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P.O. Box 1450
Alexandria, Virginia 22313-1450
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Table with 5 columns: APPLICATION NO., ISSUE DATE, PATENT NO., ATTORNEY DOCKET NO., CONFIRMATION NO.
Row 1: 13/111,734, 07/05/2016, 9385973, 11144-US-CNT[3], 6081

95866 7590 06/15/2016
Fleit Gibbons Gutman Bongini & Bianco P.L.
551 NW 77th street
Suite 111
Boca Raton, FL 33487

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Gerhard D. Klassen, Waterloo, CANADA;
Christopher R. Wormald, Kitchener, CANADA;
Lawrence E. Kuhl, Waterloo, CANADA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Substitute for form 1449/PTO		INFORMATION DISCLOSURE STATEMENT BY APPLICANT		<i>(Use as many sheets as necessary)</i>		Complete if Known	
						Application Number	13/111,734
Sheet	1	of	3	First named Inventor	KLASSEN, Gerhard D.		
				Art Unit	2629		
				Examiner Name	Not yet assigned		
				Attorney Docket Number	70314/00568		

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)				
		US-2002/0075303	A1	06-20-2002	THOMPSON et al.	
		US-2002/0087649	A1	07-04-2002	HORVITZ	
		US-2003/0060240	A1	03-27-2003	GRAHAM et al.	
		US-2003/0104841	A1	06-05-2003	YAMAMOTO	
		US-2004/0137967	A1	07-15-2004	BODLEY et al.	
		US-2004/0228531	A1	11-18-2004	FERNANDEZ et al.	
		US-6,301,609	B1	10-09-2001	ARAVAMUDAN et al.	
		US-6,590,529	B2	07-08-2003	SCHWOEGLER et al.	
		US-6,889,063	B2	05-03-2005	YAMADA	
		US-7,043,530	B2	05-09-2006	ISAACS et al.	
		US-7,099,700	B2	08-29-2006	HWANG et al.	
		US-7,111,044	B2	09-19-2006	LEE	
		US-7,181,497	B1	02-20-2007	APPELMAN et al.	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind-Code ⁵ (if known)				
		WO	2004/064362	A1	07-29-2004	GN NETCOM A/S		
		WO	02/65250	A2	08-22-2002	INVERTIX CORPORATION		
		WO	01/30091	A1	04-26-2001	MOTOROLA, INC.		
		GB	2384150	A	07-16-2003	NEC CORPORATION		
		GB	2350746	A	12-06-2000	NEC CORPORATION		
		EP	1176840	A1	01-30-2002	MICROSOFT CORPORATION		
		EP	0743762	A2	11-20-1996	NEC CORPORATION		
		JP	200311145	A	12-26-1996 04-2003	MATSUSHITA ELECTRIC WORKS LTD		

Change(s) applied to document,

/C.L./
3/8/2016

Examiner Signature	/Michael Lai/	Date Considered	07/25/2011
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicants' unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use block 1 for any change of address)

95856 7590 03/02/2016
Fleit Gibbons Gutman Bongini & Bianco P.L.
551 NW 77th street
Suite 111
Boca Raton, FL 33487

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Angela Zontelli	(Depositor's name)
/Angela Zontelli/	(Signature)
2016-06-02	(Date)

APPLICATION NO.	FILED DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/111,734	05/19/2011	Gerhard D. Klassen	11144-US-CN1131	6081

TITLE OF INVENTION: **HANDHELD ELECTRONIC DEVICE AND ASSOCIATED METHOD PROVIDING TIME DATA IN A MESSAGING ENVIRONMENT**

APPL. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	ISSN. PAID ISSUE FEE	TOTAL FEE/DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	06/02/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
LAL, MICHAEL C	2457	709-206006

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363)</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47, Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list:</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.</p>	<p>1. Donna Flores</p> <p>2. Fleit Gibbons Gutman</p> <p>3. Bongini & Bianco P.L.</p>
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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: **BlackBerry Limited**

(B) RESIDENCE: (CITY and STATE OR COUNTRY): **Waterloo, Ontario, Canada**

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted:

Issue Fee

Publication Fee (No small entity discount permitted)

Advance Order - # of Copies

4b. Payment of Fee(s) (Please first reapply any previously paid issue fee shown above)

A check is enclosed.

Payment by credit card. Form PTO-2038 is attached.

The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number **50-1506** (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29

Applicant asserting small entity status. See 37 CFR 1.27

Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature: /Donna Flores/ Date: 2016-06-02

Typed or printed name: Donna Flores Registration No. 48,142

Electronic Patent Application Fee Transmittal

Application Number:	13111734			
Filing Date:	19-May-2011			
Title of Invention:	HANDHELD ELECTRONIC DEVICE AND ASSOCIATED METHOD PROVIDING TIME DATA IN A MESSAGING ENVIRONMENT			
First Named Inventor/Applicant Name:	Gerhard D. Klassen			
Filer:	Jon A. Gibbons/Angela Zontelli			
Attorney Docket Number:	11144-US-CNT[3]			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	25946223
Application Number:	13111734
International Application Number:	
Confirmation Number:	6081
Title of Invention:	HANDHELD ELECTRONIC DEVICE AND ASSOCIATED METHOD PROVIDING TIME DATA IN A MESSAGING ENVIRONMENT
First Named Inventor/Applicant Name:	Gerhard D. Klassen
Customer Number:	95866
Filer:	Jon A. Gibbons/Angela Zontelli
Filer Authorized By:	Jon A. Gibbons
Attorney Docket Number:	11144-US-CNT[3]
Receipt Date:	02-JUN-2016
Filing Date:	19-MAY-2011
Time Stamp:	10:49:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$960
RAM confirmation Number	11056
Deposit Account	501556
Authorized User	Gibbons, Jon

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)
 Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)
 Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	11144-US-CNT3_2016-06-02_SUB_IssueFee.pdf	217103 e24e27ee5307fd5686ee97f5cc885bb7314f6afb	no	1

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30659 0a9b6c6745e17e23c9a2d502c406588ea6f30155	no	2
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Warnings:

Information:

Total Files Size (in bytes): 247762

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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NOTICE OF ALLOWANCE AND FEE(S) DUE

95866 7590 03/02/2016
Fleit Gibbons Gutman Bongini & Bianco P.L.
551 NW 77th street
Suite 111
Boca Raton, FL 33487

EXAMINER

LAI, MICHAEL C

ART UNIT PAPER NUMBER

2457

DATE MAILED: 03/02/2016

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

TITLE OF INVENTION: HANDHELD ELECTRONIC DEVICE AND ASSOCIATED METHOD PROVIDING TIME DATA IN A MESSAGING ENVIRONMENT

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

95866 7590 03/02/2016
Fleit Gibbons Gutman Bongini & Bianco P.L.
 551 NW 77th street
 Suite 111
 Boca Raton, FL 33487

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/111,734	05/19/2011	Gerhard D. Klassen	11144-US-CNT[3]	6081

TITLE OF INVENTION: HANDHELD ELECTRONIC DEVICE AND ASSOCIATED METHOD PROVIDING TIME DATA IN A MESSAGING ENVIRONMENT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	06/02/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
LAI, MICHAEL C	2457	709-206000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2</p> <p>_____ 3</p>
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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
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5. Change in Entity Status (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29

Applicant asserting small entity status. See 37 CFR 1.27

Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/111,734 05/19/2011 Gerhard D. Klassen 11144-US-CNT[3] 6081

95866 7590 03/02/2016
Fleit Gibbons Gutman Bongini & Bianco P.L.
551 NW 77th street
Suite 111
Boca Raton, FL 33487

EXAMINER

LAI, MICHAEL C

ART UNIT PAPER NUMBER

2457

DATE MAILED: 03/02/2016

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	13/111,734	KLASSEN ET AL.	
	Examiner	Art Unit	
	MICHAEL C. LAI	2457	

All participants (applicant, applicant's representative, PTO personnel):

(1) MICHAEL C. LAI. (3) _____.

(2) Donna Flores. (4) _____.

Date of Interview: 25 February 2016.

Type: Telephonic Video Conference
 Personal [copy given to: applicant applicant's representative]

Exhibit shown or demonstration conducted: Yes No.
If Yes, brief description: _____.

Issues Discussed 101 112 102 103 Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1,6,9,14,17 and 22.

Identification of prior art discussed: _____.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

We agreed to cancel claims 6, 14, and 22, and amend claims 1, 9, and 17. See Examiner's amendment for details.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/MICHAEL C LAI/ Primary Examiner, Art Unit 2457	
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Notice of Allowability	Application No. 13/111,734	Applicant(s) KLASSEN ET AL.	
	Examiner MICHAEL C. LAI	Art Unit 2457	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to RCE filed on 12/14/2015.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. The allowed claim(s) is/are 1-5,7-13,15-21 and 23-27. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some *c) None of the:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>06/21/2013</u> 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>02/25/2016</u>. | <ol style="list-style-type: none"> 5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other _____. |
|--|--|

/MICHAEL C LAI/ Primary Examiner, Art Unit 2457	
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The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

This office action is responsive to Request for Continued Examination (RCE) filed on 12/14/2015.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Patent Trial and Appeal Board, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 12/14/2015 has been entered.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Donna Flores on 02/25/2016.

The application has been amended as follows:

- Claims 6, 14, and 22 have been cancelled.
- Claims 1, 9, and 17 have been amended as follows:

1. (Currently Amended) A method of displaying an instant message conversation on an electronic device, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant messaging conversation, the method comprising:

receiving a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;

transmitting a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;

associating each instant message with a corresponding time stamp; **and**
within a single conversation screen:

displaying the incoming textual portion of each **displayed** incoming instant message horizontally aligned at a same first horizontal position;

displaying the outgoing textual portion of each **displayed** outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and

displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp;

detecting an interruption in the instant message conversation; and
refraining from displaying a time stamp associated with a next one of an incoming instant message and an outgoing instant message if the interruption is less than a predetermined duration of time.

9. (Currently Amended) An electronic device for displaying an instant message conversation, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant messaging conversation, the electronic device comprising:

a display;

a memory; and

a processor electronically coupled with the display and the memory, the processor configured to:

receive a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;

transmit a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;

associate each instant message with a corresponding time stamp; **and**

within a single conversation screen:

display the incoming textual portion of each **displayed** incoming instant message horizontally aligned at a same first horizontal position;

display the outgoing textual portion of each **displayed** outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and

display time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp;

detect an interruption in the instant message conversation; and

refrain from displaying a time stamp associated with a next one of an

incoming instant message and an outgoing instant message if the interruption is less than a predetermined duration of time.

17. (Currently Amended) A non-transitory computer readable medium comprising computer executable instructions embedded thereon for execution by a processor of an electronic device for displaying an instant message conversation upon a display of the electronic device, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant message conversation, such that when executed, the processor:

receives a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;

transmits a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;

associates each instant message with a corresponding time stamp; **and**
within a single conversation screen:

displays the incoming textual portion of each **displayed**
incoming instant message horizontally aligned at a same first
horizontal position;

displays the outgoing textual portion of each **displayed** outgoing instant
message horizontally aligned at a same second horizontal position, the second
horizontal position being different from the first horizontal position; and

displays time information along with at least one instant message of the
incoming and outgoing instant messages according to the corresponding time
stamp;

detects an interruption in the instant message conversation; and
refrains from displaying a time stamp associated with a next one of an
incoming instant message and an outgoing instant message if the interruption is
less than a predetermined duration of time.

Allowable Subject Matter

Claims 1-5, 7-13, 15-21, and 23-27 are allowed based on applicant's Amendments/Arguments filed on 12/14/2015 and Examiner's amendment above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Lai whose telephone number is (571) 270-3236. The examiner can normally be reached on M-F 8:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Lai
Art Unit 2457
Phone: (571) 270-3236
Fax: (571) 270-4236

Application/Control Number: 13/111,734
Art Unit: 2457

Page 8

/MICHAEL C LAI/
Primary Examiner, Art Unit 2457

Examiner-Initiated Interview Summary	Application No. 13/111,734	Applicant(s) KLASSEN ET AL.	
	Examiner MICHAEL C. LAI	Art Unit 2457	

All participants (applicant, applicant's representative, PTO personnel):

(1) MICHAEL C. LAI. (3)_____.

(2) Donna Flores. (4)_____.

Date of Interview: 25 February 2016.

Type: Telephonic Video Conference
 Personal [copy given to: applicant applicant's representative]

Exhibit shown or demonstration conducted: Yes No.
If Yes, brief description: _____.

Issues Discussed 101 112 102 103 Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1,6,9,14,17 and 22.

Identification of prior art discussed: _____.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)


We agreed to cancel claims 6, 14, and 22, and amend claims 1, 9, and 17. See Examiner's amendment for details.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/MICHAEL C LAI/ Primary Examiner, Art Unit 2457	
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Search Notes 	Application/Control No. 13111734	Applicant(s)/Patent Under Reexamination KLASSEN ET AL.
	Examiner MICHAEL C LAI	Art Unit 2457

CPC- SEARCHED		
Symbol	Date	Examiner
G06F15/02, H04L12/581, H04L12/5895, H04L51/04, H04L51/38, H04M1/72552	2/25/16	Lai

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
Inventor search		7/25/11	Lai
709	206, 207	7/26/11	Lai
455	567	11/29/12	Lai
715	772	11/29/12	Lai

SEARCH NOTES		
Search Notes	Date	Examiner
EAST text search	7/26/11	Lai
EAST	1/3/12	Lai
Consulted Joni Hsu for display search	1/4/12	Lai
EAST	6/4/12	Lai
Consulted Moustafa Meki for allowable subject matters	9/17/12	Lai
EAST	11/29/12	Lai
NPL Multi-search	11/29/12	Lai
EAST	2/25/16	Lai

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
H04L	51/04	2/25/16	Lai
Double patenting		2/25/16	Lai

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Index of Claims 	Application/Control No. 13111734	Applicant(s)/Patent Under Reexamination KLASSEN ET AL.
	Examiner MICHAEL C LAI	Art Unit 2457

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE									
Final	Original	07/28/2011	01/04/2012	06/04/2012	02/25/2016	02/25/2016					
1	1	✓	✓	✓	=						
2	2	✓	✓	✓	=						
3	3	✓	✓	✓	=						
4	4	✓	✓	✓	=						
5	5	✓	✓	✓	=						
-	6	✓	✓	✓	-						
6	7	✓	✓	✓	=						
7	8	✓	✓	✓	=						
9	9	✓	✓	✓	=						
10	10	✓	✓	✓	=						
11	11	✓	✓	✓	=						
12	12	✓	✓	✓	=						
13	13	✓	✓	✓	=						
-	14	✓	✓	✓	-						
14	15	✓	✓	✓	=						
15	16	✓	✓	✓	=						
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18	18	✓	✓	✓	=						
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-	22	✓	✓	✓	-						
22	23	✓	✓	✓	=						
23	24	✓	✓	✓	=						
8	25			✓	=						
16	26			✓	=						
24	27			✓	=						

EAST Search History

EAST Search History (Prior Art)

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L3	93	klassen-gerhard.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:30
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L5	0	L3 and refrain.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:31
L6	0	L3 and refrain\$4.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:31
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L8	2	L7 and refrain\$4.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:33
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L12	7274	(messag\$4) near4 time\$stamp	US-PGPUB; USPAT; EPO; JPO; DERWENT;	AND	OFF	2016/02/25 16:39

EAST Search History


			IBM_TDB			
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L14	366	(time\$1out or expir\$6) near10 (silent or no\$2reply or no\$2respon\$6) near10 (trigger\$4 or respon\$5 or activat\$4 or initiat\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:39
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L16	12007	(IM or (instant adj1 messag\$4)) near6 (time or timestamp or time- stamp)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:40
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L18	10	L16 same L17	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	OFF	2016/02/25 16:40
L27	128	lai-michael-c\$.xa.	USPAT	AND	OFF	2016/02/25 17:01
L28	4	9 and 27	USPAT	AND	OFF	2016/02/25 17:01

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L20	167	klassen-gerhard\$.in.	USPAT	AND	OFF	2016/02/25 16:48
L21	160	klassen-gerhard-d\$.in.	USPAT	AND	OFF	2016/02/25 16:48
L22	0	wormaln-c\$.in.	USPAT	AND	OFF	2016/02/25 16:48
L23	59	wormald-c\$.in.	USPAT	AND	OFF	2016/02/25 16:49
L24	45	wormald-christ\$.in.	USPAT	AND	OFF	2016/02/25 16:49
L25	47	kuhl-lawrence\$.in.	USPAT	AND	OFF	2016/02/25 16:50
L26	6	21 24 25	USPAT	AND	OFF	2016/02/25 16:51

2/ 25/ 2016 5:05:31 PM


C:\Users\mlai\Documents\EAST\Workspaces\10944925-0.wsp

Issue Classification 	Application/Control No. 13111734	Applicant(s)/Patent Under Reexamination KLASSEN ET AL.	
	Examiner MICHAEL C LAI	Art Unit 2457	

CPC						
Symbol					Type	Version
H04L	51			04	F	2013-01-01
G06F	15			02	I	2013-01-01
H04L	12			581	I	2013-01-01
H04L	12			5895	I	2013-01-01
H04L	51			38	I	2013-01-01
H04M	1			72552	I	2013-01-01


CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	24	
/MICHAEL C LAI/ Primary Examiner.Art Unit 2457	02/25/2016	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	9

Issue Classification 	Application/Control No. 13111734	Applicant(s)/Patent Under Reexamination KLASSEN ET AL.
	Examiner MICHAEL C LAI	Art Unit 2457

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION																
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED											
CROSS REFERENCE(S)						H	0	4	L	12 / 58 (2006.01.01)												
						CLASS						SUBCLASS (ONE SUBCLASS PER BLOCK)										

NONE				Total Claims Allowed:	
				24	
(Assistant Examiner)		(Date)			
/MICHAEL C LAI/		02/25/2016		O.G. Print Claim(s)	O.G. Print Figure
Primary Examiner.Art Unit 2457				1	9
(Primary Examiner)		(Date)			

Issue Classification 	Application/Control No. 13111734	Applicant(s)/Patent Under Reexamination KLASSEN ET AL.
	Examiner MICHAEL C LAI	Art Unit 2457

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47									
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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2	2	18	18												
3	3	19	19												
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-	6	-	22												
6	7	22	23												
7	8	23	24												
9	9	8	25												
10	10	16	26												
11	11	24	27												
12	12														
13	13														
-	14														
14	15														
15	16														

NONE		Total Claims Allowed:	
		24	
(Assistant Examiner)	(Date)		
/MICHAEL C LAI/ Primary Examiner.Art Unit 2457	02/25/2016	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	9



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/111,734	05/19/2011	Gerhard D. Klassen	70314/00568

CONFIRMATION NO. 6081

POA ACCEPTANCE LETTER

95866
Fleit Gibbons Gutman Bongini & Bianco P.L.
551 NW 77th street
Suite 111
Boca Raton, FL 33487



Date Mailed: 02/29/2016

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/16/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/sleutchit/



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/111,734	05/19/2011	Gerhard D. Klassen	70314/00568

CONFIRMATION NO. 6081

POWER OF ATTORNEY NOTICE



91704
BlackBerry Limited (Blakes Files)
Patent Team
2200 University Avenue East
Waterloo, ON N2K 0A7
CANADA

Date Mailed: 02/29/2016

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/16/2016.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/sleutchit/



UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY.DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 13/111,734, 05/19/2011, 2457, 1478, 11144-US-CNT[3], 24, 3

CONFIRMATION NO. 6081
CORRECTED FILING RECEIPT

95866
Fleit Gibbons Gutman Bongini & Bianco P.L.
551 NW 77th street
Suite 111
Boca Raton, FL 33487



Date Mailed: 02/29/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s)
Gerhard D. Klassen, Waterloo, CANADA;
Christopher R. Wormald, Kitchener, CANADA;
Lawrence E. Kuhl, Waterloo, CANADA;

Applicant(s)
Gerhard D. Klassen, Waterloo, CANADA;
Christopher R. Wormald, Kitchener, CANADA;
Lawrence E. Kuhl, Waterloo, CANADA;

Assignment For Published Patent Application
BlackBerry Limited, Waterloo, CANADA

Power of Attorney: The patent practitioners associated with Customer Number 95866

Domestic Priority data as claimed by applicant
This application is a CON of 10/944,925 09/20/2004 PAT 7970849
which claims benefit of 60/504,379 09/19/2003

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: No

Permission to Access Search Results: No

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 06/01/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/111,734**

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

Title

Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

page 2 of 4

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/111,734	Filing Date 05/19/2011	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	02/26/2016	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(j))	* 27	Minus ** 27	= 0	X \$80 =	0
	Independent (37 CFR 1.16(b))	* 3	Minus *** 3	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	0

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(j))	*	Minus **	=	X \$ =	
	Independent (37 CFR 1.16(b))	*	Minus ***	=	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

LIE
/VIOLA ROGERS/

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

Practitioners associated with the Customer Number: 95866

OR
 Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

The address associated with Customer Number: 95866

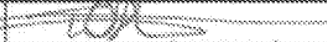
OR

<input type="checkbox"/> Firm or Individual Name	Fleit Gibbons Gutman Bongini & Bianco P.L.		
Address			
City	State	Zip	
Country			
Telephone	Email		

Assignee Name and Address:
 BlackBerry Limited
 2200 University Avenue E.,
 Waterloo, Ontario

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
 The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	12/11/2003
Name	TIM KOLUNDZ	Telephone	519-998-5160
Title	Vice President, Transformation & Governance		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1480, Alexandria, VA 22313-1480. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1460, Alexandria, VA 22313-1460.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Legal OK
 J. Hasper WH
 BB OK

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: BlackBerry Limited
 Application No./Patent No.: 13/111,734 Filed/Issue Date: May 19, 2011
 Titled: Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment
BlackBerry Limited, a Corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. The assignee of the entire right, title, and interest.
2. An assignee of less than the entire right, title, and interest (check applicable box):
 - The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
 - There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: KLASSEN, GERHARD D.; WORMALD, CHRISTOPHER R.; KUHL, LAWRENCE E. To: RESEARCH IN MOTION LIMITED

The document was recorded in the United States Patent and Trademark Office at
 Reel 026359, Frame 0901, or for which a copy thereof is attached.

