i)], [1.e(vi)]. Lemay further discloses “processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.)” incoming messages that will be presented to the user. Lemay 1:18-22. This involves displaying the message content and their associated description data for the received message ([1.d]) in the “unified graphical user interface.” Lemay, 5:16-33, 6:65-7:23. For example, as illustrated in Figures 2C and 2D, the “instant messaging” and “email” content are displayed in separate sections of the user interface alongside associated description data in the form of “time” and “name” information. Lemay, Figures 2A-2D, 5:16-6:20, 6:65-7:23.

107. To the extent that identification data within the description data must also be displayed, a person of ordinary skill in the art would have understood, and at a minimum found it obvious to display Lemay's data identifying the message type. For example, when displaying a "table of contents (TOC) of messaging records" that includes "both email and instant messaging content," it would have been obvious to display the identification data for each message so the user is accurately informed of each message's type when browsing through the messages, resulting in a user interface that is more useable because it increases a user's understanding of the context of different types of messages. Lemay, 8:61-9:4. Indeed, presenting such information to a user with indicators such as icons was well-known and commonly done in the field before the '839 Patent. *See, e.g.*, Engstrom, Figure 3A-3B, [0037] ("[E]ach message may include an icon depicting the message type"); Klassen (Ex. 1023), Figures 4-5, [0047] ("messages are shown as being related to different types... by one of a set of small icons"); Varanda, Figure 5, [0025]-[0026] (a displayed "type" for each entry is "an email message, a telephone call, or an SMS message.").

(m) Element [1.e(ix)]

108. **Element [1.e(ix)] recites "controlling elements in the wireless communication terminal."** This element is met by Lemay.

109. Lemay discloses controlling elements in the wireless communication terminal (*e.g.*, “processor” is coupled to a “display controller” and “the input/output (I/O) controller,” and executes “software in the computer system” to generate the “user interface” in the “display”). *See, e.g.*, Lemay (emphasis added):

- Lemay, Figures 1B, 2C

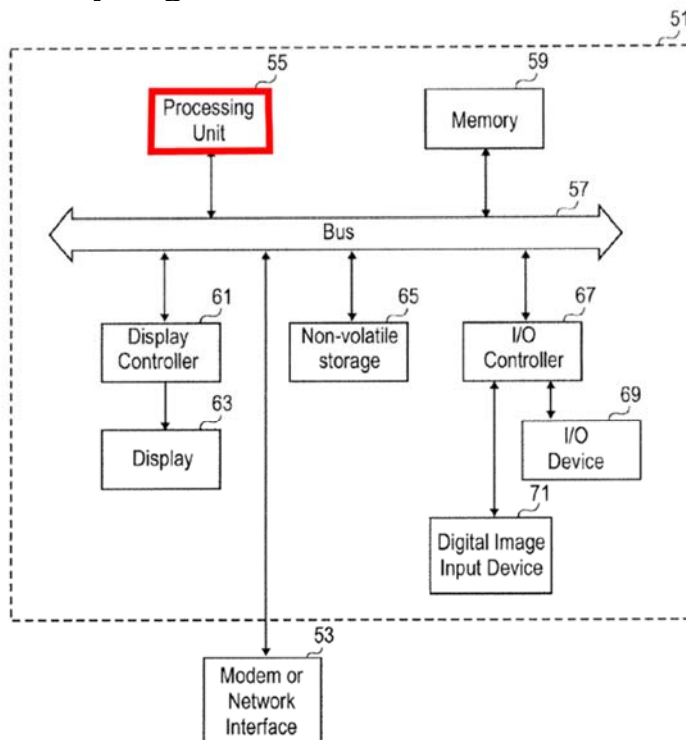


FIG. 1B

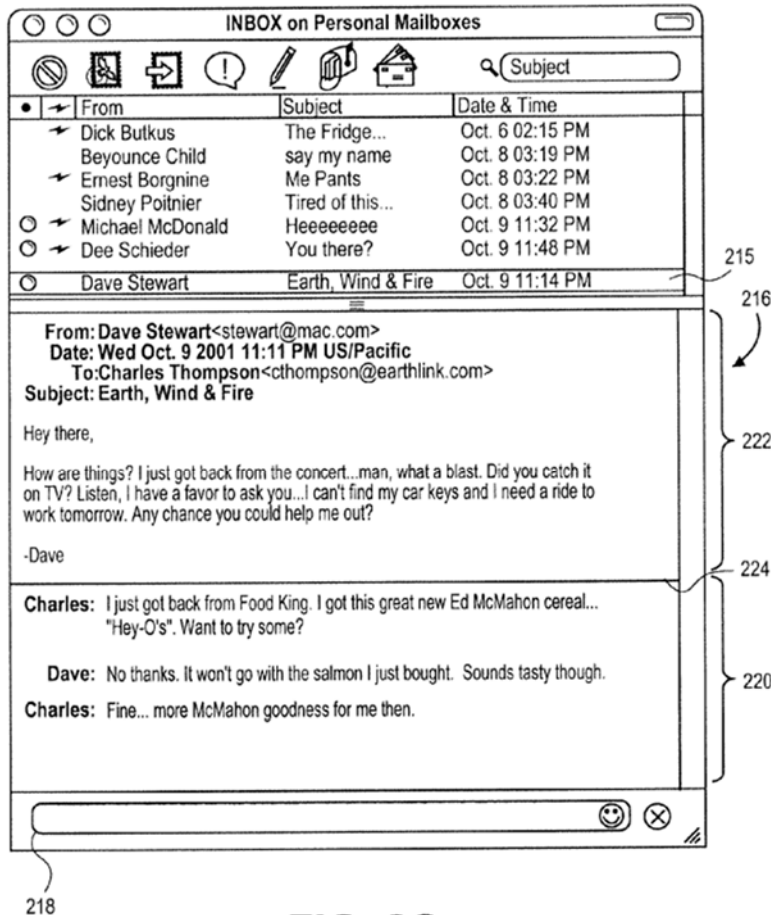


FIG. 2C

- **Lemay, 1:18-22** (“*This disclosure relates generally to user interfaces for processing (e.g., generating, storing, displaying or otherwise presenting, transmitting and/or receiving, etc.) electronic communication, and in particular, relates to a unified user interface for instant messaging and electronic mail.*”);
- **Lemay, 1:49-62** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one exemplary aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be*

managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.”);

- **Lemay, 2:52-65** (“The following description of FIGS. 1A and 1B is intended to provide an overview of computer hardware and other operating components suitable for implementing embodiments of the invention described below, but is not intended to limit the applicable environments. *One of skill in the art will immediately appreciate that the invention can be practiced with other computer system configurations, including hand-held devices, cellular telephones, multiprocessor systems, microprocessor-based or programmable consumer electronics/appliances, network PCs, minicomputers, mainframe computers, and the like.* Embodiments of the invention can also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network.”);
- **Lemay, 4:21-49** (“FIG. 1B shows one example of a conventional computer system that can be used as a client computer system or a server computer system or as a web server system. The computer system of FIG. 1B may, for example, be an Apple Macintosh computer. It will also be appreciated that such a computer system can be used to perform many of the functions of an Internet service provider, such as ISP 5. The computer system 51 interfaces to external systems through the modem or network interface 53. It will be appreciated that the modem or network interface 53 can be considered to be part of the computer system 51. This interface 53 can be an analog modem, ISDN modem, DSL modem, cable modem, token ring interface, satellite transmission interface, or other interfaces for coupling a computer system to other computer systems. *The computer system 51 includes a processing unit 55*, which can be a conventional microprocessor such as a G3 or G4 microprocessor from Motorola, Inc. or IBM, a Motorola Power PC microprocessor, or an Intel Pentium microprocessor. Memory 59 is coupled to the processor 55 by a bus 57. Memory 59 can be dynamic random access memory (DRAM) and can also include static RAM (SRAM). *The bus 57 couples the processor 55 to the memory 59 and also to non-volatile storage 65 and to display controller 61 and to the input/output (I/O) controller 67. The display controller 61 controls in the conventional manner a display on a display device 63 which can be a cathode ray tube (CRT) or liquid crystal display (LCD). The input/output devices 69 can include a keyboard, disk*

drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. ***The display controller 61 and the I/O controller 67 can be implemented with conventional well known technology.*** A digital image input device 71 can be a digital camera which is coupled to an I/O controller 67 in order to allow images from the digital camera to be input into the computer system 51. ***The non-volatile storage 65 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 59 during execution of software in the computer system 51.*** One of skill in the art will immediately recognize that the terms “computer-readable medium” and “machine-readable medium” include any type of storage device that is accessible by the processor 55 and also encompass a carrier wave that encodes a data signal.”);

- Lemay, 5:3-15 (“It will also be appreciated that ***the computer system 51 is controlled by operating system software which includes a file management system***, such as a disk operating system, which is part of the operating system software. One example of an operating system software with its associated file management system software is the family of operating systems known as Mac® OS operating system from Apple Computer, Inc. of Cupertino, Calif., and their associated file management systems. ***The file management system*** is typically stored in the non-volatile storage 65 and ***causes the processor 55 to execute the various acts required by the operating system to input and output data*** and to store data in memory, including storing files on the non-volatile storage 65.”);
- Lemay, 6:21-25 (“In one embodiment, ***an input object includes functionality to receive input, such as text entered from a keyboard, or handwriting entered through the use of a pen or stylus.*** In other embodiments, input object may include functionality for ***receiving other input, such as video or audio.***”);
- Lemay, 6:65-7:9 (“***FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220.*** In one embodiment, ***where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216.*** As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one

embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, *instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222.*”).

110. See my discussion of elements [1.pre]-[1.e(viii)]. As explained for elements [1.pre]-[1.e(viii)] above, Lemay discloses that its device includes a controller and elements of a wireless communication terminal. See [1.pre]-[1.e(viii)]. Lemay further discloses that its “processor” is coupled to “display controller 61” and “input/output (I/O) controller 67,” and executes “software” that generates the “unified user interface” and provides it to the “display.” Lemay, Figures 1B, 2C, 1:49-62, 4:21-49, 6:65-7:9. This involves the “processor” retrieving software instructions from a memory and sending controls signals to the “display controller” and “(I/O) controller” elements—and thus controlling other elements in the device. Lemay, Figure 1B, 4:21-49.

(n) Claim [2]

111. **Claim [2] recites “The wireless communication terminal as recited in claim 1, wherein the description data include incoming/outgoing description data in order to present whether the message is transmitted or received.”** This claim is met by Lemay.

112. **Lemay further discloses wherein the description data (see [1.d], [1.e.(v)], [1.e(vii)]) include incoming /outgoing description data in order to present whether the message is transmitted or received (e.g., “the name of the**

user from which the record originated;” “From” and “To” fields on displayed messages). See, e.g., Lemay (emphasis added):

- **Lemay, Figures 2A-2D, 4**

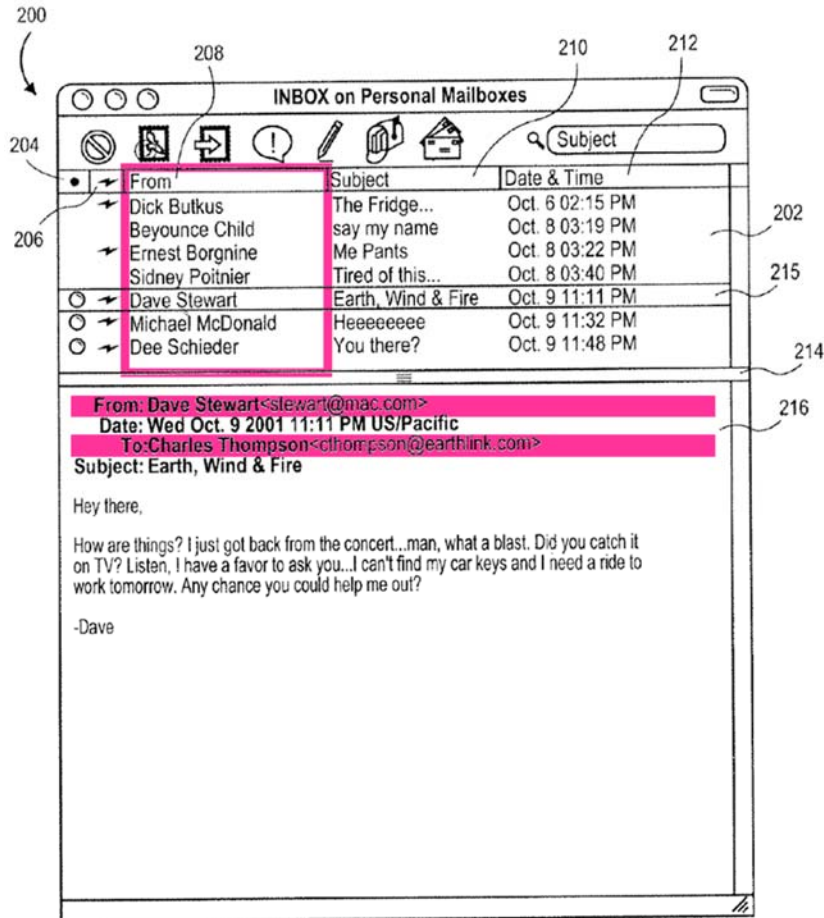


FIG. 2A

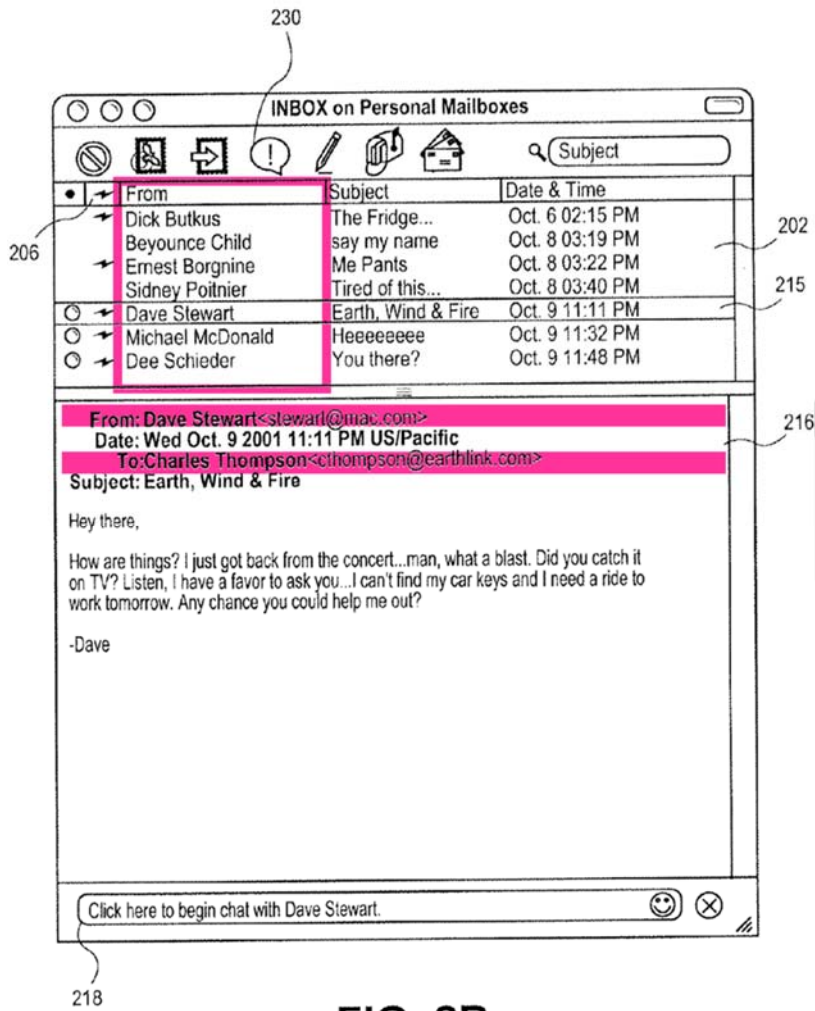


FIG. 2B

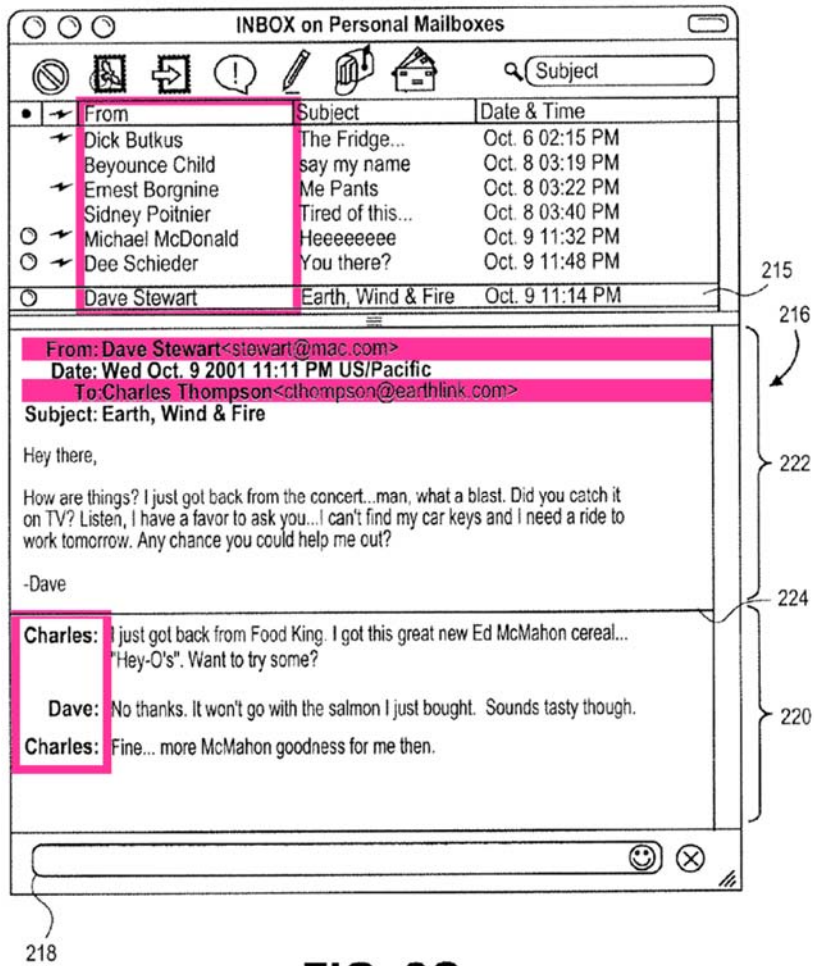


FIG. 2C

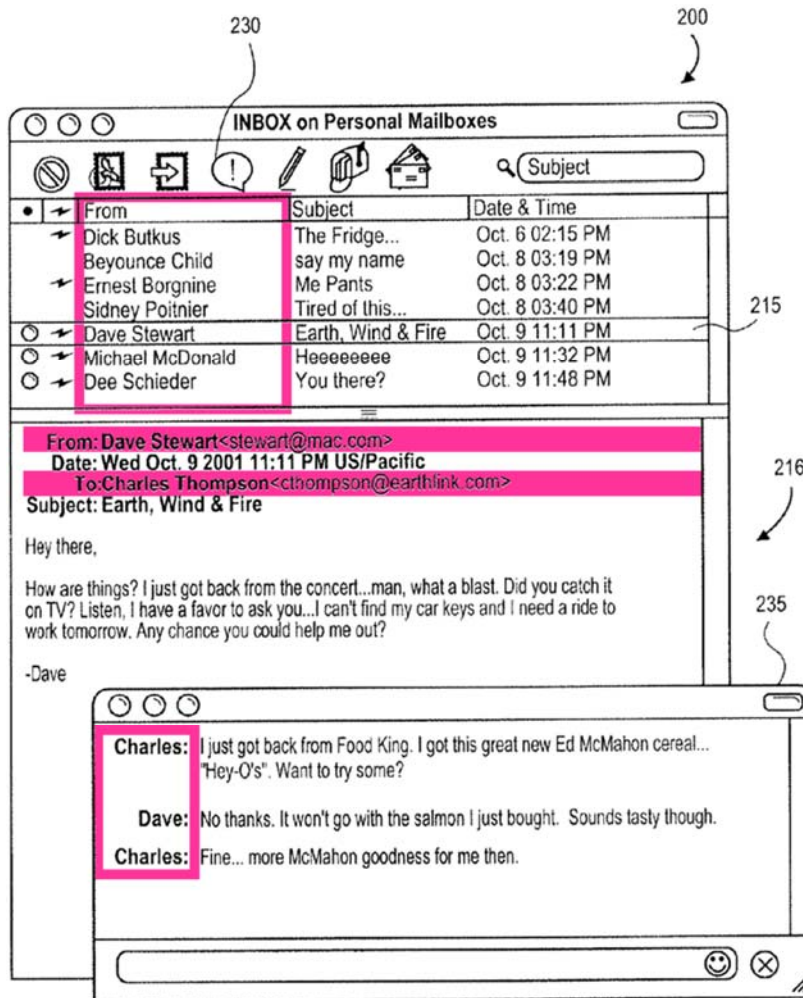


FIG. 2D

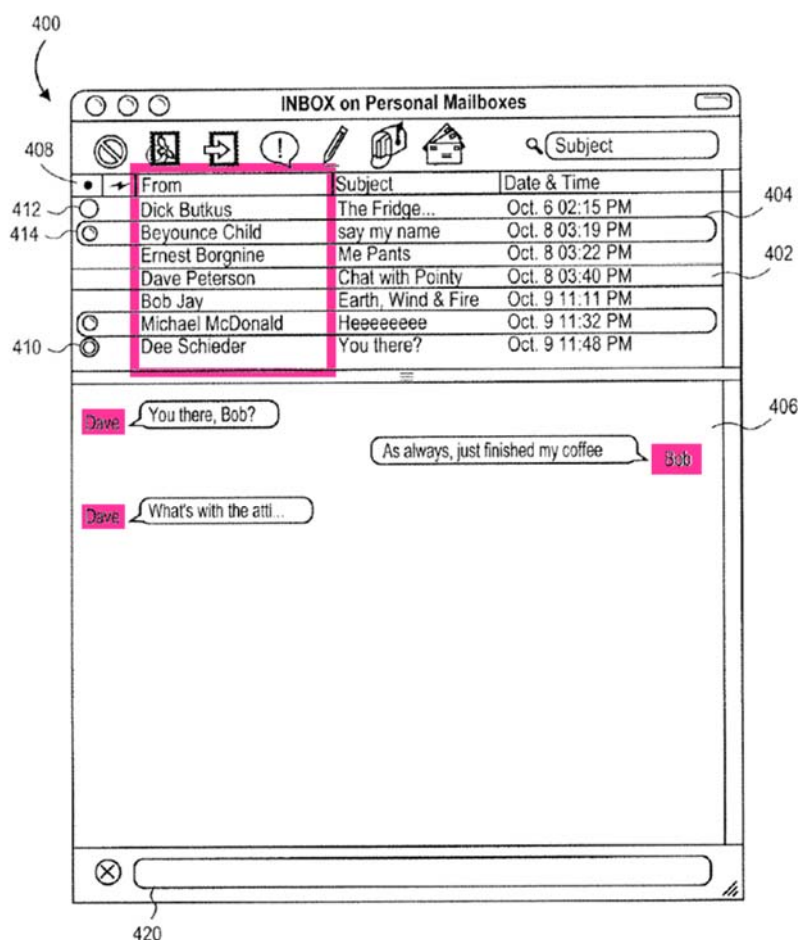


FIG. 4

- Lemay, Abstract** (“*The present invention relates to a unified user interface for instant messaging and electronic mail. In one aspect, a single user interface is provided to allow a user to view email and instant messages. Instant messages and email are received and displayed within a common window within a single application. In one aspect, an instant messaging input field is associated with an email message. For example, in one aspect, when a user associated with an email message is available for instant messaging, an input field appears in a preview pane for the email message. In another aspect of the present invention, instant messages may be managed like an email, e.g. filed, printed, forwarded, stored in folders, etc. For example, in one aspect, a transcript of an instant messaging session may be forwarded as an email.*”);
- Lemay, 5:16-6:20** (“Embodiments of the present invention are described with respect to FIGS. 2A-2C. **FIG. 2A illustrates an embodiment of a**

unified graphical user interface (GUI) for instant messaging and email.

As illustrated, ***the unified GUI, which is typically displayed as a window 200 on a display of a computer or other digital processing system,*** includes a number of display and control functions for processing messaging records. Messaging records refers to records which contain electronic mail (email), instant messaging sessions, or records which include both email and instant messaging content. In one embodiment, messaging records may also contain other types of media data, such as images, video or audio data. ***The window 200 includes a plurality of panes, which separate the window 200 into portions. A table of contents (TOC) pane 202 lists messaging records.*** For example, in the embodiment illustrated in FIG. 2A, the TOC 202 lists received messaging records. In one embodiment, email messages or instant messaging sessions appear as records or items in the TOC 202.

The TOC 202 includes columns which contain information for each record. Column 204 indicates the status of a record. For example, in one embodiment, the color of the indicator in column 204 reflects whether the corresponding record has content which has not yet been viewed. ***Column 208 displays the name of the user from which the record originated.*** ***Column 210 displays the subject of the corresponding record,*** and ***column 212 displays the date and time of the record.*** According to one aspect of the invention, ***column 206 includes a visual indicator to indicate whether the user from which the record originated is available for instant messaging.*** For example, in one embodiment, ***column 206 displays an icon of a lightning bolt*** to indicate that the user from which the corresponding record originated is online, and is accepting instant messaging requests. In other embodiments, ***other icons, such as for example an ellipsis (e.g. three dots)*** may be displayed in column 206 to indicate the same.

In one embodiment, the date and time of a record is updated as new content is added to the record, as described below. Messaging records listed in the TOC 202 may be sorted based on the information displayed in any of columns 204, 206, 208, 210 and 212. A splitter 214 separates the TOC 202 from the preview pane 216. ***Preview pane 216 displays the content of a record 215 which is selected in the TOC 202.*** As illustrated in FIG. 2A, the record 215 from Dave Stewart is currently selected, and hence the email message content of the record is displayed in preview pane 216.

FIG. 2B illustrates an embodiment of the GUI as illustrated in FIG. 2A, with

the addition of an messaging input object. In one embodiment, the messaging input object is an input field 218. Input field 218 allows a user to initiate an instant messaging session with another user associated with the record which is currently selected in the TOC 202, for example, the sender of an email. In one embodiment, input field 218 appears in pane 216 when a user associated with a selected record is available for an instant messaging session. For example, ***in the embodiment illustrated in FIG. 2B, when the email record from Dave Stewart is selected in the TOC 202, the email message content will appear in the preview pane 216.*** Additionally, since the user associated with the email message, in this case Dave Stewart, is available for an instant messaging session, as indicated by the icon in column 206, the input field 218 will appear. This provides a user with a way to conveniently initiate an instant messaging session with another user associated with the selected record in the TOC 202. In one embodiment, if the user associated with the selected record in the TOC 202 is offline or is otherwise not currently available for instant messaging, then input field 218 does not appear in pane 216.”);

- **Lemay, 6:65-7:9** (“***FIG. 2C illustrates an embodiment of the GUI of FIG. 2B including instant messaging content 220.*** In one embodiment, ***where a user initiates an instant messaging session by typing in the input field 218, the content of the ensuing instant messaging session is displayed in pane 216.*** As replies are input and received in the instant messaging session, the instant messaging content 220 or transcript is updated in pane 216. In one embodiment, the email content 222 is separated from the instant messaging content 220 by a divider 224. In another embodiment, ***instant messaging content 220 appears in a separate pane from the pane 216 displaying the email content 222.***”);
- **Lemay, 7:10-23** (“In one embodiment, ***the instant messaging content 220 is combined with the email content 222 to create a combined messaging record including both email and instant messaging content.*** In other words, the instant messaging session is integrated with the email message into a new messaging record. In one embodiment, the record may be updated with any new instant messaging content.”);
- **Lemay, 8:57-9:4** (“Although ***FIGS. 2A-2C are illustrates embodiments using an Inbox, it will be appreciated that embodiments of the present invention may be applied to other folders, such as for example a Sent***

folder, or other user generated folders.

FIG. 3 illustrates an embodiment of a method 300 for unified email and instant messaging content. A list or table of contents (TOC) of messaging records is displayed by the method 300 (Block 302). ***For example, in one embodiment, the list is the TOC 202 illustrated in FIGS. 2A-2C. In addition to email messages, the TOC may also include instant messaging sessions, and messaging records including both email and instant messaging content.*** A user selects an email message from the TOC (Block 304). For example, the user may use a cursor control device, such as a mouse, to select or click an item in the TOC.”);

- ***Lemay, 9:20-28 (“In one embodiment, a user may initiate an instant messaging session by inputting text into the input field (Block 310). If a chat is initiated, the instant messaging content is displayed with the email message in the preview pane (Block 312). In one embodiment, as instant messaging replies are sent and received by the user, the messaging content is updated in the preview pane. The instant messaging content is stored along with the email message as a single messaging record (Block 314).”).***
- ***See also Lemay, 1:18-22.***

113. See my discussion of claim [1], and elements [1.pre]-[1.a], [1.d], [1.e(v)], [1.e(vii)]. As explained for elements [1.pre]-[1.a], Lemay discloses a wireless communication terminal that transmits and receives messages. See [1.pre]-[1.a]. As further explained for elements [1.d], [1.e(v)], and [1.e(vii)], Lemay discloses description data. For both of Lemay’s primary and alternative messaging systems, Lemay presents “name” information associated with each message that indicates whether the message was transmitted or received. Lemay, Figures 2A-2D, 5:16-6:20, 6:65-7:9, 8:57-9:4. For example, Fig. 2C depicts various messages sent and received by “Charles Thompson.” For email messages (e.g., the emails shown

in the table of contents, or the “email content 222” shown in “pane 216”), Charles’s name appearing in the “To:” field of an email message indicates that the message was received by Charles. See Lemay Figure 2C, 5:16-6:20, 6:65-7:9. By comparison, if Charles’s name appeared in the “From:” field of an email message it indicates that the message was transmitted by Charles.