2. From: RESEARCH IN MOTION LIMITED To: BLACKBERRY LIMITED

The document was recorded in the United States Patent and Trademark Office at
 Reel 034161, Frame 0020, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Donna Flores/

2016-02-15

Signature

Date

Donna Flores

48,142

Printed or Typed Name

Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	24923481
Application Number:	13111734
International Application Number:	
Confirmation Number:	6081
Title of Invention:	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment
First Named Inventor/Applicant Name:	Gerhard D. Klassen
Customer Number:	91704
Filer:	Jon A. Gibbons/Angela Zontelli
Filer Authorized By:	Jon A. Gibbons
Attorney Docket Number:	70314/00568
Receipt Date:	16-FEB-2016
Filing Date:	19-MAY-2011
Time Stamp:	15:23:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	11144-US-CNT3_2016-02-15_POATrans.pdf	153618 <small>b7b0c118d87403021d7956da53b5a68ca06192db</small>	no	1

Warnings:

Information:

2	Power of Attorney	11144-US- CNT3_2016-02-15_POA.pdf	584067 51b09994df658c7d7fd71ee451b9a9e0f3e82428	no	1
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73	11144-US- CNT3_2016-02-15_Statement. pdf	93454 3d7942cca805ea88fad14e4b271596f190f3ca8a	no	3
Warnings:					
Information:					
4	Application Data Sheet	11144-US- CNT3_2016-02-15_ADS_Revise d.pdf	279784 34223aca1bcdcf877cd691feef9b985a62bc31a4	no	4
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
Total Files Size (in bytes):			1110923		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	13/111,734
Filing Date	May 19, 2011
First Named Inventor	Klassen, Gerhard D.
Title	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment
Art Unit	2457
Examiner Name	LAI, MICHAEL C
Attorney Docket Number	11144-US-CNT[3]

SIGNATURE of Applicant or Patent Practitioner

Signature	/Donna Flores /	Date (Optional)	2016-02-15
Name	Donna Flores	Registration Number	48,142
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	70314/00568
		Application Number	
Title of Invention	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1				
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix
	Gerhard	U.	KLASSEN	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
City	Waterloo	Country Of Residence	CA	
Citizenship under 37 CFR 1.41(b)		CA		
Mailing Address of Applicant:				
Address 1	295 Phillip Street, Ext. 72999			
Address 2				
City	Waterloo	State/Province	ON	
Postal Code	N2L 3W8	Country	CA	
Applicant 2				
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix
	Christopher	R.	WORMALD	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
City	Kitchener	Country Of Residence	CA	
Citizenship under 37 CFR 1.41(b)		CA		
Mailing Address of Applicant:				
Address 1	295 Phillip Street, Ext. 72876			
Address 2				
City	Waterloo	State/Province	ON	
Postal Code	N2L 3W8	Country	CA	
Applicant 3				
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix
	Lawrence	E.	KUHL	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
City	Waterloo	Country Of Residence	CA	

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	70314/00568	
		Application Number		
Title of Invention	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment			
Citizenship under 37 CFR 1.41(b)	CA			
Mailing Address of Applicant:				
Address 1	295 Phillip Street, Ext. 72572			
Address 2				
City	Waterloo	State/Province	ON	
Postal Code	N2L 3W8	Country	CA	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. <input type="button" value="Add"/>				

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.	
Customer Number	04704 95866
Email Address	rimpatent@blakes.com <input type="button" value="Add Email"/> <input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment		
Attorney Docket Number	70314/00568	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	7	Suggested Figure for Publication (if any)	2

Publication Information:

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	70314/00568
		Application Number	
Title of Invention	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment		
Customer Number	04704 <u>958166</u>		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	10944925	2004-09-20
Prior Application Status	Expired	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
10944925	non provisional of	60504379	2003-09-19
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

<input type="button" value="Remove"/>			
Application Number	Country ¹	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

Assignee Information:

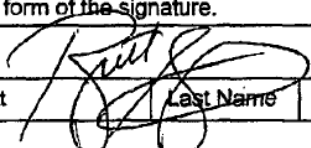
Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1			
If the Assignee is an Organization check here.			<input checked="" type="checkbox"/>
Organization Name	Research In Motion Limited <u>BlackBerry Limited</u>		
Mailing Address Information:			
Address 1	296 Phillip Street <u>2200 University Avenue East</u>		
Address 2			
City	Waterloo	State/Province	ON
Country	CA	Postal Code	N2L 3W8 <u>N2K 0A7</u>
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button.			

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	70314/00568
		Application Number	
Title of Invention	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment		

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.			
Signature			Date (YYYY-MM-DD) 2011-05-19
First Name	Brett	Last Name	Stanley
		Registration Number	58772

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



UNITED STATES PATENT AND TRADEMARK OFFICE

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Alexandria, Virginia 22313-1450
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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/111,734 05/19/2011 Gerhard D. Klassen 70314/00568 6081

91704 7590 01/29/2016
BlackBerry Limited (Blakes Files)
Patent Team
2200 University Avenue East
Waterloo, ON N2K 0A7
CANADA

Table with 1 column: EXAMINER

LAI, MICHAEL C

Table with 2 columns: ART UNIT, PAPER NUMBER

2457

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

01/29/2016

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptoboca@fggbb.com
portfolioprossecution@blackberry.com



UNITED STATES DEPARTMENT OF COMMERCE

U.S. Patent and Trademark Office

Address : COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
13/111,734	19 May, 2011	KLASSEN ET AL.	70314/00568

BlackBerry Limited (Blakes Files) Patent Team 2200 University Avenue East Waterloo, ON N2K 0A7	EXAMINER	
	JUSTIN RIDER	
	ART UNIT	PAPER
	2400	20160121

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

This is a decision, sua sponte, withdrawing the holding of abandonment of the above-identified application.

This application is held abandoned for failure to timely file a response to the decision by the Board of Patent Appeals and Interference rendered on October 14, 2015. A Notice of Abandonment was mailed on December 17, 2015.

A review of the file record indicates that a Request for Continued Examination (RCE) filed on December 14, 2015 and the Notice of Abandonment were crossed in the mail. The Office regrets any inconvenience caused by this error.

Although no petition or request to withdraw the holding of abandonment in this application has been filed, the holding of Abandonment is hereby withdrawn. The application is being forwarded to the examiner for an appropriate action.

Any inquiry regarding this decision should be directed to the undersigned at (571) 270-1068. A second point of contact is Ario Etienne, Supervisory Patent Examiner, at (571) 272-4001.

/JUSTIN RIDER/
Supervisory Patent Examiner, Art Unit 2400



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Address: COMMISSIONER FOR PATENTS
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www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/111,734 05/19/2011 Gerhard D. Klassen 70314/00568 6081

91704 7590 12/17/2015
BlackBerry Limited (Blakes Files)
Patent Team
2200 University Avenue East
Waterloo, ON N2K 0A7
CANADA

Table with 1 column: EXAMINER

LAI, MICHAEL C

Table with 2 columns: ART UNIT, PAPER NUMBER

2457

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

12/17/2015

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptoboca@fggbb.com
portfolioprossecution@blackberry.com

Notice of Abandonment	Application No.	Applicant(s)
	13/111,734	KLASSEN ET AL.
	Examiner	Art Unit
	MICHAEL C. LAI	2457

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. Applicant's failure to timely file a proper reply to the Office letter mailed on _____.
 - (a) A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
 - (b) A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 to the final rejection. (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) if this is utility or plant application, a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. Note that RCEs are not permitted in design applications.)
 - (c) A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
 - (d) No reply has been received.

2. Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
 - (a) The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
 - (b) The submitted fee of \$_____ is insufficient. A balance of \$_____ is due.
The issue fee required by 37 CFR 1.18 is \$_____. The publication fee, if required by 37 CFR 1.18(d), is \$_____.
 - (c) The issue fee and publication fee, if applicable, has not been received.

3. Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
 - (a) Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
 - (b) No corrected drawings have been received.

4. The letter of express abandonment which is signed by the attorney or agent of record or other party authorized under 37 CFR 1.33(b). See 37 CFR 1.138(b).

5. The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34) upon the filing of a continuing application.

6. The decision by the Board of Patent Appeals and Interference rendered on 14 October 2015 and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. The reason(s) below:

	/MICHAEL C LAI/ Primary Examiner, Art Unit 2457
--	--

Petitions to revive under 37 CFR 1.137, or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 13/111,734
Inventor(s) : Klassen, Gerhard D. et al.
Filed : May 19, 2011
TC/A.U. : 2457
Examiner : LAI, MICHAEL C
Docket No. : 11144-US-CNT[3]
Customer No. : 95866
Confirmation No. : 6081
For : *Handheld Electronic Device and Associated Method Providing Time
Data in a Messaging Environment*

AMENDMENT AFTER FINAL

VIA USPTO ELECTRONIC FILE SYSTEM

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
ATTENTION: Examiner LAI, MICHAEL C, Tel. No. 571-270-3236

Dear Commissioner:

In response to the Final Office Action dated June 22, 2012 and the Decision on Appeal dated October 14, 2015, please enter and consider the following response with amendment and remarks and Request for Continued Examination as follows:

Amendment to Claims begins on page 2.
Remarks begin on page 7.

CERTIFICATE OF TRANSMISSION

In accordance with 37 CFR 1.8, I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted or submitted under electronic filing system to the U.S. Patent and Trademark Office on the date: December 14, 2015

By: Jon Gibbons

Signature: Jon Gibbons/
(Applicant, Assignee, or Representative)

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of displaying an instant message conversation on an electronic device, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant messaging conversation, the method comprising:

receiving a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;

transmitting a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;

associating each instant message with a corresponding time stamp; and
within a single conversation screen:

displaying the incoming textual portion of each displayed incoming instant message horizontally aligned at a same first horizontal position;

displaying the outgoing textual portion of each displayed outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and

displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, ~~in response to an input in association with the at least one instant message of the incoming and outgoing instant messages.~~

2. (Original) The method of claim 1 further comprising displaying an incoming symbol with each displayed incoming instant message.

3. (Original) The method of claim 1 further comprising displaying an outgoing symbol with each displayed outgoing instant message.

4. (Original) The method of claim 1, wherein at least one first time stamp is displayed adjacent to its corresponding incoming instant message.

5. (Original) The method of claim 1, wherein at least one second time stamp is displayed adjacent to its corresponding outgoing instant message.
6. (Original) The method of claim 1, further comprising:
 - detecting an interruption in the instant message conversation; and
 - refraining from displaying a time stamp associated with a next one of an incoming instant message and an outgoing instant message if the interruption is less than a predetermined duration of time.
7. (Original) The method of claim 1, further comprising refraining from displaying at least one of the corresponding time stamps.
8. (Original) The method of claim 7, wherein the refraining is performed if an amount of time that has lapsed between the at least one corresponding time stamp and a previous corresponding time stamp is less than a predetermined duration of time.
9. (Currently Amended) An electronic device for displaying an instant message conversation, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant messaging conversation, the electronic device comprising:
 - a display;
 - a memory; and
 - a processor electronically coupled with the display and the memory, the processor configured to:
 - receive a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;
 - transmit a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;
 - associate each instant message with a corresponding time stamp; and within a single conversation screen:
 - display the incoming textual portion of each displayed incoming instant message horizontally aligned at a same first horizontal position;

display the outgoing textual portion of each displayed outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and

display time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, ~~in response to an input in association with the at least one instant message of the incoming and outgoing instant messages.~~

10. (Original) The electronic device of claim 9, wherein the processor is further configured to display an incoming symbol with each displayed incoming instant message.

11. (Original) The electronic device of claim 9, wherein the processor is further configured to display an outgoing symbol with each displayed outgoing instant message.

12. (Original) The electronic device of claim 9, wherein at least one first time stamp is displayed adjacent to its corresponding incoming instant message.

13. (Original) The electronic device of claim 9, wherein at least one second time stamp is displayed adjacent to its corresponding outgoing instant message.

14. (Original) The electronic device of claim 9, wherein the processor is further configured to:

detect an interruption in the instant message conversation; and
refrain from displaying a time stamp associated with a next one of an incoming instant message and an outgoing instant message if the interruption is less than a predetermined duration of time.

15. (Original) The electronic device of claim 9, wherein the processor is further configured to refrain from displaying at least one of the corresponding time stamps.

16. (Original) The electronic device of claim 15, wherein the processor refrains from displaying the at least one of the corresponding time stamps if an amount of time that has lapsed between the at least one corresponding time stamp and a previous corresponding time stamp is less than a predetermined duration of time.

17. (Currently Amended) A non-transitory computer readable medium comprising computer executable instructions embedded thereon for execution by a processor of an electronic device for displaying an instant message conversation upon a display of the electronic device, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant message conversation, such that when executed, the processor:

receives a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;

transmits a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;

associates each instant message with a corresponding time stamp; and
within a single conversation screen:

displays the incoming textual portion of each displayed incoming instant message horizontally aligned at a same first horizontal position;

displays the outgoing textual portion of each displayed outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and

displays time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, ~~in response to an input in association with the at least one instant message of the incoming and outgoing instant messages.~~

18. (Previously Presented) The non-transitory computer readable medium of claim 17, further comprising computer instructions such that when executed cause the processor to display an incoming symbol with each displayed incoming instant message.

19. (Previously Presented) The non-transitory computer readable medium of claim 17, further comprising computer instructions such that when executed cause the processor to display an outgoing symbol with each displayed outgoing instant message.

20. (Previously Presented) The non-transitory computer readable medium of claim 17, wherein at least one first time stamp is displayed adjacent to its corresponding incoming instant message.

21. (Previously Presented) The non-transitory computer readable medium of claim 17, wherein at least one second time stamp is displayed adjacent to its corresponding outgoing instant message.

22. (Previously Presented) The non-transitory computer readable medium of claim 17, further comprising computer instructions such that when executed cause the processor to:

detect an interruption in the instant message conversation; and
refrain from displaying a time stamp associated with a next one of an incoming instant message and an outgoing instant message if the interruption is less than a predetermined duration of time.

23. (Previously Presented) The non-transitory computer readable medium of claim 17, further comprising computer instructions such that when executed cause the processor to refrain from displaying at least one of the corresponding time stamps.

24. (Previously Presented) The non-transitory computer readable medium of claim 23, wherein the computer instructions that when executed cause the processor to refrain from displaying at least one of the corresponding time stamps are executed if an amount of time that has lapsed between the at least one corresponding time stamp and a previous corresponding time stamp is less than a predetermined duration of time.

25. (Previously Presented) The method of claim 1, the input comprising movement of a pointing device in proximity to the at least one instant message of the incoming and outgoing instant messages.

26. (Previously Presented) The electronic device of claim 9, the input comprising movement of a pointing device in proximity to the at least one instant message of the incoming and outgoing instant messages.

27. (Previously Presented) The non-transitory computer readable medium of claim 17, the input comprising movement of a pointing device in proximity to the at least one instant message of the incoming and outgoing instant messages.

REMARKS

The Final Office Action dated June 22, 2012 and the Decision on Appeal have been studied. Claims 1, 9 and 17 have been amended. By virtue of this response and amendment claims 1 through 27 are pending. Reconsideration and allowance of the pending claims in view of the above amendments and the following remarks are respectfully requested.

In the Final Office Action:

- Claims 1-5, 9-13, 17-21, and 25-27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Appelmann et al. (US 7,181,497), in view of Maurille (US 6,484,196) and MacPhail (US 6,636,243);
- Claims 6-8, 14-16, and 22-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Appelmann et al. (US 7,181,497), Maurille (US 6,484,196) and MacPhail (US 6,636,243) as applied to claim 1, and further in view of Yamada (US 6,889,063);

Rejections under 35 U.S.C. §103

As noted above, claims 1-5, 9-13, 17-21, and 25-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,181,497 to Appelmann et al. (hereinafter "Appelmann") in view of U.S. Patent No. 6,484,196 to Maurille (hereinafter "Maurille") and U.S. Patent No. 6,636,243 to MacPhail (hereinafter "MacPhail").

With respect to claim 1, pages 2-5 of the Office Action states that Appelmann discloses:

a method of displaying an instant message conversation on an electronic device ..., the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device ..., the method comprising:

receiving a plurality of incoming instant messages from the second electronic device, each incoming instant message having an incoming textual portion ...;
transmitting a plurality of outgoing instant messages to the second electronic device, each outgoing instant message having an outgoing textual ...;
associating each instant message with a corresponding time stamp ...;
displaying the incoming textual portion of each displayed incoming instant message being horizontally aligned at a same first horizontal position ...; and
displaying the outgoing textual portion of each displayed outgoing instant message being horizontally aligned at a same second horizontal

The Examiner correctly states that Appelman does not disclose “the second horizontal position being different from the first horizontal position.”

The Examiner goes on to combine Appelman with Maurille stating that Maurille teaches:

"Each incoming e-mail message is treated by the server application 114 as a level one message that begins a respective e-mail thread. Replies to the incoming e-mail messages are indented on the mail screen 900, visually indicating their position as second level messages in their associated thread" [col. 20, lines 9-15]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Maurille's teaching into Appelman's method for the purpose of visually differentiating between incoming and outgoing messages by aligning/indenting incoming and outgoing textual portions at different horizontal positions, thereby providing a more user friendly Instant Messaging system.

The Patent Trial and Appeal Board affirmed this rejection.

However, claim 1 has been amended as follows:

1. A method of displaying an instant message conversation on an electronic device, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device during a single instant messaging conversation, the method comprising:

- receiving a plurality of incoming instant messages from the second electronic device, each incoming instant message part of the single instant messaging conversation and having an incoming textual portion;
- transmitting a plurality of outgoing instant messages to the second electronic device, each outgoing instant message part of the single instant messaging conversation and having an outgoing textual portion;
- associating each instant message with a corresponding time stamp; and within a single conversation screen:
 - displaying the incoming textual portion of each displayed incoming instant message horizontally aligned at a same first horizontal position;
 - displaying the outgoing textual portion of each displayed outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and
 - displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp; ~~in response to an input in association with the at least one instant message of the incoming and outgoing instant messages.~~

Support for this amendment can be found at least at page 6, line 31 through page 7, line 6 and FIG. 4. No new matter has been added. It should be noted that even if some of the language in the claims is not *ipsis verbis* (not in the identical words) in the specification, the language of the claims is sufficiently described in at least and the figures and numbered paragraphs copied above, either in identical or similar words.¹

Recently, the Federal Circuit in *Allvoice Computing PLC v. Nuance Communications, Inc.*, (October 12, 2007) addressed the question of definiteness under 35 U.S.C. §112, first paragraph, and stated: “*This court concludes that the reference to DDE in the specification is a structure corresponding to the ‘output means’ clause of claim 60. With that understanding of the proper parameters of the claim, the record shows that an artisan of ordinary skill would understand the bounds of the claim when read in light of the specification. KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. ---, 127 S.Ct. 1727, 1742 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). Thus, the record shows that claim 60 satisfies the definiteness requirement”.

Furthermore, the exact terms need not be used *in haec verba* (in these words) to satisfy the written description requirement of the first paragraph of 35 U.S.C. §112, *Eiselstein v. Frank*, 52 F.3d 1035, 1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995); *In re Wertheim*, 541 F.2d 257, 265, 191 USPQ 90, 98 (CCPA 1976). See also 37 CFR §1.121(e), which merely requires substantial correspondence between the language of the claims and the language of the specification.

The features of the presently claimed subject matter are not realized in the cited references even if the teachings of Maurille are combined with Appelman. Maurille does not teach or suggest the claimed features of the present subject matter that are absent from Appelman. For example, the Office Action uses the example of FIG. 9 in Maurille to indicate that Maurille teaches “the second horizontal position being different from the first horizontal position.” FIG. 9 is reproduced below.

¹ If, on the other hand, the specification contains a description of the claimed invention, albeit not in *ipsis verbis* (in the identical words), then the examiner or Board, in order to meet the burden of proof, must provide reasons why one of ordinary skill in the art would not consider the description sufficient. See *In re Alton* (Fed. Cir 1996) (Emphasis Added). See also *Fujikawa v. Wattanasin* (Fed. Cir. 1996). As the Board recognized, however, *ipsis verbis* disclosure is not necessary to satisfy the written description requirement of section 112. Instead, the disclosure need only reasonably convey to persons skilled in the art that the inventor had possession of the subject matter in question. In *re Edwards*, 568 F.2d 1349, 135152, 196 USPQ 465, 467 (CCPA 1978). See MPEP ¶2163 subsection II 3(a), second to last paragraph.

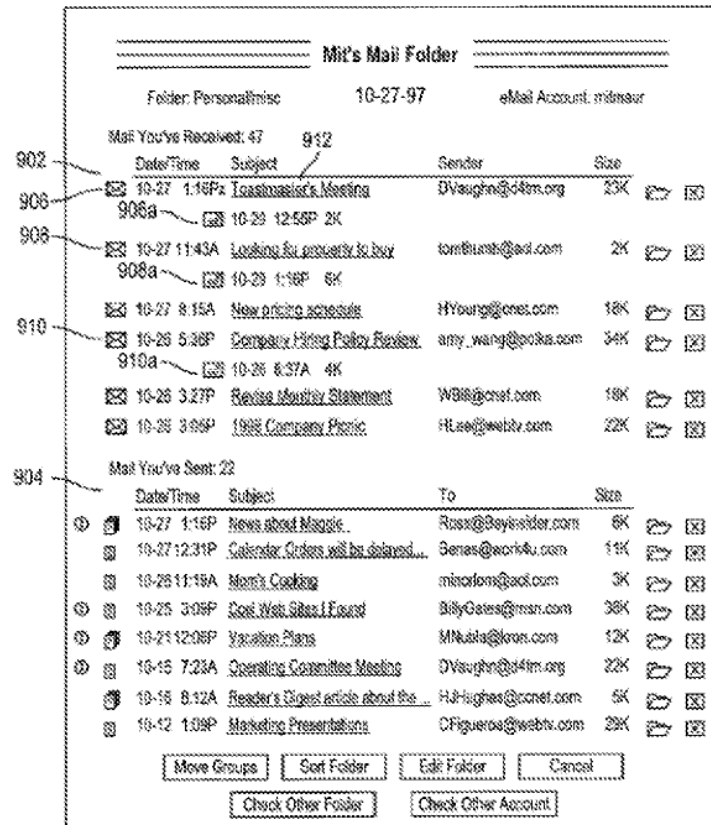


FIG. 9

FIG. 9 is an illustration of a mail screen (e.g., an email Inbox) which displays a plurality of email threads. In column 20, lines 8-15, Maurille describes the mail screen of FIG. 9 as follows:

The mail screen 900 lists mail received 902 and sent 904 by a particular user (e.g., Mit). Each incoming e-mail message is treated by the server application 114 as a level one message that begins a respective e-mail thread. Replies to the incoming e-mail messages are indented on the mail screen 900, visually indicating their position as second level messages in their associated thread. For example, the incoming e-mail messages 906, 908 and 910 all have replies 906a, 908b, 910c.

For comparative purposes, Applicants submit that a single email thread may be considered a conversation. Thus, the mail screen shown in FIG. 9 displays a plurality of conversations, wherein some of the conversations shown have a single reply (i.e. one outgoing message and one incoming message). While the mail screen shown in this instance aligns a plurality of conversations, where each conversation contains either a single outgoing message or a single outgoing message plus a single incoming message, the mail screen does not show a plurality of

incoming messages and a plurality of outgoing messages wherein the incoming messages and the outgoing messages are part of a single conversation, as recited in claim 1.

Furthermore, the mail screen disclosed in Maurille does not disclose every incoming message of a plurality of incoming messages aligned at the same first position while every outgoing message of a plurality of outgoing messages is aligned at a same second position. What Maurille is actually disclosing is a way to present progressive indentation of subsequently received/transmitted messages. FIG. 9 does not contain enough history of the email threads to clearly express this concept, but Applicants wish to draw attention to FIG. 4B and its associated text in col. 12, line 66 through col. 13, line 28, reproduced below for the convenience of the Examiner:

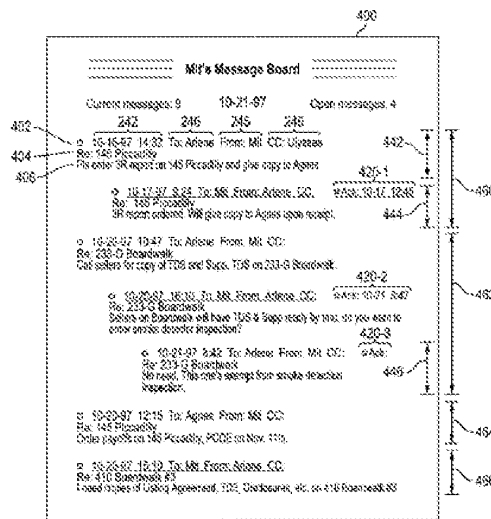


FIG. 4B

The client displays the messages with full threading information. That is, first level messages 442 are displayed with no indentation and lower level messages (i.e., replies 444 and replies to replies 446) are displayed with corresponding levels of indentation. The information necessary to maintain message threading is provided by the server application 114 from the Parent, Child, ThreadLevel and Threadid fields 238, 240, 236, 237 of the messages table 142. In particular, each displayed thread comprises a first level message and its children (family of replies). Note that many threads can have the same subject (e.g., the threads 460 and 464); however, **each first level message with the same subject is displayed as a distinct thread.**

To assist user recognition of the different message levels and the status of those messages (read, unread, etc.), the displayed embodiment employs color and icons in addition to indentation. In particular, first level messages are preceded by

a filled-in square 408, second level messages (replies) are preceded by a filled-in diamond 410 and **third level messages (replies to replies)** are preceded by a filled-in circle. In the illustrated embodiment the information line of incoming messages is underlined with different colors depending on whether the message has been responded to (shown in purple) or need to be responded to (shown in blue). Alternatively, the information line of all incoming messages can be shown in one color (e.g., blue) and with underlining only when the incoming message has not yet been responded to. Note that these display features (indentation, color, icons) are not required by the present invention but are niceties to assist users in navigating the open, threaded communication board 400. (Maurille col. 12, line 66 – col. 13, line 28 (Emphasis added)).