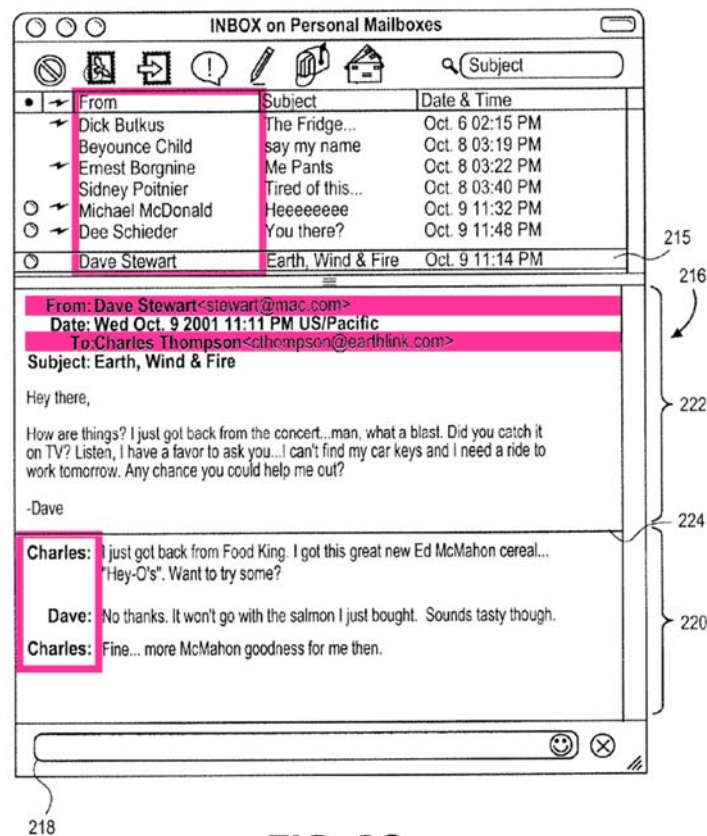


FIG. 2C

Moreover, this limitation is met regardless of which recitation of “description data” in claim 1 provides the antecedent basis for “the description data” in claim 2. Lemay discloses that description data for both sent and received messages include data indicating whether they were transmitted or received—e.g., the names “Charles” and

“Dave” are used on both sent and received instant messages to indicate which ones were transmitted/received; and both sent and received emails are identified as transmitted/received based on the names include in the “To:” and “From:” fields. Accordingly, Lemay discloses and at least renders obvious claim 2 under any reasonable interpretation of the term “the description data.”

B. Ground 2: Maguire in view of Kang Renders Obvious Claims 1-2

1. Overview of Maguire

114. Maguire is titled “User Interface and Method of Viewing Unified Communications Events on a Mobile Device” and “relates generally to a user interface for messaging.” Maguire, [0002].

115. Maguire discloses a user interface for a “mobile device” with a “**touch sensitive liquid crystal display**” that presents a “unified view of communications events,” which includes “SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions.” Maguire, [0001]-[0004], [0019]-[0020], [0028]. Figure 5 illustrates an embodiment of Maguire’s mobile device:

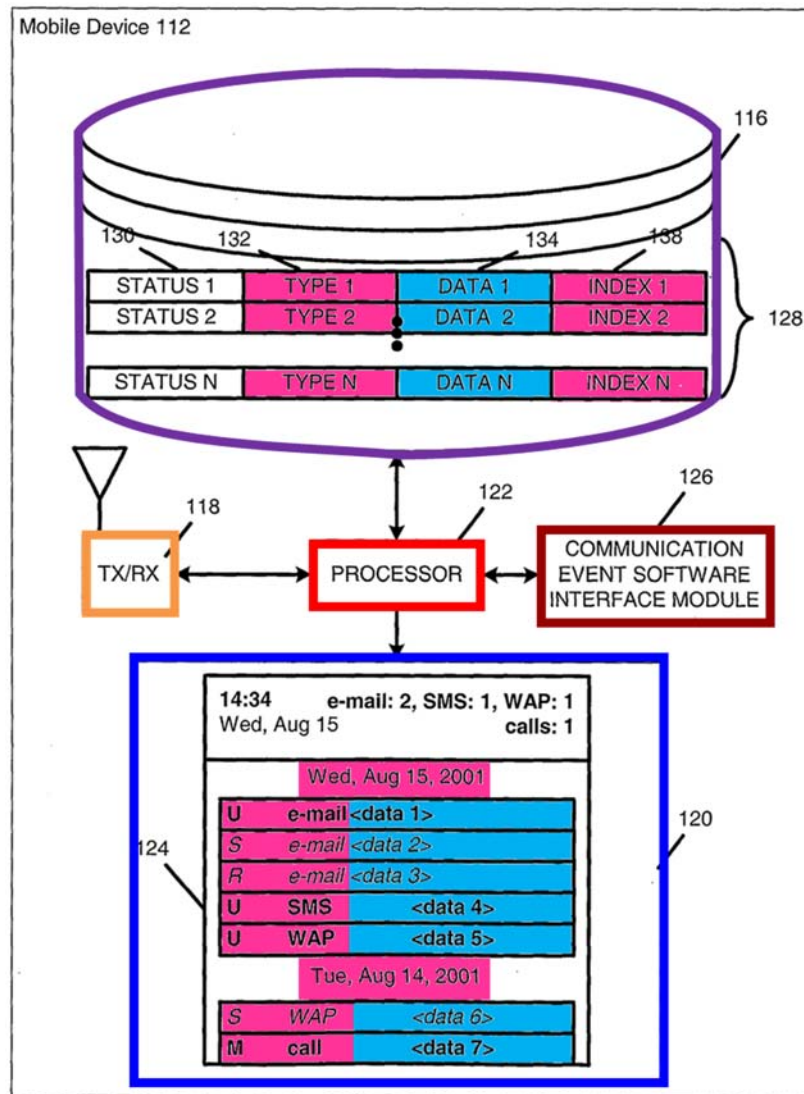


Figure 5

Maguire, Figure 5.

116. Maguire’s mobile device includes a “**processor**” that controls “a **transceiver** for transmitting and receiving communications events” over a “cellular network[.]” Maguire, [0003]-[0004], [0013], [0025], [0027]. The “**processor**” also generates a “user interface” with a “unified view” of the sent and received “communications events”—*i.e.*, of the user’s “communications event history”—on

the **display** by executing a “**software interface module**” and using a “**database**” to access not only the **message body** from the **database’s “data” field**, but also **data describing that message**—such as a message type contained in the **database’s “type” field** or “indexing” data such as a “date and time” or “time-stamp” contained in the **database’s “index” field**. Maguire, [0013], [0019], [0025]-[0026], [0040], Claims 26, 35, 40-41, 54. Therefore, for each message in the communication event history, Maguire’s “**touch-sensitive liquid crystal display**” presents both “**the body of the message**” and other **information about the message** such as: (1) an “event type identifier” that indicates whether a communication event is an e-mail, SMS, or WAP message; (2) an “indication” that a message is “sent” (“S”), “received” (“R”), or “unread” (“U”); and (3) the “date and time” or “time-stamp” for the message. Maguire, Figure 5, [0003], [0012]-[0014], [0021]-[0022], [0026], [0028], Claims 40-41, 54. Maguire also discloses that the mobile device will retrieve and present a “contact name” to identify which messages were “sent to or received from” a particular correspondent—for example, if the telephone number, email address, or URL associated with a message matches an address book entry for a given person, that person’s “contact name” may be displayed alongside the message content. Maguire, [0040].

117. Maguire discloses that the “type” for both incoming and outgoing messages is specified using “header information” embedded in each message and

the “communication channel” used to transmit the message, and that this information is used to determine a message type for incoming messages—e.g., by parsing “the header associated with the incoming communications event” and examining the “channel over which the communications event was received” in order to distinguish between “e-mail,” “SMS,” and “WAP” messages. Maguire, [0004], [0019], [0021]-[0022], [0025]-[0026]. Similarly, Maguire’s mobile device will “identify the correspondent” that sent a received message by “extracting an email address from the header of an email message” or “extracting an originating address from a SMS message” and cross-referencing the extracted information against entries in an “address book.” Maguire, [0012]-[0014].

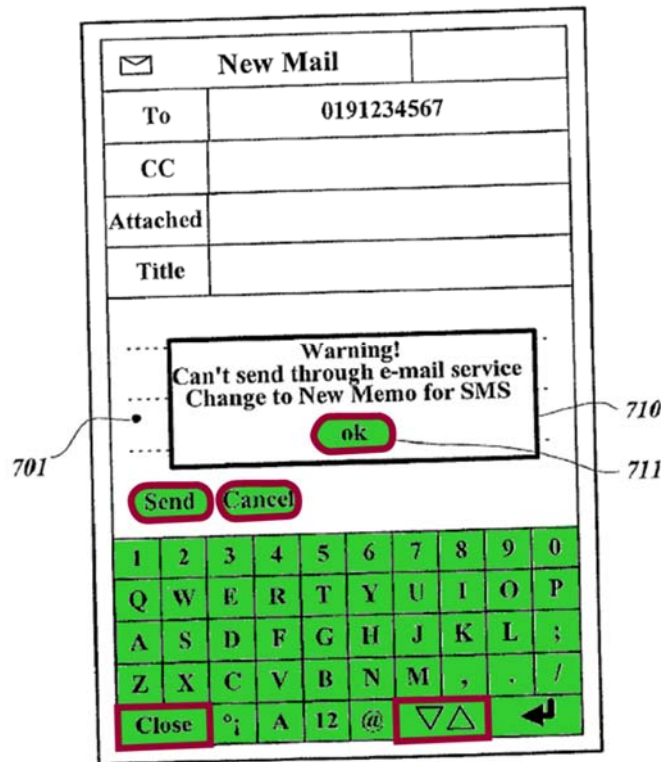
2. Overview of Kang

118. Kang is titled “Unified Management Method of Various Types of Messages of a Personal Information Terminal” and relates “to a method of displaying several types of messages all together through a single window and of enabling a user to write and transmit a message with no consideration of message type.” Kang, [0002].

119. Kang teaches a “personal information terminal conducting a unified management method of various types of messages” that includes an “I/O module...for inputting[] data”—e.g., by providing a “touch screen” that can be used to input a “written message” to be sent by the device. Kang, [0025]-[0026]. As

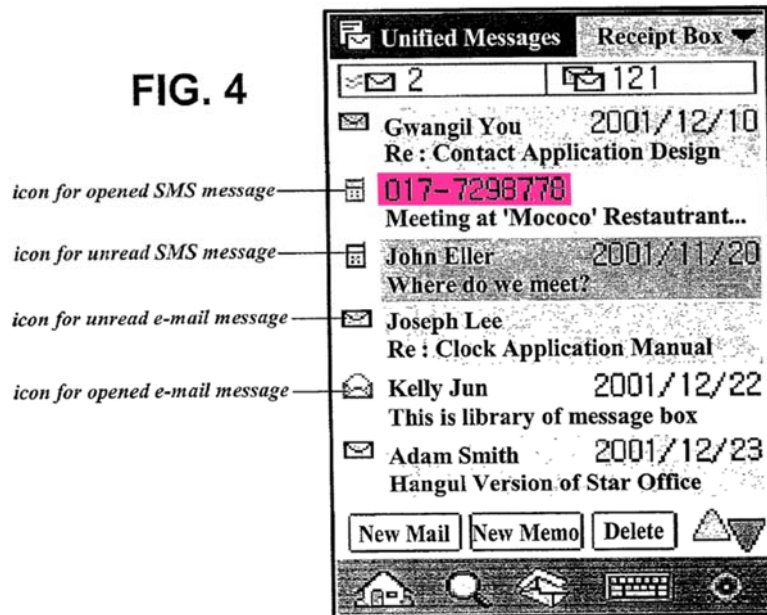
illustrated in Figure 7, the user is provided with a “message input screen” with several fields that the user fills in with “necessary information as well as a body message” using an alphanumeric **keypad** that includes a full alphabet, as well as several additional **keys for navigating and selecting menu items** including a “Send” key, a “Cancel” key, an “ok” key, a “Close” key, and up/down arrows. Kang, Figures 7-8, [0028], [0059]-[0060]. For example, Kang discloses a **keypad**, which a person of ordinary skill in the art would have understood is used to type out information in the “message input screen,” and then “request[] for transmission of the completed messages” by selecting the “send” key. Kang, Figures, 7-8, [0059]-[0060].

FIG. 7



Kang, Figure 7.

120. As illustrated in Figure 4, Kang further teaches a display that lists out different types of messages in “a single window on the wide LCD 11.” Kang, Figure 4, [0033]-[0035]. Each entry includes both message content and the identity of the message correspondent in the form of an “e-mail address” for mail messages, or a “telephone subscriber number” for SMS messages. Kang, Figure 4, [0033]-[0035]. For example, as shown in Fig. 4, the second message is an “opened SMS message” that identifies the correspondent using their “telephone subscriber number,” 017-7298778:



Kang, Figure 4, [0033]-[0035].

121. Kang further teaches that when a user enters a message into the “input window,” a “message type checking unit” will “examine the entered data” in order to automatically determine a “message type” for the entered message. Kang, Figure 1, [0059]. The system automatically determines the format in which the message should be sent—e.g., as an SMS message or e-mail email—based on the attributes of the entered message, such as the length of the message or the format of the number or address entered into the “to” field. Kang, Figures 6a-6b, 7, [0040], [0042], [0046], [0050], [0059], [0061]. After examining the message contents using the “message type checking unit,” the terminal determines whether to “change delivery manner” of the message prior to sending the message and, if necessary, “convert[s]” the message to the appropriate format before message transmission—for example, by

converting the message to an email format if it is addressed to an email account. Kang, Abstract, [0011]-[0012], [0026], [0041]-[0043], [0047]-[0048], [0051], [0059]-[0061], Claims 9, 13, 16, 20.

3. Motivation to Modify Maguire with Kang's Teachings

122. Maguire and Kang are analogous prior art in the same field as the '839 Patent, which includes messaging services for wireless communication terminals. See '839 Patent, 1:8-15 (“[t]he present invention relates to a wireless communication terminal having a function of providing an integrated messaging service” and “a method for transmitting and receiving various kinds of messages”); Maguire [0002] (“[t]his invention relates generally to a user interface for messaging” and displaying “communications event[s] in context”), [0004] (communications events include “SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions”); Kang [0002] (“The present invention relates to a message displaying and transmitting method... [and] enabling a user to write and transmit a message with no consideration of message type.”).

123. A person of ordinary skill in the art would have also understood Maguire's and Kang's disclosures to be reasonably pertinent to the '839 Patent's purported problems—including the need for “various messaging services” to send different types of messages. For example, the '839 Patent purports to improve a

“conventional” system that “provides messaging services in different user interfaces according to the kind of messages.” ’839 Patent, 1:19-50. Maguire states “[t]he present invention provides a unified view of communications events” including sent and received “SMS messages,” “e-mail correspondences,” and “wireless application protocol sessions.” Maguire, [0004], [0020]. And Kang provides “a method of displaying several types of messages all together through a single window and of enabling a user to write and transmit a message with no consideration of message type.” Kang, [0009].

124. Maguire broadly teaches a mobile device interface for sending, receiving, and displaying different kinds of “communications events,” which include “SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions.” Maguire, [0004]-[0005]; *see also* Maguire [0012] (system will detect a “communications event type”), [0019] (“a mobile device provides an integrated user interface...to track all incoming and outgoing communications events”), [0028] (“a touch sensitive liquid crystal display” provides a “user interface”). However, Maguire’s broad teachings do not specify the details of inputting messages or determining the kind of an outgoing message. Maguire, [0004]-[0005], [0012], [0019], [0028]. For example, Maguire contemplates that communications events might include sent SMS messages and emails, (Maguire [0004]), and that a user can

use a “touch sensitive liquid crystal display” as an input device (Maguire [0028]), but the details for inputting different types of messages is not disclosed. By comparison, Kang teaches a well understood input module—including a keypad and inputs for navigating and selecting menu options—that can be used to accept user input, as well as methods for inputting messages and automatically determining a message type for outgoing messages, methods for displaying different types of outgoing and incoming messages alongside relevant description data, and similar methods for processing different types of received messages. Kang, Figures 7-8, 10, [0025]-[0026], [0028], [0040]-[0042], [0045]-[0047], [0058]-[0060]. Taking these disclosures together, a person of ordinary skill in the art would have been motivated to modify Maguire with Kang’s detailed user interface teachings.

125. **First**, Maguire informs a person of ordinary skill in the art that its teachings are for use with “other user interfaces,” and that “[i]mplementations of graphical interfaces on ... touch sensitive liquid crystal displays will be well understood by those skilled in the art of mobile device design.” Maguire, [0028]. In view of Maguire’s explicit suggestion, a person of ordinary skill in the art would have sought more detailed teachings of other touch-screen interfaces for inputting messages on a mobile device. Kang is an example of such a reference, and provides more detailed teachings of an input module with a keyboard interface—including a full keypad and a variety of menu options and input fields—for inputting messages

of a mobile device. Kang [0040], [0060], Figures 7-8, 10. Accordingly, a person of ordinary skill in the art would have been motivated to modify Maguire with Kang's more detailed teachings of a known keyboard interface for inputting messages on a mobile device.

126. **Second**, Maguire teaches that its mobile device can transmit many kinds of outgoing “communications events,” such as outgoing “SMS” and “e-mail” messages. Maguire [0004], [0018]-[0019], [0021]-[0022], [0025]. However, Maguire is silent on how these different types of messages are input into the device, and leaves it to a person of ordinary skill in the art how to input a message and determine the proper message type that should be used to transmit outgoing messages. By comparison, Kang provides additional teachings of a convenient and streamlined interface for inputting different types of messages that obviates the need to “choose a message input screen” through the use of a “message type checking unit” and “converting unit” that allows the user to input different types of messages in a single interface before automatically selecting the message type that will be used for transmission. Kang [0026], [0061]-[0062]. In view of the above, a person of ordinary skill in the art would have been motivated to modify Maguire's teachings of a mobile device with Kang's “message type checking unit” and “message type converting unit” teachings in order to advantageously simplify the user experience and make it more user-friendly.

127. **Third**, Maguire broadly teaches that its user interface will present the correspondent name in order to identify the parties that a user is exchanging messages with, *e.g.*, by using a “contact name” stored inside of an address book. Maguire, [0029], [0040]. However, Maguire is silent on how to identify unnamed contacts that do not have a “contact name” associated with them. Accordingly, a person of ordinary skill in the art would have turned to Kang’s teachings of an interface that identifies message correspondents using an “e-mail address” or “telephone subscriber number.” Kang, [0033]-[0035]. Doing so advantageously enables a user to identify correspondents and keep messages from such a correspondent organized—*e.g.*, by enabling a user to filter and display messages sent from a particular “e-mail address,” or “telephone subscriber number”—even if the correspondent does not have a name assigned to them in the address book. See Maguire, [0012], [0026], [0029]; Kang, [0033]-[0035], Figure 4. Accordingly, a person of ordinary skill in the art would have been motivated to modify Maguire’s teachings with Kang’s in order to advantageously create a more flexible system that allows users to organizing their correspondence history by telephone number or email address.

128. A person of ordinary skill in the art would have had a reasonable expectation of succeeding at modifying Maguire’s teachings with Kang’s. **First**, these teachings were well-understood. For example, Engstrom describes a “unified

thread of communication” for displaying “different message formats” alongside “information about the message” such as the “identifier of the sender” and “the time and date sent and/or received.” Engstrom, [0019], [0042]. Similarly, Klassen teaches a “mobile station...graphical user interface” displaying “IM” and “e-mail” messages. Klassen, [0043]. Kirkland also discloses a “message header” displayed in a “messaging window” that “conveys...message information.” Kirkland, 7:25-43. **Second**, Maguire explicitly contemplates incorporating such teachings such as Kang’s. Maguire [0028]. Accordingly, a person of ordinary skill in the art would have expected this straightforward application of Kang’s teachings to work.

4. Invalidity of Claims 1-2 Over Maguire in view of Kang

(a) Element [1.pre]

129. **Element [1.pre] recites “A wireless communication terminal having a function of providing an integrated messaging service.”** This element is met by Maguire.

130. **Maguire discloses a wireless communication terminal (e.g., “mobile device” on “cellular network[.]”) having a function of providing an integrated messaging service (e.g., providing a “unified view of communications events” for “messages”).** See, e.g., Maguire (emphasis added):

- **Figure 5**

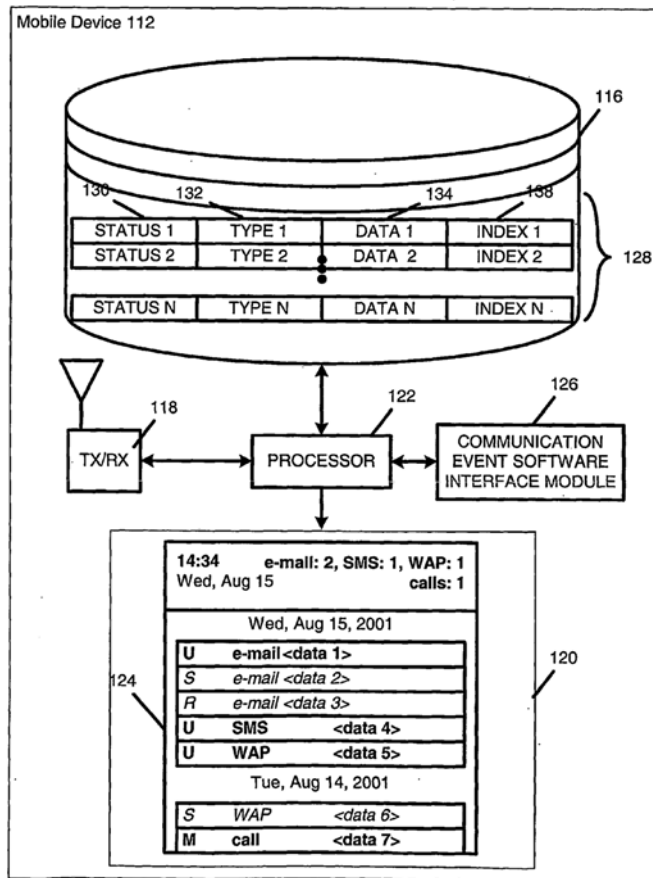


Figure 5

- [0002]-[0004] (“This invention relates generally to *a user interface for messaging*.”)

Most cellular networks such as Code Division Multiple Access (CDMA) and Global Service Mobile (GSM) networks **support data services** in addition to standard telephony based services. **Short Messaging Service (SMS) and Wireless Application Protocol (WAP) are data centric services available on many cellular networks.** Data networks, such as MobiTex™, Datatac™, as well as advanced networks such as General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), Enhanced Data for GSM Enhancement (EDGE) and IX that overlay cellular networks, allow an appropriately configured **mobile device to offer data services such as e-mail, web browsing, as well as SMS and Multimedia messaging service (MMS) messaging, and WAP data sessions.**

Communications events include telephone calls, both sent and received, SMS messages both sent and received, e-mail correspondences both sent

and received, and wireless application protocol sessions, among other data based transactions. Each communications event has at least two parties, the user of the mobile device and at least one correspondent. Each correspondent can have multiple contact addresses, such a work phone number, a home phone number, a mobile phone number, an SMS address, and a plurality of email addresses.”);

- [0019]-[0020] (“*In the present invention a mobile device provides an integrated user interface through which a user can view communications events* in which a particular correspondent has partaken. *A mobile device* of the present invention makes use of a communications event database to track all *incoming and outgoing communications events* with various correspondents.

The present invention provides a unified view of communications events, so that a user can determine the context of any received communications event, or can determine the context of a communications event to be placed. Thus, upon receipt of *a SMS message, or other communications events*, after identifying the type of the communications event, in addition to notifying the user that a message has been received, the mobile device will present the user with a listing of the most recent communications events that are associated with the originating address of the message. *The user is also given the option of viewing information about the prior communications events, which would include viewing prior SMS messages*, viewing information about the data received for a wireless application protocol browsing session, or the call length and dates of any placed or received calls. *This information will allow the user to better contextualise the content of the new message.*”);

- *See also Maguire [0008], [0011], [0013], [0025], [0026].*

131. Maguire discloses a wireless, “mobile device,” such as a cellular phone, that operates over a “cellular network[]” and supports several communications services. Maguire, [0003]. These services include “Short Messaging Service (SMS) and Wireless Application Protocol (WAP),” “Multimedia messaging service (MMS)

messaging,” “e-mail.” Maguire, [0003], [0004]. Maguire refers to communications through these messaging services as “communications events,” stating that communications events include “SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions.” Maguire, [0004], [0019]. The different types of communications events are displayed on an “integrated user interface” to provide a “unified view of communications events” Maguire, [0002], [0019], [0020]. For example, Figure 5 illustrates a unified interface that includes sent and received “telephone calls,” “SMS” messages, “e-mail” messages, and WAP messages. Maguire, [0003], [0004].

(b) Element [1.a]

132. **Element [1.a] recites “a wireless transceiver for transceiving a message to/from an outside device through a wireless network.”** This element is met by Maguire.

133. **Maguire discloses a wireless transceiver for transceiving a message to/from an outside device through a wireless network** (*e.g.*, “a transceiver for transmitting and receiving communications events” including “SMS messages” over a “cellular network[.]”). *See, e.g.*, Maguire (emphasis added):

- **Figures 5-6**

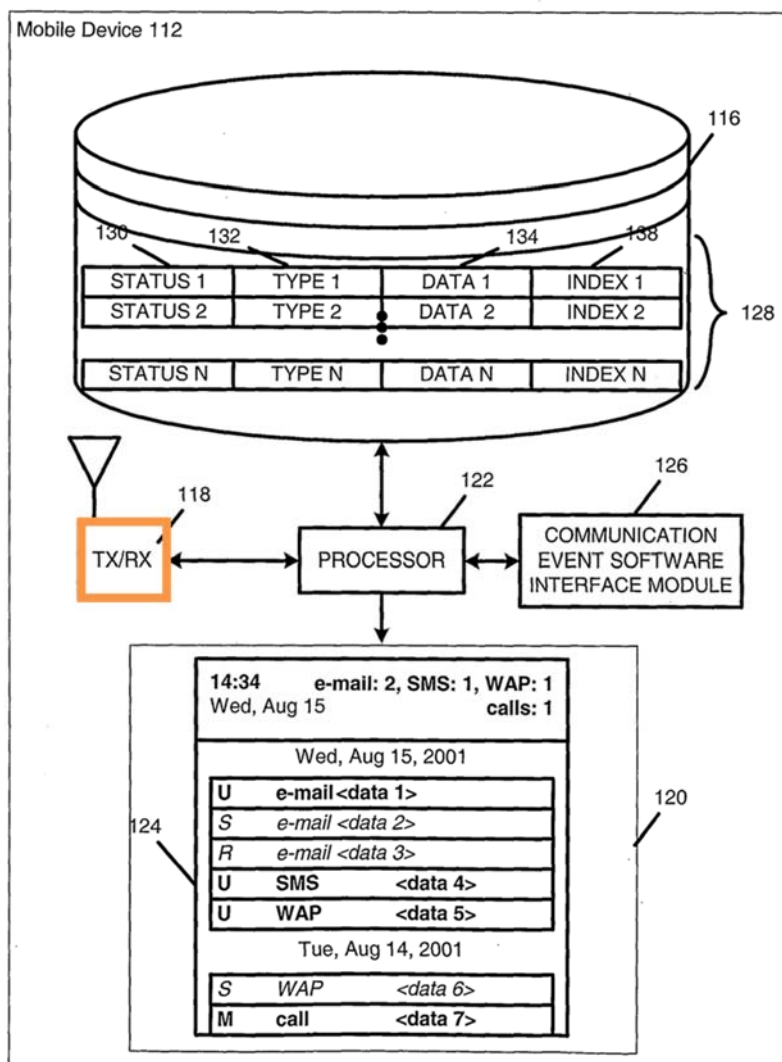
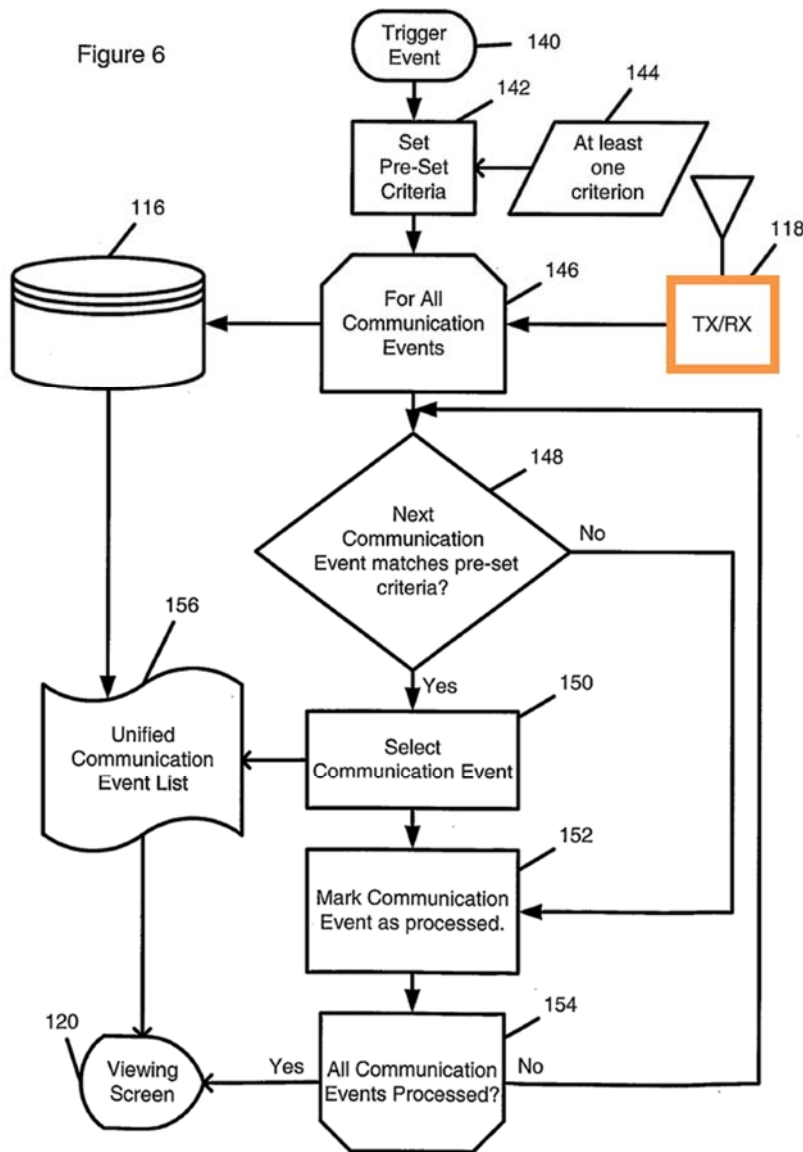


Figure 5



- [0002]-[0004] (“This invention relates generally to *a user interface for messaging*.”

Most cellular networks such as Code Division Multiple Access (CDMA) and Global Service Mobile (GSM) networks *support data services* in addition to standard telephony based services. *Short Messaging Service (SMS) and Wireless Application Protocol (WAP) are data centric services available on many cellular networks.* Data networks, such as MobiTex™, Datatac™, as well as advanced networks such as General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), Enhanced Data for GSM Enhancement (EDGE) and IX that overlay cellular

networks, allow an appropriately configured *mobile device to offer data services such as e-mail, web browsing, as well as SMS and Multimedia messaging service (MMS) messaging, and WAP data sessions.*

Communications events include telephone calls, both sent and received, SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions. Each communications event has at least two parties, the user of the mobile device and at least one correspondent. Each correspondent can have multiple contact addresses, such a work phone number, a home phone number, a mobile phone number, an SMS address, and a plurality of email addresses.”);

- [0013] (“In a second aspect of the present invention, there is provided *a mobile device, having a user interface and a transceiver for transmitting and receiving communications events. The mobile device includes a communications event database, and a communications event handler. The communications event database is for storing a communications event history associated with a correspondent. The communications event handler is in communication with the communications event database for retrieving from the communications event database the communication event history in response to a communications event, and is for controlling the user interface to provide the retrieved communication event history to a user.*”);
- [0025] (“Figure 5 illustrates an embodiment of mobile device 112 according to the present invention. *Mobile device 112 preferably includes database 116, transceiver 118, processor 122, and display 120. In alternate embodiments of the present invention, mobile device 112 does not include database 116, and instead accesses a central server which hosts database 116 through a wireless link.* In additional embodiment, mobile device 112 either includes an address book having a plurality of contact addresses for a variety of correspondents, or has access to such an address book using a wireless connection. *Communications event software interface module 126 is preferably a software application executed by processor 122, and is a specific example of a communications event handler according to the present invention. It is contemplated that the communications event handler can be implemented as a separate hardware component, which may or may not implement software based routines. In a further embodiment, the*

communications event handler can be hardware enabled and integrated with processor 122.”).

- ***See also Maguire [0014], [0026]-[0027], [0031].***

134. See my discussion of element [1.pre]. As explained for element [1.pre] above, Maguire discloses a wireless communication device. See [1.pre]. Further, Maguire’s mobile device comprises a “transceiver,” labeled “TX/RX” in Figures 5–6, “for transmitting and receiving communications events,” such as “SMS messages” and “e-mail” messages “over a “cellular network[.]” Maguire [0002]–[0004], [0013]. Cellular networks are wireless networks and thus communication over cellular networks requires a wireless transceiver. See Maguire [0027] (“Transceiver 118 . . . is intended to allow the mobile device to receive communications over a wireless link.”).

(c) Element [1.b]

135. **Element [1.b] recites “a storage for storing an integrated messaging service program and messages in order to provide an integrated user interface (IUI).”** This element is met by Maguire.

136. **Maguire discloses a storage (e.g., “memory”) for storing an integrated messaging service program and messages in order to provide an integrated user interface (IUI) (e.g., processor executes a stored “software interface module” and retrieves “message” “communications event[s]” from a**

“database” to provide an integrated “interface” displaying “e-mail, SMS, WAP, and telephone call” “communications”). *See, e.g.*, Maguire (emphasis added):

- **Figures 4-5**

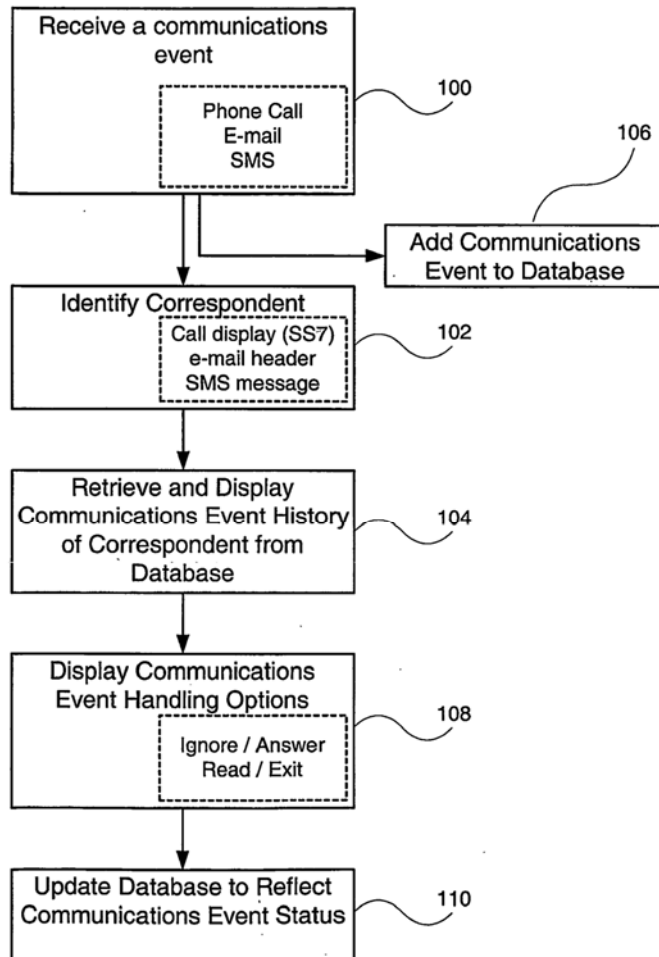


Figure 4

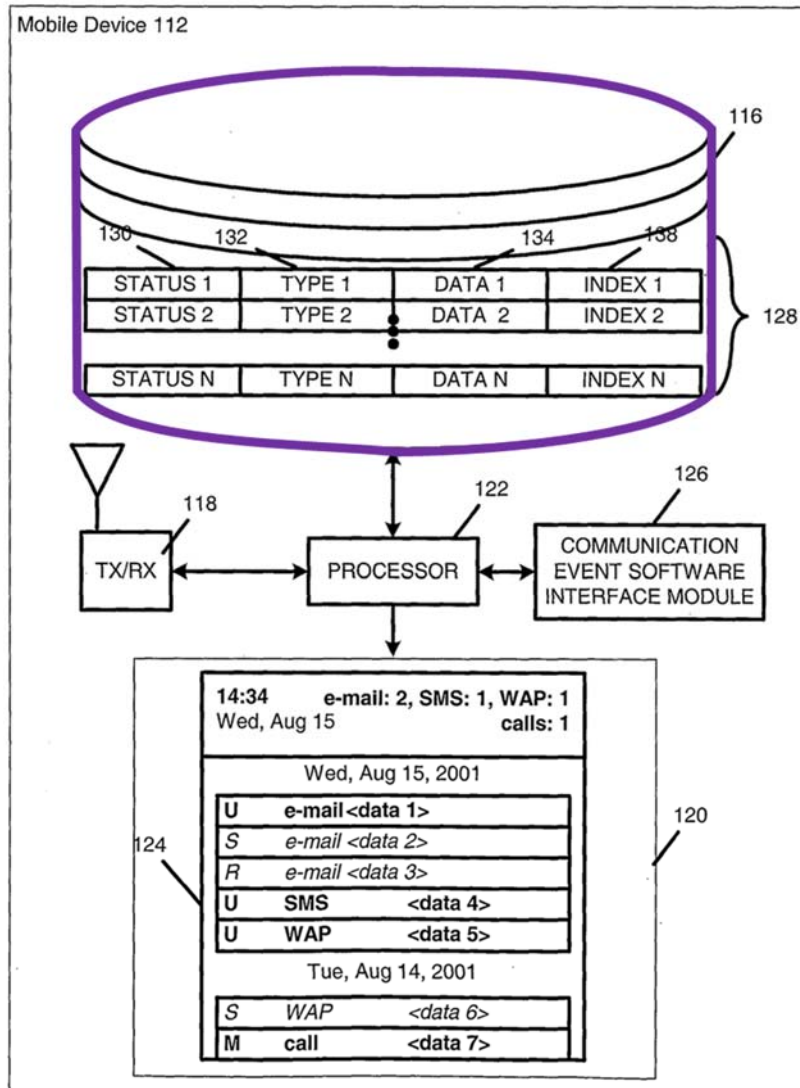


Figure 5

- [0013] (“In a second aspect of the present invention, there is provided *a mobile device, having a user interface and a transceiver for transmitting and receiving communications events. The mobile device includes a communications event database, and a communications event handler. The communications event database is for storing a communications event history associated with a correspondent. The communications event handler is in communication with the communications event database for retrieving from the communications event database the communication event history in response to a communications event, and is for controlling the user interface to provide the retrieved communication event history to a user.*”);

- [0025] (“Figure 5 illustrates an embodiment of mobile device 112 according to the present invention. *Mobile device 112 preferably includes database 116, transceiver 118, processor 122, and display 120. In alternate embodiments of the present invention, mobile device 112 does not include database 116, and instead accesses a central server which hosts database 116 through a wireless link.* In additional embodiment, mobile device 112 either includes an address book having a plurality of contact addresses for a variety of correspondents, or has access to such an address book using a wireless connection. *Communications event software interface module 126 is preferably a software application executed by processor 122,* and is a specific example of a communications event handler according to the present invention. It is contemplated that the communications event handler can be implemented as a separate hardware component, which may or may not implement software based routines. In a further embodiment, the communications event handler can be hardware enabled and integrated with processor 122.”);
- [0026] (“*Database 116* is preferably structured to have at least one table 128. In table 128, four data fields are identified. *The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read,* or whether or not a telephone call was answered. *Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.* In a presently preferred embodiment, *the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.* The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible

by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. ***Transceiver 118 is used to both transmit and receive communications events.*** Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. ***In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.***”);

- [0029]-[0030] (“***Processor 122*** is connected to the database 116, and is capable of ***performing database queries on database 116.*** Additionally, processor 122 is connected to an address book so that the identified correspondent from step 102 can be cross-referenced to the address book and match to a name in the address book. This will allow mobile device 112 to provide the user with a call event history from the call event database 116 that includes all communications events in which the identified correspondence has partaken, regardless of the communication address used by the correspondent.

In a presently preferred embodiment of the system illustrated in Figure 4, ***the communications event software interface module 126 includes a communications event type identifier. The identifier is for determining the type associated with the communications event. The identified type is stored in type field 132 in database 116.*** In the illustrated embodiment, the identifier is preferably a software routine, and in a more generic implementation is. a module in the communications event handler.”);

- [0040] (“The pre-set criteria can also match communications event data. For instance, to ***view all communications events sent to or received from a particular contact,*** the pre-set criteria may include matching select

communications event data with all of the specific contact information found in an address book entry for the contact. As an example, consider all communications events sent to or received from a stockbroker. Contact information for the stockbroker is preferably kept in the address book. Preferably, each address book entry contains a variety of fields that can be mapped to one or more communications addresses supported by the mobile device. *In the entry corresponding to the stockbroker, for example, if the following fields are defined: telephone number, mobile phone number, fax number, email address, and URL's*; then an example preferable mapping to message types follows. The phone, mobile, and fax numbers are mapped to voice and/or video communications events. The mobile number is additionally mapped to an SMS address for SMS type communications events. The email address is mapped to email communications events. The URL's are mapped to corresponding communications event types. For instance an http URL can be mapped to web and/or WAP, whereas an FTP URL (File Transfer Protocol) can be mapped to an ftp communications event. *All communications events, including phone calls, SMS communications events, emails, web communications events, WAP communications events or other communications events* that match at least one field in the stockbroker contact entry of the address book *would then be selected by the communications event software interface module 126, and would be displayed. Preferably, the presentation of the retrieved data from database 116 would show the contact name, such as 'stockbroker' as defined by the preset criteria 142.*");

- **Claim 35** (“*A wireless device, comprising: a viewing screen; a processor; a memory device that stores communication events that have been transmitted or received by the wireless device; and a communication event software interface module executed by the processor that (a) locates one or more select communication events by filtering each communication event stored in the memory device to identify stored communication events matching a pre-set criteria, and (b) displays the one or more select communication events on the viewing screen.*”).
- **See also Maguire [0015], [0038], [0041], Claims 25, 26.**

137. See my discussion of element [1.pre]. As explained for element [1.pre] above, Maguire discloses an integrated messaging service. See [1.pre]. Maguire's

mobile device comprises a “memory” and stores a communication event history in a “communications event database.” Maguire, claim 35, [0013]. It was well understood to a person of ordinary skill in the art that when a program runs on a device, it uses memory to handle active processes (e.g., the computer program that is running) and the data for those processes (e.g., the displayed messages from the database that are processed and displayed by the running program). Similarly, if Maguire’s “memory” was understood as non-volatile storage, a person of ordinary skill in the art would have understood, or at least found it obvious, that both the communications event database and software interface module are locally stored on a single storage device—as opposed to multiple separate storage devices—in order to avoid redundant hardware components. The event history includes records of “e-mail, SMS, WAP, and telephone call communications events.” Maguire [0026]. A “processor 122,” shown in Figure 5, executes a “software interface module” to handle communication events and access the communications event database. Maguire [0025]–[0026], [0025], Figure 5. A person of ordinary skill in the art would have understood that Maguire’s memory stores the software interface module and communication events database, including communication event history, to provide to the processor. The processor accesses the memory to obtain the communication events history and instructions from the software interface module in order to provide the “integrated user interface” to the device display. See Maguire [0026],

[0040]. Thus, Maguire's "memory" is a storage for storing its integrated messaging service program and messages to provide the integrated user interface. See Maguire, claim 35.

(d) Element [1.c]

138. **Element [1.c] recites "a keypad for receiving a message content and a menu selecting signal in the IUI."** This element is met by Maguire alone and in view of Kang.

139. **Maguire renders obvious a keypad receiving a message content** (*e.g.*, receiving content for "outgoing communications events" including "SMS messages" and "e-mail") **and a menu selecting signal** (*e.g.*, "user interface acknowledgement buttons") **in the IUI** (*e.g.*, [1.b], the "user interface" is provided on the "display"). See, *e.g.*, Maguire (emphasis added):

- **[0002]-[0004]** ("This invention relates generally to *a user interface for messaging*).

Most cellular networks such as Code Division Multiple Access (CDMA) and Global Service Mobile (GSM) networks *support data services* in addition to standard telephony based services. *Short Messaging Service (SMS) and Wireless Application Protocol (WAP) are data centric services available on many cellular networks.* Data networks, such as MobiTex™, Datatac™, as well as advanced networks such as General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), Enhanced Data for GSM Enhancement (EDGE) and IX that overlay cellular networks, allow an appropriately configured *mobile device to offer data services such as e-mail, web browsing, as well as SMS and Multimedia messaging service (MMS) messaging, and WAP data sessions.*

Communications events include telephone calls, both sent and received, SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions. Each communications event has at least two parties, the user of the mobile device and at least one correspondent. Each correspondent can have multiple contact addresses, such a work phone number, a home phone number, a mobile phone number, an SMS address, and a plurality of email addresses.”);

- [0012] (“In an embodiment of the first aspect of the present invention, ***the step of identifying is preceded by the step of determining a communications event type for the communications event, where the communications event type of the communications event is selected from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event.*** In another embodiment of the present invention, the communications event is an incoming communications event, and the method further includes the step of receiving the incoming communications event prior to identifying the correspondent. In another embodiment of the present invention, the user interface is a display, and the step of controlling the user interface includes displaying the retrieved communications event history on the display. In yet a further embodiment of the present invention, the method includes adding the incoming communications event to the communications event history in the communications event database. In embodiments of the present invention, receiving an incoming communications event and identifying the correspondent includes one of receiving a telephony based phone call and extracting a phone number from call display information, ***receiving an incoming email message and extracting an email address from the header of an email message and receiving an incoming short messaging service (SMS) message and extracting an originating address from a SMS message.*** In a further embodiment of the present invention, ***identifying the correspondent further includes cross referencing one of the extracted phone number, the extracted email address and the extracted originating address, with entries in an address book accessible to the mobile device.*** In yet a further embodiment of the present invention the method includes the step of controlling the user interface to provide the user with communications event handling options, where controlling the user interface can include providing the user an option to either ignore or answer an

incoming telephony based call, or read or ignore one of the incoming email message and the incoming SMS message. Another embodiment of the present invention includes updating the communications event database to reflect a status of the incoming communications event after providing the user with communications event handling options.”);

- [0019]-[0020] (“*In the present invention a mobile device provides an integrated user interface through which a user can view communications events* in which a particular correspondent has partaken. *A mobile device* of the present invention makes use of a communications event database to track all *incoming and outgoing communications events* with various correspondents.

The present invention provides a unified view of communications events, so that a user can determine the context of any received communications event, or can determine the context of a communications event to be placed. Thus, upon receipt of *a SMS message, or other communications events*, after identifying the type of the communications event, in addition to notifying the user that a message has been received, the mobile device will present the user with a listing of the most recent communications events that are associated with the originating address of the message. *The user is also given the option of viewing information about the prior communications events, which would include viewing prior SMS messages*, viewing information about the data received for a wireless application protocol browsing session, or the call length and dates of any placed or received calls. *This information will allow the user to better contextualise the content of the new message.*”);

- [0028] (“*Display 120 is preferably a liquid crystal display, and may optionally be a touch sensitive liquid crystal display*, so that *a user can be provided with user interface acknowledgement buttons on the screen of the device itself*. Implementations of graphical interfaces on liquid crystal displays, and touch sensitive liquid crystal displays will be well understood by those skilled in the art of mobile device design. It is fully contemplated that though mobile device 112 has been described herein as having display 120, that display 120 can be replaced with other user interfaces. Examples of such user interfaces include audio interfaces and dynamic Braille pads for use by individuals with visual impairments.”).

- ***See also Maguire [0014], [0021], [0026].***

140. See my discussion of elements [1.pre] and [1.b]. As explained for elements [1.pre] and [1.b], Maguire discloses an integrated user interface. See [1.pre], [1.b]. Maguire further discloses that “outgoing communications events,” such as “SMS messages” and “e-mail” are inputted to the “user interface” provided on a “touch-sensitive liquid crystal display.” Maguire [0002]-[0004], [0012], [0019]-[0020], [0028]. The user interface also includes “acknowledgment buttons” on the display, which are used for making menu selections. Maguire [0028]. A person of ordinary skill in the art would have understood, and at a minimum would have found it obvious, that Maguire’s user interface includes a keypad through which the user authors messages for transmission. Keypads were well-understood and well-known in the art as a means for authoring content, including SMS messages and e-mails, and accepting menu selections. For example, Varanda discloses “virtual keypads” for “touchscreen displays” on a “wireless communications device.” Varanda ¶¶1, 3, 70, Figures 11-15. *See also* Engstrom ¶5 (“User interfaces for wireless mobile devices . . . often times us[e] a standard 12-key keypad and/or a touch pad.”); Nielson, 3:15-25 (“[M]obile telephone ... user interface includes a display 22 and an input keypad 20.”); Kinnunen ¶15 (“[U]ser operates the radiotelephone by ... a keypad 7.”).

141. To the extent further disclosure is required, Kang further discloses a keypad (e.g., Figures 7, 8 keypad) for receiving a message content (e.g., keyboard used by “an I/O module for inputting[] data”) and a menu selecting signal (e.g., signal from “Send” and “Cancel” “menu items”). See, e.g., Kang (emphasis added):

- Figures 7-8, 10

FIG. 7

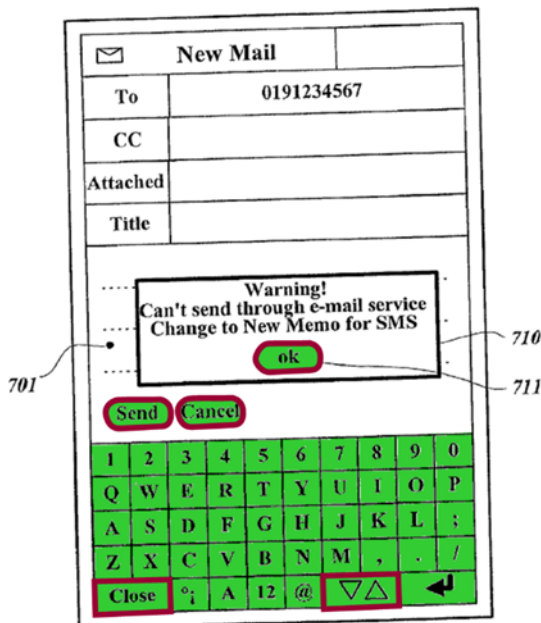


FIG. 8

801

 **New Memo**

To

dino211@mailserver.com

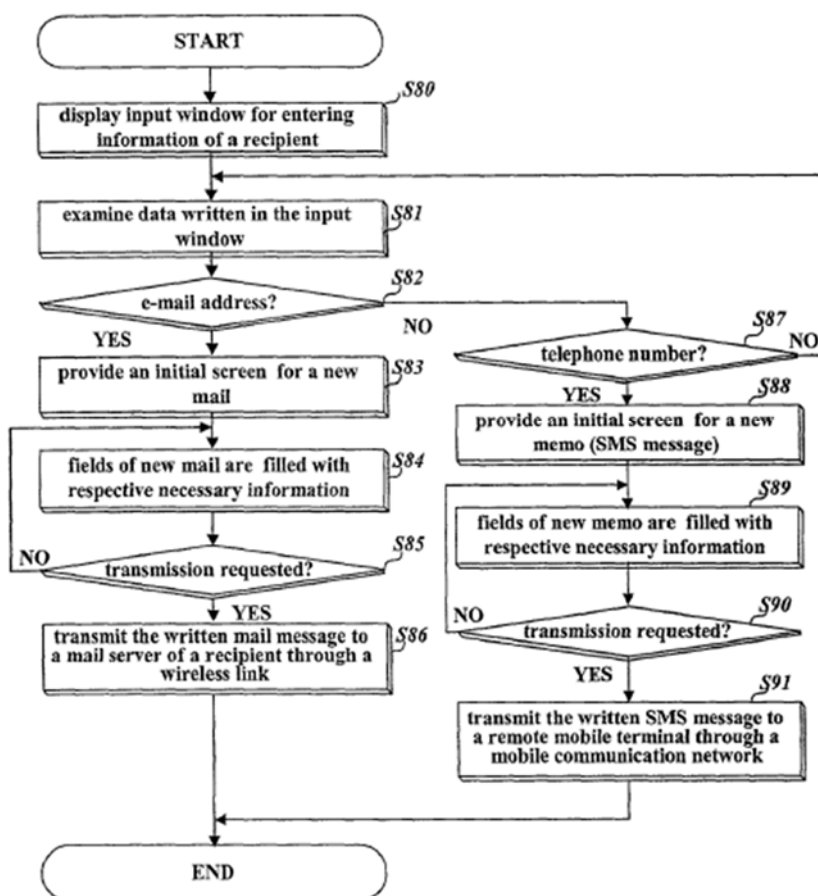
From

Send

Cancel

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	;
Z	X	C	V	B	N	M	,	.	/
Close	⌂	A	12	@	▽△	⬅			

FIG. 10



- [0026] (“In details, the I/O module 10 includes a wide LCD 11 for displaying information and a touch screen 12 for data input, the communicating module 30 includes a signal transceiver 31 transmitting/receiving wireless signals; a WAP unit 32 conducting WAP (Wireless Application Protocol) which ensures reliability of wireless data communication; and a SMS unit 33 allocating/extracting SMS messages to/from signal channels, and the controlling module 20 includes a message type checking unit 21 checking which type a written message belongs to; a message type converting unit 22 converting the format of a written message to match to other type based on whether it is matched with its intended type; a POP3/SMTP unit 23 formatting a mail message to the e-mail protocol and retrieving a mail message vice versa; a WAP format adapting unit 24 adapting a POP/SMTP-formatted message to wireless transmission conditions and decoding received wireless signals to obtain digital data; a SMS format adapting unit adapting a message to SMS protocol and

retrieving a SMS message from the received wireless signals; ***and a controlling unit 26 supervising operations of all elements overall.***”);

- [0028] (“First, ***the controlling unit 26 displays a variety of built-in application programs and menu items onto the wide LCD 11 to be selected by a user (S10).***”);
- [0040] (“***First, the controlling unit 26 checks which application item is selected through the touch screen 12 by a user (S40).*** If a ‘New Mail’ item is chosen by the user (S41) because an e-mail is intended to send, the controlling unit 26 provides an initial screen for a new mail which includes ‘To’, ‘CC’, ‘Attached’, ‘Title’ field, and message input window 701, as shown in FIG. 7 (S42). Then, the user fills in the ‘To’ and the ‘Title’ with respective necessary information without exception and fills in the ‘CC’ and the ‘Attached’ field, if needed. ***Afterwards, the user writes a message to send in the message input window 701. Through these filling-in works, a mail message to send is completed (S43).***”);
- [0059]-[0060] (“In the procedure of FIG. 10, the controlling unit 26 outputs an input window demanding only information of a recipient (S80) first when a user requests for a new message. ***After data is entered in the input window completely, the controlling unit 26 commands the message type checking unit 21 to examine the entered data (S81).*** The message type checking unit 21 regards a message to write as SMS message when the entered data is composed of numeric digits, and as mail message ***when the entered data includes the symbol of ‘@’ indicative of a mail account (S82).*** ***The identified message type by the message type checking unit 21 is notified to the controlling unit 26.*** Then, the controlling unit 26 provides the ‘New Mail’ screen of FIG. 7 if identified as mail message and the ‘New Memo’ screen of FIG. 8 if identified as SMS message (S83, S88) . At this time, the controlling unit 26 copies the data entered in the input window to the ‘To’ field of the message input screen of FIGS. 7 or 8.

After the ***user completes a message by filling in necessary information as well as a body message in fields of the message input screen (S 84, S89)*** he or she requests for transmission of the completed message (S85, S90). Then, the message type converting unit 22 delivers the completed message to the POP3/SMTP unit 23 or the SMS format adapting unit 25 which will transmit

the received message to a remote side in accordance with a protocol intended by ‘New Mail’ or ‘New Memo’ (S86, S91).”);

- ***See also* Kang [0020]-[0023], [0025], [0029], [0036], [0045], [0053], Figures 6a-6b, 9.**

142. While Maguire does not expressly provide for a particular input mechanism for receiving message content, Kang expressly discloses a keypad for receiving user input. *See* Kang, Figures 7–8. For example, Kang teaches a “personal information terminal” including an “I/O module...for inputting[] data” by a user. Kang [0025]–[0026]. As shown in Figures 7 and 8, the I/O module comprises a keypad and menu buttons, “Cancel,” “Send,” “ok,” “Close,” and up/down navigation arrow buttons. Kang, Figures 7–8, [0028]. Users interact with the keypad to “fill[] in necessary information as well as a body message in fields of the message input screen.” Kang [0060]. Similarly, the ’839 Patent itself discusses using “soft key[s]” to select “transmit/receive” menu items. ’839 Patent, 5:63-66, 7:10-21.

143. As discussed above in Section IX.B.3, a person of ordinary skill in the art would have been motivated to modify Maguire’s integrated user interface with Kang’s I/O module teachings. Maguire expressly teaches modifying its user interface with the teachings of other references. Maguire [0028].

(e) Element [1.d]

144. **Element [1.d] recites “a displayer for displaying the message content and description data in the IUI.”** This element is met by Maguire alone and in view of Kang.