Maurille explicitly states that “each first level message is displayed as a distinct thread” and “lower level messages (i.e., replies 444 and replies to replies 446) are displayed with corresponding levels of indentation.” Thus, there is only one “first level message” per thread (i.e. conversation) as only one message can start a conversation, and replies are progressively indented according to level of message, but these are not aligned based upon an incoming or outgoing status.

Looking specifically at the illustration in FIG. 4B, first level messages may be either incoming or outgoing. For example, the mail screen shown belongs to “Mit.” The first “first level message” shown in the list (thread 460) is “To: Arlene From: Mit,” hence, an outgoing message. However, the last “first level message” (thread 466) shown is “To: Mit From: Arlene,” hence, an incoming message. Thus, not all incoming messages are aligned at the same horizontal position that is different from the position for which all outgoing messages are aligned. Moreover, even FIG. 9 shows “Mail you’ve sent” (i.e. outgoing) and “Mail you’ve received” (i.e. incoming) and all first level messages are aligned at the same horizontal position regardless of origin.

In addition, thread 462 contains two outgoing messages and one incoming message; however, the plurality of outgoing messages within the thread are not aligned at the same horizontal position as one is a “first level message” and the other is a “third level message.”

Accordingly, the presently claimed subject matter distinguishes over Maurille and Appelman for at least these reasons. MacPhail does not cure the deficiencies of Maurille and Appelman.

Independent claims 9 and 17 recite similar features to independent claim 1 discussed above. Therefore, the remarks and arguments given above with respect to claim 1 are also applicable in support of claims 9 and 17, and will not be repeated.

Claims 2-8, 10-16 and 18-27 depend from one or more of claims 1, 9 and 17. Dependent claims include all of the subject matter from their respective independent claims. Accordingly, dependent claims 2-8, 10-16 and 18-27 distinguish over Appelman, Maurille and MacPhail, as well.

For the foregoing reasons, the rejection of claims 1-27 under 35 U.S.C. § 103 has been overcome and should be withdrawn.

CONCLUSION

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, or that in any way it would help expedite the prosecution of the patent application, a telephone call to the undersigned at (561) 989-9811 is respectfully solicited.

The Commissioner is hereby authorized to charge any fees that may be required or credit any overpayment to Deposit Account **50-1556** (Attorney Docket No. 11144-US-CNT[3]).

Respectfully submitted,

Date: December 14, 2015

By: /Jon Gibbons/

Appl. No. 13/111,734
Docket No. 11144-US-CNT[3]
Reply to Final Office Action of June 22, 2012 and Decision on Appeal of October 14, 2015

Jon Gibbons
(Reg. No. 37,333)
Attorney for Applicant

Fleit Gibbons Gutman
Bongini & Bianco P.L.
One Boca Commerce Center
551 N.W. 77th Street, Suite 111
Boca Raton, Florida 33487
Telephone: (561) 989-9811
Facsimile: (561) 989-9812
www.FGGBB.com

Electronic Acknowledgement Receipt

EFS ID:	24353541
Application Number:	13111734
International Application Number:	
Confirmation Number:	6081
Title of Invention:	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment
First Named Inventor/Applicant Name:	Gerhard D. Klassen
Customer Number:	91704
Filer:	Jon A. Gibbons/Angela Zontelli
Filer Authorized By:	Jon A. Gibbons
Attorney Docket Number:	70314/00568
Receipt Date:	14-DEC-2015
Filing Date:	19-MAY-2011
Time Stamp:	15:56:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response After Final Action	380-P0724-US-CNT3_2015-12-14_RESP_DecisiononAppeal.pdf	244421 <small>352d06c93a8521045d22d4997ba54fc9a44b1aed</small>	no	14

Warnings:

Information:

Total Files Size (in bytes):

244421

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
 (Submitted Only via EFS-Web)**

Application Number	13/111,734	Filing Date	2011-05-19	Docket Number (if applicable)	11144-US-CNT[3]	Art Unit	2457
First Named Inventor	Klassen, Gerhard D.			Examiner Name	LAI, MICHAEL C		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

Other _____

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other _____

MISCELLANEOUS

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
 The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
 Deposit Account No 501556

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Patent Practitioner Signature
 Applicant Signature

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	Jon Gibbons/	Date (YYYY-MM-DD)	2015-12-14
Name	Jon Gibbons	Registration Number	37333

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13111734			
Filing Date:	19-May-2011			
Title of Invention:	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment			
First Named Inventor/Applicant Name:	Gerhard D. Klassen			
Filer:	Jon A. Gibbons/Angela Zontelli			
Attorney Docket Number:	70314/00568			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for Continued Examination	1801	1	1200	1200
Total in USD (\$)				1200

Electronic Acknowledgement Receipt

EFS ID:	24353957
Application Number:	13111734
International Application Number:	
Confirmation Number:	6081
Title of Invention:	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment
First Named Inventor/Applicant Name:	Gerhard D. Klassen
Customer Number:	91704
Filer:	Jon A. Gibbons/Angela Zontelli
Filer Authorized By:	Jon A. Gibbons
Attorney Docket Number:	70314/00568
Receipt Date:	14-DEC-2015
Filing Date:	19-MAY-2011
Time Stamp:	16:08:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1200
RAM confirmation Number	3223
Deposit Account	501556
Authorized User	GIBBONS, JON A

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)
 Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)
 Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	11144-US-CNT3_2015-12-14_RCE.pdf	697611 ffd5d85da91a5446a87ce3d3bb801067eea8a22d	no	3

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30537 cc2fac985afdedefa0d76f5088389b5aca9c783e	no	2
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Information:

Total Files Size (in bytes): 728148

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/111,734	Filing Date 05/19/2011	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

AMENDMENT	DATE	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	12/14/2015						
	Total (37 CFR 1.16(j))	* 27	Minus	** 27	= 0	X \$80 =	0
	Independent (37 CFR 1.16(b))	* 3	Minus	***3	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT	DATE	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(j))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(b))	*	Minus	***	=	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/111,734 05/19/2011 Gerhard D. Klassen 70314/00568 6081

91704 7590 10/14/2015
BlackBerry Limited (Blakes Files)
Patent Team
2200 University Avenue East
Waterloo, ON N2K 0A7
CANADA

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LAI, MICHAEL C

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2457

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10/14/2015

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GERHARD D. KLASSEN, CHRISTOPHER R. WORMALD,
and LAWRENCE E. KUHL

Appeal 2013-006230
Application 13/111,734
Technology Center 2400

Before CARLA M. KRIVAK, BRUCE R. WINSOR, and
GARTH D. BAER, *Administrative Patent Judges*.

WINSOR, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1–27, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ The real party in interest identified by Appellants is Research in Motion Limited. (Br. 3.)

STATEMENT OF THE CASE

Appellants' disclosed invention "relates generally to handheld electronic devices and, more particularly, to . . . providing information representative of the times of certain communications in a messaging environment." (Spec. ¶ 2.) Claim 1, which is illustrative, reads as follows (with disputed limitations emphasized):

1. A method of displaying an instant message conversation on an electronic device, the instant message conversation comprising a plurality of instant messages exchanged between the electronic device and a second electronic device, the method comprising:

receiving a plurality of incoming instant messages from the second electronic device, each incoming instant message having an incoming textual portion;

transmitting a plurality of outgoing instant messages to the second electronic device, each outgoing instant message having an outgoing textual portion;

associating each instant message with a corresponding time stamp;

displaying the incoming textual portion of each displayed incoming instant message horizontally aligned at a same first horizontal position;

displaying the outgoing textual portion of each displayed outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position; and

displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages.

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Application 13/111,734

The Examiner relies on the following prior art in rejecting the claims:

Maurille	US 6,484,196 B1	Nov. 19, 2002
MacPhail	US 6,636,243 B1	Oct. 21, 2003
Yamada	US 6,889,063 B2	May 3, 2005
Appelman et al.	US 7,181,497 B1	Feb. 20, 2007

Claims 1–5, 9–13, 17–21, and 25–27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Appelman et al. (hereinafter “Appelman”), Maurille, and MacPhail. (*See* Final Act. 2–12.)

Claims 6–8, 14–16, and 22–24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Appelman, Maurille, MacPhail, and Yamada. (*See* Final Act. 12–18.)

Rather than repeat the arguments here, we refer to the Appeal Brief (“Br.” filed Oct. 9, 2012) for the positions of Appellants and the Final Office Action (“Final Act.” mailed June 22, 2012) and Answer (“Ans.” mailed Jan. 7, 2013) for the findings and conclusions of the Examiner. Only those arguments actually made by Appellants have been considered in this decision. Arguments Appellants did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2012).

RELATED PROCEEDINGS

The instant appeal is related to Appeal 2013-006231 pertaining to Application 13/111,706 and Appeal 2013-008949 pertaining to Application 13/111,767. (*See* Appeal 2013-008949, Brief 3.)

ISSUES

The issues presented by Appellants' contentions are as follows:

Does Appelman teach away from the combination with Maurille and MacPhail in the manner articulated by the Examiner with regard to claim 1?

Does the Examiner err in finding the combination of Appelman, Maurille, and MacPhail teaches or suggests

displaying the incoming textual portion of each displayed incoming instant message horizontally aligned at a same first horizontal position [and] displaying the outgoing textual portion of each displayed outgoing instant message horizontally aligned at a same second horizontal position, the second horizontal position being different from the first horizontal position

(hereinafter "the alignment limitation"), as recited in claim 1?

Does the Examiner err in finding the combination of Appelman, Maurille, and MacPhail teaches or suggests "displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages" (hereinafter "the time information limitation"), as recited in claim 1?

ANALYSIS

Teaching Away

Appellants contend Appelman teaches away from the combination with Maurille articulated by the Examiner because Appelman teaches aligning incoming and outgoing messages at exactly the same horizontal positions (Br. 8–9) and therefore teaches away from the alignment

limitation. Similarly, Appellants contend Appelman teaches away from the combination with MacPhail articulated by the Examiner because Appelman teaches displaying a timestamp with each displayed message (*id.*) and, therefore, teaches away from the time information limitation. We disagree.

It is true the cited portions of Appelman do not teach the different horizontal positions for incoming and outgoing messages or displaying time information in response to an input. (*See* Final Act. 3–4 (citing Appelman, col. 9, ll. 23–48, Figs. 16, 18).) However, merely identifying differences does not demonstrate a reference teaches away from the combination. *In re Beattie*, 974 F.2d 1309, 1312–13 (Fed. Cir. 1992). Appellants do not identify, nor do we find, anything in Appelman that criticizes, discredits, or otherwise discourages displaying incoming messages at a different horizontal position from the display of outgoing messages or displaying time information in response to an input. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). We agree with the Examiner adding the alignment limitation and the time information limitation to Appelman’s method are “enhancements” to Appelman’s method (*see* Ans. 5) and not the exact opposite of what Appelman teaches (*see* Br. 9). “[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

We find Appelman does not teach away from the combination with Maurille and MacPhail articulated by the Examiner.

The Alignment Limitation

The Examiner relies on Maurille, in combination with Appelman, for teaching the alignment limitation of claim 1. (Final Act. 3–4 (citing Appelman, col. 9, ll. 23–48, Figs. 16, 18; Maurille, col. 20, ll. 9–15 (explaining Fig. 9)).) Particularly, the Examiner relies on Appelman to teach horizontal alignment of each displayed incoming message at a same horizontal position and horizontal alignment of each displayed outgoing message at a same horizontal position. (Final Act. 3; *see, e.g.*, Appelman, Fig. 18.) The Examiner relies on Maurille to teach aligning displayed incoming messages at different horizontal positions than displayed outgoing messages. (Final Act. 3–4; *see, e.g.*, Maurille, Fig. 9 (items 906, 906a).)

Appellants contend “[a]lthough Maurille may show indenting email replies (e.g., as shown in FIG. 4B), Maurille clearly applies indentation to messages in an entirely different way than what is recited in claim 1.” (Br. 9.) Appellants further contend

Maurille has not addressed the competing objectives of conserving display space and providing useful time information. In fact, similar to Appelman, Maurille includes time information with each message (see FIG. 4B). This provision of time information for each message and the indentations based on levels as used in Maurille would become confusing and clutter the user interface in an instant messaging environment.

(Br. 9–10.)

We are not persuaded of error.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of

the references would have suggested to those of ordinary skill in the art.

In re Keller, 642 F.2d 413, 425 (CCPA 1981) (citations omitted). “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421. “[T]he [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for [the Board] can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418. Furthermore, “one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.” *Keller*, 642 F.2d at 426.

The Examiner relies on Appelman, not Maurille, to teach aligning incoming messages with other incoming messages and aligning outgoing messages with other outgoing messages. (Final Act. 3.) Maurille is relied on to teach indenting replies (outgoing messages) (Maurille, Fig. 9 (items 906a, 908b, 910c)) to incoming messages (*id.* (items 906, 908, 910)) at horizontal positions different from the incoming messages. (Final Act. 3–4; *see* Maurille, col. 20, ll. 9–16; *see also id.* at Figs. 4B, 4C (cited at Br. 9).) The Examiner concludes aligning incoming and outgoing messages at different horizontal positions would provide a more user friendly message display. (Final Act. 4.) We agree with the Examiner the person of ordinary skill in the art, having Appelman and Maurille before him or her, would have learned from Maurille to use different horizontal alignments of incoming and outgoing messages for organizing the messages in a more user friendly manner and would have learned from Appelman to align incoming messages together and outgoing messages together.

We find Appellants' arguments about the resulting confusion that would occur from a direct insertion of Maurille's precise indentation scheme into Appelman's display (*see* Br. 9–10) to be unpersuasive — a person of ordinary skill would have been able to combine the teachings of Appelman and Maurille using his or her ordinary skill and creativity. *See KSR*, 550 U.S. at 421; *Keller*, 642 F.2d at 425. Appellants do not point to any substantive evidence that more than ordinary skill and creativity would have been required to combine the teachings of Appelman and Maurille as recited in the claimed alignment limitation. *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 419).

Appellants contend

a person skilled in the art would be unlikely to refer to Maurille in combination with Appelman. Since Appelman and Maurille address different problems, it is unclear how a person skilled in the art would consider applying a solution from Maurille that addresses a problem not relevant to the teachings in Appelman.

(Br. 12.) In other words, Appellants contend Maurille is not analogous art *vis-à-vis* Appelman and Appellants' invention. We disagree.

In an obviousness analysis,

[t]wo *separate* tests define the scope of analogous 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 inventor's endeavor, whether the reference still is *reasonably pertinent* to the particular problem with which the inventor is involved.

In re Klein, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (quoting *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (emphases added). Here, Appellants' invention, Appelman, and Maurille are all in the same field of endeavor,

electronic messaging methods, more particularly, instant messaging methods. (See Spec. ¶¶ 2, 4; Appelman, col. 1, ll. 17–18; Maurille, col. 1, ll. 5–8.) Therefore, Maurille is analogous art *vis-à-vis* Appelman and Appellants’ invention *regardless* of whether it is directed to the problem addressed by Appellants or Appelman. See *Klein*, 647 F.3d at 1348.

The Examiner concludes as follows:

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Maurille’s teaching into Appelman’s method for the purpose of visually differentiating between incoming and outgoing messages by aligning/indenting incoming and outgoing textual portions at different horizontal positions, thereby providing a more user friendly Instant Messaging system.

(Final Act. 3–4.) Appellants contend “[t]he Examiner has not clearly articulated what, in either reference, evidences the ‘purpose’ stated above.”

(Br. 12.) Appellants continue “the Examiner appears to be reiterating substantially what is the language recited in claim 1, therefore suggesting that the benefit of hindsight is believe [sic] relied upon.” (*Id.*) We disagree.

Maurille clearly shows in Figures 4B and 4C (cited at Br. 9) using indentation to visually differentiate between incoming and outgoing messages. The Examiner’s observation that visual differentiation between incoming and outgoing messages would make a message display more user friendly is merely an application of common sense, not hindsight. See *KSR*, 550 U.S. at 421 (“Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.”). Therefore, we conclude the Examiner has provided “some articulated reasoning with some rational underpinning to support the

legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Appellants’ contentions do not persuade us the Examiner erred in finding the combination of Appelman, Maurille, and MacPhail teaches the alignment limitation recited in claim 1.

The Time Information Limitation

The Examiner relies on MacPhail, when combined with Appelman and Maurille, to teach the time information limitation of claim 1. (Final Act. 3–5 (citing Appelman, col. 9, ll. 23–48, Figs. 16, 18; Maurille, col. 20, ll. 9–15); MacPhail, col. 2, ll. 53–56, col. 10, ll. 3–22, Fig. 4(b).) Particularly, the Examiner relies on Appelman and Maurille to teach displaying incoming and outgoing messages having corresponding time stamps and displaying information according to the corresponding time stamps along with at least one message. (Final Act. 3–4; *see, e.g.*, Appelman, Fig. 18; Maurille, Fig. 9.) The Examiner relies on MacPhail, when combined with Appelman and Maurille, to teach displaying the time information corresponding to a time stamp in response to an input in association with at least one message. (Final Act. 4–5; *see, e.g.*, MacPhail, Fig. 4(b).)

Appellants contend “although MacPhail may suggest displaying timestamps to indicate a change in status, there is nothing in MacPhail that teaches displaying a timestamp for a message in a messaging environment.” (Br. 13.) However, the Examiner relies on Appelman and Maurille, not MacPhail, to teach displaying a time stamp for a message in a messaging environment. (*See* Final Act. 3–4.) As found by the Examiner, MacPhail teaches displaying a time stamp (i.e., time information corresponding to a time stamp) (MacPhail, Fig. 4(b) (item 94)) in response, for example, to a

user placing a pointer or cursor (i.e., responsive to an input) (*id.* (item 92)) over an icon associated with the time stamp (*id.* (item 80)) (*see* MacPhail, col. 10, ll. 14–17), which the Examiner analogizes to the recited at least one message. (*See* Final Act. 4–5.)

To the extent Appellants contend MacPhail is not analogous art *vis-à-vis* Appellants’ claim 1, we agree with the Examiner at least one of the problems MacPhail is solving is adapting to “displays having diverse sizes and capacities” (MacPhail, col. 2, ll. 55–56). (*See* Final Act. 4–5.) This is essentially just another way of stating the same problem Appellants are trying to solve, i.e., “the competing objectives of providing useful time information and conserving display space.” (Br. 10.) Accordingly, even if we were to agree, *arguendo*, MacPhail is not in the same field of endeavor as Appellants’ invention, Appelman, and Maurille, we still conclude MacPhail is analogous art because it is “reasonably pertinent to the particular problem with which the [Appellants are] involved.” *Klein*, 647 F.3d at 1348.

Appellants’ contentions that MacPhail does not teach the time information limitation because MacPhail’s time stamps relate to icons representing critical variable indicators, there may be multiple time stamps displayed for an icon, time stamps may be displayed for more than one icon, and time stamps may change over time (*see* Br. 10–11) are similarly unpersuasive because they attack MacPhail individually, rather than the combination of MacPhail with Appelman and Maurille articulated by the Examiner. *Keller*, 642 F.2d at 426. The Examiner does not rely on MacPhail to teach an instant messaging environment, the information represented by the times stamps, or the number of time stamps; rather,

considering the articulated rejection of claim 1 in its entirety, the Examiner relies on MacPhail for teaching displaying time information along with an item to which the time information relates, according to a corresponding time stamp *in response to an input*. (See Final Act. 2–5.)

Appellants contend “[t]he Examiner’s reasoning does not clearly articulate what content, in any of the references, provides the motivation to make modifications to the cited references that are not supported by the teachings of the cited references and could be considered contrary to those teachings.” (Br. 14.) We disagree.

The Examiner concludes as follows:

[I]t would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate MacPhail’s teaching into Appelman’s and Maurille’s method for the purpose of providing displays on-demand by displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages, thereby providing effective displays on devices having diverse sizes including those with small, monochrome displays and capabilities [see at least the abstract and col. 2, lines 53–56].

(Final Act. 4–5 (brackets in original).) The Examiner provides a reasonable rationale for combining the relied-on teachings of MacPhail with the teachings of Appelman and Maurille. The Examiner supports the rationale with evidence drawn from the record (*see* MacPhail, col. 2, ll. 53–56, abstract). Appellants do not persuasively rebut the rationale. In particular, we conclude the Examiner has not “misunderstood the teachings of the cited references, overlooked certain aspects of these teachings, or relied on hindsight,” as asserted by Appellants. (Br. 14.) Therefore, we conclude the

Appeal 2013-006230
Application 13/111,734

Examiner has provided “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418.

Appellants’ contentions do not persuade us the Examiner erred in finding the combination of Appelman, Maurille, and MacPhail teaches the time information limitation recited in claim 1.

Conclusion

On the record before us, we find no error in the rejection of claim 1. Accordingly we sustain the rejection of claim 1 over Appelman, Maurille, and MacPhail. Appellants argue independent claims 9 and 17 together with claim 1. (Br. 15.) Appellants argue Yamada does not cure the deficiencies of Appelman, Maurille, and MacPhail, but do not otherwise separately argue with particularity the patentability of the claims depending from claims 1, 9, and 17. (*Id.*) Therefore, for the same reasons as for claim 1, we sustain the rejections of claims 2–5, 9–13, 17–21, and 25–27 over Appelman, Maurille, and MacPhail, and claims 6–8, 14–16, and 22–24 over Appelman, Maurille, MacPhail, and Yamada.

DECISION

The decision of the Examiner rejecting claims 1–27 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2013).

AFFIRMED

ACP



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Blake, Cassels & Graydon LLP
199 BAY STREET, SUITE 4000
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Sheet 1 of 1

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Application Number 13/111,734
 Filing Date May 19, 2011
 First named Inventor KLASSEN, Gerhard D.
 Art Unit 2457
 Examiner Name LAI, Michael C.
 Attorney Docket Number 70314/00568

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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		Country Code ³	Number ⁴	Kind-Code ⁵ (if known)				
		CA	2,475,319	A1	08-14-2003	CATAPHORA, INC.		

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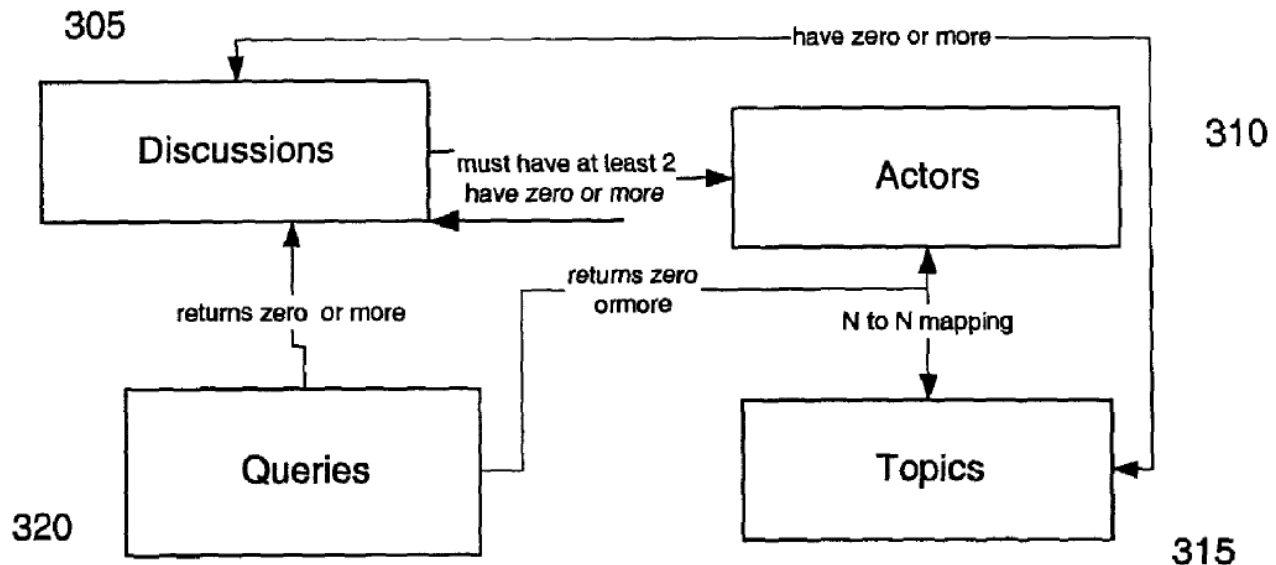
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CATAPHORA, INC., US
 (72) Inventeurs/Inventors:
CHARNOCK, ELIZABETH B., US;
THOMPSON, CURTIS, US;
ROBERTS, STEVEN L., US
 (74) Agent: RICHES, MCKENZIE & HERBERT LLP

(54) Titre : PROCÉDE ET DISPOSITIF DE PRESENTATION VISUELLE DE DEBATS A DES FINS D'EXPLORATION EN PROFONDEUR DE DONNEES
 (54) Title: A METHOD AND APPARATUS TO VISUALLY PRESENT DISCUSSIONS FOR DATA MINING PURPOSES



(57) **Abrégé/Abstract:**

A method of organizing information is disclosed. The method comprises providing a visualization of actor (310) communications in the context of one or more discussion (305), a discussion (305) including at least one actor (310) and at least one documented (310) communication.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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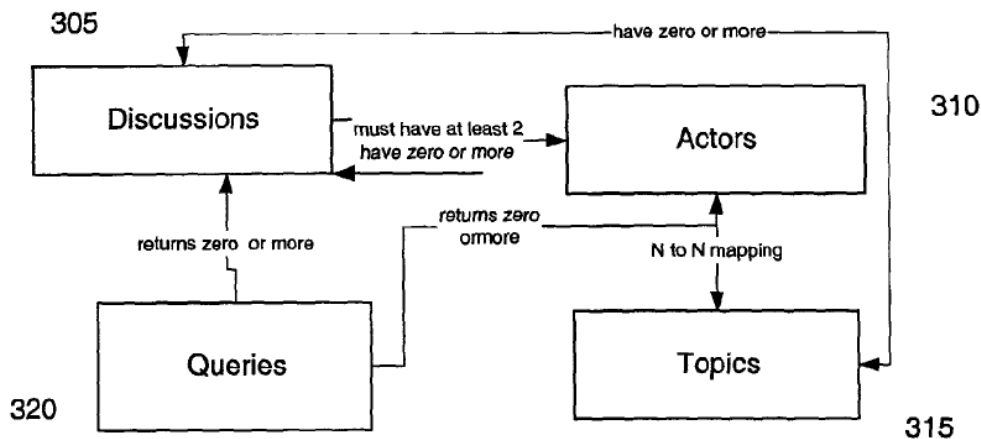
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- (71) Applicant (for all designated States except US): **CAT-APHORA, INC** [US/US]; 2121 Broadway Street, Suite 156, Redwood City, CA 94063 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **CHARNOCK, Elizabeth, B.** [US/US]; 818 Balboa Lane, Foster City, CA 94404 (US). **THOMPSON, Curtis** [US/US]; 1742 B. Cedar Street, Berkeley, CA 94703 (US). **ROBERTS, Steven, L.** [US/US]; 818 Balboa Lane, Foster City, CA 94404 (US).
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(54) Title: A METHOD AND APPARATUS TO VISUALLY PRESENT DISCUSSIONS FOR DATA MINING PURPOSES



(57) Abstract: A method of organizing information is disclosed. The method comprises providing a visualization of actor (310) communications in the context of one or more discussion (305), a discussion (305) including at least one actor (310) and at least one documented (310) communication.

A METHOD AND APPARATUS TO VISUALLY PRESENT DISCUSSIONS FOR DATA MINING PURPOSES

FIELD OF THE INVENTION

[0001] The present invention relates to electronic documents, and more particularly to a method for visualizing the relationships among, and retrieving one more groups of documents satisfying a user-defined criterion or set of criteria.

BACKGROUND

[0002] The volume of electronic information in both personal and corporate data stores is increasing rapidly. Examples of such stores include e-mail messages, word-processed and text documents, contact management tools, and calendars. But the precision and usability of knowledge management and search technology has not kept pace. The vast majority of searches performed today are still keyword searches or fielded searches. A keyword search involves entering a list of words, which are likely to be contained within the body of the document for which the user is searching. A fielded search involves locating documents using lexical strings that have been deliberately placed within the document (usually at the top) with the purpose of facilitating document retrieval.

[0003] These data retrieval techniques suffer from two fundamental flaws. Firstly, they often result in either vast numbers of documents being returned, or, if too many keywords or attribute-value pairs are specified and the user specifies that they must all appear in the document, no documents being returned. Secondly, these techniques are able only to retrieve documents that individually meet the search criteria. If two or more related (but distinct) documents meet the search criteria only when considered as a combined unit, these documents will not be retrieved. Examples of this would include the case where the earlier draft of a document contains a keyword, but where this keyword is absent from the later document; or an e-mail message and an entry in an electronic calendar, where the calendar entry might clarify the context of a reference in the e-mail message. There is a clear need for a search technique that returns sets of related documents that are not merely grouped by textual similarity, but also grouped and sequenced according to the social context in which they were created, modified, or quoted.

[0004] This would make it possible to retrieve a very precise set of documents from a large corpus of data. Hitherto, with conventional search tools, this has only been possible by the use of complex search queries, and the results have been restricted to documents that individually meet the search criteria. It is desirable to be able to retrieve a precise set of documents from a large corpus of texts using relatively simple search queries. It would be of further benefit to present said documents in the context of causally related links (for example, a document containing the minutes of a board meeting has a causal link to an email announcing that meeting), even when those other documents do not, individually, satisfy the search criteria. This would relieve the user of the need for prior knowledge (before running the search) of such details as the exact date on which a message was sent, and who sent it. Existing search tools require such prior knowledge, because they do not establish causal links between documents.

SUMMARY

[0005] A method of organizing information is disclosed. The method comprises providing a visualization of actor communications in the context of one or more discussion, a discussion including at least one actor and at least one documented communication.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present invention is illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings and in which like reference numerals refer to similar elements and in which:

[0007] Figure 1 is a block diagram of one embodiment of a network, which may be used with the present invention.

[0008] Figure 2 is a block diagram of one embodiment of a computer system.

[0009] Figure 3 is a block diagram of navigation flow in one embodiment of the present invention.

[0010] Figure 4 is a block diagram of user-interface flow in one embodiment of the present invention.

[0011] Figure 5 is a screen shot of one embodiment of the participant graph.

[0012] Figure 6 is a screen shot of another embodiment of the participant graph, in which the time of day is represented.

[0013] Figure 7 is a screen shot of a form panel for adding items that were not originally part of the discussion being visualized.

[0014] Figure 8 is a screen shot of one embodiment of a participant graph, in which a pop-up showing basic information about the item is displayed.

[0015] Figure 9 is a screen shot of one embodiment of a document trail graph

[0016] Figure 10 is a screen shot of one embodiment of a money trail graph

[0017] Figure 11 is a screen shot of one embodiment a view that uses a color, pattern, or similar distinguishing mechanism which uses the color spectrum to help users to discern small shifts in the communication activity of a very large population of actors.

[0018] Figure 12 is a screen shot of one embodiment of an activity graph, which illustrates the amount of communication among actors over a user-specified period of time.

[0019] Figure 13 is a screen shot of one embodiment of a discussion timeline, in which each discussion appears as a rectangle of the length appropriate relative to its duration in the timeline.

[0020] Figure 14 is a screen shot of one embodiment of a discussion timeline, with a spider-eye panning widget to temporarily change the resolution of the discussion visualization.

[0021] Figure 15 is a screen shot of one embodiment of a discussion timeline, showing the individual events in the discussion.

[0022] Figure 17 is a screen shot of one embodiment of a graphical representation of a discussion timeline.

[0023] Figure 16 is a screen shot of one embodiment of a discussion cluster view.

[0024] Figure 18 is a screen shot of one embodiment of a transcript view, showing actor color-coding.

[0025] Figure 19 is a screen shot of one embodiment of a transcript view, showing actor activity.

[0026] Figure 20 is a screen shot of one embodiment of a transcript view, showing discussion partitions.

[0027] Figure 21 is a screen shot of one embodiment of a transcript view, showing actor and document-type color-coding.

[0028] Figure 22 is a screen shot of one embodiment of a transcript view, showing document attachments.

[0029] Figure 23 is a screen shot of one embodiment of a transcript view, showing color-coding of quoted text.

[0030] Figure 24 is a screen shot of one embodiment of a transcript view, showing that a deletion has occurred.

[0031] Figure 25 is a screen shot of one embodiment of a transcript view, showing Instant Messages (IMs).

[0032] Figure 26 is a screen shot of one embodiment of a query results view, showing discussion titles, discussion start and end dates, and actor images.

[0033] Figure 27 is a screen shot of one embodiment of a matrix query results view.

[0034] Figure 28 is a screen shot of one embodiment of the saved queries view.

[0035] Figure 29 is a screen shot of one embodiment of a tool for submitting user queries.

[0036] Figure 30 is a screen shot of one embodiment of a tool for submitting user queries, in which said tool allows the user to select types of actor involvement, and to use a saved query.

[0037] Figure 31 is a screen shot of one embodiment of a tool for submitting user queries, in which said tool allows the user to exclude certain actors from the query.

[0038] Figure 32 is a diagram of a query template (Template 1).

[0039] Figure 33 is a diagram of a query template (Template 2).

[0040] Figure 34 is a diagram of query templates (Templates 3 & 4).

[0041] Figure 35 is a diagram of query components.

[0042] Figure 36 is a screen shot of one embodiment of a Venn diagram view of document categories.

[0043] Figures 37a – 37c are screen shots of one embodiment of Query by Example (QBE).

[0044] Figure 38 is a screen shot of one embodiment of the document lifecycle view.

[0045] Figure 39 is a screen shot of one embodiment of a user interface for viewing discussions on a PalmOS-based mobile device.

[0046] Figure 40 is a screen shot of one embodiment of the master window view of the case management user interface.

DETAILED DESCRIPTION OF THE INVENTION

[0047] A method and apparatus for visualizing both the electronic paper trails referred to as “discussions” and the statistical anomalies and patterns that are directly computable from these discussions is disclosed. A discussion in this context is a heterogeneous set of causally related communications and events for which either electronic evidence exists, or can be created to reflect. Thus, a discussion provides a means of reviewing a series of related events that occurred over time. One example of generating such discussions from raw communications data is discussed in more detail in copending Application Serial No XXX, entitled “A Method and Apparatus for Retrieving Interrelated Sets of Documents”, filed concurrently herewith (hereinafter referred to as ‘An Apparatus for Sociological Data Mining’). The visualizations and user interface tools described in this application greatly facilitate the efficient and effective review and understanding of such chains of events.

[0048] The views described in the following sections provide both graphic visualizations, as well as a means of navigating through the complex chains of communications and events that comprise the data being visualized. These views may be offered to the user in a Model View Controller (MVC) graphical user interface, or via a web-based application.

[0049] The present invention will typically be used in conjunction with a computer network. Figure 1 depicts a typical networked environment in which the present invention operates. The network **105** allows access to email data stores on an email server **120**, log files stored on a voicemail server **125**, documents stored on a data server **130**, and data stored in databases **140** and **145**. Data is processed

by an indexing system **135** and sociological engine **150**, and is presented to the user by a visualization mechanism **140**. The visualization mechanism **140** is described in more detail in the present application.

[0050] The present invention is for use with digital computers. Figure 2 depicts a typical digital computer **200** on which the present system will run. A data bus **205** allows communication between a central processing unit **210**, random access volatile memory **215**, a data storage device **220**, and a network interface card **225**. Input from the user is permitted through an alphanumeric input device **235** and cursor control system **240**, and data is made visible to the user via a display **230**. Communication between the computer and other networked devices is made possible via a communications device **245**.

[0051] It will be appreciated by those of ordinary skill in the art that any configuration of the system may be used for various purposes according to the particular implementation. The control logic or software implementing the present invention can be stored in main memory **250**, mass storage device **225**, or other storage medium locally or remotely accessible to processor **210**.

[0052] It will be apparent to those of ordinary skill in the art that the system, method, and process described herein can be implemented as software stored in main memory **250** or read only memory **220** and executed by processor **210**. This control logic or software may also be resident on an article of manufacture comprising a computer readable medium having computer readable program code embodied therein and being readable by the mass storage device **225** and for causing the processor **210** to operate in accordance with the methods and teachings herein.

[0053] The present invention may also be embodied in a handheld or portable device containing a subset of the computer hardware components described above. For example, the handheld device may be configured to contain only the bus **215**, the processor **210**, and memory **250** and/or **225**. The present invention may also be embodied in a special purpose appliance including a subset of the computer hardware components described above. For example, the appliance may include a processor **210**, a data storage device **225**, a bus **215**, and memory **250**, and only rudimentary communications mechanisms, such as a small touch-screen that permits the user to communicate in a basic manner with the device. In general, the more special-purpose the device is, the fewer of the elements need be present for the device to function. In some devices,

communications with the user may be through a touch-based screen, or similar mechanism.

[0054] It will be appreciated by those of ordinary skill in the art that any configuration of the system may be used for various purposes according to the particular implementation. The control logic or software implementing the present invention can be stored on any machine-readable medium locally or remotely accessible to processor 210. A machine-readable medium includes any mechanism for storing or transmitting information in a form readable by a machine (e.g. a computer). For example, a machine readable medium includes read-only memory (ROM), random access memory (RAM), magnetic disk storage media, optical storage media, flash memory devices, electrical, optical, acoustical or other forms of propagated signals (e.g. carrier waves, infrared signals, digital signals, etc.).

[0055] Navigation among views is facilitated by the fact that all of the viewable entities have very close relationships to one another, as depicted in Figure 3. The user can submit queries **320**, which return discussions **305**. Each discussion must contain at least two actors **310**. Each of the actors **310** about whom the user can submit queries **320** must appear in zero (0) or more discussions **305** (an actor can appear in 0 discussions by being connected in some way with a singleton document which, by definition, is not part of a discussion). An actor **310** can be associated with multiple topics **315**, and vice versa. Each discussion **305** can be associated with multiple topics **315**, and vice versa.

[0056] Hence, for example, in a view depicting discussions, the user can generally click on an image representing an actor to see additional information about this actor, and vice versa.

[0057] More generally the usage of the user interface flows as shown in Figure 4. A user submits a query **320** using either Query by Example **405**, Multi-evidence Query User Interface **410**; Query Language **415**; Canned Query Templates **420**, Visual Query Interface **425**, or Query Building Wizard **430**. The resulting query specifies at least one of a number of parameters, including but not limited to actors, time, topic, related events, communication type, specific documents and work-flow processes. Additionally, the system allows the user to submit queries in natural language format.

[0058] The results may comprise singleton documents **425**, discussions **305**, actors **310**, statistics **440** and topics **315**. Results are displayed in one or more

of the formats appropriate to the results content and shown in Figure 4. Thus, singleton documents are displayed in tabular list view. Discussions are displayed as a participant graph, overview graph, transcript view, question and answer list, matrix view, cluster view, or tabular list view. Actors are displayed in an activity graph, participant graph, actor profile, matrix view, tabular list view or cluster view. Statistics are displayed as an activity graph as a profile view (for example, actor profile view or data set profile view), or as a Venn diagram. Topics are displayed as an activity graph, Venn diagram, overview graph, matrix view or tabular list view. These views are discussed in more detail below with respect to other Figures.

[0059] Views:

- **Participant Graphs:** graphs that connect the actions of a certain set of participants as related to one or more discussions
- **Activity Graphs:** comparative or individual graphs that indicate the historical communication or collaboration activity over time among various actors.
- **Overview Graphs:** diagrams that contain data on one or more discussions, documents, topic discussion, or other aggregate behavior.
- **Document Trail Graphs:** diagrams that display data tracing the lifecycle of a document or group of documents, including but not limited to such events as document revisions, check-ins and transmissions.
- **Money Trail Graphs:** diagrams that chart the flow of money, based on information gleaned from a discussion.
- **Transcript View Variations:** any primarily text-oriented view that lays out a sequence of events and/or communications
- **Object Lifecycle Views:** views that are focused on the electronic data objects, rather than on the actors.
- **Animation:** description of different ways that interactive or animated aids or trial art could be generated from any of the above.

[0060] Related Materials include:

- **Querying Tools:** any view that can serve the purpose of generating a query, including some of the above

- **Case Management Application**
- **Query Language**
- **Mobile, Voice & Related Applications**

Participant Graphs

[0061] Participant graphs shown in Figures 5-8 represent the set of communication items which belong to a particular discussion, or in some embodiments, multiple discussions.

[0062] Figure 5 is a screen shot showing one embodiment of the participant graph for a fragment of a discussion, showing the actors involved and the various communications that took place between the actors during the discussion fragment. Each actor is denoted by a unique icon **545**, which in this example is a photograph or some other graphical representation of the actor. In other embodiments, a textual representation of the actor (for example, the actor's name) could be used. Communications are denoted by connections **540** between actors. In this example, three communication types are shown: documents, email and instant messages, each of which is denoted by a unique color code, pattern, icon, or other distinguishing mechanism. A legend **550** at the top-right of the screen shot indicates the meaning of each color, and of each of four icons that are used to label the connections. These icons, when clicked on, allow the user to view communication content, view the communication type, receive more information about the communication (for example, the exact time at which it was created), and obtain help. A timeline **505** allows the user to see the date and time at which each transaction in the discussion took place. By interacting with a content icon **510**, the user can see the content of any document and the time when the transaction took place. A type icon **515** allows the user to see information about the transaction type and/or document type. A 'more info' icon **520** allows the user to see basic information about the transaction. A clock icon **525** allows the user to see the precise time at which the transaction took place. The system may further display a popup **530**, which shows a chronological list of the transactions in which the current actor participated within the current discussion. For one embodiment, the popup **530** is displayed when the user clicks on an actor's icon **545**. In one embodiment, the personality (or personalities) of a given actor that participated in a discussion can be displayed.

[0063] Figure 6 shows a screen shot of a participant graph similar to that shown in Figure 5. Additionally, it uses background color **610** and a series of

time-of-day icons **615** at the top of the screenshot to denote the time of day at which the communication was created. In Figure 6, the user has positioned the mouse cursor close to the 'more info' icon **520**, thereby causing a popup window **605** to be displayed containing basic information about the transaction. In one implementation, a panning widget **630** allows the user to navigate forwards and backwards within the discussion using the time-of day bar **620**. In one implementation, a drop-down list box **625** allows the user to switch between different time zones, thereby adjusting the alignment of the discussion with the time-of-day icons **615**.

[0064] Figure 8 shows a screen shot of a participant graph similar to those shown in Figures 5 and 6. Additionally, it shows a toolbar **810** at the top of the screen that allows the user to select between different discussion views: activity, participant (shown here), and transcript. A second toolbar **815** provides buttons to allow the user to carry out the following actions: to zoom in on a particular part of the discussion, thereby showing the elements of said discussion in greater detail; to pan between different sections of the discussion; to filter the discussion on criteria that may include (but are not limited to): actor, communication type and time; to adjust the view of the discussion based on time span; to print the discussion or the contents of the graphical view; or to define new events to add to the view. In this screen shot, the user has hovered the mouse over the link **540** between two actors, thereby causing a popup **605** to be displayed. The popup **605** contains further details about the communication over whose link the user is hovering the mouse. A user interface navigation mechanism **830** at the bottom of the page allows the user to control which section of the discussion is displayed on screen. A pair of drop-down list boxes **825** allows the user to control the discussion display through the use of filters. An icon **820** and vertical dotted line **835** indicate the occurrence of a significant event (in this example, a board meeting) during the period displayed.

[0065] Participant graphs show the images **545** of the actors participating in a discussion, and the links **540** between the transactions in which they participated. Participant graphs may display a timeline **505** to show when user activity occurred, and may also display a background **610** in varying shades in order to represent daytime and nighttime activity. Participant graphs can optionally be limited to a partition of a discussion, or to only include certain specific actors of interest, either individually or by some property such as organization. It may also be limited to displaying only those actors who played an active rather than passive

role in the items in question, where “active” is defined as initiating one or more of the items . In one embodiment of the invention, the user may set a threshold value for how active the actor had to have been in the discussion in order to be displayed, based on measures including, but not limited to, the number of items in the discussion initiated by that actor, the importance of these items ; whether any were “pivotal” as described in ‘An Apparatus for Sociological Data Mining’. For one embodiment, if an actor has been filtered out, but was responsible for initiating a transaction, a small icon containing “..” is displayed in lieu of the regular actor icon. Clicking on this icon expands that instance to the form of the regular icon for that actor. Alternatively, the actor may be identified in other ways including, but not limited to, a smaller icon, or a browned out icon.

[0066] In this view, each items is depicted as a line connecting two or more actors. The color of the line indicates the type of item. Choices include, but are not limited to:

- Email
- Instant Message
- Sending a document (as an attachment in email)
- Phone call (one version with transcript, one without)
- Voicemail (presuming that it had been processed by a speech to text indexer)
- Wire or other funds transfer
- Fax
- Sending/Receipt of FedEx or other electronically trackable package

[0067] Actors **545** may be individuals, or they may be aggregate actors. Examples include an organization, the executive team, or de facto actor group such as a “circle of trust” as defined in ‘An Apparatus for Sociological Data Mining’. A group mail alias would also be considered an aggregate actor. In some cases, an actor might be a system or automated process, for example, a daemon that sends out a particular status message. Actors may be represented by actual photographs **3810** of themselves when available. Alternately, the user may choose a graphic representation for each actor by choosing from a canned library of images, or adding any electronic image that they wish. Once selected, the same image is used to represent this actor visually throughout the entire system.