145. **Maguire discloses a displayer for displaying the message content and description data** (*e.g.*, “display” presents “the body of the message;” an “indication” that a message was “sent” or “received;” a “contact name;” and a “time-stamp”) **in the IUI** (*see* [1.b]). *See, e.g.*, Maguire (emphasis added):

- **Figures 4, 5**

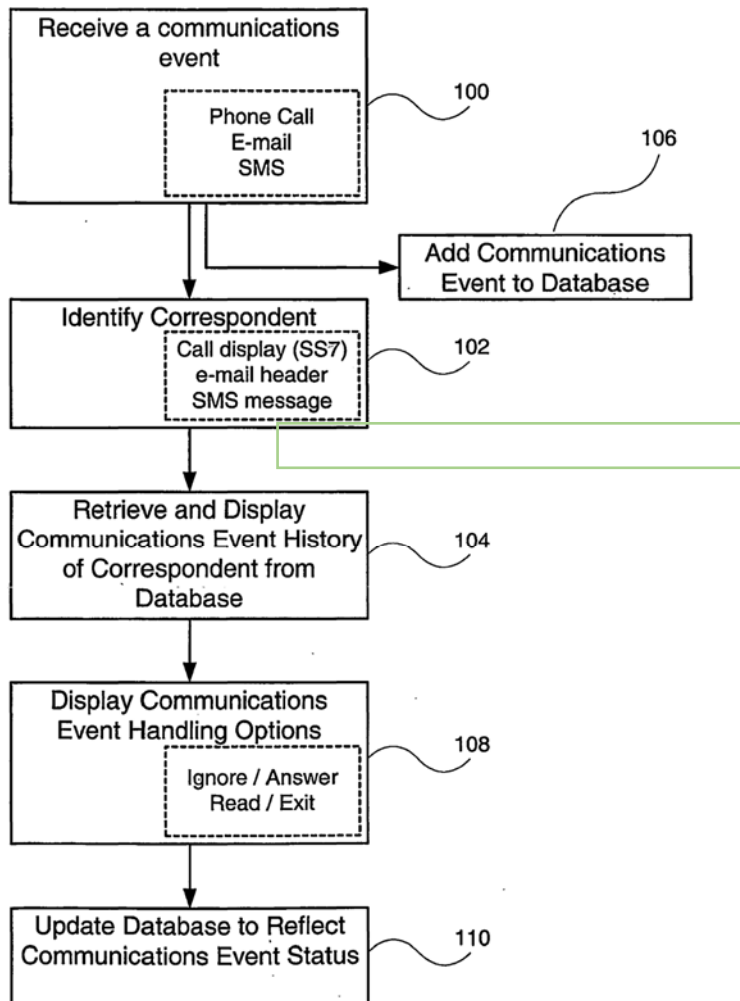


Figure 4

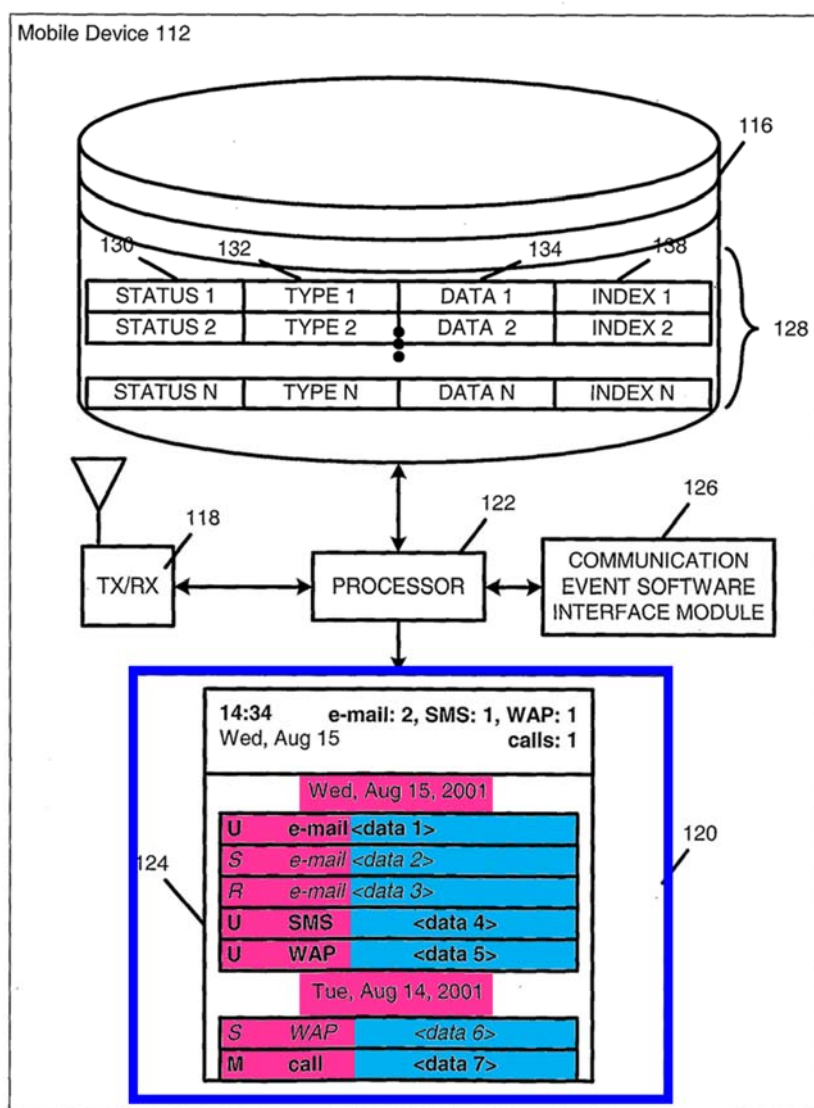


Figure 5

- [0012] (“In an embodiment of the first aspect of the present invention, *the step of identifying is preceded by the step of determining a communications event type for the communications event, where the communications event type of the communications event is selected from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event.* In another embodiment of the present invention, the communications event is an incoming communications event, and the method further includes the step of receiving the incoming communications event prior to identifying the correspondent. In another embodiment of the present invention, the user

interface is a display, and the step of controlling the user interface includes displaying the retrieved communications event history on the display. In yet a further embodiment of the present invention, the method includes adding the incoming communications event to the communications event history in the communications event database. In embodiments of the present invention, receiving an incoming communications event and identifying the correspondent includes one of receiving a telephony based phone call and extracting a phone number from call display information, ***receiving an incoming email message and extracting an email address from the header of an email message and receiving an incoming short messaging service (SMS) message and extracting an originating address from a SMS message.*** In a further embodiment of the present invention, ***identifying the correspondent further includes cross referencing one of the extracted phone number, the extracted email address and the extracted originating address, with entries in an address book accessible to the mobile device.*** In yet a further embodiment of the present invention the method includes the step of controlling the user interface to provide the user with communications event handling options, where controlling the user interface can include providing the user an option to either ignore or answer an incoming telephony based call, or read or ignore one of the incoming email message and the incoming SMS message. Another embodiment of the present invention includes updating the communications event database to reflect a status of the incoming communications event after providing the user with communications event handling options.”);

- [0014] (“In an embodiment of the second aspect of the present invention, ***the communications event handler includes a communications event type identifier for identifying the type of the communications event*** from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event. In another embodiment of the second aspect of the present invention, ***the user interface is a display***, and the communications event handler includes ***a display controller for controlling the display to display the retrieved communication event history.*** In another embodiment of the present invention, communications event handler includes a correspondent identifier for identifying the correspondent of an incoming communications event, and the correspondent identifier is connected to the ***transceiver*** for receiving call display information, and includes means for identifying the correspondent of

an incoming communications event based on the received call display information, and includes *header parsing means for parsing the header of one of a received email message and a received SMS message to extract an originating address, and includes means for identifying the correspondent of an incoming communications event based on the extracted originating address*. In a further embodiment, correspondent identifier includes an address book interface for cross referencing the received call display information and the extracted originating address with entries in an address book accessible to the mobile device to identify the correspondent. *In yet another embodiment of the second aspect of the present invention, the communications event handler includes a user interface controller for controlling the user interface to provide a user with communications event handling options* and also includes means for updating the communications event database to reflect the status of an incoming call.”);

- [0021] (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, *as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types* including a phone call, an e-mail message and an SMS message, among other known types of communications events. *Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a phone call, through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message*. Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, *the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message*. Additionally, the user is preferably able to *view a listing of all sent and received calls involving the*

correspondent along with the time and date at which the call occurred, the length of the call if the call was answered, and an indication if the call was or was not answered. In a presently preferred embodiment of the present method of the invention, the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.”);

- [0026] (“*Database 116* is preferably structured to have at least one table 128. In table 128, four data fields are identified. *The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read*, or whether or not a telephone call was answered. *Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.* In a presently preferred embodiment, *the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.* The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. *Transceiver 118 is used to both transmit and receive communications events.* Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. *In conjunction with*

communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.”);

- [0028] (“*Display 120 is preferably a liquid crystal display, and may optionally be a touch sensitive liquid crystal display, so that a user can be provided with user interface acknowledgement buttons on the screen of the device itself.* Implementations of graphical interfaces on liquid crystal displays, and touch sensitive liquid crystal displays will be well understood by those skilled in the art of mobile device design. It is fully contemplated that though mobile device 112 has been described herein as having display 120, that display 120 can be replaced with other user interfaces. Examples of such user interfaces include audio interfaces and dynamic Braille pads for use by individuals with visual impairments.”);
- [0036] (“The database 112 preferably tracks the type 132 of communications event, the data 134 contained in the communications event, and preferably a status 130 of the event. *The type of the event 132 typically denotes whether it was a telephone call, a SMS message, an e-mail message, a WAP data transmission, or other data based transaction.* The type field 132 also indicates whether the communication was received by the user of the mobile device, or originated from the user of the mobile device. The data field 134 typically contains the body of an e-mail message, the body of a SMS message, information related to the WAP data transmission, or call length, as appropriate. The status 130 of the message typically indicates whether a placed or received call was answered, or if a received message was replied to. One skilled in the art will readily appreciate that it is preferable to index this data with an index field 138, however, the implementation of an index is purely optional, though understood by one skilled in the art. Thus, in operation, a mobile device 112 of the present invention will receive a

communications event and prior to displaying notification of this event, be it an e-mail message, a SMS message, or a telephone call, the processor of the mobile device queries the database 116 using the calling number as a key. The calling number is typically transmitted to the processor of the mobile device using such services as call display, or visual call waiting, which will be well understood to those skilled in the art. ***The query to the database 116 using the incoming number or address, as a search perimeter will result in a query response containing a list of all communications events between the mobile device 112 or any account associated with mobile device 112, and the incoming address. This information is then presented to the user on the display 120 of the mobile device*** so that prior to answering a telephone call the user will know the date of the last communication. Alternatively, if a received SMS message is generating the notification, ***the user is provided with the context of the SMS message as a result of being able to view prior SMS messages, prior e-mail messages, and is also presented with the dates of the last call initiated to the SMS originating address.***”);

- **[0040]** (“The pre-set criteria can also match communications event data. For instance, to ***view all communications events sent to or received from a particular contact***, the pre-set criteria may include matching select communications event data with all of the specific contact information found in an address book entry for the contact. As an example, consider all communications events sent to or received from a stockbroker. Contact information for the stockbroker is preferably kept in the address book. Preferably, each address book entry contains a variety of fields that can be mapped to one or more communications addresses supported by the mobile device. ***In the entry corresponding to the stockbroker, for example, if the following fields are defined: telephone number, mobile phone number, fax number, email address, and URL’s***; then an example preferable mapping to message types follows. The phone, mobile, and fax numbers are mapped to voice and/or video communications events. The mobile number is additionally mapped to an SMS address for SMS type communications events. The email address is mapped to email communications events. The URL’s are mapped to corresponding communications event types. For instance an http URL can be mapped to web and/or WAP, whereas an FTP URL (File Transfer Protocol) can be mapped to an ftp communications event. ***All communications events, including phone calls, SMS communications events, emails, web communications events, WAP***

communications events or other communications events that match at least one field in the stockbroker contact entry of the address book *would then be selected by the communications event software interface module 126, and would be displayed. Preferably, the presentation of the retrieved data from database 116 would show the contact name, such as ‘stockbroker’ as defined by the preset criteria 142.”*);

- **Claim 40** (“The wireless device of claim 35, wherein *each stored communication event comprises a time-stamp* indicating the date the stored communication events were transmitted or received by the wireless device.”).
- **See also Maguire, Figures 1, 6, [0006], [0037], Claim 41.**

146. See my discussion of elements [1.pre], [1.b]–[1.c]. As explained for elements [1.pre], [1.b]–[1.c] above, Maguire discloses an integrated user interface and message content. See [1.pre], [1.b]–[1.c]. Maguire’s mobile device interface includes a “**display**” as shown in Figure 5. Maguire, Figure 5, [0028]. The display presents “data” for each message—which “for a SMS or email message would include **the body of the message**”—as shown in blue in Figure 5, and **additional information about the message**, shown in pink:

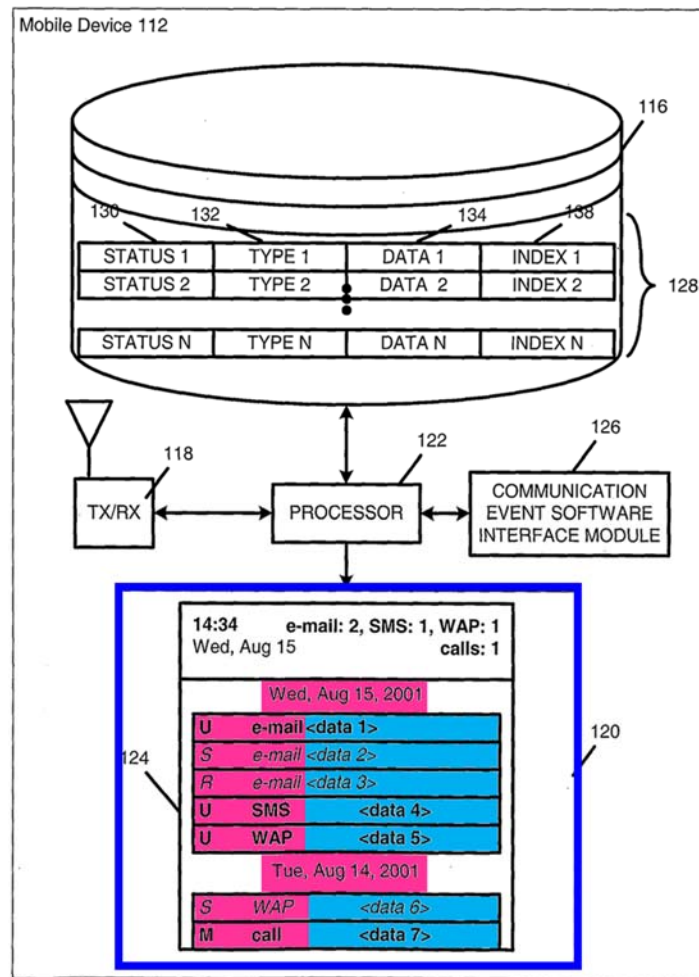


Figure 5

Maguire, Figure 5, [0026], [0040], claims 40-41. The additional information for each message includes an “indication” of whether the message was “sent,” “received,” and “unread” as well as “contact name,” and a message “time-stamp.” Maguire, Figure 5, [0026], [0040], claims 40–41. Such information constitutes description data associated with outgoing and incoming messages. The ’839 Patent itself describes such information “indicating the incoming message or outgoing message,” and “sender/recipient name” as description data. ’831 patent, 4:47-61.

147. Maguire’s inclusion of message information on its interface display not only renders obvious, but actually discloses, displaying description data carried in a message. For example, Maguire discloses an “address” book that indexes “email” and “SMS” addresses included in a message to a contact name. Maguire [0012]. A person of ordinary skill in the art would have understood, and at a minimum found it obvious, to display the address information when there is no corresponding contact name to display so that the user can still identify the message correspondent. Further, it was well-understood and common for messaging protocols to include timestamps, a form of description data, in messages. *E.g.*, RFC2822, at 14-15 (“Date and time occur in several [email] header fields.”), 15-16 (“Addresses...in several [email] header fields to indicate senders and recipients of messages.”); 3GPP TS 24.011 v5.2.0 at 31 (requiring transmitted and received SMS messages to include “Originator Address” and “Destination Address” information); 3GPP TS 23.140 v6.4.0 at 30-31 (disclosing “Date and Time” information elements are included in “MMS” messages), 50, 57; WAP MMS Encapsulation Protocol at 23 (disclosing “Delivery-Time” header field value in MMS messages); RFC 1889 at 1 (describing “timestamping” format for real-time transport protocol communication). Similarly, a person of ordinary skill in the art would have found it obvious that a message “time-stamp” presented in Maguires display would be the same as the timestamp in the sent and received messages—as opposed to having to take the extra and

potentially inaccurate steps of separately generating the information. Maguire, Figure 5, [0026], claim. 40. As I discussed in relation to element [1.d] in Ground 1, a person of ordinary skill in the art would have understood, and at minimum found it obvious, that displayed description data (e.g., addresses and date/time fields for messages) to also be included in the transmitted messages because doing so was well-known and well-understood in the art. *See* Section IX.A.2(e), element [1.d].

148. **To the extent further disclosure is required, Kang discloses displaying description data (e.g., “title,” “e-mail address,” “telephone subscriber number,” “icons”) in the IUI (e.g., in “LCD 11”).** *See, e.g.,* Kang (emphasis added):

- **Figures 2, 4**

FIG. 2

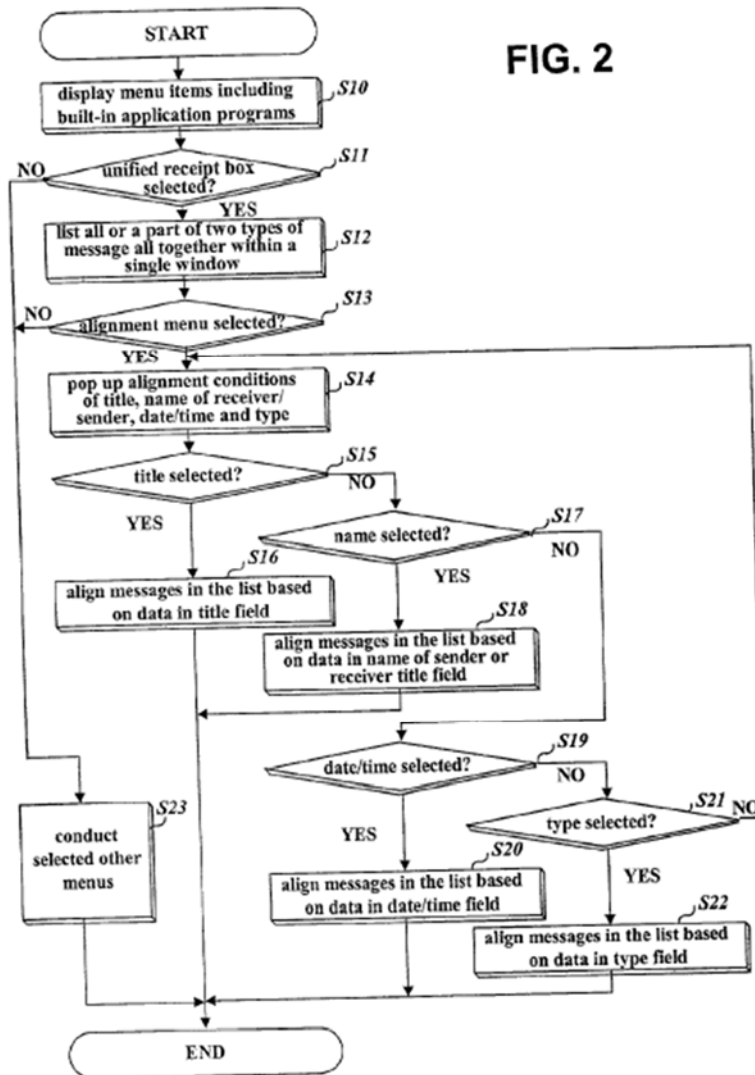
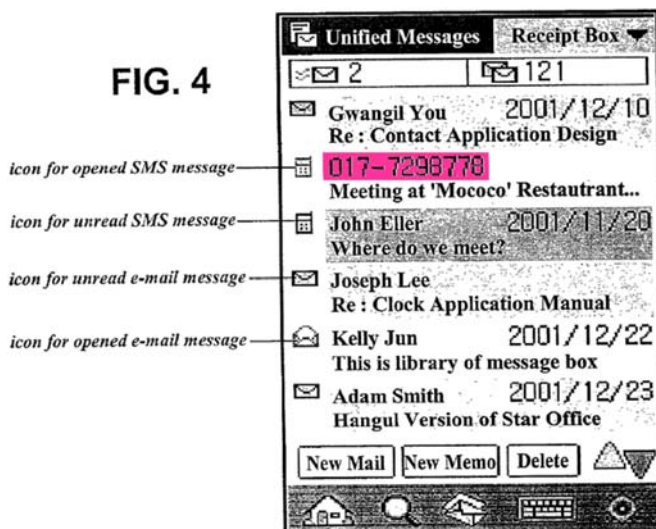


FIG. 4

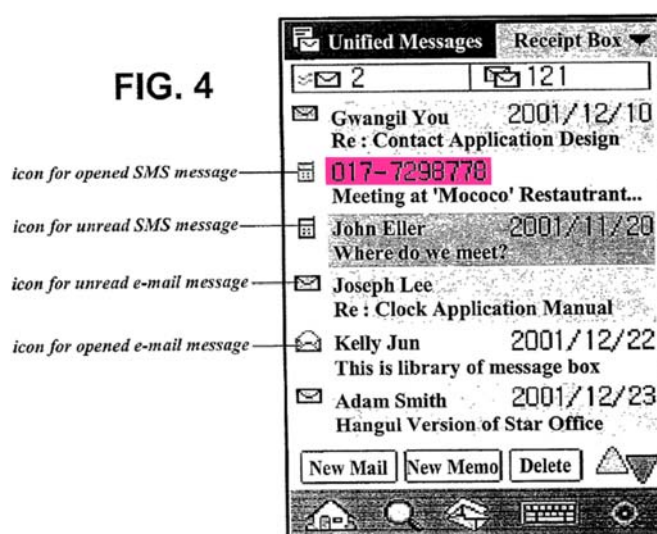


- [0026] (“***In details, the I/O module 10 includes a wide LCD 11 for displaying information and a touch screen 12 for data input***, the communicating module 30 includes a signal transceiver 31 transmitting/receiving wireless signals; a WAP unit 32 conducting WAP (Wireless Application Protocol) which ensures reliability of wireless data communication; and a SMS unit 33 allocating/extracting SMS messages to/from signal channels, and the controlling module 20 includes a message type checking unit 21 checking which type a written message belongs to; a message type converting unit 22 converting the format of a written message to match to other type based on whether it is matched with its intended type; ***a POP3/SMTP unit 23 formatting a mail message to the e-mail protocol and retrieving a mail message vice versa; a WAP format adapting unit 24 adapting a POP/SMTP-formatted message to wireless transmission conditions*** and decoding received wireless signals to obtain digital data; ***a SMS format adapting unit adapting a message to SMS protocol*** and retrieving a SMS message from the received wireless signals; ***and a controlling unit 26 supervising operations of all elements overall.***”);
- [0027] (“FIG. 2 is a flow chart of an embodiment of ***displaying received messages all together regardless of their types*** of a personal information terminal in accordance with a unified message management method of the present invention. The procedure of FIG. 2 conducted in the personal information terminal of FIG. 1 is explained below in detail.”);
- [0033]-[0034] (“The controlling unit 26 sequentially reads all entries of the UMMT 41, configured as above, stored in the storage module 40, ***and lists all or a part of them within a single window on the wide LCD 11, as shown in FIG. 4 (S12)***. At this time, the controlling unit 26 does not refer the mail message DB 42 and the SMS message DB 43 when it displays only title for a mail message and a short part of message for a SMS message. However, ***it reads out contents of respective messages from the two DBs 42 and 43*** with reference to the message IDs written in each ‘Message ID’ field of the UMMT 41 ***when it has to show mail message and SMS message fully***.”)

Specific fields are expressed differently based on message type. For example, ***information written in ‘sender’ field is expressed in the form of e-mail address when the message type is mail, and in the form of telephone subscriber number when the type is SMS.***”);

- [0035] (“In the meantime, the controlling unit 26 *may insert different icons* with different color, which are determined based on the information written in ‘Type/Opened’ field, before every displayed items in the message list as shown in FIG. 4, as a result, a user can easily recognize which messages are not read yet and which type they belong to.”).
- *See also Kang, [0009]-[0010], [0015], [0017]-[0018], [0027], [0031], Figure 5.*

149. Kang also discloses a display for displaying message content and description data. See my discussion of element [1.c]. As explained for [1.c] above, Kang discloses message content. See [1.c]. Kang further teaches a “single window on the wide LCD 11” for displaying “e-mail address” or phone “number” information alongside message content. Kang [0033]-[0034]. As shown in Figure 4, a message from an unnamed sender, “017-7298778” is displayed with the sender’s address or number. Kang, Figure 4.



150. As discussed in Section IX.B.3, a person of ordinary skill in the art would have been motivated to display sending/receiving party’s address or number,

as taught by Kang, in Maguire's user interface. Doing so would advantageously improve the user's ability to understand the context of communications with an unnamed correspondent, for example, because the correspondent is not in saved in address book of the device disclosed in Maguire. See Maguire [0012].

(f) Element [1.e(i)]

151. **Element [1.e(i)] recites “a controller for providing the IUI to the keypad and the displayer by operating the integrated messaging service program.”** This element is met by Maguire alone and in view of Kang.

152. **Maguire renders obvious a controller for providing the IUI to the keypad** (see [1.c]) **and the displayer** (see [1.d]) **by operating the integrated messaging service program** (*e.g.*, “processor” executes “software interface module” to generate the “interface” including the display and receiving content for “outgoing communications events”). See, *e.g.*, Maguire (emphasis added):

- **Figure 3**

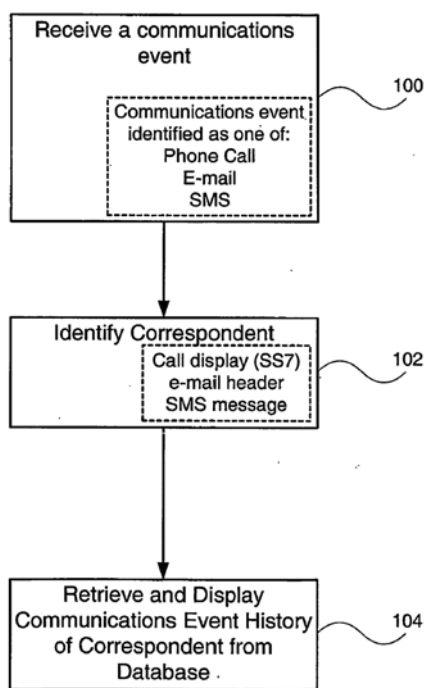


Figure 3

• **Figure 5**

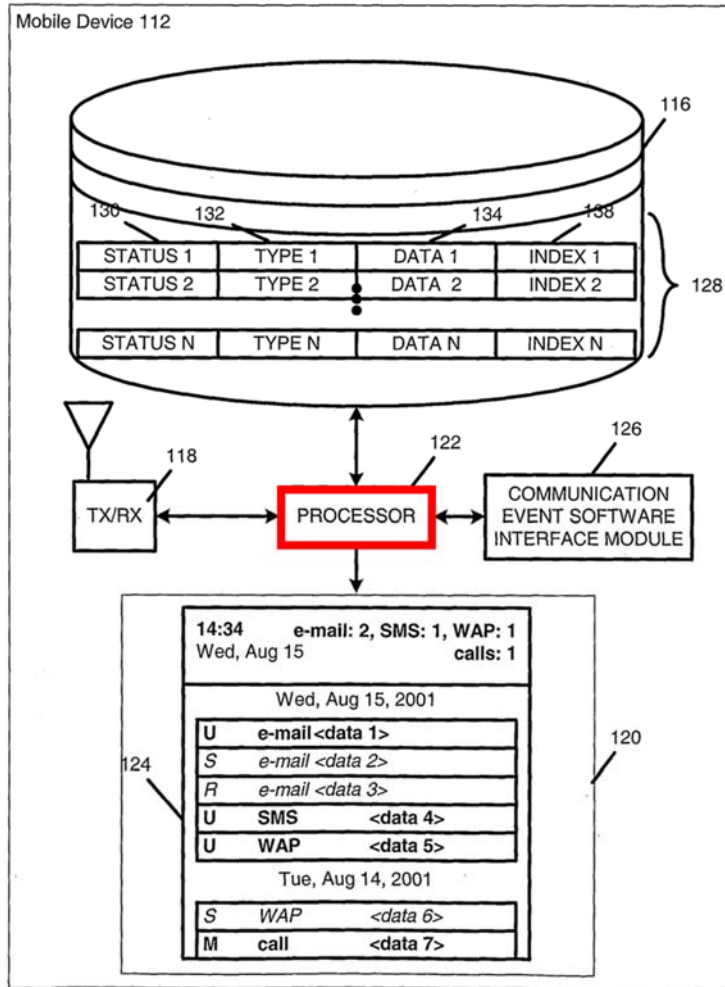


Figure 5

- [0014] (“In an embodiment of the second aspect of the present invention, *the communications event handler includes a communications event type identifier for identifying the type of the communications event* from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event. In another embodiment of the second aspect of the present invention, *the user interface is a display*, and the communications event handler includes *a display controller for controlling the display to display the retrieved communication event history*. In another embodiment of the present invention, communications event handler includes a correspondent identifier for identifying the correspondent of an incoming communications event, and the correspondent identifier is connected to the *transceiver* for receiving call

display information, and includes means for identifying the correspondent of an incoming communications event based on the received call display information, and includes *header parsing means for parsing the header of one of a received email message and a received SMS message to extract an originating address, and includes means for identifying the correspondent of an incoming communications event based on the extracted originating address*. In a further embodiment, correspondent identifier includes an address book interface for cross referencing the received call display information and the extracted originating address with entries in an address book accessible to the mobile device to identify the correspondent. *In yet another embodiment of the second aspect of the present invention, the communications event handler includes a user interface controller for controlling the user interface to provide a user with communications event handling options* and also includes means for updating the communications event database to reflect the status of an incoming call.”);

- [0019]-[0020] (“*In the present invention a mobile device provides an integrated user interface through which a user can view communications events* in which a particular correspondent has partaken. *A mobile device* of the present invention makes use of a communications event database to track all *incoming and outgoing communications events* with various correspondents.

The present invention provides a unified view of communications events, so that a user can determine the context of any received communications event, or can determine the context of a communications event to be placed. Thus, upon receipt of *a SMS message, or other communications events*, after identifying the type of the communications event, in addition to notifying the user that a message has been received, the mobile device will present the user with a listing of the most recent communications events that are associated with the originating address of the message. *The user is also given the option of viewing information about the prior communications events, which would include viewing prior SMS messages*, viewing information about the data received for a wireless application protocol browsing session, or the call length and dates of any placed or received calls. *This information will allow the user to better contextualise the content of the new message.*”);

- [0021] (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, *as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types* including a phone call, an e-mail message and an SMS message, among other known types of communications events. *Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a phone call, through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message.* Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, *the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message.* Additionally, the user is preferably able to *view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred, the length of the call if the call was answered, and an indication if the call was or was not answered.* In a presently preferred embodiment of the present method of the invention, *the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.*”);
- [0025] (“Figure 5 illustrates an embodiment of mobile device 112 according to the present invention. *Mobile device 112 preferably includes database 116, transceiver 118, processor 122, and display 120. In alternate*

embodiments of the present invention, mobile device 112 does not include database 116, and instead accesses a central server which hosts database 116 through a wireless link. In additional embodiment, mobile device 112 either includes an address book having a plurality of contact addresses for a variety of correspondents, or has access to such an address book using a wireless connection. *Communications event software interface module 126 is preferably a software application executed by processor 122*, and is a specific example of a communications event handler according to the present invention. It is contemplated that the communications event handler can be implemented as a separate hardware component, which may or may not implement software based routines. In a further embodiment, the communications event handler can be hardware enabled and integrated with processor 122.”);

- [0026] (“*Database 116 is preferably structured to have at least one table 128. In table 128, four data fields are identified. The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read, or whether or not a telephone call was answered. Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record. In a presently preferred embodiment, the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call. The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. Transceiver 118 is used to both transmit and*

receive communications events. Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. *In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.”);*

- [0040] (“The pre-set criteria can also match communications event data. For instance, to *view all communications events sent to or received from a particular contact*, the pre-set criteria may include matching select communications event data with all of the specific contact information found in an address book entry for the contact. As an example, consider all communications events sent to or received from a stockbroker. Contact information for the stockbroker is preferably kept in the address book. Preferably, each address book entry contains a variety of fields that can be mapped to one or more communications addresses supported by the mobile device. *In the entry corresponding to the stockbroker, for example, if the following fields are defined: telephone number, mobile phone number, fax number, email address, and URL’s*; then an example preferable mapping to message types follows. The phone, mobile, and fax numbers are mapped to voice and/or video communications events. The mobile number is additionally mapped to an SMS address for SMS type communications events. The email address is mapped to email communications events. The URL’s are mapped to corresponding communications event types. For instance an http URL can be mapped to web and/or WAP, whereas an FTP URL (File Transfer Protocol) can be mapped to an ftp communications event. *All communications events, including phone calls, SMS communications events, emails, web communications events, WAP communications events or other communications events* that match at least one field in the stockbroker contact entry of the address book *would then be selected by the communications event software interface module 126, and*

would be displayed. Preferably, the presentation of the retrieved data from database 116 would show the contact name, such as ‘stockbroker’ as defined by the preset criteria 142.”).

- **See also Maguire, [0015], [0028]-[0029].**

153. See my discussion of elements [1.pre], [1.b]-[1.d]. As explained for element [1.pre], Maguire discloses an integrated messaging service program. See [1.pre]. As further explained for elements [1.b]-[1.d] above, Maguire discloses providing the integrated user interface to the keypad and the displayer. See [1.b]-[1.d]. As I discuss for [1.b]-[1.c], Maguire further teaches that a “processor” executes a “software interface module” and accesses the communication events database to provide the “integrated user interface” to the device display and receive user input for “outgoing communications events.” Maguire [0019]-[0020], [0025]-[0026], [0040]. A person of ordinary skill in the art would have understood that Maguire’s “processor” operates as a controller because it receives instructions, in this case, the software interface module, and executes them. See Maguire, claim 26. For the same reasons discussed for [1.c], a person of ordinary skill in the art would have understood, and at a minimum found it obvious, to also provide the integrated user interface to a keypad. See [1.c].

154. **To the extent further disclosure is required, Kang discloses providing the IUI to the keypad** (see [1.c], an interface to the keypad and displayer are provided in order to input outgoing messages). See, e.g., Kang (emphasis added):

• Figures 1, 7-8

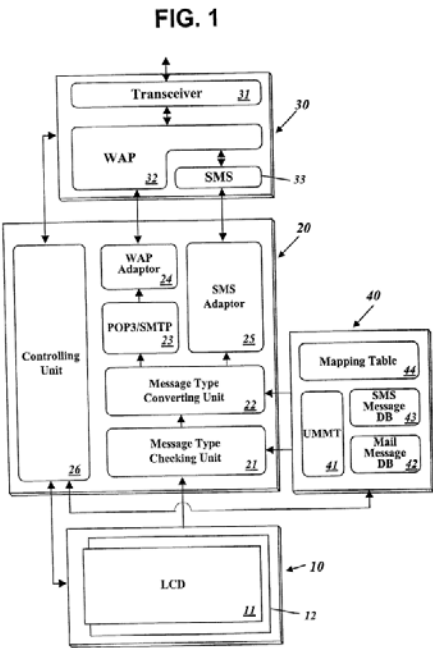
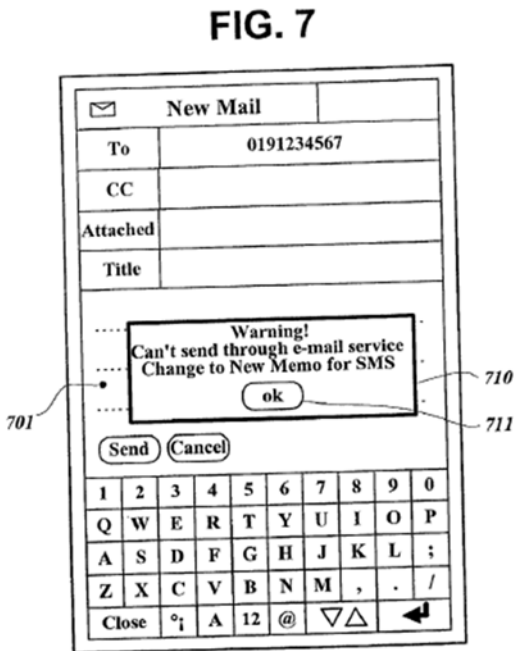


FIG. 8

801

New Memo											
To		dino211@mailserver.com									
From											
.....											
.....											
.....											
.....											
.....											
Send Cancel											
1	2	3	4	5	6	7	8	9	0		
Q	W	E	R	T	Y	U	I	O	P		
A	S	D	F	G	H	J	K	L	;		
Z	X	C	V	B	N	M	,	.	/		
Close	°i	A	12	@	▽△	←					

- [0025] (“FIG. 1 is a block diagram of a personal information terminal conducting a unified management method of various types of messages in accordance with the present invention. ***The personal information terminal of FIG. 1 comprises an I/O module 10 for inputting/outputting data; a storage module 40 for storing several DBs or data tables; a communicating module 30 for conducting data communication; and a controlling module 20 for controlling data input/output, data conversion, and data communication.***”);
- [0026] (“***In details, the I/O module 10 includes a wide LCD 11 for displaying information and a touch screen 12 for data input, the communicating module 30 includes a signal transceiver 31 transmitting/receiving wireless signals; a WAP unit 32 conducting WAP (Wireless Application Protocol) which ensures reliability of wireless data communication; and a SMS unit 33 allocating/extracting SMS messages to/from signal channels, and the controlling module 20 includes a message type checking unit 21 checking which type a written message belongs to; a message type converting unit 22 converting the format of a written message to match to other type based on whether it is matched with its intended type; a POP3/SMTP unit 23 formatting a mail message to the e-mail protocol and retrieving a mail message vice versa; a WAP format adapting unit 24 adapting a POP/SMTP-formatted message to wireless transmission***”);

conditions and decoding received wireless signals to obtain digital data; a SMS format adapting unit adapting a message to SMS protocol and retrieving a SMS message from the received wireless signals; and a controlling unit 26 supervising operations of all elements overall.”);

- [0028] (“First, *the controlling unit 26 displays a variety of built-in application programs and menu items onto the wide LCD 11 to be selected by a user (S10).*”);
- [0040] (“*First, the controlling unit 26 checks which application item is selected through the touch screen 12 by a user (S40).* If a ‘New Mail’ item is chosen by the user (S41) because an e-mail is intended to send, the controlling unit 26 provides an initial screen for a new mail which includes ‘To’, ‘CC’, ‘Attached’, ‘Title’ field, and message input window 701, as shown in FIG. 7 (S42). Then, the user fills in the ‘To’ and the ‘Title’ with respective necessary information without exception and fills in the ‘CC’ and the ‘Attached’ field, if needed. *Afterwards, the user writes a message to send in the message input window 701. Through these filling-in works, a mail message to send is completed (S43).*”);
- [0059]-[0060] (“In the procedure of FIG. 10, the controlling unit 26 outputs an input window demanding only information of a recipient (S80) first when a user requests for a new message. *After data is entered in the input window completely, the controlling unit 26 commands the message type checking unit 21 to examine the entered data (S81).* The message type checking unit 21 regards a message to write as SMS message when the entered data is composed of numeric digits, and as mail message *when the entered data includes the symbol of ‘@’ indicative of a mail account (S82).* *The identified message type by the message type checking unit 21 is notified to the controlling unit 26.* Then, the controlling unit 26 provides the ‘New Mail’ screen of FIG. 7 if identified as mail message and the ‘New Memo’ screen of FIG. 8 if identified as SMS message (S83, S88) . At this time, the controlling unit 26 copies the data entered in the input window to the ‘To’ field of the message input screen of FIGS. 7 or 8.

After the *user completes a message by filling in necessary information as well as a body message in fields of the message input screen (S 84, S89)* he or she requests for transmission of the completed message (S85, S90). Then, the message type converting unit 22 delivers the completed message to the

POP3/SMTP unit 23 or the SMS format adapting unit 25 which will transmit the received message to a remote side in accordance with a protocol intended by ‘New Mail’ or ‘New Memo’ (S86, S91).”);

- ***See also Kang, Figures 2, 9, [0023], [0027], [0029], [0033], [0035]-[0036], [0045].***

155. Kang also discloses providing the user interface to the keypad. See my discussion of element [1.c]. As explained for [1.c] above, Kang discloses a keyboard and selecting menu items. *See* [1.c]; *see also* Kang, [0025]-[0026], [0028], [0040], [0059]-[0060], Fig. 7. This discloses providing the IUI to the keypad in at least two ways. First, the system provides the requisite software instructions that, when executed, displays the keypad as a virtual keypad within the IUI. Second, the system provides additional software instructions that allow the displayed keypad to receive message content and control message inputs within the IUI—e.g., by enabling the keypad to interpret the user’s inputs to the touch screen as having selected particular keys. As discussed in Section IX.B.3 and for [1.c] above, a person of ordinary skill in the art would have been motivated to modify Maguire with Kang’s I/O module keypad teachings in order to provide the IUI to the keypad.

(g) Element [1.e(ii)]

156. **Element [1.e(ii)] recites “determining a message kind of the message to be transmitted which is inputted in the IUI.”** This element is met by Maguire alone and in view of Kang.

157. Maguire renders obvious determining a message kind of the message to be transmitted (e.g., “identif[ying],” e.g., “voice,” “e-mail,” “SMS,” or “WAP” “event type[s]” for “outgoing communications events”; “software interface module” includes “a communications event type identifier”) **which is inputted in the IUI** (e.g., message inputted on “display”). See, e.g., Maguire (emphasis added):

- **Figures 3-5**

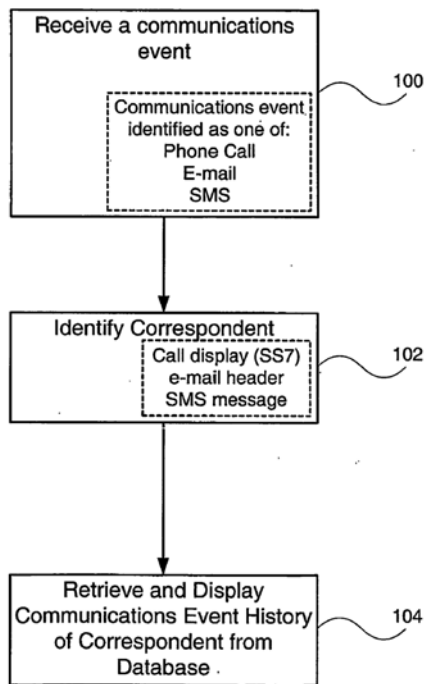


Figure 3

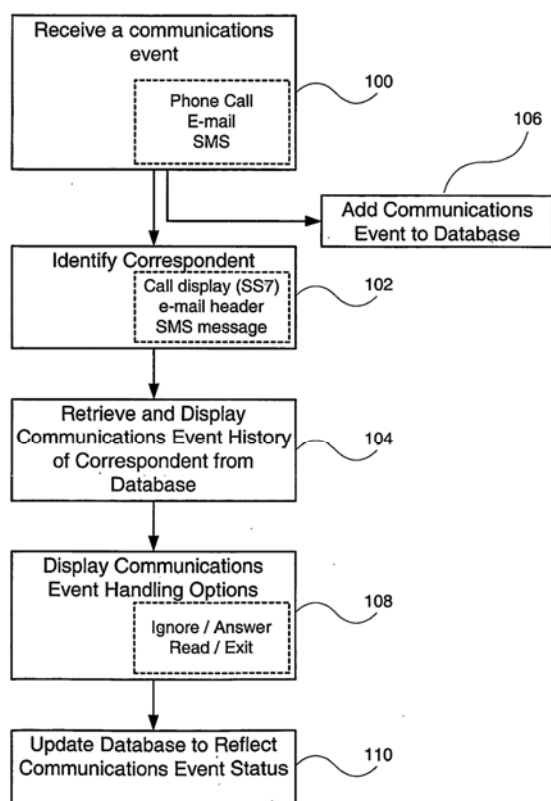


Figure 4

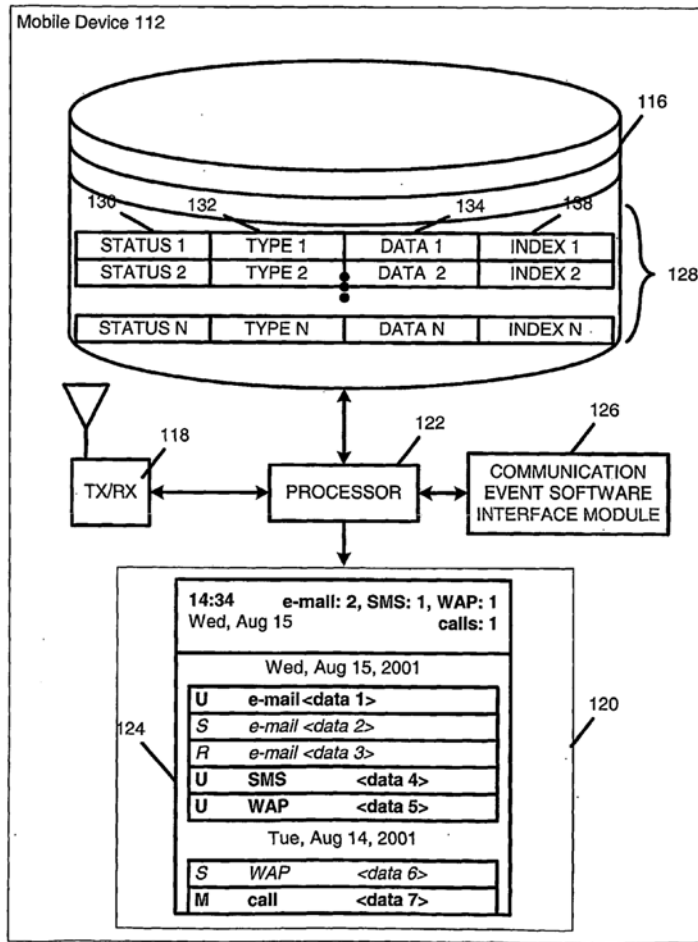


Figure 5

- [0002]-[0004] (“This invention relates generally to *a user interface for messaging*.”)

Most cellular networks such as Code Division Multiple Access (CDMA) and Global Service Mobile (GSM) networks *support data services* in addition to standard telephony based services. *Short Messaging Service (SMS) and Wireless Application Protocol (WAP) are data centric services available on many cellular networks.* Data networks, such as MobiTex™, Datatac™, as well as advanced networks such as General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), Enhanced Data for GSM Enhancement (EDGE) and IX that overlay cellular networks, allow an appropriately configured *mobile device to offer data services such as e-mail, web browsing, as well as SMS and Multimedia messaging service (MMS) messaging, and WAP data sessions.*

Communications events include telephone calls, both sent and received, SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions. Each communications event has at least two parties, the user of the mobile device and at least one correspondent. Each correspondent can have multiple contact addresses, such a work phone number, a home phone number, a mobile phone number, an SMS address, and a plurality of email addresses.”);

- **[0012]** (“In an embodiment of the first aspect of the present invention, ***the step of identifying is preceded by the step of determining a communications event type for the communications event, where the communications event type of the communications event is selected from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event.*** In another embodiment of the present invention, the communications event is an incoming communications event, and the method further includes the step of receiving the incoming communications event prior to identifying the correspondent. In another embodiment of the present invention, the user interface is a display, and the step of controlling the user interface includes displaying the retrieved communications event history on the display. In yet a further embodiment of the present invention, the method includes adding the incoming communications event to the communications event history in the communications event database. In embodiments of the present invention, receiving an incoming communications event and identifying the correspondent includes one of receiving a telephony based phone call and extracting a phone number from call display information, ***receiving an incoming email message and extracting an email address from the header of an email message and receiving an incoming short messaging service (SMS) message and extracting an originating address from a SMS message.*** In a further embodiment of the present invention, ***identifying the correspondent further includes cross referencing one of the extracted phone number, the extracted email address and the extracted originating address, with entries in an address book accessible to the mobile device.*** In yet a further embodiment of the present invention the method includes the step of controlling the user interface to provide the user with communications event handling options, where controlling the user interface can include providing the user an option to either ignore or answer an

incoming telephony based call, or read or ignore one of the incoming email message and the incoming SMS message. Another embodiment of the present invention includes updating the communications event database to reflect a status of the incoming communications event after providing the user with communications event handling options.”);

- [0013] (“In a second aspect of the present invention, there is provided *a mobile device, having a user interface and a transceiver for transmitting and receiving communications events. The mobile device includes a communications event database, and a communications event handler. The communications event database is for storing a communications event history associated with a correspondent. The communications event handler is in communication with the communications event database for retrieving from the communications event database the communication event history in response to a communications event, and is for controlling the user interface to provide the retrieved communication event history to a user.*”);
- [0014] (“In an embodiment of the second aspect of the present invention, *the communications event handler includes a communications event type identifier for identifying the type of the communications event* from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event. In another embodiment of the second aspect of the present invention, *the user interface is a display*, and the communications event handler includes *a display controller for controlling the display to display the retrieved communication event history*. In another embodiment of the present invention, communications event handler includes a correspondent identifier for identifying the correspondent of an incoming communications event, and the correspondent identifier is connected to the *transceiver* for receiving call display information, and includes means for identifying the correspondent of an incoming communications event based on the received call display information, and includes *header parsing means for parsing the header of one of a received email message and a received SMS message to extract an originating address, and includes means for identifying the correspondent of an incoming communications event based on the extracted originating address*. In a further embodiment, correspondent identifier includes an address book interface for cross referencing the received call display

information and the extracted originating address with entries in an address book accessible to the mobile device to identify the correspondent. ***In yet another embodiment of the second aspect of the present invention, the communications event handler includes a user interface controller for controlling the user interface to provide a user with communications event handling options*** and also includes means for updating the communications event database to reflect the status of an incoming call.”);

- [0019]-[0020] (“***In the present invention a mobile device provides an integrated user interface through which a user can view communications events*** in which a particular correspondent has partaken. ***A mobile device*** of the present invention makes use of a communications event database to track all ***incoming and outgoing communications events*** with various correspondents.

The present invention provides a unified view of communications events, so that a user can determine the context of any received communications event, or can determine the context of a communications event to be placed. Thus, upon receipt of ***a SMS message, or other communications events***, after identifying the type of the communications event, in addition to notifying the user that a message has been received, the mobile device will present the user with a listing of the most recent communications events that are associated with the originating address of the message. ***The user is also given the option of viewing information about the prior communications events, which would include viewing prior SMS messages***, viewing information about the data received for a wireless application protocol browsing session, or the call length and dates of any placed or received calls. ***This information will allow the user to better contextualise the content of the new message.***”);

- [0021] (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, ***as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types*** including a phone call, an e-mail message and an SMS message, among other known types of communications events. ***Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a***

signalling system 7 (SS7) type feature if the communications event is a phone call, ***through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message.*** Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, ***the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message.*** Additionally, the user is preferably able to ***view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred,*** the length of the call if the call was answered, and an indication if the call was or was not answered. In a presently preferred embodiment of the present method of the invention, ***the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.***”);

- [0022] (“One skilled in the art will readily appreciate that when the mobile device of the present invention receives a communications event in step 100 the communications event can be any of a number of event types. ***Typically, upon receiving a communications event in step 100, the mobile device analyses the incoming event and determines its specific type.*** This determination of the communications event type can be performed in numerous ways understood by those skilled in the art. ***One such method involves determining the communications event type based on the channel over which the communications event was received.*** For example, if the device supports GSM communications as well as GPRS communications, and the mobile device is capable of supporting voice, SMS, e-mail and WAP type communications events, ***a communications event received over a***

GPRS communications channel will be either a WAP or e-mail based communication, whereas a communications event received over the GSM communications channel will be either an SMS or voice type communications event. After narrowing the selection to the two choices based on the communications channel, the mobile device can parse the header associated with the incoming communications event to determine its specific type. For example, a WAP data session and an email message typically conform to different standard formats, and based on an analysis of the format, a determination can be made. The differentiation between an SMS message and a telephony based voice communications event is known in the art, and can be easily implemented. It is envisioned that on advanced networks all data and voice traffic will be carried on the same channel, much as both voice and data are carried in a Voice- over-IP data network. ***In such a network, header information associated with datagrams, or other data units, provide identification of the different types of communications event.*** One skilled in the art will readily appreciate that a number of alternate method can be implemented without departing from the scope of the present invention.”);

- **[0026]** (“***Database 116*** is preferably structured to have at least one table 128. In table 128, four data fields are identified. ***The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read,*** or whether or not a telephone call was answered. ***Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.*** In a presently preferred embodiment, ***the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.*** The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device

112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. ***Transceiver 118 is used to both transmit and receive communications events.*** Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. ***In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.***”);

- [0029]-[0030] (“***Processor 122*** is connected to the database 116, and is capable of ***performing database queries on database 116***. Additionally, processor 122 is connected to an address book so that the identified correspondent from step 102 can be cross-referenced to the address book and match to a name in the address book. This will allow mobile device 112 to provide the user with a call event history from the call event database 116 that includes all communications events in which the identified correspondence has partaken, regardless of the communication address used by the correspondent.

In a presently preferred embodiment of the system illustrated in Figure 4, ***the communications event software interface module 126 includes a communications event type identifier. The identifier is for determining the type associated with the communications event. The identified type is stored in type field 132 in database 116.*** In the illustrated embodiment, the identifier is preferably a software routine, and in a more generic implementation is a module in the communications event handler.”).

- ***See also Maguire, [0035]-[0036].***

158. See my discussion of elements [1.pre]-[1.b], [1.e(i)]. As explained for elements [1.pre]-[1.b] and [1.e(i)], Maguire discloses a message to be transmitted and an integrated user interface. See [1.pre]-[1.b], [1.e(i)]. Maguire further discloses a “communications event type identifier” that “identifie[s]” the type of an “outgoing communications event,” or message. Maguire [0002]-[0004], [0012]-[0014], [0019]-[0021], [0022]. For example, the identifier determines whether a given communication event is an “e-mail,” “SMS, MMS, or WAP” message. Maguire [0014], [0026]. For all messages, both sent and received, the “identified type is stored in type field 132” of the communications event database along with an indicator “whether the communications event originated from, or was received by mobile device 112.” Maguire [0026], [0029]-[0030]. In view of these disclosures, a person of ordinary skill in the art would have understood, and at a minimum found it obvious that Maguire determines a “type” for each outgoing message in order to both generate the “type” information to be stored in the database, and to ensure that the appropriate transmission protocol is used to transmit each outgoing message. Maguire [0026], [0029]-[0030].

159. **To the extent further disclosure is required, Kang discloses determining a message kind of the message to be transmitted which is inputted in the IUI** (e.g., “message type checking unit” examines “entered data” to determine

a “message type” for the message to be transmitted). *See, e.g.,* Kang (emphasis added):

- **Figures 1, 6a-6b, 7, 9-10**

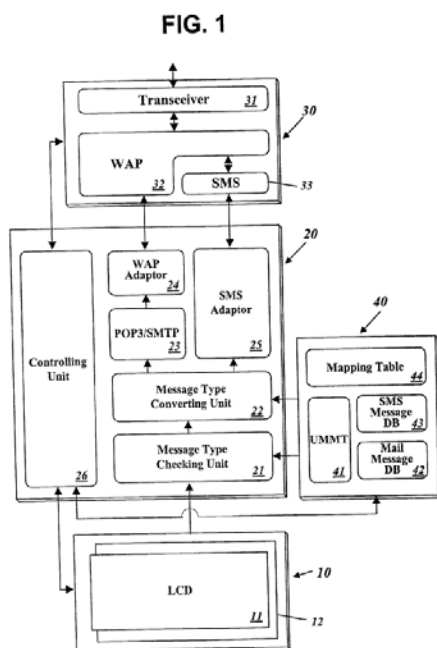


FIG. 6a

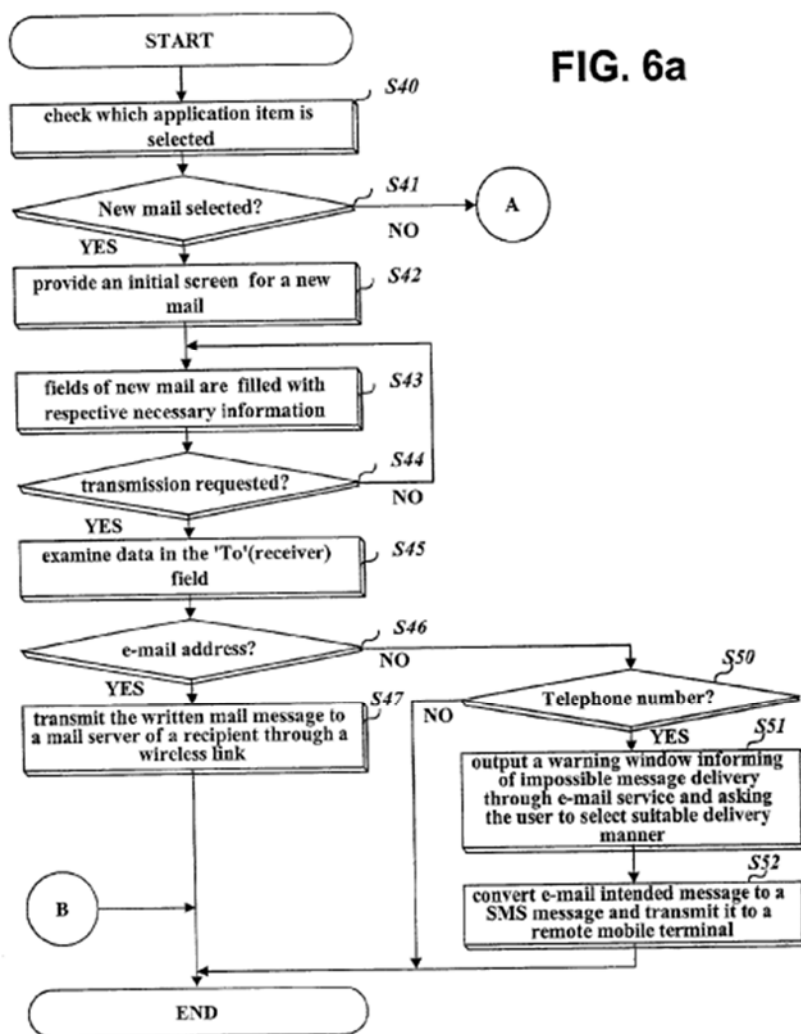


FIG. 6b

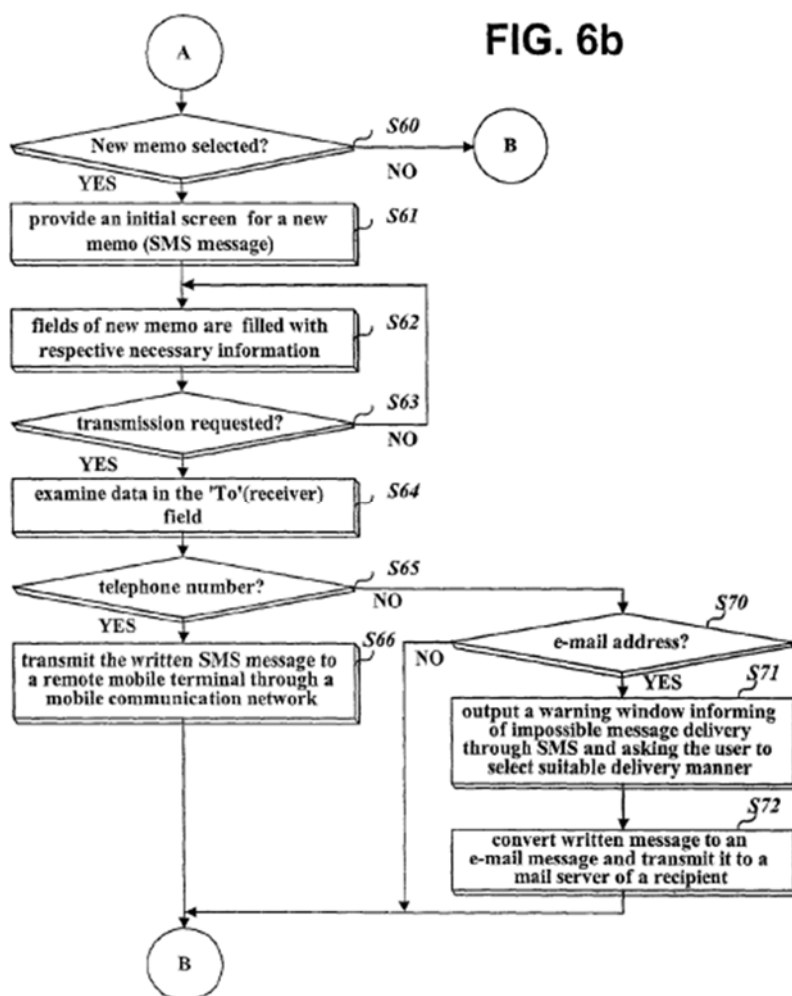


FIG. 7

New Mail

To0191234567

CC

Attached

Title

Warning!
Can't send through e-mail service
Change to New Memo for SMS

ok

Send

Cancel

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	;
Z	X	C	V	B	N	M	,	.	/
Close	°i	A	12	@	▽△	◀			