[0068] If an actor has more than one distinct personality (as defined in 'An Apparatus for Sociological Data Mining' patent), in some embodiments of the invention, the user has the option to use a different image or graphic for each such personality. If the user opts not to do this, where multiple personalities exist the system will use the one graphic provided to represent all personalities, but will tint the image with different colors in order to allow the various distinct personalities to be readily identified. The user may globally specify the color scheme to be used in such cases; for example, the primary personality will always be tinted blue.

[0069] The graph is represented as a timeline of events; the resolution can be increased or decreased using zoom in and out controls. In one embodiment, daytime and nighttime hours are indicated by a change in background color; as shown in Figure 6. In some embodiments, icon markers **615** indicating time of day may also be used; as shown in Figure 6. Icons may optionally be displayed that indicate the document type of the transaction in those cases where it is appropriate, for example, to indicate that the document being sent was an Excel spreadsheet rather than a Microsoft Word document. In the event that there are multiple documents attached, each appropriate document type icon is displayed. In another embodiment, a multiple document type icon is displayed, which depicts a stack of overlapping rectangles. In one embodiment, the system provides a different visualization for documents which were attached as opposed to incorporated by reference with a URL or something similar. Rolling the mouse over or near any of the transaction lines will bring up a pop-up **605** with basic information about the transaction (Figure 6). The exact types of information vary by transaction type, but include, as appropriate, the following:

- Originating timestamp and timezone
- Originating geographic location
- Wire transfer amount
- Length of phone call or voicemail message
- Subject or title
- Sensitivity level
- Urgency or priority
- Ending timestamp and timezone
- Return of read receipt timestamp

[0070] Alternately, the user may click on the small icon to get only the timestamp details. In one embodiment, right-clicking on this icon provides an immediate chronology of events just before and after the item in question with timestamp information. This is to help clarify which event preceded which, in those cases where the events were almost contemporaneous. The “content” icon can be used to pull up the content of the document involved in the transaction. In one embodiment, there is also optionally a “More info” icon that can be configured to display other types of data that are appropriate. Examples of such data include, but are not limited to: prior user annotations about the transaction, its retrieval history, or the relation of that transaction to a known workflow pattern.

[0071] In one embodiment, actors are shown partially grayed out if their presence in the transaction was likely, but could not be verified solely on the basis of the electronic evidence. One example of this is the case of a meeting entry pulled from an online group calendar which asserts that Joe, Jack, and John will be present at the meeting. Without other supporting evidence, such as meeting minutes indicating that all parties were present, it cannot be definitively asserted that all three men attended the meeting.

[0072] Mousing over an actor icon will bring up a pop-up with the basic information available on that actor. This includes, but is not limited to, the following:

- Full name
- Title
- Organization
- Primary electronic identity
- Electronic identity conducting the transactions whose lines connect to this icon (if different than the primary)

[0073] Clicking on an actor icon brings up a panel with a chronological list 530 (shown in Figure 5) of the transactions this actor participated in within the discussion(s) being visualized.

[0074] In one embodiment, the user interface allows the user to add items that were not originally part of the discussion being visualized. This is done through filling out a form panel, shown in Figure 7, in the user interface, specifying all of the information that would have been associated with an actual item.

[0075] Figure 7 is a screen shot of a form panel for adding items that were not originally part of the discussion being visualized. The panel displays the

discussion title **705**, start date **710** and end date **715**, and actors **720** involved. A text box **725** allows the user to enter a label for the item to be added. In one embodiment, this text box **725** is replaced with a dropdown listbox, combo box, or other user interface tool for adding an item from a preconfigured or dynamically generated list. A series of option buttons **730** allow the user to specify the type of item to be added. After an item is added, it would be shown on the participant graph. For one embodiment, items added by a user are flagged in the participant graph, to indicate their nature. For another embodiment, the information that an item has been added can be obtained using the 'info' icon **520**.

[0076] In one embodiment, the view is implemented as a canvas, so the user may drag and drop shapes, lines, and text on it as they please. In one embodiment, such additions are checked for semantic correctness. For one embodiment, added events are indicated by color, patterns, icon, or some other indicator.

[0077] Events of interest are depicted as icons above or below the canvas from which vertical lines extend, cutting across the canvas at the appropriate point in the X axis. These events fall into one or more of the following categories:

- An event belonging to the discussion, but which is not directly a transaction among its actors. For example, a milestone in a workflow process.
- An event extracted from one of the online calendars of the primary actors in the discussion.
- An event entered manually in the UI by the user

[0078] A canned library of icons to represent common concepts like "meeting" may be provided in the UI; the user may elect to add and use their own images as well. The user may also add descriptive text about the event. This text would appear when the user clicks on the icon representing that event.

[0079] In one embodiment of the invention, numerous animation utilities are provided in order to make the visualizations more vivid. Animation can help accentuate the involvement of certain actors of special interest; it can also highlight the accelerating or decelerating pace of the transactions. Types of animation provided in one embodiment of the invention are as follows:

- Rendering the transaction lines and actor icons individually, in the order and timing in which they occurred, according to a condensed timeline

appropriate for viewing in generally less than one minute. This emphasizes the lag time (or lack thereof) between contiguous transactions.

- Similarly, but partially graying out, via compositing or other techniques, all transaction lines rather than not rendering them until their appropriate place in the timeline.

[0080] The layout algorithm for the view can be implemented with a number of commonly available graphing libraries. In one embodiment of the invention, a limit of 8 line connections per actor icon is imposed for readability purposes. For one embodiment, should additional connections be necessary in order to represent the underlying data, a second actor icon will be drawn to accommodate the additional lines. Note that while the graph generally follows a left to right timeline, a reply to an email message or IM will show a line going backwards to indicate that the transaction is a reply to a previous transaction, and that these two transactions should be considered part of a single nested transaction.

[0081] However, from an adherence to the timeline perspective, the placement of the two (or more) actor icons involved will be approximately at the start and end time of the nested transaction. If needed, additional actor icons will be rendered to ensure it. Since the purpose of the visualization is to provide an overview of the related transactions in a discussion, exact centering of the actor icons around the relevant line in the X axis is not considered essential. Exact event chronology information can be had from the ancillary panels that are only a single click away. In one embodiment of the invention, transaction lines are represented with directional arrows. In one of these embodiments, a “reply to” can be indicated with a line that has arrows on both ends; if there were N replies, the number N would be rendered near the appropriate arrow.

[0082] Finally, in one embodiment of the invention, the participant graph view can be used modally as a visual querying interface. The user may select a transaction by selecting its objects with a marquis tool, and generate a Query by Example (QBE) query. One example of QBE queries that may be used with this system is defined in ‘An Apparatus for Sociological Data Mining’. The user may also select individual actor icons in order to see all transactions involving all of these actors.

[0083] Other accompanying UI widgets and tools include, but are not limited to, the following. A panning widget **620**, shown in Figure 6. This widget **620** utilizes a thumbnail image of the full discussion transcript view, shrunk to whatever length necessary to fit in the visible view. The participant graph automatically scrolls to the position indicated by the panning widget **620**, making it especially useful for viewing discussions of long duration. Daytime and night-time hours are indicated in the thumbnail, allowing the user to easily detect, for example, anomalously high amounts of communications after standard or usual working hours. In one embodiment, nighttime starts at 5:00PM in the primary time zone, or some other pre-configured time, and any communications or events after that time are distinguished, for example by being colored darkish gray. In another embodiment, a gradient fill is used to indicate rough time of day, as shown in Figure 6. In one embodiment, communication and events occurring during weekends or holidays are coded, for example by being colored pink. For one embodiment, the time zone defaults to the one in which the greatest amount of transactions occurred; times from other time zones will be normalized to this time zone. In one embodiment, there is a control **625** above the panning widget allowing the user to change the default time zone used by the panning widget **620**. In another embodiment, parallel instances of the thumbnail will be drawn for each time zone from which transactions originated. One panning widget extends across all of the thumbnails. In a different embodiment, the transcript view elements being thumbnailled are color-coded according to initiating actor rather than time of day. In yet another embodiment, these items are color coded by topic.

“Rainbow” View

[0084] To visualize really large volumes of discussions, or individual messages, a different approach to the visualization is necessary. Figure 11 is a screen shot showing one embodiment of the activity graph for a discussion. The user has selected this view of the discussion using the tool bar **810**. This view shows the level of activity over time in two ways: as a line graph **1120**, and as a diagram **1125** in which levels of communication activity are denoted by colors of the rainbow. In this embodiment, a legend **1130** explains the meaning of the colors. An icon **820** and vertical dotted line **835** indicate the occurrence of a significant event (in this case, a board meeting). A toolbar **815** and navigation mechanism **830** as

shown in Figure 8, are also shown. A slider **1115** allows the user to create a different viewable span on the canvas.

[0085] The rainbow view uses a color, pattern, or similar distinguishing mechanism which uses the color spectrum to help users to discern small shifts in the communication activity of a very large population of actors. Specifically, this view is used to pinpoint the amount of communication on specific topics. It is accompanied by a graph below which allows the assignation of numerical values to the colors used in the spectrum view. Maximum density is determined by historical values over the same time span and same or comparable population.

Activity Graphs

[0086] Activity graphs are used to illustrate the amount of communication among a small set of actors over a user-specified period of time. They may optionally be additionally constricted by topic. Actor sets may be specified in any of the following ways:

- Manual specification of particular actors through the user interface.
- Manual specification of one or more actors, with the checkbox enabled to include the “circle of trust.”
- Manual specification of one or more aggregate actors which may then be expanded in the view.

[0087] Figure 12 is a screen shot showing one embodiment of the activity graph for a discussion. Lines **1220** linking actor images **545** are terminated with boxes **1215** showing the number of communications that took place between the actors. In one embodiment, each actor is represented by both an image or other icon **545** and a text item **1205** containing the name of the actor. A legend **1225** shows the mapping between colors and levels of communication activity. For each pair of actors, where actor A has sent more communications to B than B has sent to A, the connecting line **1220** has two colors, and the portion of the line adjoining each actor represents the number of communications sent by that actor to the other actor of the pair. Where each of the two actors has sent a comparable number of communications to the other, the line **1220** connecting the two actors has a single color throughout its length. A number **1215** at each end of each connecting line shows the exact number of communications that the actor at that end of the line **1220** has sent to the actor at the other end of the line **1220**. The user can invoke a communication profile popup window **1210**. In one embodiment the popup window

1210 is invoked by double-clicking on the line **1220** connecting actor images **545**. The popup window **1210** provides additional data about the communications, including average communications length and depth, and document types exchanged. For one embodiment, any anomalies noted by the system are also flagged.

[0088] Referring to Figure 12, Each individual or aggregate actor is represented by an image provided or selected by the user. There is at most one line **1220** connecting any two actors in the activity graph. For one embodiment, a single line is used to indicate all communication between actors, in both directions. The direction of the arrows at the ends of the line indicate which way the communication is flowing. The number in the box **1215** embedded in the arrow indicates the number of communications to the other actor. For individual actors, these are the communications to that actor specifically, as opposed to communications sent to various distribution lists. If an aggregate actor is included in the display, all such aggregate communications are included, since such aggregate actors often correspond to distribution lists. Note that for purposes of readability, only communication between pairs of actors is shown. In order to show communication between tuples of actors, aggregate actors may be created.

[0089] The coloring of the lines is used to indicate one of the following, depending on how the user has configured the user interface:

- Whether the amount of communication to this actor relative to other individual actors during the same period of time is unusually high or low.
- Whether the amount of communication to this actor is high or low relative to what has historically been the case (presuming that comparison data exists.)
- Whether the amount of communication to this actor as a fraction of total communication to other individual actors is high or low compared to what has been true historically.
- Whether the amount of communication is high or low relative to a particular workflow process, or informally, among teams of similar size working on similar projects, either contemporaneously, historically, or both.

[0090] In one embodiment, the color or pattern of the line indicates the frequency of communication, while the thickness of the line indicates the volume of communication. In another embodiment, the thickness of the line indicates the

frequency of communication, while the color or pattern of the line indicates the volume of communication.

[0091] The number of communications can be based on any or all of the following, depending on how the user has configured the user interface:

- Email
- Instant Messages (IM)
- Phone calls

[0092] If for some reason, the user has specified an actor who is totally unconnected to the other actors in the display, the icon for that actor will have no lines attached to it.

[0093] The activity graph can be superimposed on an org chart in order to highlight communication flows that appear to differ from the org chart. In this event, actor titles are listed, and additional lines to indicate reporting relationships may be rendered. It can also be used as a visual querying tool; the user may select two or more actors in order to see all of the discussions, or individual communications between them. The user may also click on the line connecting any 2 actors in order to bring up a panel **1210**, shown in Figure 12, containing the communication profile of these actors. Which information to display is user-configurable, but would typically include the following:

- Average depth of communication
- Average interval between successive communications, optionally calculated bi-directionally
- Breakdown of communications by time (for example if the graph spans the period of one year, the communications would be broken down by the month)
- Document types exchanged
- Average length of communication
- Change from immediately previous observation period of same length
- Anomalies
- Ontologies which trap it

Overview Graphs

[0094] Figure 13 is a screen shot showing one embodiment of one view of a discussion timeline. Sets of adjoining rectangles **1305**, linked by lines **1310** and color-coded by actor (as shown in legend **1315**), are used to represent the

communications within a discussion (so that each discussion appears as a set of adjoining rectangles **1305**). The x-axis of the screen represents the timeline, and the sets of rectangles are arranged one above the other on the y-axis as in a Gantt chart. Above each discussion **1305** appears that discussion's title **1320**. The lines **1310** show related discussions, which are generally either precursors to, or offsprings of, the current discussion.

[0095] The purpose of the overview graph, shown in Figure 13, is to show a set of discussions which occurred approximately contemporaneously. These graphs are one of the possible types of output from a query. In one embodiment, each discussion appears as a rectangle **1305** of the length appropriate relative to its duration in the timeline. The title **1320** of the discussion appears directly above the rectangle; in some embodiments, this is followed by the number of items in the discussion. The rectangles are thumbnails of the content part of the transcript view of the discussion, scaled down to the necessary size and rotated 90 degrees to the left. Specifically, each item within the discussion is coded according to one of the following, depending on the user's preference:

- Initiating actor
- Topic
- Document or communication or event type

[0096] The graphic resulting from this is then scaled to the appropriate dimensions and then placed on the chart. Note that an arbitrary number of discussions may be so rendered on this graph; the view simply becomes longer along the Y axis.

[0097] In addition, the user may configure the user interface to color code all communications originated or received by a particular actor of interest. In one embodiment, numerous parallel thumbnails may be created in a dedicated view in order to help the user observe the overlap between different actors of interest.

[0098] As there may be significant time lags between events in some discussions, in some embodiments, a bounding box is used to help indicate that all of the items in question are members of the same discussion. Connecting lines between discussions are used to depict forks in discussions. Similarly to the participant graph, events and other objects may be added to the graph. Zoom controls allow the resolution to be changed; the different visual representations of days, nights, and weekends/holidays may also be used here.

[0099] Figure 14 is a screen shot showing one embodiment of another view of the discussion timeline. In this view, four discussions **1405** are displayed, and the level of activity within each discussion is represented by vertical lines **1415** of various thicknesses, where a thicker line denotes a greater level of communication activity. A panning widget **1410** over one portion of a discussion magnifies the vertical lines in the portion of the display under the widget **1410**. The user can move the panning widget **1410** by mouse manipulation. In one embodiment, when the user does so, a hand icon **1420** appears on the panning widget **1410**. An icon **820** and vertical dotted line **835** indicate when a significant event occurred.

[00100] In another embodiment, the discussion names appear to the left of the view, and one discussion occupies all of the real estate in that range of the Y axis.

[00101] For viewing smaller numbers of discussions, Figure 15 depicts a timeline of the individual events in a discussion. Figure 15 is a screen shot showing one embodiment of another view of the discussion timeline. In this view, detailed information about each individual communication event **1505** is arranged along a discussion timeline **505**. Communication events **1505** are depicted as blocks on the chart (in one embodiment, different types **1530** of events are depicted using distinctively colored or patterned backgrounds). Each block depicting an event **1505** contains header information **1520** related to the corresponding communication, including but not limited to: the sender or creator of the communication; the person who last modified the communication; the date of the communication; the subject of the communication; and any associated attachments or linked documents. In one embodiment, the user can click on an area **1510** of each block in order to display the content of the communication. Color-coded lines **1525** linking each event denote the primary type of evidence used by the system to incorporate that particular item into the discussion. A zooming tool **1535** at the top right of the screen allows the user to zoom in (to show less communications in more detail) or out (to show more communications in less detail). In one embodiment, the background area **1515** of the chart is color-coded or coded with a distinctive pattern to represent daytime and nighttime.

[00102] Figure 15 provides an overview of the constituent parts of a discussion and the connections between them. Communication events are depicted as sets of interconnected blocks **1505**. The blocks **1505** may be color-coded as

elsewhere described; actor icons may be optionally included in the block. The different colored lines **1525** reflect the primary type of evidence used by the system to incorporate that particular item into the discussion. Evidence types include but are not limited to, the following: similarity of participants, "reply to", lexical similarity, pragmatic tag, same attachment, and workflow process. These terms are explained in 'An Apparatus for Sociological Data Mining'.

[00103] Another variation of this view uses clustering to group whole discussions together, connecting different clusters by the appropriately colored lines, as shown in Figure 16. Figure 16 is a screen shot showing one embodiment of a discussion cluster view. In this view, the total number of discussions meeting certain user-specified criteria is reflected in the size of the shape (in this embodiment, a circle) representing the cluster. In one embodiment, the shape that currently has the focus (is selected by the user) is displayed in a distinctive color **1635**, with a distinctive pattern, or is shown enlarged, thereby distinguishing it from circles **1610** that do not have the focus. Links **1615** between clusters are color-coded according to whether the clusters share: commonality of actors, commonality of topics, or commonality of another type. Commonality of actors occurs when two clusters, distinctive from each other by virtue of meeting different clustering criteria, nevertheless share the same set of actors. Where this is the case, a distinctive color is used to trace the link between the two clusters in question. Icons allow the user to see more information **515**, the date and time **520** of the communication, and to view **525** the underlying document discussion. A separate, smaller, window **1630** allows the user to navigate within discussion space by moving a panning tool **1620**. In one embodiment, when the user activates the panning tool **1620**, a hand icon **1625** is displayed.

[00104] In this view, shapes **1610** are used to represent groups of discussions. The shapes **1610** are labeled with the number of discussions contained in that group, and a description of the group. In one embodiment, a smaller window **1630** shows a map of the entire discussion space, or a relatively large part thereof, and contains a smaller frame **1620** to represent the area of discussion space under analysis. Since this view is independent of the information content, it is suitable for use even when the information has been strongly encrypted, and thus is not accessible for analysis.

Document Trail Graphs

[00105] Document trail graphs depict the life cycle of one particular document. Figure 9 is a screen shot showing one embodiment of the document trail graph for a discussion. Each cluster of items on the graph consists of one actor icon **905** and at least one document icon **935**. The actor's actions with regard to the document (such as creation, modification, check-in, etc) are represented by displaying a document icon **935** in an appropriate color or pattern, according to a legend **930**. The x-axis of the graph represents the time line, with dates shown along a timeline display **505** at the bottom of the graph, and lifecycle increments **910** displayed along the top. In one embodiment, at each stage of the document trail, the length of the document in pages is indicated by a number **925** inside the document icon. Links **915** between versions of the document are color-coded according to function. In one embodiment, hovering the mouse over the 'more info' icon **520** invokes a popup **920** summarizing data related to the document in question.

[00106] A timeline **505** allows the user to see the date and time at which a particular event **935** in the document's life occurred. An actor icon **905** denotes the actor responsible for said event **935**. Events **935** are depicted as clusters of activity comprising document icons **925** and an actor icon **905**. Links **915** between the various versions of the document that comprise a single event are color-coded according to function. Document revision numbers **910** (for example, but not limited to, source control system revision numbers, or revision numbers assigned by the present invention) are displayed along the x-axis of the graph. Document icons **925** are color-coded according to the type of user activity that triggered the event. Examples of said user activity include, but are not limited to, document creation, modification, revision, deletion, check-in, check-out, distribution, viewing, third-party transfer and content transfer. In one embodiment, a legend **930** explaining the color-coding is superimposed on the graph.

[00107] Document trail graphs further show icons allow the user to see more information **515**, the date and time **520** of the communication, and to view **525** the underlying document. Hovering the mouse over (in one embodiment, clicking) the 'more info' button **515** displays a popup **920** containing a summary of information related to the event in question. In one embodiment, document icons **925** contain a count of the number of pages (or other size metric) contained within the document at the time of the event **935** in question.

Money Trail Graphs

[00108] The purpose of the money trail graph, shown in Figure 10, is to chart the movement of money using data available within a discussion. This visualization displays information related to money transfers that have been extracted from a discussion. The data is displayed along a timeline 505. Each extracted data point in the money trail includes a financial institution 1010 or money manager, at least one actor 545 party to the transaction, and a sum of money 1005, if that data is available. Links 540 connecting the elements of a financial transaction are color-coded according to transaction type following a color code specified in a legend 1025. Hovering the mouse over the 'more info' icon 520 beside a link 540 invokes a popup 1015 summarizing data related to the financial transaction. An account icon 1020 allows the user to see which financial accounts are involved in the transaction.

[00109] Any transactions within a discussion that relate to money transfers, whether they are merely documents discussing the transfer, or documents that in themselves constitute the instruments of transfer, are used to build a money trail graph. The graph displays actors 545 (whether individuals, groups, or organizations) and the financial institutions 1010 who are involved with the transfer. Color-coded links 540 between actors denote the type of transaction, and are explained in one embodiment in a legend 1025.

Transcript View Variations

[00110] The basic transcript view, shown in Figures 18 to 25, is a linear presentation of the causally related communication events that make up a discussion. Communications 1830 are displayed in chronological order, and relevant metadata is displayed at the top of each communication. The metadata includes, but is not limited to: date and time created, saved or sent; subject; recipient list; and time (in one embodiment, time is denoted by a clock icon 1815.) Actor names 1820 are color-coded. A header area 1805 provides information related to the discussion, including (but not limited to) discussion title, message count, list of participants, date range and total number of attached documents (in one embodiment, the total number including duplicates; in another embodiment, the total number of distinct attached documents). In one embodiment, an actor image 545 is associated with each communication, to denote the actor who created or changed the document. Clickable links 1810 contain the names of any attachments,

and open the corresponding attachment when clicked. A display tool **1825** at the top-right of the screen allows the user to show or hide message headers, quoted text within each message, or message content. Communications may further provide document-type coding: for example, by pattern or color coding.

[00111] A sequence of documents **1830** (or other communication events, such as instant messages **2525**) is displayed beneath a discussion header **1805**. In one embodiment of the invention, the discussion might be augmented by external events, either manually by the user through the user interface, or via an automated process defined for a specific case. In one embodiment of the invention, this view consists of a user-configurable summary portion at the top, followed by a list of the various items in the discussion. Each item has an author or creator, and optionally a set of other participants, such as those actors appearing in the cc: line of an email. As shown in Figure 18, for one embodiment, each actor **1820** is automatically color-coded by the system. Since the number of actors in any given corpus can be arbitrarily large, and there are a finite number of variations in color that the eye can readily distinguish, color coding of actors is done relative to the individual discussion. However, actors of particular interest can be assigned colors that are to be used globally. In other embodiments of the invention, colors are recycled by the system within non-intersecting sets of actors. Each item also has a title, a date, and an item type, such as: email, meeting, document modification, etc.

[00112] In one embodiment of the invention, shown in Figure 19, activity associated with each actor is represented in a horizontal bar **1905** containing colored areas **1910**, where the areas are color-coded by actor and spaced to represent time intervals.