FIG. 9

New Memo

To0191234567

From0199876543

This is an explanation about drawings. I have
Fig. info
method of managing a variety of messages

Warning!
Message length is overflow.
Change to Mail type for e-mail delivery

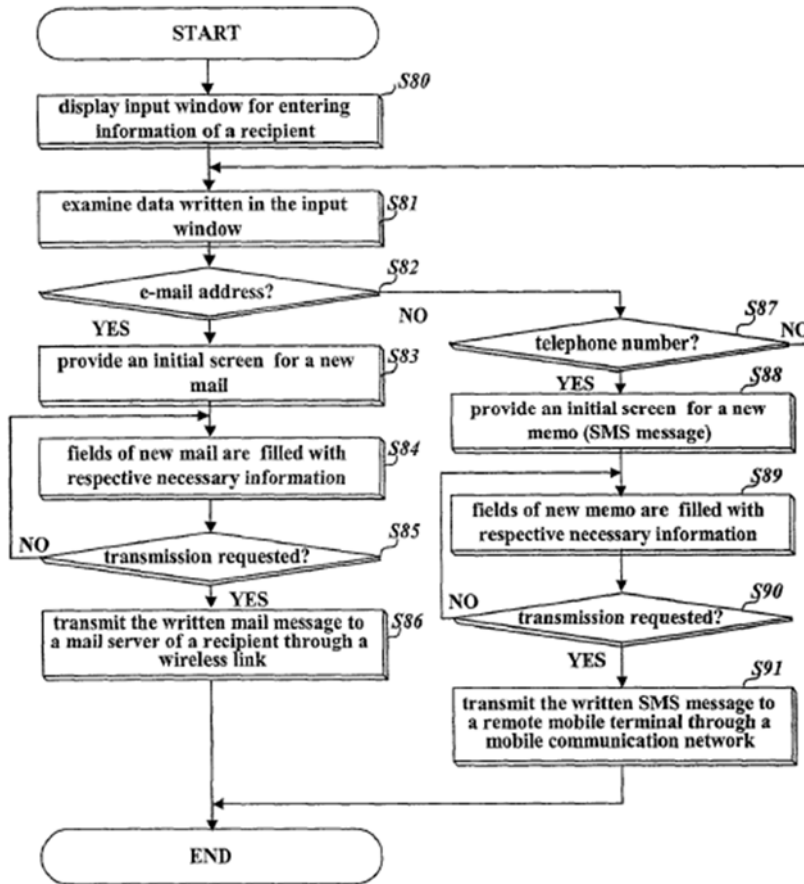
ok

Send

Cancel

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	;
Z	X	C	V	B	N	M	,	.	/
Close	°i	A	12	@	▽△	◀			

FIG. 10



- [0012] (“Another unified management method of plural types of messages in a personal information terminal where each type has different message field set from others in accordance with the present invention is characterized in that it comprises the steps of *checking whether or not a written message, of which type is intended to belong to one type among the plural types, satisfies conditions specified by said one type; converting the written message to other type different from said one type if at least one condition is not satisfied*; and transmitting the type-converted message.”);
- [0040] (“First, the controlling unit 26 checks which application item is selected through the touch screen 12 by a user (S40). If a ‘New Mail’ item is chosen by the user (S41) because an e-mail is intended to send, the controlling unit 26 provides an initial screen for a new mail which includes ‘To’, ‘CC’, ‘Attached’, ‘Title’ field, and message input window 701, as

shown in FIG. 7 (S42). Then, the user fills in the 'To' and the 'Title' with respective necessary information without exception and fills in the 'CC' and the 'Attached' field, if needed. *Afterwards, the user writes a message to send in the message input window 701. Through these filling-in works, a mail message to send is completed (S43)."*);

- [0041]-[0042] ("When the user requests for transmission of the completed mail 10 message (S44), *the controlling unit 26 commands the message type checking unit 21 to verify the completed message.* The message type checking unit 21 examines the data written in the 'To' field (S45). If the data written in the 'To' field includes a symbol '@', indicative of mail account, as well as alphanumeric characters (S46), the message 15 type checking unit 21 delivers the completed message to the message type converting unit 22 while informing the message type converting unit 22 that the message is format-matched and requesting no-conversion of message type at the same time. Then, the message type converting unit 22 only delivers the received message to the POP3 unit 23 without type conversion.

If the data written in the 'To' field is composed of numeric digits not including the symbol of '@' (SSO), *the message type checking unit 21 informs the controlling unit 26 of the fact.* Then, the controlling unit 26 pops up a warning window 710 which informs of impossible message delivery of the completed message through e-mail service and asks the user to *change delivery manner of the completed mail message (S51)*, as shown in FIG. 7.");

- [0046] ("If the user requests for transmission of a written memo (S 63) after filling in each field in an input screen of FIG. 8 with respective necessary information (S62), *the message type checking unit 21 examines the data written in the 'To' field (S64) as explained above.* If the data written in the 'To' field includes only numeric digits (S65), the completed memo is delivered to the SMS format adapting unit 25 which transmits it to a remote side (S66) after formatting to a SMS message.");
- [0050] ("*The message type checking unit 21 further counts alphanumeric characters written in the message input window 801 of FIG. 8, even though the 'To' field is filled in with proper numeric data, and informs the counted size of the memo to the controlling unit 26. Then, the controlling unit 26 checks whether the informed size is beyond the maximum size, e.g.,*

50 bytes allowed in a single SMS message. If below the maximum size, the controlling unit 26 makes the written memo be sent in the form of SMS message.”);

- **[0059]** (“In the procedure of FIG. 10, the controlling unit 26 outputs an input window demanding only information of a recipient (S80) first when a user requests for a new message. ***After data is entered in the input window completely, the controlling unit 26 commands the message type checking unit 21 to examine the entered data (S81).*** The message type checking unit 21 regards a message to write as SMS message when the entered data is composed of numeric digits, and as mail message ***when the entered data includes the symbol of ‘@’ indicative of a mail account (S82).*** ***The identified message type by the message type checking unit 21 is notified to the controlling unit 26.*** Then, the controlling unit 26 provides the ‘New Mail’ screen of FIG. 7 if identified as mail message and the ‘New Memo’ screen of FIG. 8 if identified as SMS message (S83, S88) . At this time, the controlling unit 26 copies the data entered in the input window to the ‘To’ field of the message input screen of FIGS. 7 or 8.”).
- ***See also Kang [0011], [0061].***

160. Kang also discloses a “message type checking unit” which examines “entered data” in a “message input screen” to discern a “message type.” Kang [0059]. For example, it determines if a given message is intended to be transmitted as an SMS message or an email message based on, e.g., “data written into the ‘To’ field” or the number of the length of the message entered into the message input window. Kang, Figure 7, [0040], [0042], [0046], [0050], [0059], [0061].

161. As discussed in Section IX.B.3, a person of ordinary skill in the art would have been motivated to modify Maguire’s integrated messaging service with Kang’s automatic message type checking teachings in order to streamline the user’s

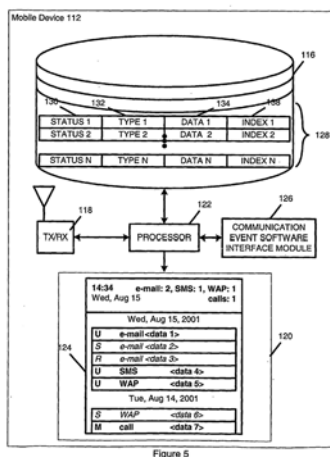
ability to generate messages under the appropriate protocol without having to manually author messages in different “message input screen[s]” for different message types. See Kang [0061].

(h) Element [1.e(iii)]

162. **Element [1.e(iii)] recites “generating an outgoing message including identification data corresponding to the message kind.”** This element is met by Maguire.

163. **Maguire discloses generating an outgoing message (e.g., “mobile device” sends “outgoing communications events” including “outgoing messages”) including identification data corresponding to the message kind (e.g., “header information” and communications “channel” for message provide “identification of the different types of communication events”).** See, e.g., Maguire (emphasis added):

- **Figure 5**



- **[0002]-[0004]** (“This invention relates generally to *a user interface for messaging*.”)

Most cellular networks such as Code Division Multiple Access (CDMA) and Global Service Mobile (GSM) networks ***support data services*** in addition to standard telephony based services. ***Short Messaging Service (SMS) and Wireless Application Protocol (WAP) are data centric services available on many cellular networks.*** Data networks, such as MobiTex™, Datatac™, as well as advanced networks such as General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), Enhanced Data for GSM Enhancement (EDGE) and IX that overlay cellular networks, allow an appropriately configured ***mobile device to offer data services such as e-mail, web browsing, as well as SMS and Multimedia messaging service (MMS) messaging, and WAP data sessions.***

Communications events include telephone calls, both sent and received, SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions. Each communications event has at least two parties, the user of the mobile device and at least one correspondent. Each correspondent can have multiple contact addresses, such a work phone number, a home phone number, a mobile phone number, an SMS address, and a plurality of email addresses.”);

- [0012] (“In an embodiment of the first aspect of the present invention, ***the step of identifying is preceded by the step of determining a communications event type for the communications event, where the communications event type of the communications event is selected from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event.*** In another embodiment of the present invention, the communications event is an incoming communications event, and the method further includes the step of receiving the incoming communications event prior to identifying the correspondent. In another embodiment of the present invention, the user interface is a display, and the step of controlling the user interface includes displaying the retrieved communications event history on the display. In yet a further embodiment of the present invention, the method includes adding the incoming communications event to the communications event history in the communications event database. In embodiments of the present invention, receiving an incoming communications event and identifying the

correspondent includes one of receiving a telephony based phone call and extracting a phone number from call display information, ***receiving an incoming email message and extracting an email address from the header of an email message and receiving an incoming short messaging service (SMS) message and extracting an originating address from a SMS message.*** In a further embodiment of the present invention, ***identifying the correspondent further includes cross referencing one of the extracted phone number, the extracted email address and the extracted originating address, with entries in an address book accessible to the mobile device.*** In yet a further embodiment of the present invention the method includes the step of controlling the user interface to provide the user with communications event handling options, where controlling the user interface can include providing the user an option to either ignore or answer an incoming telephony based call, or read or ignore one of the incoming email message and the incoming SMS message. Another embodiment of the present invention includes updating the communications event database to reflect a status of the incoming communications event after providing the user with communications event handling options.”);

- [0019]-[0020] (“***In the present invention a mobile device provides an integrated user interface through which a user can view communications events*** in which a particular correspondent has partaken. ***A mobile device*** of the present invention makes use of a communications event database to track all ***incoming and outgoing communications events*** with various correspondents.

The present invention provides a unified view of communications events, so that a user can determine the context of any received communications event, or can determine the context of a communications event to be placed. Thus, upon receipt of ***a SMS message, or other communications events,*** after identifying the type of the communications event, in addition to notifying the user that a message has been received, the mobile device will present the user with a listing of the most recent communications events that are associated with the originating address of the message. ***The user is also given the option of viewing information about the prior communications events, which would include viewing prior SMS messages,*** viewing information about the data received for a wireless application protocol browsing session, or the call length and dates of any placed or received calls.

This information will allow the user to better contextualise the content of the new message.”);

- [0021] (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, *as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types* including a phone call, an e-mail message and an SMS message, among other known types of communications events. *Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a phone call, through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message.* Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, *the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message.* Additionally, the user is preferably able to *view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred, the length of the call if the call was answered, and an indication if the call was or was not answered.* In a presently preferred embodiment of the present method of the invention, *the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.”);*

- [0022] (“One skilled in the art will readily appreciate that when the mobile device of the present invention receives a communications event in step 100 the communications event can be any of a number of event types. ***Typically, upon receiving a communications event in step 100, the mobile device analyses the incoming event and determines its specific type.*** This determination of the communications event type can be performed in numerous ways understood by those skilled in the art. ***One such method involves determining the communications event type based on the channel over which the communications event was received.*** For example, if the device supports GSM communications as well as GPRS communications, and the mobile device is capable of supporting voice, SMS, e-mail and WAP type communications events, ***a communications event received over a GPRS communications channel will be either a WAP or e-mail based communication, whereas a communications event received over the GSM communications channel will be either an SMS or voice type communications event.*** After narrowing the selection to the two choices based on the communications channel, the mobile device can parse the header associated with the incoming communications event to determine its specific type. For example, a WAP data session and an email message typically conform to different standard formats, and based on an analysis of the format, a determination can be made. The differentiation between an SMS message and a telephony based voice communications event is known in the art, and can be easily implemented. It is envisioned that on advanced networks all data and voice traffic will be carried on the same channel, much as both voice and data are carried in a Voice- over-IP data network. ***In such a network, header information associated with datagrams, or other data units, provide identification of the different types of communications event.*** One skilled in the art will readily appreciate that a number of alternate method can be implemented without departing from the scope of the present invention.”);
- [0025] (“Figure 5 illustrates an embodiment of mobile device 112 according to the present invention. ***Mobile device 112 preferably includes database 116, transceiver 118, processor 122, and display 120.*** In alternate embodiments of the present invention, mobile device 112 does not include database 116, and instead accesses a central server which hosts database 116 through a wireless link. In additional embodiment, mobile device 112 either includes an address book having a plurality of contact addresses for a variety of correspondents, or has access to such an address book using a

wireless connection. *Communications event software interface module 126 is preferably a software application executed by processor 122*, and is a specific example of a communications event handler according to the present invention. It is contemplated that the communications event handler can be implemented as a separate hardware component, which may or may not implement software based routines. In a further embodiment, the communications event handler can be hardware enabled and integrated with processor 122.”);

- [0026] (“*Database 116* is preferably structured to have at least one table 128. In table 128, four data fields are identified. *The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read*, or whether or not a telephone call was answered. *Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.* In a presently preferred embodiment, *the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.* The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. *Transceiver 118 is used to both transmit and receive communications events.* Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. *In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and*

after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.”);

- [0030] (“**Processor 122** is connected to the database 116, and is capable of **performing database queries on database 116**. Additionally, processor 122 is connected to an address book so that the identified correspondent from step 102 can be cross-referenced to the address book and match to a name in the address book. This will allow mobile device 112 to provide the user with a call event history from the call event database 116 that includes all communications events in which the identified correspondence has partaken, regardless of the communication address used by the correspondent. In a presently preferred embodiment of the system illustrated in Figure 4, **the communications event software interface module 126 includes a communications event type identifier. The identifier is for determining the type associated with the communications event. The identified type is stored in type field 132 in database 116.** In the illustrated embodiment, the identifier is preferably a software routine, and in a more generic implementation is a module in the communications event handler.”).

164. See my discussion of elements [1.pre], [1.e(i)]-[1.e(ii)]. As explained above for [1.e(ii)], Maguire discloses an “outgoing message[]” with a particular message kind. See [1.e(ii)]. Maguire further discloses messages include “header information” that “provide[s] identification of the different types of communications event[s].” Maguire [0019]-[0020], [0021]-[0022], [0025]-[0026]. This identification information “differentiat[es] between” message kinds, such as “WAP” and “email” messages. Maguire [0002]-[0004], [0022]. For example, the

determination may be made “based on the communications channel” used to communicate the message. Maguire [0022]. Thus, Maguire’s “header” information included in each message corresponds to message kind. Maguire [0022].

(i) Element [1.e(iv)]

165. **Element [1.e(iv)]** recites “transmitting the outgoing message.” This element is met by Maguire.

166. **Maguire discloses transmitting the outgoing message** (*e.g.*, “transmit[ting]” “communications events” including “outgoing messages”). *See, e.g.*, Maguire (emphasis added):

- **[0002]-[0004]** (“This invention relates generally to *a user interface for messaging*.”

Most cellular networks such as Code Division Multiple Access (CDMA) and Global Service Mobile (GSM) networks *support data services* in addition to standard telephony based services. *Short Messaging Service (SMS) and Wireless Application Protocol (WAP) are data centric services available on many cellular networks.* Data networks, such as MobiTex™, Datatac™, as well as advanced networks such as General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), Enhanced Data for GSM Enhancement (EDGE) and IX that overlay cellular networks, allow an appropriately configured *mobile device to offer data services such as e-mail, web browsing, as well as SMS and Multimedia messaging service (MMS) messaging, and WAP data sessions.*

Communications events include telephone calls, both sent and received, SMS messages both sent and received, e-mail correspondences both sent and received, and wireless application protocol sessions, among other data based transactions. Each communications event has at least two parties, the user of the mobile device and at least one correspondent. Each correspondent can have multiple contact addresses, such a work phone

number, a home phone number, a mobile phone number, an SMS address, and a plurality of email addresses.”);

- **[0013]** (“In a second aspect of the present invention, there is provided *a mobile device, having a user interface and a transceiver for transmitting and receiving communications events. The mobile device includes a communications event database, and a communications event handler. The communications event database is for storing a communications event history associated with a correspondent. The communications event handler is in communication with the communications event database for retrieving from the communications event database the communication event history in response to a communications event, and is for controlling the user interface to provide the retrieved communication event history to a user.*”);
- **[0018]** (“Generally, the present invention provides a method and system for tracking originating, and received, communications events on a mobile device. By tracking received and *transmitted communications events*, a mobile device can provide a user with the context of the communication with any party.”);
- **[0021]** (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, *as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types* including a phone call, an e-mail message and an SMS message, among other known types of communications events. *Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a phone call, through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message.* Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to

track communications events. Upon retrieval of the communications event history from the database, ***the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message.*** Additionally, the user is preferably able to ***view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred,*** the length of the call if the call was answered, and an indication if the call was or was not answered. In a presently preferred embodiment of the present method of the invention, ***the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.***”);

- [0026] (“***Database 116*** is preferably structured to have at least one table 128. In table 128, four data fields are identified. ***The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read,*** or whether or not a telephone call was answered. ***Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.*** In a presently preferred embodiment, ***the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.*** The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled

in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. ***Transceiver 118 is used to both transmit and receive communications events.*** Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. ***In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.”***).

- ***See also Maguire, Figures 5, 6, [0004], [0025], [0027].***

167. See my discussion of elements [1.pre], [1.e(ii)], [1.e(iii)]. As discussed for [1.pre], [1.e(ii)], and [1.e(iii)], Maguire discloses an outgoing message in the form of a communications event. Maguire further discloses a “transceiver for transmitting ... communications events,” which include—e.g., sent SMS messages or email messages. Maguire, [0002]-[0004], [0013]. Thus, Maguire discloses “transmitting” “outgoing messages.” Maguire [0013], [0018], [0021].

(j) Element [1.e(v)]

168. **Element [1.e(v)] recites “displaying the message content and the description data of the outgoing message in the IUI.”** This element is met by Maguire alone and in view of Kang.

169. Maguire discloses and alternatively renders obvious alone, or in view of Kang, displaying the message content and the description data of the outgoing message in the IUI (see [1.d]; message content and description data is shown for outgoing messages (see [1.e(iii)])).

170. See my discussion of elements [1.pre], [1.b]-[1.d], [1.e(i)], [1.e(iii)]. As explained for elements [1.pre], [1.b]-[1.d], [1.e(i)], [1.e(iii)] above, Maguire discloses and Maguire renders obvious alone or in view of Kang a message content, a description data, and an integrated user interface. See [1.pre], [1.b]-[1.d], [1.e(i)], [1.e(iii)]. As I further explained for element [1.d] above, Maguire discloses and Maguire renders obvious alone or in view of Kang displaying description data, such as the name of a correspondent or time stamp information, for messages. See [1.d]. And as also discussed for element [1.d] above, a person of ordinary skill would have understood that the displayed information would include information carried within the transmitted messages. *Id.* That is true for all the messages displayed in Maguire's integrated user interface—including the outgoing messages I discussed for element [1.e(iii)]. See [1.e(iii)]; see also Maguire, Figure 5 (showing both received and sent emails in the display). For example, Maguire discloses, or at least renders obvious, that the displayed timestamp information and the name/address identifying the correspondent for an outgoing message (e.g., an email address or telephone subscriber number) are included as part of the outgoing SMS and email messages.

See Maguire, Figure 5, [0012], [0026], [0029]-[0030]; Kang, Figure 4. As discussed for element [1.d], a person of ordinary skill in the art would have understood, and at a minimum found it obvious, to display the address information when there is no corresponding contact name to display so that the user can still identify the message correspondent. Further, it was well-understood and common for messaging protocols to include timestamps, a form of description data, in messages. See [1.d]; see also RFC 2779 at 1, 9 (defining a “Common Message Format” for interoperable “instant messaging” programs in which messages “MUST identify the sender and intended recipient”); RFC2822, at 14-15 (“Date and time occur in several [email] header fields.”), 15-16 (“Addresses...in several [email] header fields to indicate senders and recipients of messages.”); 3GPP TS 24.011 v5.2.0 at 31 (requiring transmitted and received SMS messages to include “Originator Address” and “Destination Address” information); 3GPP TS 23.140 v6.4.0 at 30-31 (disclosing “Date and Time” information elements are included in “MMS” messages), 50, 57; WAP MMS Encapsulation Protocol at 23 (disclosing “Delivery-Time” header field value in MMS messages); RFC1889 at 1 (describing “timestamping” format for real-time transport protocol communication).

(k) Element [1.e(vi)]

171. **Element [1.e(vi)] recites “determining a message kind of a received message.”** This element is met by Maguire.

172. Maguire discloses determining a message kind of a received message (e.g., “upon receiving a communications event ... the mobile device analyses the incoming event and determines its specific type,” “event type”). See, e.g., Maguire (emphasis added):

- **Figure 3**

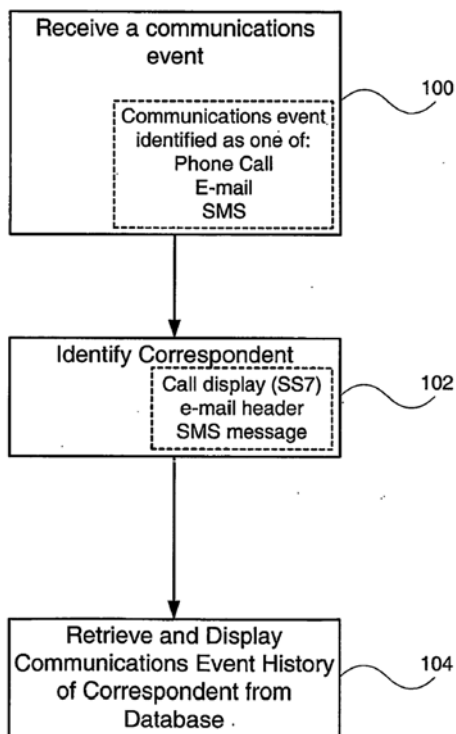


Figure 3

- [0012] (“In an embodiment of the first aspect of the present invention, *the step of identifying is preceded by the step of determining a communications event type for the communications event, where the communications event type of the communications event is selected from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event.* In another

embodiment of the present invention, the communications event is an incoming communications event, and the method further includes the step of receiving the incoming communications event prior to identifying the correspondent. In another embodiment of the present invention, the user interface is a display, and the step of controlling the user interface includes displaying the retrieved communications event history on the display. In yet a further embodiment of the present invention, the method includes adding the incoming communications event to the communications event history in the communications event database. In embodiments of the present invention, receiving an incoming communications event and identifying the correspondent includes one of receiving a telephony based phone call and extracting a phone number from call display information, ***receiving an incoming email message and extracting an email address from the header of an email message and receiving an incoming short messaging service (SMS) message and extracting an originating address from a SMS message.*** In a further embodiment of the present invention, ***identifying the correspondent further includes cross referencing one of the extracted phone number, the extracted email address and the extracted originating address, with entries in an address book accessible to the mobile device.*** In yet a further embodiment of the present invention the method includes the step of controlling the user interface to provide the user with communications event handling options, where controlling the user interface can include providing the user an option to either ignore or answer an incoming telephony based call, or read or ignore one of the incoming email message and the incoming SMS message. Another embodiment of the present invention includes updating the communications event database to reflect a status of the incoming communications event after providing the user with communications event handling options.”);

- **[0021]** (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, ***as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types*** including a phone call, an e-mail message and an SMS message, among other known types of communications events. ***Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a***

phone call, *through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message.* Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, *the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message.* Additionally, the user is preferably able to *view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred,* the length of the call if the call was answered, and an indication if the call was or was not answered. In a presently preferred embodiment of the present method of the invention, *the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.*”);

- [0022] (“One skilled in the art will readily appreciate that when the mobile device of the present invention receives a communications event in step 100 the communications event can be any of a number of event types. *Typically, upon receiving a communications event in step 100, the mobile device analyses the incoming event and determines its specific type.* This determination of the communications event type can be performed in numerous ways understood by those skilled in the art. *One such method involves determining the communications event type based on the channel over which the communications event was received.* For example, if the device supports GSM communications as well as GPRS communications, and the mobile device is capable of supporting voice, SMS, e-mail and WAP type communications events, *a communications event received over a GPRS communications channel will be either a WAP or e-mail based*

communication, whereas a communications event received over the GSM communications channel will be either an SMS or voice type communications event. After narrowing the selection to the two choices based on the communications channel, the mobile device can parse the header associated with the incoming communications event to determine its specific type. For example, a WAP data session and an email message typically conform to different standard formats, and based on an analysis of the format, a determination can be made. The differentiation between an SMS message and a telephony based voice communications event is known in the art, and can be easily implemented. It is envisioned that on advanced networks all data and voice traffic will be carried on the same channel, much as both voice and data are carried in a Voice- over-IP data network. *In such a network, header information associated with datagrams, or other data units, provide identification of the different types of communications event.* One skilled in the art will readily appreciate that a number of alternate method can be implemented without departing from the scope of the present invention.”);

- [0026] (“*Database 116* is preferably structured to have at least one table 128. In table 128, four data fields are identified. *The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read,* or whether or not a telephone call was answered. *Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.* In a presently preferred embodiment, *the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.* The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled

in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. ***Transceiver 118 is used to both transmit and receive communications events.*** Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. ***In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.***”);

- **[0036]** (“The database 112 preferably tracks the type 132 of communications event, the data 134 contained in the communications event, and preferably a status 130 of the event. ***The type of the event 132 typically denotes whether it was a telephone call, a SMS message, an e-mail message, a WAP data transmission, or other data based transaction.*** The type field 132 also indicates whether the communication was received by the user of the mobile device, or originated from the user of the mobile device. The data field 134 typically contains the body of an e-mail message, the body of a SMS message, information related to the WAP data transmission, or call length, as appropriate. The status 130 of the message typically indicates whether a placed or received call was answered, or if a received message was replied to. One skilled in the art will readily appreciate that it is preferable to index this data with an index field 138, however, the implementation of an index is purely optional, though understood by one skilled in the art. Thus, in operation, a mobile device 112 of the present invention will receive a communications event and prior to displaying notification of this event, be it an e-mail message, a SMS message, or a telephone call, the processor of the mobile device queries the database 116 using the calling number as a key. The calling number is typically transmitted to the processor of the mobile device using such services as call display, or visual call waiting, which will

be well understood to those skilled in the art. *The query to the database 116 using the incoming number or address, as a search perimeter will result in a query response containing a list of all communications events between the mobile device 112 or any account associated with mobile device 112, and the incoming address. This information is then presented to the user on the display 120 of the mobile device* so that prior to answering a telephone call the user will know the date of the last communication. Alternatively, if a received SMS message is generating the notification, *the user is provided with the context of the SMS message as a result of being able to view prior SMS messages, prior e-mail messages, and is also presented with the dates of the last call initiated to the SMS originating address.”).*

- *See also Maguire, Figure 4, [0004], [0030], [0035].*

173. See my discussion of elements [1.pre] and [1.e(i)]. Maguire further teaches “receiving a communications event” and analyzing it to “determine[] its specific type,” such as an “e-mail message” or an “SMS message.” Maguire [0012], [0021]-[0022]. For example, the messaging system can “parse the header associated with the incoming communications event to determine its specific type.” Maguire [0022].

(l) Element [1.e(vii)]

174. **Element [1.e(vii)] recites “dividing the received message into a message content and description data.”** This element is met by Maguire alone and in view of Kang.