[00113] In one embodiment of the invention, shown in Figure 20, discussion partitions **2005** are displayed. The partitions **2005** represent the threads that make up the discussion. In one embodiment, the partitions **2005** include the number of communications in each thread of the discussion. In this embodiment, discussions that have been partitioned (for example, because they are so large or complex) can be accessed by clicking on the title of the partition **2005**.

[00114] In one embodiment of the invention, items of different types are displayed with different background colors or patterns **2110**, as shown in Figure 21. In one embodiment, document type is shown via the use of an icon. In one embodiment, the time of day that a message was sent is shown by an icon **2105**.

[00115] In one embodiment of the invention, as shown in Figure 22, any attachments associated with communications in the present discussion are flagged via distinctive icons **2205** in the header or in the communication body. In one embodiment of the invention, documents linked by reference to communications in the present discussion are flagged via distinctive icons **2210** in the header or in the communication body. Examples of documents linked by reference include, but are not limited to: a document whose URL is referred to in a communication; and a data file whose file name and path is referred to in a communication. In one embodiment, clicking on the icon displays the attachment.

[00116] In one embodiment, shown in Figure 23, quoted text **2320** is distinguished. In one embodiment, the background **2315** is color coded. In another embodiment, the text **2320** itself is color-coded. In one embodiment, within each communication that contains quoted text, each distinct quote is assigned a timestamp **2310**. The communication header area contains explanatory text **2305** stating how many pieces of quoted text are associated with the current communication. In one embodiment, the explanatory text **2305** is replaced by an icon.

[00117] To make it easier for the user to immediately discern the time of day that an event occurred, in one embodiment, a clock icon **1815** as shown in Figure 18 appears that is set to the time that the event occurred. In other embodiment, an icon indicating general time of day appears. For example, a document modification that occurred at night would have an icon with a partial moon against a dark backdrop with stars, while an email sent at dawn would have a rising sun. In one embodiment, in addition to color coding the actors, their picture **545** appears at the top of each item that they created, as shown in Figure 18. In cases where no actor image is available or desired, a user-selected graphic can be used in its place.

[00118] The summary portion **1805** contains the discussion timeline, participating actors, number of items, and controls which allow certain information to be viewed or hidden. In one embodiment of the invention, the discussion timeline is represented graphically (Figure 17) as a series of headers **1705** connected by color-code lines **1710**. In order to view message content, the user clicks on a command button, hyperlink or active area of the header. This includes, but is not limited to, transport and other header information in emails, quoted text from a prior email, routing information for a wire transfer, and check-in messages to document

repositories. One embodiment of generating the *summary* or *resolution* is described in 'An Apparatus for Sociological Data Mining'.

[00119] Optional UI tools include controls to "fast forward" to the next item created or otherwise involving particular actors. This, like the panning widget, which is also used with this view, is especially useful for long discussions which have many participants associated with them.

[00120] In one embodiment, shown in Figure 24, items that are or are suspected to be missing from a discussion are flagged visually. A deleted item **2415** can be flagged in any or all of several ways: the background **2420** has a distinctive color or pattern, or is otherwise displayed in a distinctive way; a red flag icon **2425** is displayed on the item; a text box **2405** displays additional information including but not limited to the computed level of certainty that an item was deleted, and the computed level of suspicion associated with the deletion; a "torn document" effect **2410** graphically conveys to the user that this discussion is incomplete. For one embodiment, only suspicious deletions are flagged.

[00121] An item may have been deleted, yet leave traces behind of its prior existence. A simple example of this is the case in which message B was a reply to message A, but message A itself no longer exists other than what is to be found in the header and content information of message B. There are two subcases of interest related to this:

- The case in which a great deal of information about A – possibly all - can be reconstructed from other sources.
- The case in which only the suspected existence of A can be posited by the system, but virtually no other information is available.

[00122] These two cases differ considerably in their treatment in the user interface, since in the former case, the main consideration of interest is to inform the user that he is seeing reconstructed and/or partial information. For example, in the above example of message A and message B, the header of information of A would be lost, so there would be no way of knowing who had been cc'ed on A. Thus, in a reconstructed version of A in a transcript view, the "cc:" line content would contain a colored block containing question marks, or another representation of the user's choosing. For one embodiment, the item itself has a grayed out background color, and in one embodiment, a broken zig-zag line across it.

[00123] The latter case by definition presumes that there is no content available to display. An example of this would be references in other documents to

a document that there is no independent evidence of; for example, a link that no longer resolves. In that instance, the available information is displayed in the appropriate location in the template. In one embodiment, a certainty factor, as shown in box **2405**, of the system's belief that the document ever actually existed may also appear.

[00124] In some situations, the question of whether the deletion (or suspected deletion) of the data was either legal in the context of a given matter, or was in compliance with some defined standard of behavior is of interest. One embodiment of a system for making this determination is described in copending application Serial No. XXXXX, filed concurrently herewith, and entitled "A METHOD AND APPARATUS TO PROCESS DATA FOR DATA MINING PURPOSES." Once the determination has been made that the deletion of an item is possibly suspect in a given instance, the system will flag the item. For one embodiment, a red flag icon **2425** is used. Missing information is noted in bold red text. The background color of the item will be set to whatever the user's preference is for displaying this kind of item, for example a background containing a tiling of question marks **2420**, as shown in Figure 24.

[00125] In the case of the various graph views, suspected deletions are handled similarly:

- Items which were suspiciously deleted will have an icon.
- Items which were partially or largely reconstructed from other forensically available sources are shown with a zig-zag line across them or have a zig-zag line icon above or to the side of them.
- Items whose content could not be reconstructed at all would bear a red question mark icon.

[00126] Figure 25 is a screen shot showing one embodiment of the transcript view of a discussion, focusing on instant messages **2525** within the discussion. Actors **2515** are color-coded, and time-stamps **2520** are shown at regular intervals. A slider **2505** at the left of the screen allows the user to navigate through the set of instant messages, as does a vertical scroll bar **2535** to the right. The slider **2505** at the left of the screen additionally shows a panning tool **2510** representing the position of the visible portion of instant message text within the larger body of text. Note that for instant messages (IMs) **2525**, a simpler item form is used, where IMs **2525** are displayed in chronological order and timestamped **2520** at regular intervals. A panning tool **2505** with a slider **2510** allows the user to

navigate through the IMs **2525**. In one embodiment, the user can also navigate using a conventional scrollbar **2535**. The same form may also be used to represent emails in a condensed format in which data about additional participants is not deemed of interest. In such cases, the view is constructed by decomposing the emails into the separate text blocks attributable to each actor, and then linearizing them by time (accounting for differences in time zone.) In another embodiment, all contiguous communication from the same actor is presented in the same item, separated by line breaks, much like the traditional form of a play dialog.

Querying Tools

[00127] In order to help facilitate the iterative querying that is so essential when the user is confronted with an arbitrarily large and unfamiliar corpus of documents, an extensive querying language is provided. For one embodiment, this language reflects the actor orientation of the document analysis engine that is described in 'An Apparatus for Sociological Data Mining' patent. Since it is well known that the vast majority of searches contain one or two keywords, and no operators, it is important for the query language for "discussions" to break away from this standard, but ineffective paradigm. This is accomplished by using a sequential structuring of the query information. It is assumed that the majority, but not all, of queries performed with the query language will be one of the following forms, or subsets of the forms described below.

[00128] In Figure 32, the query is of the format: who **3205** (actor/actor group) knew/probably knew/saw/believed/asserted **3210** (verb relationship) what **3215** (topical or specific document instance or version) when **3220** (time, timeframe, or timeframe relative to a particular event). Optionally, the query may specify how **3225** (for example, via pager, mobile device, desktop machine) or where **3230** (if it is possible on the basis of the electronic evidence to place the person geographically at the time of the communication) for the communications as well.

[00129] In Figure 33, the who **3205** is narrowed by adding additional features. Thus, the query may include, with what frequency **3305** (for example, once, repeatedly) an actor, did what **3310** (for example, edit or check-in a document, delete a document, commit a pattern of actions or single action **3305**, such as excluding particular other persons from meetings or discussions, etc), what object **3315** (actor **3205** and/or content **3215**) did they do this to, and when **3220**.

[00130] In Figure 34, the user can specify how **3310** did patterns of behavior (relationship between an object **3215** and an actor **3205** or content **3215**) change over a specified period of time **3220**, or with respect to some other specific context **3405**. For example, the user can query how the patterns of communication between two litigants changed after a particular material event. The user may further query if there any relationship of statistical significance between the occurrences of events of particular tuples of event types, and if so, what kind.

[00131] For one embodiment, the language generally requires that an actor be specified prior to any other terms. In the event that the actor is immaterial to the query, an actor of “anyone” may be specified, or may be automatically inserted by the system. Individual actors can be specified by first name and last name; if only one or the other is provided, the system will look in the recent command history for that user in an attempt to disambiguate it. If nothing suitable is found, the system will try to match the string to both actor first and last names present in the corpus. It will then present a list of appropriate choices, or if there is only choice echo it back to the user for confirmation. An actor’s circle of trust can be specified by adding a plus sign “+” after the actor’s name. In the case of an aggregate actor, the union of the actors in the different circles of trust is taken. Similarly, an actor group, such as the set of all employees of ACME Corp. could be specified. Similarly, in one embodiment, certain personalities of a given actor (or actors) can be specified.

[00132] Next, the language uses an operator. For one embodiment, if the operator is omitted, it will be interpreted to mean “knew” or “asserted”. There are two main classes of operators, those involving content creation or observation, and those that do not. Operators may be active or passive in nature relative to the actor. For example, modifying a document is active, while getting promoted to a higher position is passive. Content modification operators include, but are not limited to, the following:

- **Asserted:** There is text attributable to a particular actor that contains the assertion in question.
- **Had reason to believe:** This has to do with what knowledge the actor had, on the basis of the electronic record, in the face of omissions. For example, if there were 5 versions of a document prior to it being finalized, but a particular actor was only privy to the initial 4, he might not

be aware of the existence of the 5th version. So, he might reasonably believe that the 4th revision was the final one.

- Knew: The actor actively engaged in discussion about the topic(s) in question.
- Probably Knew: The actor's membership in a particular circle of trust suggests that even absent specific electronic evidence, that the actor *probably* was aware of a particular thing.
- Saw: The actor in question saw an instance of the content in question. That the actor saw it is established by either their responding to, or commenting on the material. Other evidence of "saw" includes, but is not limited to, any logged access of a document containing this content.
- May Have Seen: There is relevant content that the actor may have seen, but there is no direct evidence that he saw it. For example, the fact that person A sends person B an email cannot reasonably by itself be construed as person B reading this email, at all or in its entirety.

[00133] All of the above also have negations, which may be specified by the use of either "not" or a minus sign. Non-content operators include employee lifecycle events such as Hire, Departure, Transfer, Promotion, and Role Change. Other non-content events include, but are not limited to: Vacation or leave of absence or sick day, Travel event, Wire transfer send or receive, or Phone call, presuming no transcript of the phone call exists.

[00134] "When" may be specified as any of the following:

- Absolute time, using any of the standard date/time formats.
- Time of day (day, night/evening, morning, afternoon, after hours)
- Day of week (or weekday, weekend)
- Holiday or work day or vacation day or one or more specific actors "out of town" as gauged from online calendars and HR system information.

[00135] Note that all time information is implicitly actor-relative.

Differences in time zones, national holidays, and even what is considered "after hours" are addressed. Therefore a "when" phrase is interpreted according to what is true for the greatest number of actors specified in the query. If a different behavior than this is desired by the user, she may explicitly bind the "when" term to either an actor or a specific location. For example:

- 1:00PM in London

- Holiday in France
- Evening for Linda Holmes

[00136] If “when” is not specified, it is presumed to mean:

- The lifespan of the actor specified in the query, if only one actor is specified.
- The interval of time beginning with the earliest lifespan in the actor group specified in the query, and ending with the latest lifespan (or current date/time,) if an actor group were specified.
- The intersection of actor or personality lifespans as specified in the query, if communication among different actors is required by the query

[00137] The “how” may optionally be specified as either a specific device type, such as a Blackberry, or as a category of device, for example a mobile device. The “how” could also be a fax or a voicemail, or a paper letter. In one embodiment, the “how” is identified by its immediately following an unquoted “by” or “via.”

[00138] The “where” may be optionally specified by entering the geographic location of the actor at the time of their participation in the particular transaction. This can be done hierarchically, if a tree of locations is provided. If there is more than one actor specified in the query, the where is modified by actor. In one embodiment, this is specified as <actor name> in <location> or <actor name> at <location>.

[00139] Because of the highly iterative nature of large corpus querying, any of these operators can be iterated on by either reducing or expanding their scope. As described in ‘An Apparatus for Sociological Data Mining’, for one embodiment, the core engine calculates the primary limiting factors in a query. The information is used to indicate to the user which terms are responsible for very substantially reducing or expanding the result set. To facilitate the appropriate use of such iteration, the system can optionally inform the user on which terms could be generalized or specialized one level further for best effect on the results set. In one embodiment, these alternate queries are run automatically on separate threads at the same time as the base query, in order to facilitate an immediate response to a user question, such as a request for “more” or “less.”

Content or “What” Operators

[00140] Each of the operators below can be used in the context of retrieving discussions or individual communications, or both. These may be used to

override the system defaults described previously. For one embodiment, the actual retrieval behavior of these operators is determined by the current relevance scoring mechanism in place. One example of such relevance scoring is described in 'An Apparatus for Sociological Data Mining'.

- Keyword (an operator **3510**): Result set contains all discussions or communications with at least one occurrence of a specified term, depending on the context in which it is used. This operator can specify sets of terms through techniques including but not limited to use of wildcard characters and matching using the Levenshtein edit distance.
- Phrase (an operator **3510**): Result set contains all discussions or communications with at least one occurrence of the sequence of terms. This operator can specify sets of related phrases using techniques including but not limited to the use of wildcard characters in individual terms, matching by Levenshtein edit distance between terms and matching by Levenshtein edit distance between sequences of terms.
- Classifier (an operator **3510**): Result set specified by the set of sub-queries obtained from expanding a given class from an **ontology** loaded into the document analysis engine.
- NamedEntity (an operator **3510**): Result set specified by the query obtained from expanding a given **named entity** from all **ontologies** loaded into the document analysis engine.
- InDiscussionOnly (a document type **3505**): Return only results from discussions
- InSingleDocOnly (a document type **3505**): Return only singleton documents that are not members of any discussion.

Evidence Operators

[00141] The second group of operators search over metadata collected from each individual communication as well as relationships between documents created during the **evidence accrual** process while building discussions. These operators return discussions when applied.

- CommunicationType: Returns all discussions containing certain types of communication items, for example email.
- EventType: Returns all discussions that contain an event of a particular kind, such as a board meeting.

- **Event:** Returns all discussions that contain a particular instance of an event, for example, the board meeting that occurred on March 15, 2001.
- **WithItemRelatedToQuery:** Will return *all* discussions containing communications that are a match for a query, regardless of other parameters.
- **WithSimilarEvidenceLinks:** Will return all discussions with a certain frequency or statistical distribution of evidence links of specific kinds.
- **HaveRevisions:** Returns those discussions that have more than one version (i.e., have at least one revision due to the subsequent addition of further evidence.)
- **PragmaticTag:** Returns any discussions containing one or more items with the given pragmatic tag.

Multi-Discussion Operators

[00142] The third group of operators search over metadata collected from each discussion as well as relationships between discussions. These operators return discussions when applied.

- **WithSimilarProperties:** return discussions containing a distribution of properties of contained documents. For instance “discussions where most communications sent after hours”.
- **WithSimilarActors:** discussions containing specified set of actors, actors can be marked as primary, regular, observer or passive participant. For example: primary:<joe rudd>.
- **WithSameWorkflow:** return all discussions that are an instance of the given template. Templates include formal and informal workflows, etc.
- **RelatedDiscussions:** return discussions related to the given discussions, for example, offspring.

[00143] The fourth group of operators search over inferred sociological relationships between communications in a discussion. In general the discussions which contain communications with the indicated relationship are returned.

- **ActorRelations:** return discussions with the indicated relationship between a set of actors, cliques (“circles of trust”) or groups. Relationships include but are not limited to: “between”, “among”, “drop”, “add”, “exclude.” Some of these operators optionally use a ternary

syntax: <joe rudd> excludes <bob jones> (see 'An Apparatus for Sociological Data Mining' for an explanation of these items)

- ActorStatistics: return discussions with a statistical relationship between an indicated actor and others. For example "most frequent correspondents with ActorX"
- Topology: return discussions with a given topology, for example: "split" "merge"
- Resolution: return discussion with a given resolution
- Damaging: return discussions with damaging actors. Primarily useful in combination with other queries.

[00144] The fifth group of operators are combinatorial operators used to combine result sets of subqueries. The conventional logical operators have a different effect when applied over discussions.

- REQUIRED
- PROHIBITED
- () - nesting
- [] – suppress ontology expansion

Other Operators

- DiscussionMember: Takes a set of individual documents and returns the set which are members of one or more discussions. The negation may be used in order to retrieve the complement set. Used with –statistics, it will calculate various statistics on the differences between the member and non-member documents.
- DiscussionProperties: Used on one or more discussions, queries against the total number of communications/events, types, the maximum depth, overall duration, frequency of communications, topics, actors, etc.
- ExpandToDiscussions: return the set of unique discussions containing at least one document from the document set. The document set is obtained from the result set of a subquery.

[00145] A specific graphical querying tool is also provided, in addition to the views that serve double-duty as visual query builders. As depicted in Figures 29-31 and 37a-c, the query tool includes a text field that users may use to enter words, phrases, or ontology names. Optionally, a separate pane to specify ontologies (similar to the ontology selection dropdown list 3715 shown in Figure

37a) using a tree to select the desired items may be displayed, as well as a view indicating which ontology hits correlate with which others – for example content discussing tax evasion and travel frequently co-occurring - also allowing the desired ontologies to be selected and added to the query.

[00146] Figure 36 depicts another visual query means using a Venn diagram representation to indicate how many documents were “hit” by a particular ontology, or by a *combination* of particular ontologies. A series of interlocking circles **3620** represent the extent to which communications “hit” only one, or more than one, ontology. The interlocking circles **3620** are used to indicate how many documents have been found to reside within each of three categories, as shown in the single-category total **3605**. It also shows the number of documents that reside in more than one of the three categories, as shown in the multiple-category total **3610**. In this embodiment, an explanatory text **3615** prompts the user to click in the relevant portion of the Venn diagram in order to see the corresponding documents. Using this view, users may click on any bounded area of the diagram. Doing so will bring up a panel containing a relevance ranked list of either individual documents or discussions, depending upon the user’s preference. In the event that the user clicks on an area that is the intersection between two or more ontologies, in one embodiment, the relevance ranking scheme will be altered to favor documents that have a substantial score for each ontology in question.

[00147] This view is also used in thumbnail form in order to show how the topic relative proportions changed due to the addition of new documents to the corpus. This is done both by showing “before” and “after” thumbnails, as well as displaying thumbnails side by side of each segment of the data set (however the segments are determined by the user) so that their topic content may be easily compared. A similar representation can be constructed on the basis of actors rather than ontologies; further both actor and ontology information could be combined in one Venn diagram view.

[00148] Returning to Figures 29-31, in the query tool, individual and aggregate actor icons **2910** are provided in the search panel, though actor names may also be typed in the text field **2905**. Users may specify which icons should appear; initially by default the system will select the ones with the greatest communication frequency. Subsequently, by default, it will display the actors who appear most frequently in queries. Additional options allow the exclusion of the specific actors; if an actor has been excluded, the icon representing him will have

an "X" or diagonal bar superimposed in it, similar to the symbol used in prohibition signs, as shown in Figure 31.

[00149] For one embodiment, events of global interest **2915** are added to a catalog so that they are displayed in the query tool for easy access. Additionally, a date range may be specified using standard calendar selection controls **2920**. For one embodiment, events of interest will also appear in the calendar **2925** by coloring the square for the particular date(s) in question. Double-clicking on a colored square will bring up a pop-up with a description of the event. If an event is selected, the user will be asked whether they want the query to be:

- Prior to the event
- Subsequent to the event
- Within a specified period of time before or after the event
- During the event

[00150] If the calendar controls have been used and one or more events have been selected, the system will treat this as a request to include the union of these times. However, in this case, those discussions corresponding to the time specified by events will be given a higher relevancy ranking on the dimension of time.

[00151] In one embodiment, shown in Figure 30, the querying tool allows the user to specify, through the use of check boxes **3010** in what way an actors must have been involved with each document in order for the document to be considered responsive to the query. Examples of the involvement include, but are not limited to: creating, changing, reading, seeing, and/or receiving a document. In one embodiment, also shown in Figure 30, the querying tool allows the user to select pre-created, saved queries **3005**. Possible mechanisms for selecting the saved queries include, but are not limited to, drop-down list or combo boxes (as shown in Figure 30) and list boxes. In one embodiment, the user can specify that only discussions involving certain personalities of an given actor should be returned.

[00152] After the user hits the "go" button, the query will be echoed back to the user. In some embodiments of the invention all queries, however specified, are echoed back to the user in front of the result set. This is done using query templates, such as those specified in Figures 32-34. Specifically, using the example of Template 1 (Figure 32), in one embodiment of the invention, the echo is constructed by concatenating the following pieces of data:

"Query on:" <actors> <actions performed><content descriptors><time>

For example:

"Query on Joe Smith or Bob Jones modifying spreadsheets last quarter"

[00153] In some embodiments, each query template has a corresponding natural language phrase that is used to generate the echo. In such embodiments, the above would be expressed as:

"Did Joe Smith or Bob Jones modify any spreadsheets last quarter?"

[00154] Since numerous query options may be specified, use of an echo helps compactly confirm what the user has asked for. This may help users to understand the result set returned, especially if the user erred in some way. Further, the text of the echo may optionally be saved with the results sets, making it easy for other users to immediately interpret the results set.

[00155] The converse also holds true; in some embodiments of the invention, the user may enter natural language queries, and the system will interpret these queries by matching them to the appropriate query template and then performing any necessary word mapping via the use of ontologies.

[00156] Additional query options include, but are not limited to, the following:

- Discussion length (number of items)
- Discussion length (calendar duration)
- Discussion depth (number of items on same topic)
- Containing events/communication of specific types

[00157] The above-mentioned discussion length query options include (but are not limited to) the longest or shortest discussions (both by number of items and calendar duration) among a given set of actors, or on a given topic. The ability to target the longest or shortest discussions by actor provides a targeted tool for probing the activities of specific actors of interest, without being restricted to particular topics or content. This is important because such restrictions limit the user to finding only what he already thinks may be there, leaving potentially important or interesting information unrevealed.

[00158] As is the case with the query language, the GUI tool will provide the user feedback on which terms caused the query (on a relative basis) to over-generate or under-generate.

[00159] The user may also avail herself of a number of canned query templates. These include, but are not limited to, the following:

- Did <this> actor receive <this> version of <this> particular document?
- Were there any unusual peaks or troughs in communication activity between <these> actors?
- Find the longest discussions during <these> actors during this period of time
- <Who> discussed <this> topic the most?
- <Who> discussed <this> topic at all?
- <Who> was in <this> actor's circle of trust, when?
- Show any instances where communication circumvented the org chart.
- Show any instances where an unexpected person modified a document.

[00160] All such questions are accompanied by a UI template which allows the user to select the instances of actor, document, topic (ontology) or time interval as appropriate to fill in or extend the template.