175. **Maguire discloses dividing the received message into a message content and description data** (e.g., message content and description data are

divided into different “data fields” (see [1.c]-[1.d]); description data is “extracted” from message headers). See, e.g., Maguire (emphasis added):

- **Figure 5**

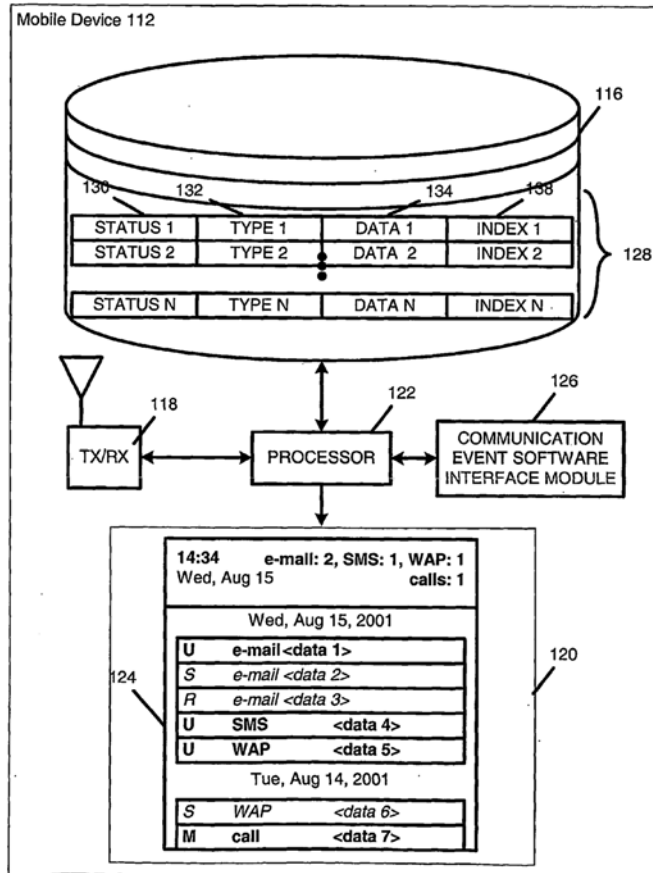


Figure 5

- [0012] (“In an embodiment of the first aspect of the present invention, *the step of identifying is preceded by the step of determining a communications event type for the communications event, where the communications event type of the communications event is selected from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event.* In another embodiment of the present invention, the communications event is an incoming communications event, and the method further includes the step of receiving the incoming communications event prior to identifying the correspondent. In another embodiment of the present invention, the user interface is a display, and the step of controlling the user interface includes

displaying the retrieved communications event history on the display. In yet a further embodiment of the present invention, the method includes adding the incoming communications event to the communications event history in the communications event database. In embodiments of the present invention, receiving an incoming communications event and identifying the correspondent includes one of receiving a telephony based phone call and extracting a phone number from call display information, ***receiving an incoming email message and extracting an email address from the header of an email message and receiving an incoming short messaging service (SMS) message and extracting an originating address from a SMS message.*** In a further embodiment of the present invention, ***identifying the correspondent further includes cross referencing one of the extracted phone number, the extracted email address and the extracted originating address, with entries in an address book accessible to the mobile device.*** In yet a further embodiment of the present invention the method includes the step of controlling the user interface to provide the user with communications event handling options, where controlling the user interface can include providing the user an option to either ignore or answer an incoming telephony based call, or read or ignore one of the incoming email message and the incoming SMS message. Another embodiment of the present invention includes updating the communications event database to reflect a status of the incoming communications event after providing the user with communications event handling options.”);

- [0014] (“In an embodiment of the second aspect of the present invention, ***the communications event handler includes a communications event type identifier for identifying the type of the communications event*** from a list including telephony based voice communications events, e-mail communications events, short messaging service communications event and wireless applications protocol communications event. In another embodiment of the second aspect of the present invention, ***the user interface is a display***, and the communications event handler includes ***a display controller for controlling the display to display the retrieved communication event history.*** In another embodiment of the present invention, communications event handler includes a correspondent identifier for identifying the correspondent of an incoming communications event, and the correspondent identifier is connected to the ***transceiver*** for receiving call display information, and includes means for identifying the correspondent of an incoming communications event based on the received call display

information, and includes *header parsing means for parsing the header of one of a received email message and a received SMS message to extract an originating address, and includes means for identifying the correspondent of an incoming communications event based on the extracted originating address*. In a further embodiment, correspondent identifier includes an address book interface for cross referencing the received call display information and the extracted originating address with entries in an address book accessible to the mobile device to identify the correspondent. *In yet another embodiment of the second aspect of the present invention, the communications event handler includes a user interface controller for controlling the user interface to provide a user with communications event handling options* and also includes means for updating the communications event database to reflect the status of an incoming call.”);

- [0021] (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, *as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types* including a phone call, an e-mail message and an SMS message, among other known types of communications events. *Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a phone call, through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message*. Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, *the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message*. Additionally, the user is preferably able to *view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred*, the

length of the call if the call was answered, and an indication if the call was or was not answered. In a presently preferred embodiment of the present method of the invention, *the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.*”);

- [0026] (“*Database 116* is preferably structured to have at least one table 128. In table 128, four data fields are identified. *The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read*, or whether or not a telephone call was answered. *Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.* In a presently preferred embodiment, *the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.* The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. *Transceiver 118 is used to both transmit and receive communications events.* Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. *In conjunction with communications event software interface module 126, processor 122*

performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.”);

- **Claim 21** (“The mobile device of claim 18, wherein the correspondent identifier includes *header parsing means for parsing the header of one of a received email message and a received SMS message to extract an originating address, and includes means for identifying the correspondent of an incoming communications event based on the extracted originating address.*”);
- **Claim 54** (“The method of claim 49, wherein the current indexing data and *the indexing data for each stored communication event are time-stamps.*”).
- **See also Maguire, Figure 3, [0020].**

176. See my discussion of elements [1.pre], [1.b], [1.d], [1.e(i)], [1.e(v)]-[1.e(vi)]. As discussed for [1.pre], [1.b], [1.d], [1.e(i)], [1.e(v)], Maguire discloses message content and description data. See [1.pre], [1.b], [1.d], [1.e(i)], [1.e(v)]. As I discussed for [1.e(vi)], Maguire also discloses a received message. See [1.e(vi)]. Maguire further discloses dividing the received message into a message content and description data in at least two ways. First, Maguire’s database stores message content and description data in separate “data fields” within the database. Maguire [0014], [0026]. For example, the “body of the message,” which is the message

content, is stored in the “data” field of the database. Maguire [0026]. By comparison, the “indication” information that a message is “sent,” “received,” or “unread” is stored in the “type” field of the database. Maguire [0026]. Additionally, the “index” field—which can be used with the “type” field in conjunction with an “address book” to identify messages associated with a given “correspondent”—stores information used to “easily identify and find a record related to a specific call,” and Maguire further discloses that “indexing data” for each stored communication event are “time-stamps.” Maguire [0014], [0026], claims 40-41, 54. This not only renders obvious, but affirmatively discloses, that the data stored in the “index” field of the database includes “time-stamp” and “address” information for a given message.

177. Second, as discussed for element [1.d], Maguire teaches extracting name/address information, email address or SMS address, from received message headers. See [1.d]. This affirmatively discloses, or at least renders obvious, dividing the received message into message content and description data because the descriptive name/address information for each message is displayed separately from the message content. See Maguire, Figure 5, [0012], [0014], [0026], claim 21.

178. **To the extent additional disclosure of “description data” is required, Kang further discloses description data (see [1.d]).**

179. As explained for element [1.d] above, Kang further discloses description data in the form of an email address or telephone number. See [1.d]. As discussed in Section IX.B.3, a person of ordinary skill in the art would have been motivated to modify Maguire’s user interface with Kang’s description data teachings. In doing so, a person of ordinary skill in the art would have found it obvious to divide the message into its content and associated description data, taught by both Maguire and Kang, by displaying Kang’s address/number separately from the message body. See Kang, Figure 4, [0033]-[0034].

(m) Element [1.e(viii)]

180. **Element [1.e(viii)] recites “displaying the message content and the description data in the IUI.”** This element is met by Maguire alone and in view of Kang.

181. **Maguire discloses and alternatively renders obvious alone or in view of Kang displaying the message content and the description data in the IUI** (see [1.d]; message content and description data is shown for received messages (see [1.e(vii)])).

182. As explained for [1.pre], [1.b]-[1.d], [1.e(iii)]-[1.e(v)], [1.e(vii)] above, Maguire discloses and renders obvious alone or in view of Kang displaying the body of a received message with its associated description data in the displayed user

interface. See [1.pre], [1.b]-[1.d], [1.e(iii)]-[1.e(v)], [1.e(vii)]; Maguire, Figure 5, [0021], [0026], [0028], [0036], [0040], claims 40-41.

(n) Element [1.e(ix)]

183. Element [1.e(ix)] recites “controlling elements in the wireless communication terminal.” This element is met by Maguire.

184. Maguire discloses controlling elements in the wireless communication terminal (e.g., “processor...interacts with display...upon receipt of a communications event and after querying database”; executes software from “software interface module”). See, e.g., Maguire (emphasis added):

- **Figure 5**

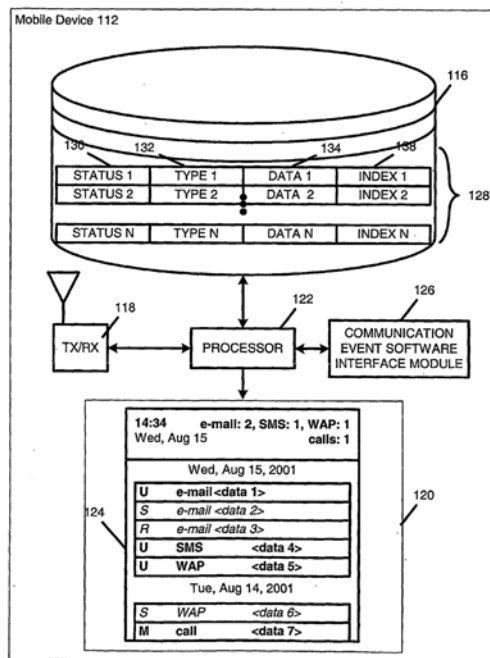


Figure 5

- [0025] (“Figure 5 illustrates an embodiment of mobile device 112 according to the present invention. *Mobile device 112 preferably includes database 116, transceiver 118, processor 122, and display 120. In alternate embodiments of the present invention, mobile device 112 does not include*

database 116, and instead accesses a central server which hosts database 116 through a wireless link. In additional embodiment, mobile device 112 either includes an address book having a plurality of contact addresses for a variety of correspondents, or has access to such an address book using a wireless connection. *Communications event software interface module 126 is preferably a software application executed by processor 122,* and is a specific example of a communications event handler according to the present invention. It is contemplated that the communications event handler can be implemented as a separate hardware component, which may or may not implement software based routines. In a further embodiment, the communications event handler can be hardware enabled and integrated with processor 122.”);

- [0026] (“*Database 116* is preferably structured to have at least one table 128. In table 128, four data fields are identified. *The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read,* or whether or not a telephone call was answered. *Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.* In a presently preferred embodiment, *the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.* The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. *Transceiver 118 is used to both transmit and receive communications events.* Upon receipt of a communications event,

transceiver 118 begins to pass data to processor 122. *In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.”);*

- [0029]-[0030] (“*Processor 122* is connected to the database 116, and is capable of *performing database queries on database 116*. Additionally, processor 122 is connected to an address book so that the identified correspondent from step 102 can be cross-referenced to the address book and match to a name in the address book. This will allow mobile device 112 to provide the user with a call event history from the call event database 116 that includes all communications events in which the identified correspondence has partaken, regardless of the communication address used by the correspondent.

In a presently preferred embodiment of the system illustrated in Figure 4, *the communications event software interface module 126 includes a communications event type identifier. The identifier is for determining the type associated with the communications event. The identified type is stored in type field 132 in database 116.* In the illustrated embodiment, the identifier is preferably a software routine, and in a more generic implementation is a module in the communications event handler.”).

- *See also Maguire, Figure 3, [0014]-[0015], [0040], claims 17, 23.*

185. See my discussion of elements [1.pre]-[1.e(viii)]. As explained for element [1.e(i)] above, Maguire discloses its wireless terminal includes a controller in the form of a “processor.” See [1.e(i)]; Maguire, [0025]. Maguire further explains

that its “processor” executes a “software application” stored in the “software interface module” to control the integrated user interface (*see* [1.b]) and the device display (*see* [1.d]). Maguire [0025]-[0026]. For example, Maguire discloses that “processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116,” and then “processor 122 uses display 120 to provide interface 124.” Maguire, [0026].

(o) Claim [2]

186. **Claim [2] recites “The wireless communication terminal as recited in claim 1, wherein the description data include incoming/outgoing description data in order to present whether the message is transmitted or received.”** This claim is met by Maguire alone and in view of Kang.

187. Maguire further discloses wherein the description data (*see* [1.d], [1.e.(v)], [1.e.(vii)]) include incoming/outgoing description data in order to present whether the message is transmitted or received (*e.g.*, an “indication” that a message was “sent” or “received,” and a “contact name”). *See, e.g.*, Maguire (emphasis added):

- **Figure 5**

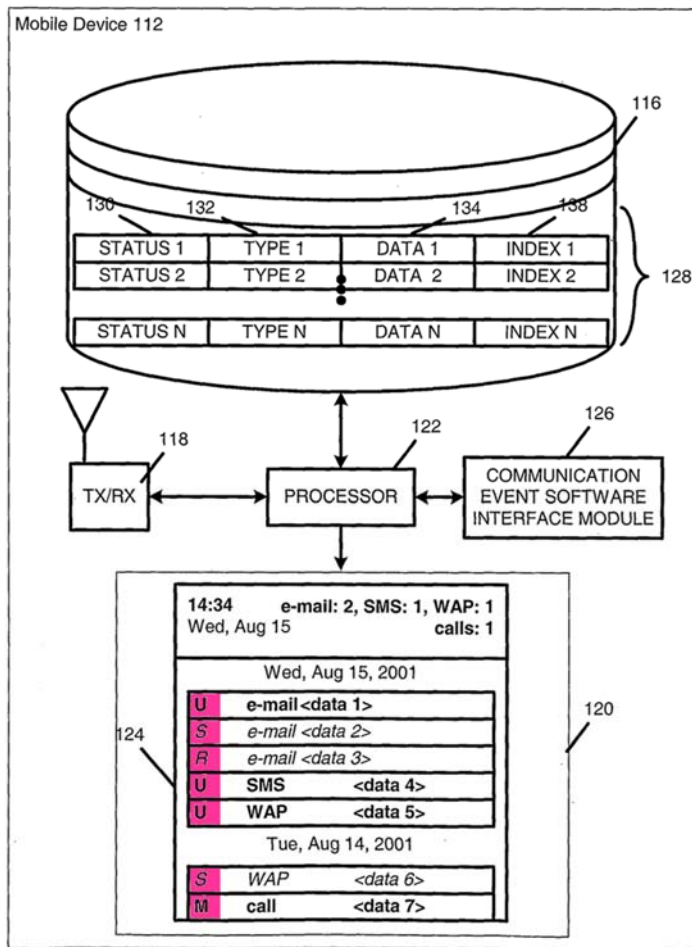


Figure 5

- [0021] (“Figure 3 illustrates an exemplary method of the present invention. In step 100, the mobile device receives a communications event. Preferably, *as a part of receiving the communications event in step 100, the mobile device identifies the communications event as one of a set of known communications event types* including a phone call, an e-mail message and an SMS message, among other known types of communications events. *Upon receipt of the communications event, the mobile device identifies the correspondent in the communications event in step 102. The identification of the correspondent is preferably carried out using call display, a signalling system 7 (SS7) type feature if the communications event is a phone call, through an analysis of an e-mail header if the communications event is an e-mail message or through parsing the header information in a SMS message.* Upon identifying the correspondent in step 102, the mobile device uses the correspondent's identification to retrieve and display a communications event history detailing the communications event the

correspondent has been involved with in step 104. The communications event history retrieved in step 104 is typically retrieved from a database either in the mobile device, or accessible to the mobile device, that is used to track communications events. Upon retrieval of the communications event history from the database, ***the mobile device displays the communications event history to the user. Preferably, the displaying of the information to the user allows the user to view prior SMS and e-mail messages to determine the context of a received message.*** Additionally, the user is preferably able to ***view a listing of all sent and received calls involving the correspondent along with the time and date at which the call occurred, the length of the call if the call was answered, and an indication if the call was or was not answered. In a presently preferred embodiment of the present method of the invention, the mobile device displays a summary of communications events with the correspondent that both originated from, and were received by the mobile device. It is, however, fully contemplated that in certain embodiments the user is presented with only incoming, or outgoing communications events in the summary. It is preferable that the user be provided with an option to view incoming and outgoing messages on a single display, only incoming messages, or only outgoing communications events.***”);

- [0026] (“***Database 116*** is preferably structured to have at least one table 128. In table 128, four data fields are identified. ***The first identified data field is status 130. Status field 130 indicates whether or not an e-mail or SMS message has been read,*** or whether or not a telephone call was answered. ***Type field 132 denotes the type of communications event of the record. Type 132 is used to identify whether the communications event was an e-mail message, a telephone call, or an SMS message. In a presently preferred embodiment, the type field also indicates whether the communications event originated from, or was received by mobile device 112. The third entry in table 128 is data field 134. The data field 134 contains information about the communications event of this record.*** In a presently preferred embodiment, ***the data field for a SMS or e-mail message would include the body of the message. For a telephone call, in a presently preferred embodiment, data field 134 would indicate the time that the call was placed, and the duration of the call.*** The final field of Table 128 is index 138. One skilled in the art will readily appreciate that a number of indexing mechanisms can be employed in either relational, or flat file, database types. The use of index 138 is to be able to easily identify and

find a record related to a specific call. One skilled in the art will recognize that a number of entries in this Table will be introduced as the mobile device 112 begins communications events with various correspondents. One skilled in the art will recognize that in conjunction with an address book accessible by mobile device 112, the index field 138 and status field 130 can be correlated to determine a communications event history for a number of different correspondents. ***Transceiver 118 is used to both transmit and receive communications events.*** Upon receipt of a communications event, transceiver 118 begins to pass data to processor 122. ***In conjunction with communications event software interface module 126, processor 122 performs the method illustrated in Figure 3. As a result, processor 122 interacts with display 120 upon receipt of a communications event and after querying database 116. Thus, processor 122 uses display 120 to provide interface 124. Interface 124 illustrates a date and time, as well as the number of e-mail, SMS, WAP, and telephone call type communications events between the mobile device and the correspondent. As is illustrated in interface 124, the status field 130, the type field 132, and data field 134 of table 128 are used to provide the user with an indication that unread mail messages exist, sent mail messages, received mail messages and placed calls have been made between the mobile device and the correspondent.***”);

- **[0036]** (“The database 112 preferably tracks the type 132 of communications event, the data 134 contained in the communications event, and preferably a status 130 of the event. ***The type of the event 132 typically denotes whether it was a telephone call, a SMS message, an e-mail message, a WAP data transmission, or other data based transaction.*** The type field 132 also indicates whether the communication was received by the user of the mobile device, or originated from the user of the mobile device. The data field 134 typically contains the body of an e-mail message, the body of a SMS message, information related to the WAP data transmission, or call length, as appropriate. The status 130 of the message typically indicates whether a placed or received call was answered, or if a received message was replied to. One skilled in the art will readily appreciate that it is preferable to index this data with an index field 138, however, the implementation of an index is purely optional, though understood by one skilled in the art. Thus, in operation, a mobile device 112 of the present invention will receive a communications event and prior to displaying notification of this event, be it an e-mail message, a SMS message, or a telephone call, the processor of the

mobile device queries the database 116 using the calling number as a key. The calling number is typically transmitted to the processor of the mobile device using such services as call display, or visual call waiting, which will be well understood to those skilled in the art. ***The query to the database 116 using the incoming number or address, as a search perimeter will result in a query response containing a list of all communications events between the mobile device 112 or any account associated with mobile device 112, and the incoming address. This information is then presented to the user on the display 120 of the mobile device*** so that prior to answering a telephone call the user will know the date of the last communication. Alternatively, if a received SMS message is generating the notification, ***the user is provided with the context of the SMS message as a result of being able to view prior SMS messages, prior e-mail messages, and is also presented with the dates of the last call initiated to the SMS originating address.***”);

- **[0040]** (“The pre-set criteria can also match communications event data. For instance, to ***view all communications events sent to or received from a particular contact***, the pre-set criteria may include matching select communications event data with all of the specific contact information found in an address book entry for the contact. As an example, consider all communications events sent to or received from a stockbroker. Contact information for the stockbroker is preferably kept in the address book. Preferably, each address book entry contains a variety of fields that can be mapped to one or more communications addresses supported by the mobile device. ***In the entry corresponding to the stockbroker, for example, if the following fields are defined: telephone number, mobile phone number, fax number, email address, and URL’s***; then an example preferable mapping to message types follows. The phone, mobile, and fax numbers are mapped to voice and/or video communications events. The mobile number is additionally mapped to an SMS address for SMS type communications events. The email address is mapped to email communications events. The URL’s are mapped to corresponding communications event types. For instance an http URL can be mapped to web and/or WAP, whereas an FTP URL (File Transfer Protocol) can be mapped to an ftp communications event. ***All communications events, including phone calls, SMS communications events, emails, web communications events, WAP communications events or other communications events*** that match at least one field in the stockbroker contact entry of the address book ***would then be***

selected by the communications event software interface module 126, and would be displayed. Preferably, the presentation of the retrieved data from database 116 would show the contact name, such as ‘stockbroker’ as defined by the preset criteria 142.”).

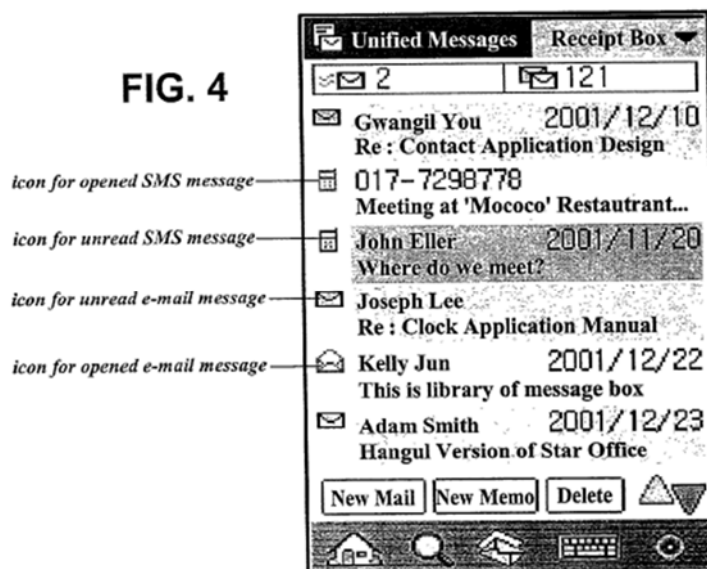
- **See also Maguire, Figures 1, 6, [0020], [0037].**

188. See my discussion of claim [1], and elements [1.pre]-[1.a], [1.d], [1.e(v)], [1.e(vii)]. As explained for elements [1.pre]-[1.a], Maguire discloses a wireless communication terminal that transmits and receives messages. See [1.pre]-[1.a]. As further explained for elements [1.d], [1.e(v)], and [1.e(vii)], Maguire also discloses description data. For example, Maguire discloses that displayed information associated with each messages includes “indication[s]” that a message was “sent” (“S”), “received” (“R”), or “unread” (“U”), as well as a “contact name” identifying the correspondent for each message. Maguire, Figure 5, [0026], [0040]. This indication information, along with “contact name” and address information for each correspondent, present whether a message was transmitted to or received by a recipient. Maguire, Figure 5, [0026], [0040]. Additionally, as discussed in Section IX.B.3, a person of ordinary skill in the art would have found it obvious to include sender/recipient phone or email address information, which a person of ordinary skill would have understood and at least found obvious is included within the messages being communicated to determine a counterpart entity with which the communication is being made, in lieu of a “contact name” for unnamed

correspondents who are not listed in Maguire’s address book. Additionally, because these types of description data are presented for each message that is displayed to the user—including both received messages and transmitted messages—claim 2’s recitation of “the description data” is met regardless of which recitation of “description data” in claim 1 provides an antecedent basis for the term.

189. **To the extent further disclosure is required, Kang discloses the description data (see [1.d], [1.e.(v)], [1.e.(vii)]) includes incoming/outgoing description data in order to present whether the message is transmitted or received (e.g., “e-mail address,” “telephone subscriber number”). See, e.g., Kang (emphasis added):**

- **Figure 4**



- **[0033]** (“The controlling unit 26 sequentially reads all entries of the UMMT 41, configured as above, stored in the storage module 40, *and lists all or a*

part of them within a single window on the wide LCD 11, as shown in FIG. 4 (S12). At this time, the controlling unit 26 does not refer the mail message DB 42 and the SMS message DB 43 when it displays only title for a mail message and a short part of message for a SMS message. However, *it reads out contents of respective messages from the two DBs 42 and 43 with reference to the message IDs written in each ‘Message ID’ field of the UMMT 41 when it has to show mail message and SMS message fully.*”);

- **[0034]** (“Specific fields are expressed differently based on message type. For example, *information written in ‘sender’ field is expressed in the form of e-mail address when the message type is mail, and in the form of telephone subscriber number when the type is SMS.*”).

190. See my discussion of [1.d], [1.e.(v)], and [1.e.(vii)]. As discussed for elements [1.d], [1.e.(v)], and [1.e.(vii)] above, Maguire in view of Kang renders obvious displaying an “e-mail address,” or “telephone subscriber number” in the interface in place of a “contact name” for messages sent from unnamed correspondents who are not included in Maguire’s address book. See [1.d], [1.e.(v)], and [1.e.(vii)]; Kang, Figure 4 (displaying the number “017-7298778” for a received SMS message); Maguire, [0025], [0040], [0034]. And as explained above, this information is presented for each transmitted or received message displayed. Claim 2’s recitation of “the description data” is therefore met regardless of which recitation of “description data” in claim 1 provides an antecedent basis for the term.

C. Grounds 3-4: Grounds 1-2 in further view of RFC2822 Renders Obvious Claims 1-2

191. As I discussed in Grounds 1 and 2, Lemay and Maguire each disclose that messages—such as email messages—are displayed to the user alongside

accompanying description data. *See, e.g.*, Section IX.A.2 [1.d], [1.e(v)], [1.e(vii)], [1.e(viii)], [2]; Section IX.B.4 [1.d], [1.e(v)], [1.e(vii)], [1.e(viii)], [2]. To the extent further disclosure is required that this displayed description data for email messages is included as part of the transmitted messages, RFC2822 additionally discloses that message description data (e.g., “date and time information,” or “[a]ddresses” contained in header fields) are included as part of transmitted messages to and from the user device. *See* RFC2822, 14-16, 20-22, 41.

192. RFC2822 teaches a standardized format for “electronic mail” messages. RFC2822, 1. Specifically, it sets out a standard framework and syntax for text-based electronic mail and defines the “message content format” that will be “passed between systems.” RFC2822, 3. Messages contain multiple “header fields” which contain appropriately formatted “[a]ddresses” or “date and time” information, for example. *See* RFC2822, 14-15 (defining a “date and time” format for use in “several header fields”), 15-16 (defining an “address” format for use in “several message header fields”), 18-29 (defining various header fields for messages), 41-42 (demonstrating example messages). RFC2822 discloses “addresses” that contain a “display name” to be displayed to a user of a mail application; these addresses “occur in several message header fields to indicate senders and recipients of messages”—such as the “from” “to” and “cc” fields of transmitted messages. RFC2822, 15-16, 21-22, 41. The “date and time” can be presented several different ways, and is used

in “several header fields,” including the required “origination date field” that defines the “time at which the creator of the message indicated that the message was complete and ready to enter the mail delivery system.” RFC2822, 14-15, 18, 20-21. These “address” and “date and time” fields are description data that is included in “header fields” of electronic mail messages.

193. A person of ordinary skill in the art would have been motivated to modify Lemay, Maguire, and Kang with RFC2822’s teachings. Like Lemay, Maguire, and Kang, RFC2822 is analogous prior art and in the same field as the ’839 Patent, and is also reasonably pertinent to the purported problems identified in the ’839 Patent of implementing messaging systems using existing transmission protocols, including because RFC2822 is a standards document describing one such protocol that is used for email. See ’839 Patent, 1:8-15 (“The present invention relates to ... using an integrated messaging service program without changing a transmission protocol or a network.”); RFC2822, 1 (“This standard specifies a syntax for text messages that are sent between computer users, within the framework of ‘electronic mail’ messages”); *see also* Sections IX.A.1 (discussing Lemay and Alfke) and IX.B.3 (discussing Maguire and Kang).

194. Although Lemay and Maguire disclose that various types of description data for sent and received messages is displayed—such as the identify of the sender or the date and time a message was sent—they leave it to a person of ordinary skill

in the art to determine how the data to be displayed is generated. See Section IX.A.2 [1.d], [1.e(v)], [1.e(vii)], [1.e(viii)], [2]; Section IX.B.4 [1.d], [1.e(v)], [1.e(vii)], [1.e(viii)], [2]. RFC2822 provides additional teachings that such sender and date and time information is provided in message fields sent as part of each incoming and outgoing message. See, e.g., RFC2822, 14-16 (defining date and address specifications), 18-29 (defining various header fields that include dates and addresses). A person of ordinary skill in the art would have been motivated to modify Lemay or Maguire (in view of Kang) with RFC2822's teachings of such data to advantageously obtain the displayed description data from the transmitted messages. For example, extracting address information and display names from within the electronic messages and then displaying it to the user as part of Lemay's "unified graphical user interface" Maguire's "unified view" of communication events in order to indicate the sender of each message provides a clear and accurate way of obtaining the address and date and time data using information that would have already been provided to the interface as part of existing email protocols. Lemay, 5:16-55; Maguire, [0020]; RFC2822, 15-16, 21-22. Extracting and displaying the description data contained within the transmitted messages ensures the accuracy of the information presented to the users, and provides additional contextual information about each message—e.g., by providing information about when each message was sent, who the sender was, and who all the recipients were.

195. A person of ordinary skill in the art would have reasonably expected to succeed at modifying Lemay or Maguire’s teachings to make use of the description data included within the sent and received electronic messages. As noted before, it was well understood that description data—including addresses and timestamps—were included as part of transmitted messages. *See, e.g.*, RFC 2779 (Ex. 1018) defines the “common message format” for interoperable “instant messaging” programs, and states that instant messages “MUST identify the sender and intended recipient.” RFC 2779 at pp. 1, 9. *See also* 3GPP TS 24.011 v5.2.0 (Ex. 1019), 31 (requiring transmitted and received SMS messages to include “Originator Address” and “Destination Address” information); 3GPP TS 23.140 v6.4.0 (Ex. 1020) at 30-31 (disclosing “Date and Time” information elements are included in “MMS” messages), 50, 57; WAP MMS Encapsulation Protocol (Ex. 1021) at 23 (disclosing “Delivery-Time” header field value in MMS messages); RFC 1889 (Ex. 1022), 1 (describing “timestamping” format for real-time transport protocol communication). Moreover, as RFC2822 teaches, internet standard protocols were well-known in the art and developed for interoperability with a variety of communication devices. For example, Schmidt (Ex. 1025) teaches that “information possibly encoded in...e-mail” includes “name, type.” Schmidt [0062]. Similarly, Smith (Ex. 1026) teaches displaying a received e-mail message with sender/receiver names and timestamp information. Smith, Figure 12. As another example, Lemay itself suggests that the

information contained in the electronic message headers is extracted and used to populate the table of contents for the “unified graphical user interface.” See Lemay 5:16-55, Figure 2C (the table of contents entries in the “From” “Subject” and “Date & Time” column for the selected message mirrors the “email content 222” shown in pane 216). As such, in view a person of ordinary skill in the art would have reasonably expected to successfully modify Lemay and Maguire to display description data contained within the transmitted messages, as disclosed by RFC2822.

X. SECONDARY CONSIDERATIONS

196. I have not seen any evidence in the prosecution history of the '839 Patent or any related application that I considered of any arguments regarding secondary considerations exist. *See generally* '839 File History. Nor have I seen anything to indicate that any such evidence would have a nexus to any of the Challenged Claims 1-2. Moreover, as shown above with respect to the prior art referenced in Section IX, any alleged solutions to problems or unexpected results in the '839 patent were already well known.

XI. CONCLUSION

197. In summary, I have concluded that the Challenged Claims are anticipated and/or rendered obvious by the prior art references as discussed above.

Specifically, in my opinion, for at least the reasons above, the Challenged Claims of the '839 Patent are disclosed and rendered obvious as follows.

Ground	Claims	Anticipation or Obviousness	Prior Art References
1	1-2	Anticipated and Obvious	Lemay
2	1-2	Obvious	Maguire in view of Kang
3	1-2	Obvious	Lemay in view of RFC2822
4	1-2	Obvious	Maguire in view of Kang in further view of RFC2822

198. To the extent it is argued that any further disclosure is required for an element in the Challenged Claims that I have identified as being disclosed, a person of ordinary skill in the art would certainly have found that element obvious to include based on the sample explicit disclosure or inherent disclosures and analysis I have identified above.

199. I reserve the right to supplement my opinions in the future to respond to any arguments that Patent Owner or its expert(s) may raise and to take into account new information as it becomes available to me.

200. 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 of the United States Patent and Trademark Office. 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.

201. I hereby declare that all statements made herein of 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.

Executed this 10th day of August 2023, in Alpharetta, GA.

Respectfully submitted,

Vijay K. Madiseti

Vijay K. Madiseti, Ph.D.

Appendix A

Dr. Vijay K. Madiseti

Fellow, IEEE

vkm@madiseti.com

Cell: 770-527-0177

Address:

**56 Creekside Park Drive
Johns Creek, GA 30022**

Employment:

- 1989-present: Full Professor of Cybersecurity & Privacy, and Electrical & Computer Engineering (**Georgia Tech, Atlanta, GA 30332**).

Areas of Technical Interest – Computer & Electrical Engineering: Control Systems, Software Engineering, Cloud Computing, Signal Processing, Embedded Systems, Wireless & Mobile Communications, Mobile Applications, Circuit Design (Analog/Digital), Biomedical Instrumentation Hardware/Software, Software Engineering, Digital Signal Processing, Sensors, Blockchain, Cybersecurity, Power Electronics, Wireline & Wireless Computer Networking, Internet of Things (IoT).

Education: **PhD** (EECS, University of California at Berkeley, 1989), **B.Tech** (Hons) in Electronics and Electrical Communications Engineering (Indian Institute of Technology, Kharagpur, 1984).

Startup Companies:

Director, **VP Technologies, Inc.** (1995-): A startup commercialized through Georgia Tech's Advanced Technology Development Corporation (ATDC) focusing on digital software and hardware design services for military market. <http://www.vptinc.net>

Director, **Soft Networks, LLC** (2001-2007): A startup commercialized through Georgia Tech support focusing on software development tools and compilers for Cellular/WiFi/VOIP/telecommunication products. <http://www.soft-networks.com>

Director, **Elastic Video Inc.** (2007- 2009): A startup commercialized through Georgia Tech's VentureLab (<http://venturelab.gatech.edu>) development image and video processing software for wireless & IP networking.

Litigation Experience (2016-2023) With Testimony

(Note: There may be multiple cases between the parties, e.g., District Court v. ITC, US versus Foreign Cases)

Chrimar v. Adtran, Alcatel, et al.

Technology: Power over Ethernet (2015-2017)

Submitted reports & Deposition & Trial

Chamberlain v. Ryobi/TTI

Case No: 1:16-cv-06097 (ND Illinois)

Expert for Ryobi

Technology: Wireless/IoT/Barrier Movement (2016 – 2019)

Submitted reports & deposition & trial testimony

IOEngine v. IMC/Imation

Case No: cv-14-1572-GMS (US Delaware)

Expert for IMC/Imation

Technology: Networked Storage Device (2016-2017)

Submitted reports & deposition & trial testimony

Huawei v. Samsung

Case No: 3:16-cv-2787-WHO (ND Cal)

Expert for Samsung

Technology: 4G/LTE Random Access Protocols (2016-2019)

Submitted reports & deposition

Hitachi Maxell v. ZTE/Huawei

Case No: 5:16-cv-00178-RWS (ED Texas)

Expert for Hitachi Maxell

Technology: Digital Cameras

Submitted reports & deposition (2017 – 2018)

Hitachi Maxell v. Apple

Case No: 5:19-cv-00036-RWS

Expert for Hitachi Maxell

Technology: Digital Cameras

Submitted Expert Reports (2020-)

Qualcomm v. Apple

Case No: 17-ccv-0108-GPC-MDD (SD Cal) Also, Related ITC/FTC Matters

Expert for Qualcomm

Technology: 4G/Wireless Communications/Smartphones (2017-2019)

Submitted Reports and Deposition

Qualcomm v. Apple

Case No: 3:17-cv-01375-DMS-MDD (SD Cal)

Expert for Qualcomm

Technology: 4G/Wireless Communications/Smartphones (2017-2019)

Submitted Reports and Deposition

Optis v. Huawei

Case No: 2:17-cv-123 (E.D. Texas)

Expert for Optis Wireless

Technology: 4G/Video (2017-2019)

Submitted reports & deposition

Beckman Coulter v. Sysmex

Case No: 1:17-cv-24049-DPG (ND Illinois)

Expert for Sysmex

Technology: Medical Instrumentation Automation (2017-present)

Testifying Expert

TQ Delta v. Xyvel/Adtran

Expert for TQ Delta

Technology: DSL Technologies (2018-present)

Testifying Expert

3GL/KPN v. LG, Blackberry, HTC

Expert for 3GL/KPN

Technology: 4G/LTE Protocols (2018-present)

Reports and Deposition / Testifying Expert

Rovi v. Comcast

ITC No. 337-TA-1103 (ITC)

Expert for Rovi

Technology: Digital Video & interactive GUI (Jan 2018-May 2018)

Reports and Deposition

Cirba/Densify v. VMWare

Case No: 1:19-cv-00742-LPS

Expert for Cirba/Densify

Technology: Virtualization (2019-present)

Reports Deposition/PI Hearing / Testifying Expert

Power Integrations v. On Semiconductor

Case No: 17-cv-03189-BLF

Expert for On Semiconductor

Technology: Power Electronics (2018-2019)

Reports & Deposition/Testifying Expert.

Pathway v. Lumens, IPEVO, Aver JDA

Case No: ITC 337-TA-1045

Expert for Lumens JDA

Technology: Document Cameras (2016-2019)

Reports & Deposition (for IPR/ITC, no trial)

Wilan v. Apple

Case No: 3:14-cv-2235

Expert for WiLan

Technology: Voice over LTE/LTE Protocols (2017-2020)

Reports and Testified through Deposition/Trials

St. Lawrence Comm. v. Amazon

Case No. 2:19-CV-00027-JRG

Expert for Amazon

Technology: Multimedia Codecs

Submitted Expert Reports/Deposition (2020-2020)

PanOptis v. Apple

Case No. 2:19-CV-00066-JRG

Expert for PanOptis

Technology: LTE

Submitted Expert Reports/Deposition/Trial (2019-2020)

GAS v. Sprint Communications

Case No. 2:20-cv-00007-RWS

Expert for General Access (GAS)

Technology: LTE

Submitted Expert Reports/Deposition (9/21-)

Causam v. Ecobee, Itron, et al

Case No. ITC 337-TA-1277

Expert for Causum

Technology: Load Management

Submitted Expert Reports and Deposition (6/22)

Masimo v. Apple

Case No. ITC 337-TA-1276 and related cases

Expert for Masimo

Technology: Pulse Oximetry

Submitted Expert Reports, Deposition & Trial

TQ Delta v. Nokia, Adtran, CommScope, 2Wire, et al

Cases in Delaware & Texas

Expert for TQ Delta

Technology: DSL and Cable Modems

Submitted Expert Reports, Depositions & Hearings.

Paltalk Holdings v. Cisco Systems Inc.

Western District of Texas (6:21-CV-00757-ADA)

Expert for Paltalk Holdings

Technology: VOIP Technologies

Submitted Expert Reports and Deposition

Ollnova Technologies v. Carrier Group

Southern District of Florida (Case 9:22-cv-80388-DMM)

Expert for Ollnova

Technology: IoT

Submitted Report and Deposition.

VideoLabs v. Asus, et al

Case No: ITC 337-TA-1323

Expert for VideoLabs

Technology: Video Conferencing

No report or deposition

Additional matters include declarations supporting IPRs at the PTAB for Google (US Patent 8,601,154), On Semiconductor (US Patent 6,212,079), Ubisoft (US Patent 5,490,216), Lumens JDA (2017-2019), Broadcom (WiFi), Sony (US Patent 6,101,534), Kia, (US Patent 5,530,431), Qualcomm, Ericsson, Daimler Benz, VW, Estech, Amazon, Ring, Digital Ally, On Semiconductor, LoganTree, Unified Patents, BMC Software, Masimo, Sentius, BMW, Facebook, PAWS, Google, Daimler, FedEx, and Dolby.

Earned Degrees

1. B. Tech (Hons), Electronics & Electrical Comm. Engineering

Indian Institute of Technology (IIT), Kharagpur, India
1984.

2. Ph.D., Electrical Engineering & Computer Sciences (EECS)

University of California (UC), Berkeley. CA
1989.

Books

1. VLSI Digital Signal Processors

Madiseti, V.K.;

Boston: MA, IEEE Press: Butterworth Heinemann, 1995, 525 pp.

2. Quick-Turnaround ASIC Design in VHDL

Romdhane, M., Madiseti, V.K., Hines, J.

Boston: MA, Kluwer Academic Press, 1996, 190 pp.

3. The Digital Signal Processing Handbook (First Edition)

Madiseti, V. K., Williams, D. (Editors)

CRC Press, Boca Raton, Fla, 1998, 2500 pp.

4. VHDL: Electronics Systems Design Methodologies.

Madiseti, V. K. (Editor)

Boston: MA, IEEE Standards Press, 2000, ISBN 0-7381-1878-8.

5. Platform-Centric Approach to System-on-Chip (SoC) Design.

Madiseti, V. K., Arpnikanondt, A.

Springer, Boston: MA, Springer, 2004, 280 pp.

6. The Digital Signal Processing Handbook – Second Edition.

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7. Cloud Computing: A Hands-On Approach

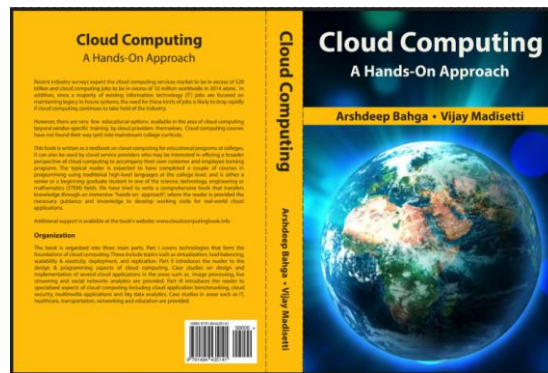
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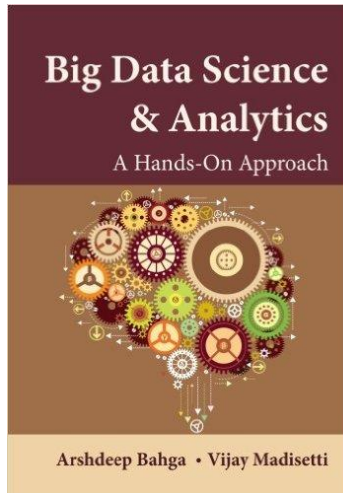
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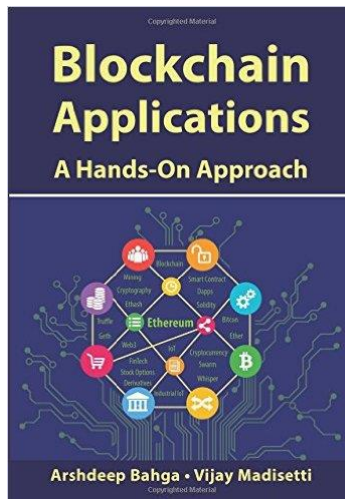
9. Big Data Science & Analytics: A Hands-On Approach
A Bahga, V. Madiseti (2016)
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10. Blockchain Applications: A Hands-On Approach

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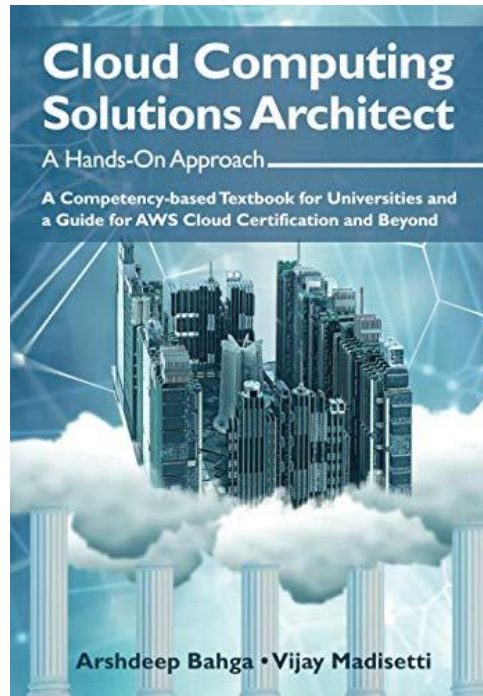
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11. Cloud Solutions Architect: A Hands-On Approach

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Edited Books & Collection of Papers

1. **Advances in Parallel & Distributed Simulation**

Madisetti, V.K.; Nicol, D., Fujimoto, R. (Editors)
San Diego, CA: SCS Press, 1991, 200 pp.

2. **Modeling, Analysis, Simulation of Computer & Telecommunications Systems**

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Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.

3. **Modeling & Simulations on Microcomputers**

Madisetti, V.K. (Editor)
San Diego, CA: SCS Press, 138 pp. 1990.

Editorship of Journals & Transactions

1. IEEE Design & Test of Computers

Special Issue: Reengineering Digital Systems
April – June 1999 (Vol 16, No 2)
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2. IEEE Design & Test of Computers

Special Issue: Rapid Prototyping of Digital Systems
Fall 1996 (Vol 13, No 3)
Madiseti, V., Richards, M. (Editors)
Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.

3. IEEE Transactions on Circuits & Systems II

Associate Editor: 1993-1995.

4. International Journal in Computer Simulation

Associate Editor: 1990-1993

5. International Journal in VLSI Signal Processing

Editorial Board: 1995 - Present

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Ranked #8 in the list of issued US patents in the area of blockchain

Ranking in the area of US patents issued in the area of blockchain technology in 2020

Table 3. Patent by assignee

Applicant (Assignee)	Patents	%	Applicant (Assignee)	Patents	%
IBM	47	14.0%	Wells Fargo Bank	4	1.2%
Accenture Global Solutions	28	8.4%	Alibaba	3	0.9%
Bank of America	24	7.2%	Dell	3	0.9%
Capital One Services	12	3.6%	The Bank Of New York Mellon	3	0.9%
Mastercard	11	3.3%	The Toronto-Dominion Bank	3	0.9%
Guardtime IP Holdings Limited	8	2.4%	Verizon Patent And Licensing	3	0.9%
Madiseti Vijay K.	8	2.4%	Winklevoss I.P.	3	0.9%
Black Gold Coin, Inc.	7	2.1%	SAP	2	0.6%
Cisco	7	2.1%	Sony	2	0.6%
Acronis International	5	1.5%	Stampery	2	0.6%
Blockchain Asics	5	1.5%	Uipeco	2	0.6%
Tran Bao	5	1.5%	Vmware	2	0.6%
Intel	4	1.2%	Walmart Apollo	2	0.6%
Northern Trust	4	1.2%	Wiig Rex	2	0.6%
Shocard	4	1.2%	Xage Security	2	0.6%

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Madiseti, V.K.; Messerschmitt, D.G.;
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- 51. "A Soft-Handoff Transport Protocol for Media Flows in Heterogeneous Mobile Networks ",**
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- 8. Task scheduling in the Georgia Tech digital signal multiprocessor**
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Ph.D. Students Graduated

1. **Brian T. Kelley, 1992**
VLSI Computing Architectures for High Speed Signal Processing
Member of Technical Staff, Motorola

Winner of Dr. Thurgood Marshall Dissertation Fellowship Award
2. **Bryce A. Curtis, 1992**
Special Instruction Set Multiple Chip Computer for DSP
Member of Technical Staff, IBM
3. **Jaejin Lee, 1994**
Robust Multitrack Codes for the Magnetic Channel
Professor, Yonsei University, Korea
4. **Mohamed S. Ben Romdhane, 1995**
Design Synthesis of Application-Specific IC for DSP
Director of IP, Rockwell
5. **Shoab A. Khan, 1995**
Logic and Algorithm Partitioning on MCMs
Professor, National University of Science & Technology, Pakistan
6. **Lan-Rong Dung, 1997**
VHDL-based Conceptual Prototyping of Embedded DSP Architectures
Professor, National Chaio Tung University, Taiwan

Winner of VHDL International Best PhD Thesis Award, 1997

- 7. Thomas W. Egolf, 1997**
Virtual Prototyping of Embedded DSP Systems
Distinguished Member of Technical Staff, Agere
- 8. Alvaro Marenco, 1997**
On Homomorphic Deconvolution of Bandpass Signals
Professor, Texas A&M University

Winner of GIT ECE Outstanding Teaching Assistant Award
- 9. Shahram Famorzadeh, 1997**
BEEHIVE: A Distributed Environment for Adaptive Signal Processing
Member of Technical Staff, Rockwell
- 10. Timothy J. Klausutis, 1997**
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US Air Force/Univ. of Florida
- 11. Lan Shen, 1998**
Temporal Design of Core-Based Systems
Member of Technical Staff, IBM
- 12. James DeBardelaben, 1998**
Optimization Based Approach to Cost Effective DSP Design
Research Scientist, Johns Hopkins University

Georgia Tech ECE Faculty Award
- 13. Sangyoun Lee, 1999**
Design of Robust Video Signal Processors
Professor, Yonsei University

US Army Sensors Lab Research Excellence Award, 1999
- 14. Rahmi Hezar, 2000**
Oversampled Digital Filters
Member of Technical Staff, Texas Instruments
- 15. Yong-kyu Jung, 2001**
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Professor, King Mongkut's University, Thailand

US Army Sensors Lab Research Excellence Award, 1999

20. Loran Jatunov, 2004

Performance Analysis of 3G CDMA Systems

Senior Research Scientist, Soft Networks, LLC. Now at Samsung

21. Antonios Argyiou, 2005, Research Scientist, Philips

22. Pilho Kim, 2009, Scientist, VP Technologies, Inc.

23. M. Sinnokrot, 2009, Staff Engineer, Apple

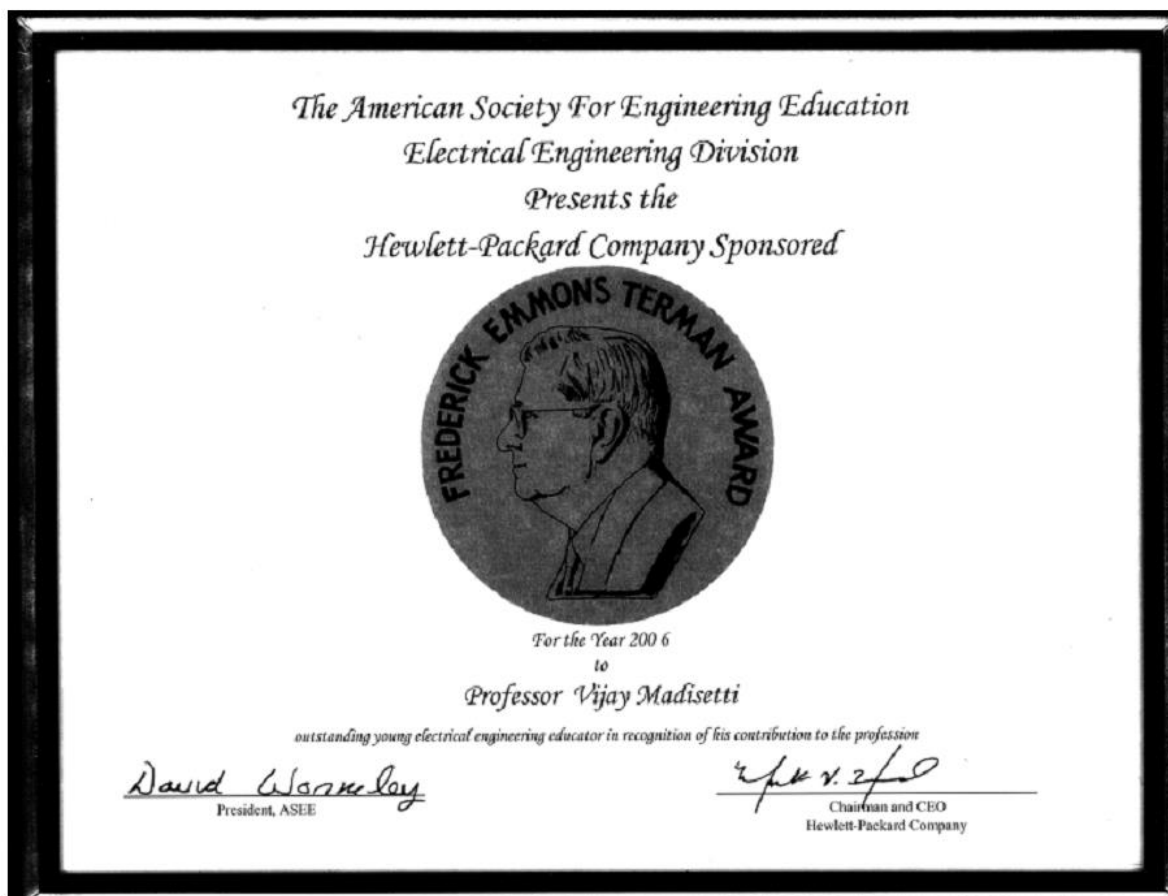
24. A. Yusuf, 2013, Professor, National University, Pakistan

Awards & Honors

1. **Jagasdis Bose National Science Talent Fellowship**, Indian Institute of Technology, Kharagpur, 1980-1984
2. **General Proficiency Prize**, Indian Institute of Technology, Kharagpur, 1984
3. **Demetri Angelakos Outstanding Graduate Student Award**, Univ. of California, Berkeley, 1989
4. **Ira Kay IEEE/ACM Best Paper Award** for Best Paper presented at IEEE Annual Simulation Symposium, 1989
5. **IBM Faculty Development Award** 1990
6. **Technical Program Chair**, IEEE Workshop on Parallel and Distributed Simulation. 1990
7. **Technical Program Chair**, IEEE MASCOTS'94
8. **NSF RI Award**, 1990
9. **VHDL International Best PhD Dissertation Advisor Award**, 1997
10. **Georgia Tech Outstanding Doctoral Dissertation Advisor Award**, 2001

11. ASEE 2006 Frederick Emmons Terman Medal, 2006

12. Fellow of IEEE



Intellectual Property Disclosures (Georgia Tech)

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2825	2003	Method and Apparatus for Optimal Partitioning and Ordering of Antennas for Layered Space-Time Block Codes in MIMO Communications Systems
2815	2003	How to Rapidly Develop a SyD Application
GSU-023	2003	Rapid Development of SyD Applications
2810	2003	System on Mobile Devices Middleware Design
2718	2003	A Transport Layer Algorithm for Improved Anycast Communication

2717	2003	A Novel Transport Layer Load-Balancing Algorithm
2716	2003	A Transport Layer QoS Algorithm
2715	2003	A Novel Transport Layer Algorithm for MPLS Performance
2659	2002	A New Algorithm and Technology for Implementing Mobile IP with Applications to Voice and Video over Mobile IP
2656	2002	Debugging with Instruction-Level Reverse Execution
2655	2002	Embedded Software Streaming
2539		System of Databases: An Enabling Technology for Programming
2517	2002	A Dynamic Instantiated Real-Time Operating System Debugger
2516	2002	A Dynamic Real-Time Operating System
GSU-009	2001	System of Databases: Architecture,, Global Queries, Triggers and Constraints
2480	2001	Mobile Fleet Application based on SyD Technology
2479	2001	System of Databases: A model with coordination links and a calendar application
1893	1999	Beehive
1726	1995	Very High Scale Integrated Circuit Hardware Description Language Models (VHDL Models)
1401	1995	Self-Compensation Receiver (SCR)

Appendix B

List of Materials Considered

Exhibit ("Ex.")	Description
1001	U.S. Patent No. 7,283,839 ("839 Patent")
1002	File History of U.S. Patent No. 7,283,839 ("839 File History")
1005	U.S. Patent No. 8,020,105 ("Lemay")
1006	U.S. Patent No. 7,765,263 ("Alfke")
1007	P.C.T. Patent App. Publication No. W.O. 2003/056789 ("Maguire")
1008	U.S. Patent Publication No. 2002/0152220 ("Kang")
1009	Network Working Group, Internet Engineering Task Force (IETF), Request For Comments (RFC): 2822, Internet Message Format (2001) ("RFC2822")
1010	Declaration of Nathaniel E. Frank-White dated April 26, 2023
1011	U.S. Patent No. 6,359,877 ("Rathonyi")
1012	U.S. Patent Publication No. 2003/0229672 ("Kohn")
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1014	U.S. Patent Publication No. 2005/0275633 ("Varanda")
1015	U.S. Patent Publication No. 2004/0137884 ("Engstrom")
1016	P.C.T. Patent App. Publication No. W.O. 2004/056137 ("Nielson")
1017	U.S. Patent Publication No. 2001/0021649 ("Kinnunen")
1018	Network Working Group, Internet Engineering Task Force (IETF), Request For Comments (RFC): 2779, Instant Messaging / Presence Protocol Requirements (2000) ("RFC2779")

Exhibit ("Ex.")	Description
1019	3GPP Technical Specification 24.011 version 5.2.0, Point-to-Point (PP) Short Message Service (SMS) Support on Mobile Radio Interface (2003)
1020	3GPP Technical Specification 23.140 version 6.4.0, Multimedia Messaging Service (MMS); Functional Description; Stage 2 (2003)
1021	Wireless Application Protocol (WAP), MMS Encapsulation Protocol version Jan. 5, 2002 (2002) ("WAP MMS Encapsulation Protocol")
1022	Network Working Group, Internet Engineering Task Force (IETF), Request For Comments (RFC): 1889, RTP: A Transport Protocol for Real-Time Applications (1996) ("RFC1889")
1023	U.S. Patent Publication No. 2005/0193345 ("Klassen")
1024	U.S. Patent No. 7,383,307 ("Kirkland")
1025	U.S. Patent Publication No. 2004/0097248 ("Schmidt")
1026	U.S. Patent No. 6,333,973 ("Smith")
1027	Joint Claim Construction and Prehearing Statement, <i>Pantech Corp. et al. v. LG Electronics Inc. et al.</i> , Case 5:22-cv-00113-RWS-JBB (E.D. Texas), Dkt. No. 118.
1029	Claim Construction Expert Report of Charles Mauro CHFP Concerning Certain Terms of U.S. Patent Nos. 7,283,839 And 9,575,631, <i>Pantech Corp. et al. v. LG Electronics Inc. et al.</i> , Case 5:22-cv-00113-RWS-JBB (E.D. Texas) (June 23, 2023).

Appendix C

List of Challenged Claims:

[1.pre] A wireless communication terminal having a function of providing an integrated messaging service, the wireless communication terminal comprising:

[1.a] a wireless transceiver for transceiving a message to/from an outside device through a wireless network;

[1.b] a storage for storing an integrated messaging service program and messages in order to provide an integrated user interface (IUI);

[1.c] a keypad for receiving a message content and a menu selecting signal in the IUI;

[1.d] a displayer for displaying the message content and description data in the IUI; and

[1.e(i)] a controller for providing the IUI to the keypad and the displayer by operating the integrated messaging service program,

[1.e(ii)] determining a message kind of the message to be transmitted which is inputted in the IUI,

[1.e(iii)] generating an outgoing message including identification data corresponding to the message kind,

[1.e(iv)] transmitting the outgoing message,

[1.e(v)] displaying the message content and the description data of the outgoing message in the IUI,

[1.e(vi)] determining a message kind of a received message,

[1.e(vii)] dividing the received message into a message content and description data,

[1.e(viii)] displaying the message content and the description data in the IUI,

[1.e(ix)] and controlling elements in the wireless communication terminal.

[2] The wireless communication terminal as recited in claim 1, wherein the description data include incoming/outgoing description data in order to present whether the message is transmitted or received.