[00161] The user may configure the interface to display one or more of a number of different kinds of views in response to a query. In one embodiment, the default view is a tabular listing of the discussions that are responsive to the query, relevance ranked accordingly. This table may include all of the following information, plus any additional information that has been programmatically added:

- Discussion Name (as determined by the core engine)
- Discussion Profile (includes such information as the number of items, kind of items, number of attachments.)
- Lifespan (interval of time from the beginning of the first transaction in the discussion to the last)
- Summary, as described in 'An Apparatus for Sociological Data Mining'
- Resolution, as described in 'An Apparatus for Sociological Data Mining'
- Primary Participants
- Specific participants (indicate which actors of special interest were in any way involved in the discussion, even very peripherally.)
- Ontologies (which ontologies trapped content in the discussion)
- Missing Items (whether the system has detected evidence that some of the items that were once part of the discussion are now absent – and if so, how many such items there are.)
- Revision history (As noted in patent 'An Apparatus for Sociological Data Mining', a discussion may be revised due to the incorporation of

additional data from new data sources that had previously been unavailable. In some embodiments of the invention, it may also be modified manually by an administrator with the appropriate level of privilege.)

- Retrieval & viewing history (How many times this discussion has been retrieved in a query, how many times it was actually viewed or annotated.)

[00162] As elsewhere in the system, by default the images used to represent the actors are used in order to facilitate rapid visual scanning of the results, as shown in Figure 26. Figure 26 is a query results view showing actor images. Each line of the results view shows the discussion title **2605**, discussion start date **2610** and end date **2615**, and a button **2625** depicting the image and name of each actor involved with the discussion. In one embodiment, clicking on the button displays information related to the actor. In one embodiment, only the actor image is displayed on the button. In another embodiment, only the actor name is displayed on the button. In one embodiment, a non-clickable image or text box is used, rather than a button. In one embodiment, only primary actors are shown. In one embodiment, only certain personalities of an actor are shown. The discussion is displayed by clicking on the relevant line in the results view, or by highlighting the results view line and clicking the 'Display Discussion' button **2620**. In one embodiment, a text summarization of the discussion is displayed on the relevant line in the results view.

[00163] The user may also opt to have the discussions returned from a query visualized in a matrix view, shown in Figure 27, in which the columns represent a variety of discussion properties extracted from the user's query. For example, if there were 20 actors participating in all of the discussions returned by a particular query, each one would be represented by its own column, as would be other properties, such as communication type, which relevant ontologies "hit" it, and so on. Each discussion **2710** is displayed in its own row, and each property **2705** that it has, such as the participation of a particular actor causes the relevant square to be colored in. Different fill colors may be used in order to indicate whether the actor was a primary actor in the discussion, just an actor, or merely a passive participant. This is depicted in Figure 27 in compact form (without use of the actor images.)

[00164] In addition the user may choose to save a number of queries and their results in a particular location, so that this data may be displayed together, as pictured in Figure 28. In one embodiment, saved queries are displayed in a list, where each item is identified by a folder icon **2850**, to convey to the user the fact that it may be expanded. When expanded, a results list **2835** containing relevant discussions and their associated actors **2840** and date range becomes visible.

[00165] A folder icon **2850** is used to represent each query, and the textual content **2855** of the query is displayed to the right of the folder icon. The first query is shown expanded, revealing the results list **2835**. Descriptive icons **2815**, **2820**, **2825** and **2830** appear to the left of each saved query. Clicking on the icon representing a pencil **2820** allows the user to annotate the query; a green rectangle next to the pencil icon indicates that the query has already been annotated. Clicking on the icon representing a hard drive **2830** saves the query to the local machine. The document icon **2815** at the left becomes replaced with the initials of the last user to modify the data (shown as 'TU' in this figure). The folder icon **2825** is used to add a discussion to a bin or folder of the user's choosing. For each saved query, a list of any relevant discussions **2805** and communications **2810** is shown. In one embodiment, such items show the list of actors **2840** involved, and the date range **2845** of the relevant discussion.

[00166] For one embodiment, individual or "singleton" documents are displayed separately from discussions. Furthermore, for one embodiment, saved data may be annotated (by clicking on the pencil icon,) saved to a local hard drive (by clicking on the hard drive icon,) or placed in one or more particular bins (by clicking on the folder icon to see a list of options that may be selected,) and that the initials of the user who last manipulated the document are included.

[00167] Finally, for users for whom even this simplified process might seem onerous, in one embodiment, a discussion finding "wizard" is provided. This wizard follows the sequence of operators indicated in the section on the querying language. Effectively it decomposes the controls in the illustration above into several individual, simpler panels while providing the user inline help information. The first panel asks about actors; the second asks about events of interest, the third about important words or phrases, and so on.

QBE (Query By Example)

[00168] QBE refers to a set of techniques whereby a user provides an exemplar of what she is looking for in lieu of constructing an explicit query. Figures 37a-37c are screen shots of a series of Query by Example (QBE) windows. This refers to the type of query in which an exemplar of the desired returned object is specified by the user. In the case of discussion objects, QBE becomes a more complicated issue than it is with regular documents. As can be seen in 'An Apparatus for Sociological Data Mining' application, discussions have large numbers of properties, the importance of which may shift according to use case. In other words, there is no simple, one size fits all similarity metric for discussions. For example, if discussion A contains the same 3 topics as discussion B, but shares only one actor with it, and shares the same group of actors with discussion C with which it has one topic in common, it is unclear which of B or C would be considered to most similar to A. The first QBE window, shown in Figure 37a, therefore allows the user to choose from among a plurality of properties. The properties include (but are not limited to): actors **2910**, content terms or phrases **2905**, topics **3705**, content type **3710**, ontology **3715**, and time range **3720**.

[00169] The second window, shown in Figure 37b, contains a set of discussion properties that can be considered as evidence in determining similarity. The set shown can be selected by the user from the full set of discussion properties (except for unique ID). In addition, one embodiment of the invention provides the default set **3725** of discussion properties, pictured in Figure 37b. The colored rectangles **3735** represent the relative importance of each of the discussion properties. In one embodiment, using the modified cursor **3740**, the user may modify the sizes of the different colored rectangles **3735** in the box at the bottom of figure 37b. Since the size of the box is fixed, enlarging one box proportionally reduces the sizes of the others. By repeated resizings of these rectangles, the user can achieve whatever relative scoring amongst these different factors they wish. In one embodiment, this relative scoring information is saved by the system, and will be the default setting until the user changes it again. Alternatively, a pie chart may be used, in a similar manner. Alternatively, the user may select relative importance numerically by percentage, or using some other tool. In one embodiment, the user may name and save different settings, as different settings may be useful for different use cases. The system provides the following functionality in this regard:

- As depicted in Figure 37a, the user may enter a combination containing all or some of the following query items: topic, document type, ontology,

time range, and actor. The system will return a results list containing all discussions that meet this combination of criteria. In one embodiment, the combination of parameters entered by the user can include certain personalities of a given actor.

- A user may right-click on any graphical representation of a discussion in any of the previously described views in order to bring up the menu item "Find Similar". This will bring up a window according to the user's configured preferences displaying the discussions returned by the query.
- A user may right-click on any graphical representation of an individual textual communication, for example, the rows in a table representing singleton documents returned in response to a query, in order to locate other documents that are similar both contextually and by themselves. This will bring up a two-tabbed view, one with discussions, and one with singleton documents.
- As pictured in Figure 37a, the user may enter a document containing text into the system in order to use its contents as input to the query engine. As described further in 'An Apparatus for Sociological Data Mining', all named entities, including actors, will be extracted from the document. In one embodiment, a topic analysis will be done via the use of ontologies and pragmatic tagging, known text blocks will be sought, and finally any mention of dates will be extracted. One example of this usage is depositions in a litigation context.

[00170] Discussions have large numbers of properties including, but not limited to, the following:

- Actors
- Primary Actors
- (Regular) Actors
- Observers
- Number of organizations
- Number of Items
- Number of Item Types
- Item Types
- Lifespan
- Length

- Number of Partitions
- Topics
- Pragmatic Tagged Items
- Revisions

[00171] As a result, there is potentially considerable ambiguity as to what exactly it means to say that one discussion is “similar” to another, and therefore should be returned in a QBE query. Further, the desired behavior of the QBE mechanism may vary by application. However, in one embodiment, the default behavior is to consider that actor and content are the two key items in the weighting; all other properties merely impact the ranking of the discussion in the result set. Specifically, actor is expanded first to any actor with the same role or title in the same organization as the actor(s) provided in the exemplar, and then to any actor in the same organization. Content may be determined by ontology or pragmatic tag, with the former being given more weight. Discussions that contain the desired actors or content under this definition are returned. For one embodiment, results are relevance-ranked according to the scheme laid out in ‘An Apparatus for Sociological Data Mining’.

[00172] If the user wishes a different behavior, he may pull up the Advanced Options panel as shown in Figure 37b, and specify the relative weight that he wishes to assign to each property, and whether or not the value of the property is to be treated strictly as specified in the exemplar. For example, must the exact actors in the exemplar be present in order for a discussion to be retrieved, or does it suffice if their colleagues in the same department are present? In one embodiment, the relative weights are assigned with a weighted scale (i.e., a scale that has both numbers and words, for example 5 = must be the case; 1 = desirable to be somewhat similar.) In another embodiment, shown in Figure 37b, the colored rectangles **3735** represent the relative importance of each of the discussion properties. In one embodiment, using the modified cursor **3740**, the user may modify the sizes of the different colored rectangles **3735** in the box at the bottom of figure 37b. Since the size of the box is fixed, enlarging one box proportionally reduces the sizes of the others. By repeated resizings of these rectangles, the user can achieve whatever relative scoring amongst these different factors they wish. In one embodiment, this relative scoring information is saved by the system, and will be the default setting until the user changes it again. Alternatively, a pie chart may be used, in a similar manner. Alternatively, the user may select relative importance

numerically by percentage, or using some other tool. In one embodiment, the user may name and save different settings, as different settings may be useful for different use cases.

[00173] With this information, the system performs the query. In order to help the user make sense of the ranking of results in figure 37c, the property or properties primarily responsible for the rank are shown **3750** (in one embodiment, properties are color-coded, and the coding is explained in a legend **3745** below the results). For example, as pictured in figure 37c, the initial item was scored highly primarily on the basis of shared terms. If the high score were also attributable to shared actors, a blue chit would also appear. In some embodiments of the invention, the degree of saturation of the color chit is used to express the relative level of similarity in this dimension. In one embodiment, the user sees a warning message **3755** if the result has been broken down into clusters.

[00174] The user may configure the view to show any of the available discussion properties. Similarly, in one embodiment, he may resize and reorder the various columns via direct manipulation.

Filtered Viewing of Discussions

[00175] Using standard information retrieval techniques, those items within the discussion that are relevant to the user's query may be identified and visually highlighted. The user may opt to have all portions of a discussion that are not responsive to their query be minimized. In the case of a transcript view, non-responsive items would be condensed to a single header line, with a button that can be clicked on in order to expand the entry in order to make its contents visible.

[00176] Certain actors who may generate a considerable volume of data may nevertheless generate very little content of interest. If desired, the user may specify that all communications originating from such actors are by default minimized in any views of the discussion.

Object Lifecycle Views

[00177] These views differ from the previously described ones in that they are less actor-focused and more object-focused. These views are intended to depict the history of a particular document (or other electronic data object) as it moves from creation, to distribution, various modifications, changes in form, extractions or copy/pastes to other documents, and possibly deletion. Such views

can be extremely important in investigative contexts, when a particular document becomes the focus of attention.

[00178] Figure 38 depicts the lifecycle view for a document. If versioning information is available from a document management system or repository, or if the creating application provides it, the versions are shown by number **915** above the view, with vertical lines extending beneath them to help make it clear which actors modified or received a document before, or after a particular version change. Major versions and minor versions can be represented differently as per user preference; minor versions may be omitted from the display entirely, represented by thinner lines and smaller number boxes, or drawn the same as major versions. Other designations may be added by the user manually, or extracted automatically from systems that contain such information. These designations include, but are not limited to, published, shipped, and produced. The legend panel **3825** indicates the color coding of some of the different kinds of possible lifecycle events. The lifecycle view is drawn according to a left to right timeline. However, as is also the case with the participant graph, the actor icons only need be drawn in approximately the correct location with respect to the timeline. This is for purposes of readability; drawing a separate actor icon for related actions that may have taken place only moments apart from one another would only serve to decrease the readability of the visualization. However, an additional actor icon will be drawn if it is necessary to do so in order to not combine events which occurred on opposite sides of a version line. Therefore to capture such information, each actor icon is framed by a frame that can be partitioned up to 8 times in order to indicate the occurrence of different events performed by the actor on the document within a fairly short period of time. For example, an actor might check out a document, modify it in some way, email it around to various people, and then check it back into the repository – all within a matter of a short period of time. In this event, the actor frame would have 4 colors, one side each, in whatever colors designated by the legend. With the color scheme pictured below, this would be: orange, red, blue, and yellow.

[00179] In order to “drill down” for further information, the user may click on an actor icon in order to view a detailed log of events represented by that instance of the actor icon. Clicking on any part of the frame will bring up a pop-up with a detailed description of that action. For example, in the case of a check-in, the detailed description would include all of the following information (if available)

- Timestamp of check-in

- Check-in message
- Other files modified as part of same check-in (if any)
- List of those actors receiving check-in notification
- Resulting version number
- Check-in verification ID

[00180] In addition, the user may click on the clock icon above the actor icon in order to see a simple chronological list with exact timestamps of the events represented by that actor icon instance. As in other views, the “?” icon may be used to access other kinds of information as specified in user preferences.

[00181] As depicted in Figure 38 below, individual actors may be filtered out of the view, either entirely removed from the display, or else grayed out significantly as shown below. Individual action types may be similarly treated. For example, a user may not care who checked-out or received a document, but rather may be interested in only those persons who modified the document or sent it outside of the organization.

Mobile, Voice & Related Applications

[00182] As usage of new types of user interfaces becomes more widespread, the system will need to not only absorb data that is captured through such interfaces, but also provide its output to users who rely on these modalities. Examples of the types of interfaces to be considered in this regard are: speech recognition and text-to-speech (either as stand-alone applications or in conjunction with telephony technologies), handheld devices such as those using the PalmOS (Figure 39) or WindowsCE operating systems, mobile telephones equipped with browser interfaces such as iMode or WAP and potentially other devices using specialized data transmission protocols and/or specialized embedded operating systems.

[00183] Speech recognition is already widely used by the legal and medical profession for recording of briefs, reports, and the like. The system includes a means of extracting data that is input by speech recognition, and making such data searchable and retrievable like any other artifact. Input to speech recognition can take the form either of speaker-dependent recognition (the type employed by dictation software) or speaker-independent recognition (the type employed by telephony applications); the system includes adapters to incorporate data from both types of systems.

[00184] Furthermore, the system may utilize speech recognition as an interface allowing users to query data already in the system. To this end, an interactive voice interface to the system could display discussions and other data to the user, either on a device or through an audio-only interface. For applications using speech recognition as input mechanism, an auditory interface is commonly used to play back data to the user, be it for playback over a telephone or through speakers attached to another device such as a desktop computer. To this end, in one embodiment, the system includes auditory interfaces, including but not limited to: playback of indexed documents by text-to-speech, or spoken synthesis that accompanies or parallels any of the visual diagrams generated by the system.

[00185] Further remote interfaces for the system may include wireless and handheld display and input to the system, for example through WAP or similar protocols that transmit data over wireless networks (including telephony networks), input of data via Short Messaging System (SMS) or similar protocols, the use of downloadable/syncable views and data input for handheld/palmtop/tablet PCs, and interfaces for wearable computing devices. The system allows both input and retrieval of data into the system through any combination of devices; for example, a user's spoken query will be displayable on the screen of a handheld device.

[00186] Mobile and voice applications are most useful as query interfaces to the system for users who find themselves away from office systems but nonetheless require system access. However, the provision for data input by mobile or voice interfaces also means that "live" updates to a system can be made remotely, and that secondary sources of information (on-the-spot interviews, court proceedings, live news feeds) can be incorporated into the system in the absence of other indexing and content extraction processes. This topic is dealt with in further depth in 'An Apparatus for Sociological Data Mining'.

[00187] For voice applications in particular, a natural language interface is a highly desirable mode of interaction with the system. Users who are limited to an auditory interface (where the input to the system is spoken rather than textual) can respond better to systems that are designed around the vagaries of human speech (which include disfluencies, variable noise conditions, and the strictly linear exchange of information). The nature of auditory interfaces is such that spontaneity and a tolerance for garbled input is incorporated into the interface; rather than scripted, fixed input that can be manipulated visually, the voice interface must attempt to parse ambiguous user input and return a "system appropriate" result.

[00188] Typically, speech recognition interfaces rely on a grammar that restricts potential user utterances in order to provide accurate recognition. In a spoken query interface to the system described in this patent, highly accurate utterance recognition is unlikely, but need not be a hindrance to proper function. By allowing the system to accept unstructured utterances and subsequently to construct a range of hypotheses about their content, a much more usable type of interface results. With an unstructured grammar, any possible user utterance can generate a fixed-length set of possible parses. From this set of potential parses, an algorithm is applied to account for phonetic similarities in homophones, to remove content that occurs in only a few parses, and so forth, leaving a "core" hypothesis that can be used as the basis for a search.

[00189] As an example, the user utterance, "Find me anything about fraud" might generate the following hypothesis set from a speech recognition engine:

- "find me a thing about fraud"
- "find my anything about frog"
- "find me knee thing up out fraud"
- ... and so forth.

[00190] While none of the generated parses is entirely correct, the phonetic similarity of many items in the resulting set can be used to generate a normalized "core" hypothesis that finds the commonly occurring substrings such as "find/fine" "me/my", "anything/a thing/knee thing", "about/up out", and "fraud/frog". Normalization of this set of results can proceed according to relatively simple natural language heuristics: those words that are essentially contentless, such as "find me anything", can be omitted, leaving the core terms "about fraud", which can be encoded, for example, as a set of Boolean search queries like "contents: fraud OR contents: "about fraud". Once the queries are generated, a preliminary result set can be relayed to the speaker by voice interface, allowing of course for additional refinement or correction of the query, as well as for more detailed display/playback of user-selected elements of the result set. For one embodiment, the system may repeat the query as understood to the user, permitting the user to either confirm the query or to repeat the query to modify it.

[00191] Figure 39 is a screen shot showing one embodiment of the discussion view, as used on a mobile device. A list **3920** of returned discussions is shown, each of which is associated with a checkbox **3915** allowing the user to

select the discussions in order to view further detail. In one embodiment, the query **3910** that caused the list **3920** of discussions to be returned is displayed. In one embodiment, a group of buttons **3905** allows the query to be launched or interrupted.

Case Management Application

[00192] One of the applications of the system is case management in a litigation context. The functionality previously described can be delivered inside a case management application. As pictured in Figure 40, the master window in this application allows the viewing of both individual documents and discussions in their various visual manifestations. Figure 40 is a screen shot of one embodiment of the case management master window. In the top-left pane **4005**, the user can select from among various types of communications **4045** (and, in one embodiment, the actors who sent communications), or can select discussions **4050**. Documents are displayed in the top right pane **4010**. In this example, the top right pane **4020** shows a privileged document, which is flagged **4015** as such. At the bottom right pane **4035**, the user can enter text in order to find specific discussions, documents, or actors. The bottom-left pane **4030** is used to bookmark searches to which the user wishes to return. A group of option buttons **4040** allows the user to select between management of discussions, documents, or actors, and a set of command buttons **4025** allows the user to select different views of the data. This window contains the following functionality of interest:

- Allowing users to browse by document type, which is calculated either by file extension or by pragmatic tagging, and to drill down first by actor and then by topic, or vice versa, as well as by discussion membership.
- Documents, including discussions may be marked as “privileged” causing the red privileged stamp to always appear over the document in electronic form, and to be printed when the document is printed.
- The user may search for a word or topic in discussions, according to the actors to whom the words or topic are attributable, or in individual documents.

[00193] In the foregoing specification, the invention has been described with reference to specific exemplary embodiments thereof. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit and scope of the invention as set forth in the

appended claims. The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.

CLAIMS

We claim:

1. A method of organizing information comprising:
providing a visualization of actor communications in the context of one or more discussion, a discussion including at least one actor and at least one documented communication.
2. The method of claim 1, wherein the documented communication may be one or more of the following: a document, an email, an instant message (IM), a facsimile, a voicemail, a phone call, a wire transfer, a fund transfer, or an electronically traceable package.
3. The method of claim 1, further comprising:
receiving a query; and
generating the visualization in response to the query.
4. The method of claim 3, wherein the query includes one or more of: actors, time frame, topic, related events, communications type, specific document, or workflow process.
5. The method of claim 3, wherein the visualization comprises a tabular list of documents that satisfy the query.
6. The method of claim 3, wherein the visualization comprises a discussion oriented display.
7. The method of claim 6, wherein the discussion oriented display comprises one of the following: a participant graph, an overview graph, a transcript view, a question and answer list, a matrix view, a cluster view, and a tabular list view.
8. The method of claim 3, wherein the visualization comprises an actor-oriented display.

9. The method of claim 8, wherein the actor-oriented display comprises one of the following: an activity graph, a participant graph, an actor profile, a matrix view, a tabular list view, and a cluster view.

10. The method of claim 3, wherein the visualization comprises a statistical display of data.

11. The method of claim 10, wherein the statistical display comprises one of the following: a Venn diagram, and a profile view.

12. The method of claim 3, wherein the visualization comprises a topic-based display.

13. The method of claim 1, wherein the actor is an aggregate actor, comprising one of the following: a circle of trust, a group, a section, or another grouping of two or more actors.

14. The method of claim 1, wherein the discussion includes an exchange between at least two actors, the exchange including one or more documented communications.

15. The method of claim 14, wherein a plurality of communications are indicated between the at least two actors, and a visual representation of a depth of the communications is shown.

16. The method of claim 15, wherein the visual representation is a line between two actors.

17. The method of claim 16, wherein a thickness of the line indicates a number of communications between the actors.

18. The method of claim 1, further comprising:
displaying a time-based participant graph showing communications between various actors over time.

19. The method of claim 18, wherein each communication is coded to indicate a communication type.
20. The method of claim 18, wherein each communication may be selected to display additional information about the communication.
21. The method of claim 20, wherein the additional information comprises one or more of the following: communication type, date and time of communication, communication content.
22. The method of claim 18, wherein each actor is represented visually by a unique icon.
23. The method of claim 22, wherein the icon is one of the following: a photograph of the actor, a consistent graphical representation of the actor.
24. The method of claim 22, further comprising:
displaying actor information, in response to a user selecting the unique icon.
25. The method of claim 18, wherein the time of day is visually indicated in the time-based participant graph.
26. The method of claim 25, wherein the time of day indication is color based.
27. The method of claim 25, wherein the time of day indication further visually indicates holidays and after-hours communications.
28. The method of claim 18, further comprising:
displaying tags indicating events of interest, to show communications in relationship to such events.
29. The method of claim 1, further comprising:
enabling a user to add additional communications to the visualization.

30. The method of claim 1, wherein the visualization comprises a document trail graph, providing information on each document.
31. The method of claim 30, wherein the information comprises one or more of the following: creation date, creating actor, modification date(s), modification actor(s), revision date(s), revision actor(s), deletion date, deletion actor, check-in date(s), check-out date(s), distribution(s), recipients of distribution(s), and document content.
32. The method of claim 1, wherein the visualization comprises a money trail graph, illustrating times and actors involved in various money transfers.
33. The method of claim 1, wherein the visualization comprises an activity graph that illustrates a level of activity over time.
34. The method of claim 33, further comprising displaying an icon illustrating events of relevance, to show a relationship of activity levels to the events of relevance.
35. The method of claim 33, further comprising:
displaying two actor icons, representing actors that communicated with each other, and a communication line between the two actor icons showing a communication depth.
36. The method of claim 35, wherein a number at a first end of a line represents a number of communications sent by a first actor to a second actor, and a number at a second end of the line represents the number of communications sent by the second actor to the first actor.
37. The method of claim 35, wherein a color of the communication line shows the communication density.
38. The method of claim 1, wherein the visualization is a discussion timeline in which sets of adjoining rectangles, linked by lines and coded by actor represent the communications within a discussion.

39. The method of claim 38, further comprising displaying a legend identifying each actor code.
40. The method of claim 1, wherein the visualization is a discussion cluster, illustrating a number of discussions that meet a query criteria of the user.
41. The method of claim 40, further comprising:visually identifying a particular discussion focus.
42. The method of claim 1, wherein the visualization comprises a transcript view, displaying communications coded by actor.
43. The method of claim 42, wherein communications are color coded by document type.
44. The method of claim 42, wherein quoted text within a document is color coded for an originating actor.
45. The method of claim 42, further comprising:
indicating deleted documents in the transcript, including available information about the deleted document.
46. The method of claim 45, further comprising:
determining if a deleted document is suspicious, and if so, flagging the deleted document indication in the transcript.
47. The method of claim 1, wherein the visualization is a matrix query result view, indicating participation of certain actors in certain discussions.
48. The method of claim 1, further comprising:
providing a query tool to construct queries for related documents.
49. The method of claim 48, further comprising:

displaying actor icons for selection with the query tool, to enable a user to identify an actor.

50. The method of claim 49, further comprising:
permitting specification of actor involvement for each selected actor, the actor involvement being one of the following: created, changed, received, read, or saw a document.

51. The method of claim 49, further comprising:
permitting an actor to be excluded from the query.

52. The method of claim 48, wherein constructing a query comprises one or more of the following: specifying an actor, specifying an action by the actor, specifying content, specifying timeframe, specifying communication method, specifying actor location, specifying causality for the communication, specifying action frequency, specifying action type, specifying target of the communication, document types for retrieval, and keywords.

53. The method of claim 48, comprising:
providing a query by example, permitting a user to select from multiple pull-down menus.

54. The method of claim 53, further comprising:
prompting the user to assign priority to related parameters using a parameter weighting.

55. The method of claim 48, further comprising:
saving queries and query results; and
making the saved queries and the saved query results available to the user.

56. An apparatus to present data comprising:
a query tool to receive a request; and
a display tool to present a visualization of actor communications in the context of one or more discussions, a discussion including at least one actor and at least one documented communication.

57. The apparatus of claim 56, wherein constructing a query comprises one or more of the following: specifying an actor, specifying an action by the actor, specifying content, specifying timeframe, specifying communication method, specifying actor location, specifying causality for the communication, specifying action frequency, specifying action type, specifying target of the communication, document types for retrieval, and keywords.

58. The apparatus of claim 56, comprising:
a query by example tool including multiple pull-down menus to select various parameters of a query.

59. The apparatus of claim 58, further comprising:
a parameter weighting tool to assign priority to related parameters.

60. The apparatus of claim 56, further comprising:
a memory to save queries and query results, the saved queries and the saved query results available to the user.

61. The apparatus of claim 56, further comprising:
a plurality of actor icons for selection with the query tool, to enable a user to identify an actor.

62. The apparatus of claim 61, further comprising:
a selector to specify actor involvement for each selected actor, the actor involvement being one of the following: created, changed, received, read, or saw a document.

63. The apparatus of claim 62, wherein the selector permits an actor to be excluded from the query.

64. The apparatus of claim 56, wherein the visualization comprises a participant graph including actor icons and connectors indicating communications between the actors.

65. The apparatus of claim 64, wherein the actor icons are a unique icon for each actor, the unique icon comprising: a photograph of the actor or a consistent graphical representation of the actor.

66. The apparatus of claim 64, further comprising:
icons attached to each connector, the icons designed to provide additional information about the communication represented by the connector.

Figure 1: Example of a computer network

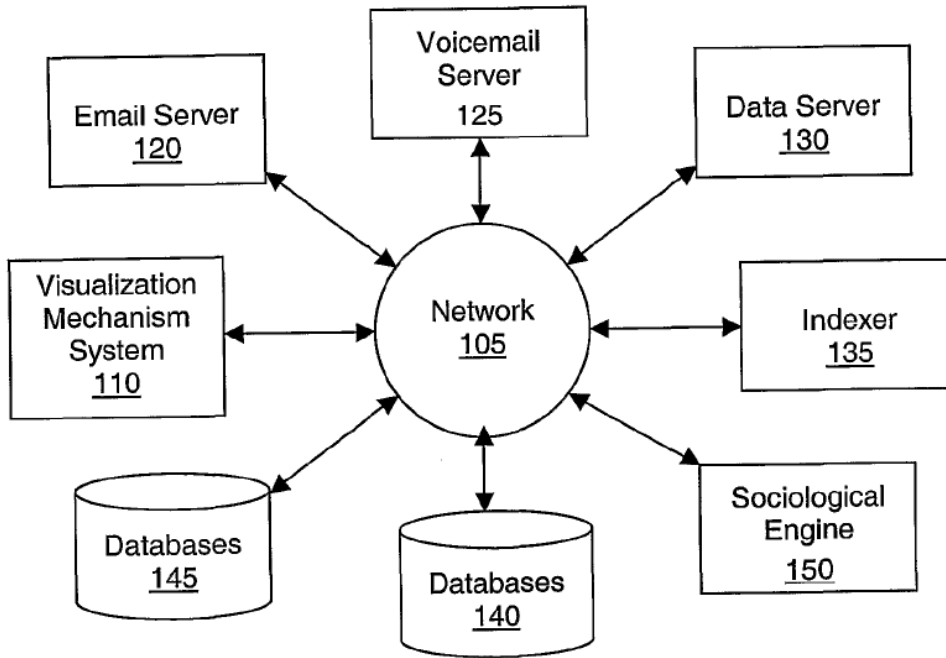


Figure 2: Example of a digital computer

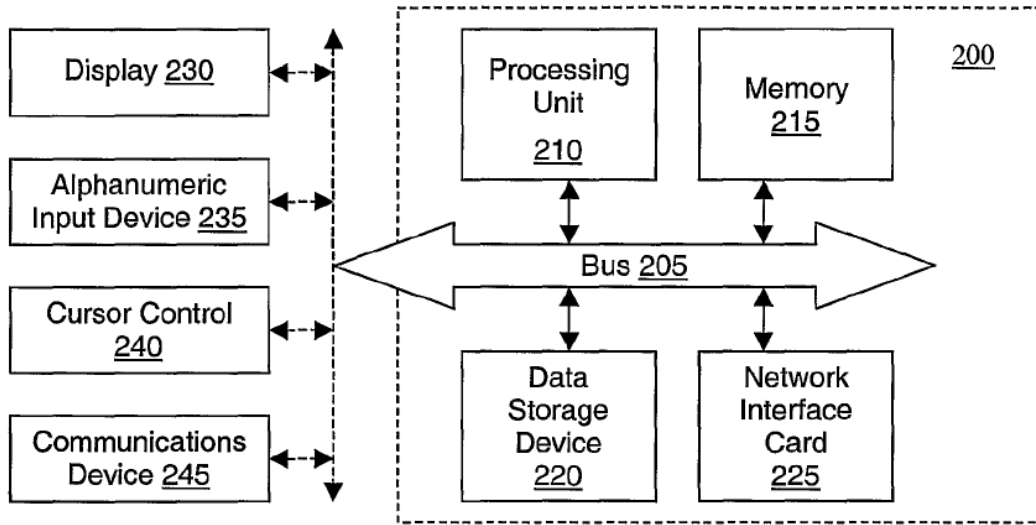


Figure 3: Navigation flow

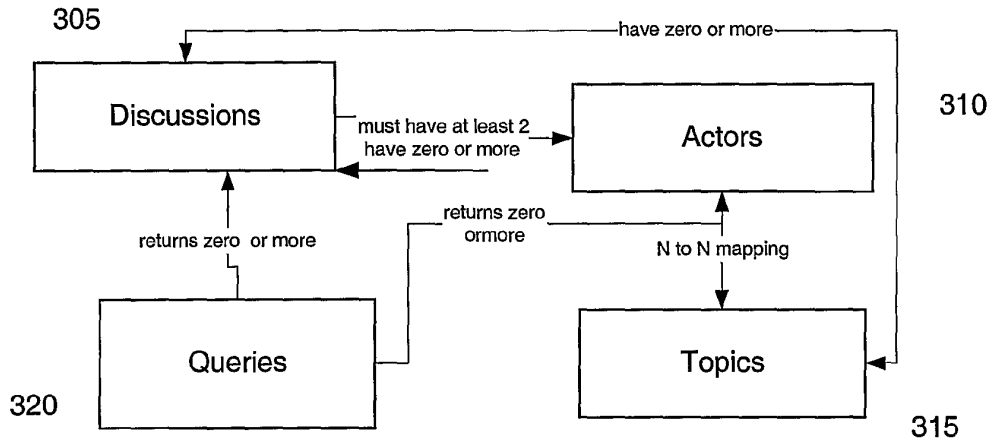
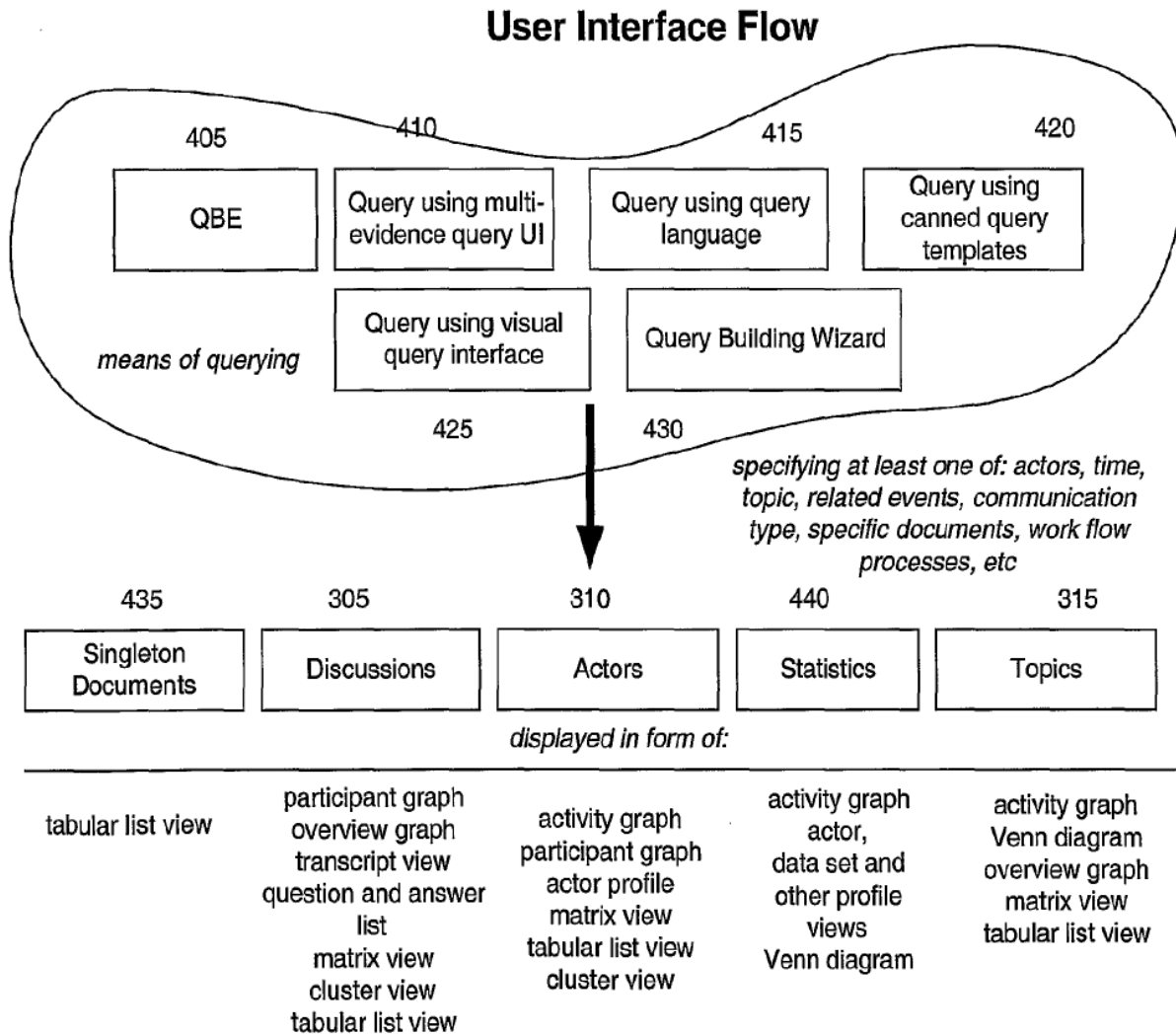


Figure 4: User-interface flow



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Figure 5: Participant graph

Participant Graph

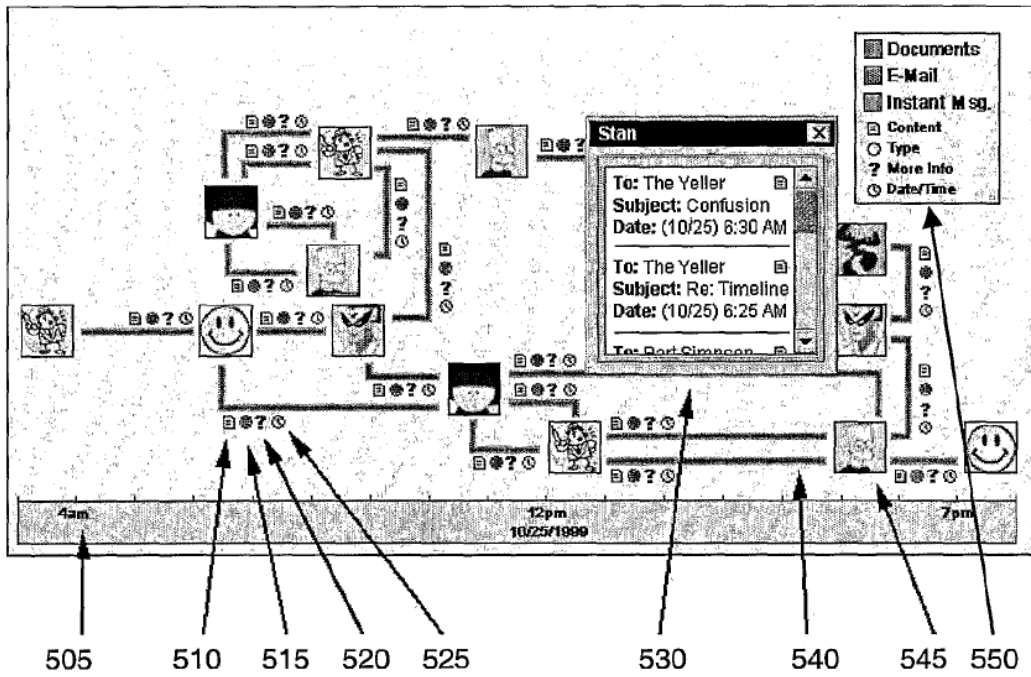


Figure 6: Participant graph, daytime and nighttime view

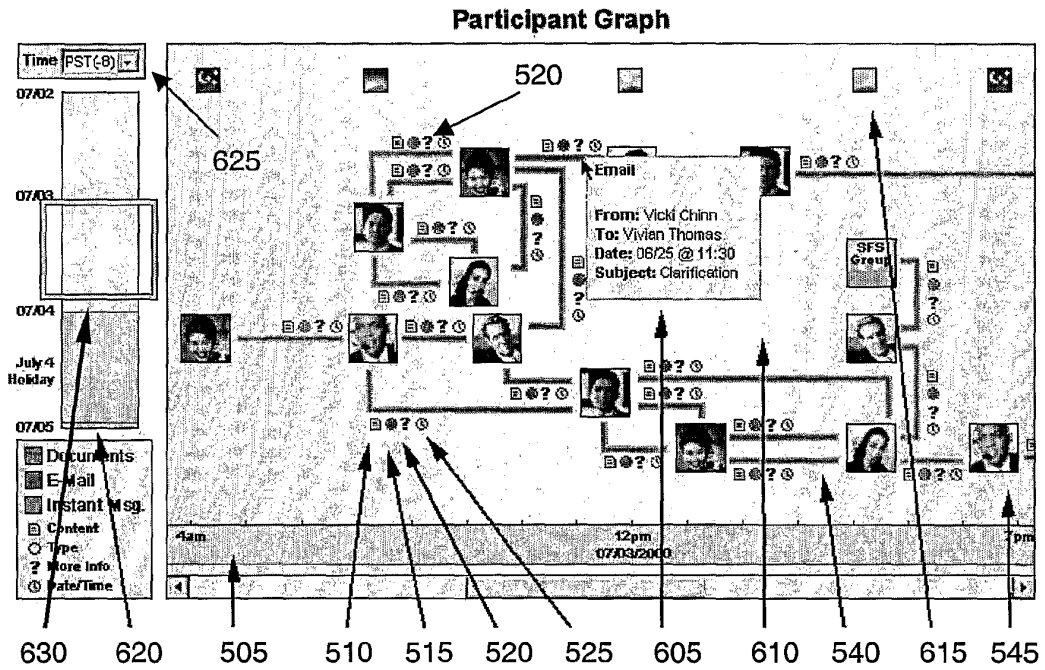


Figure 7: form panel for adding items

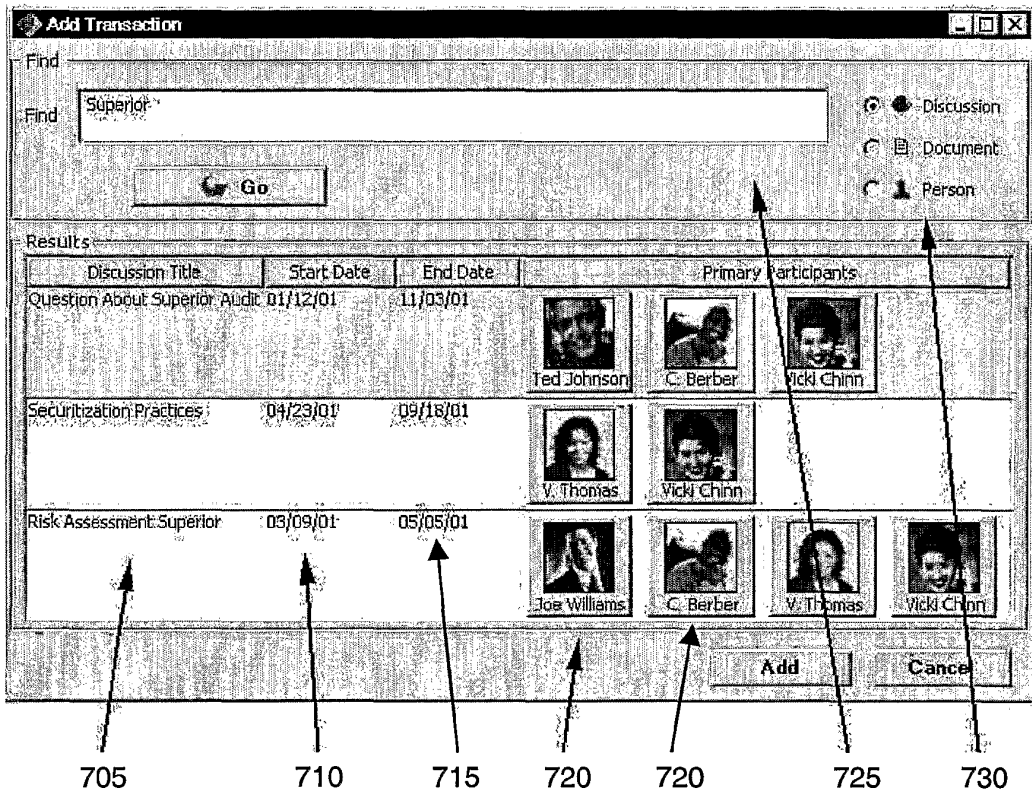


Figure 8: Participant graph, with pop-up showing basic information about the item

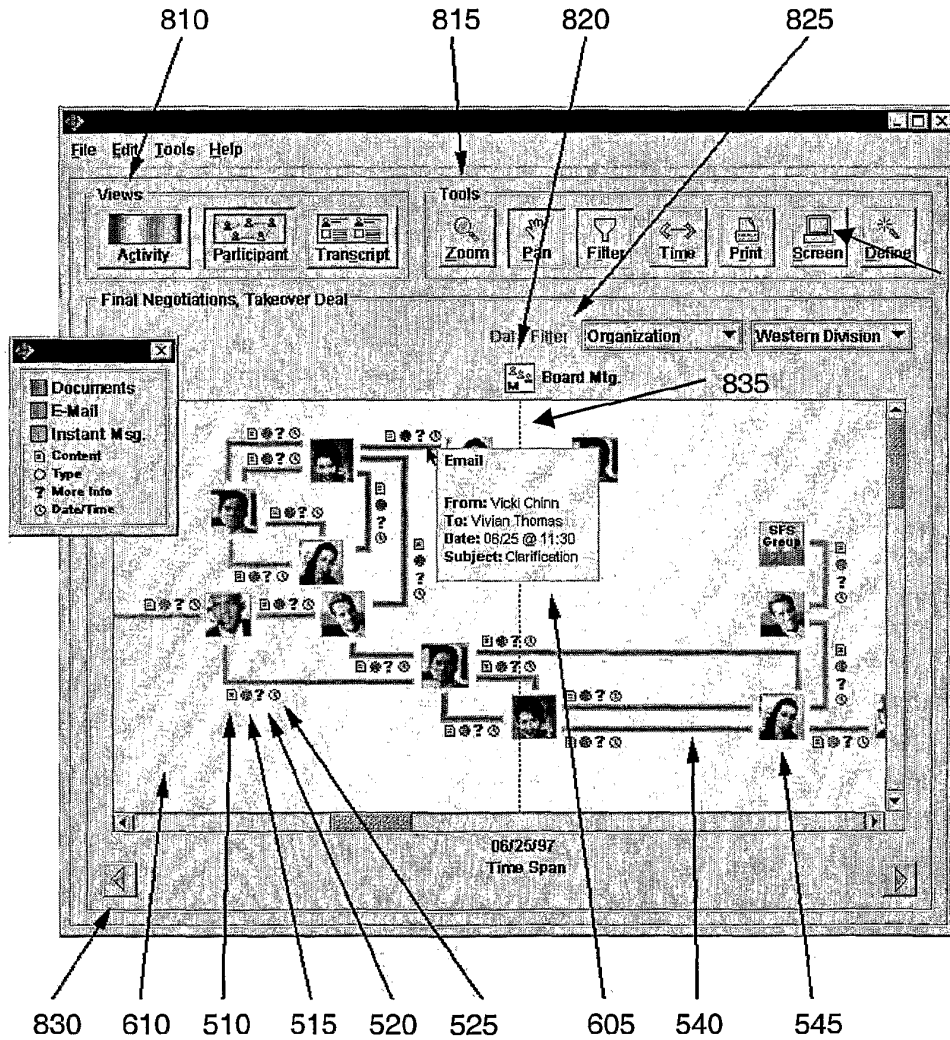
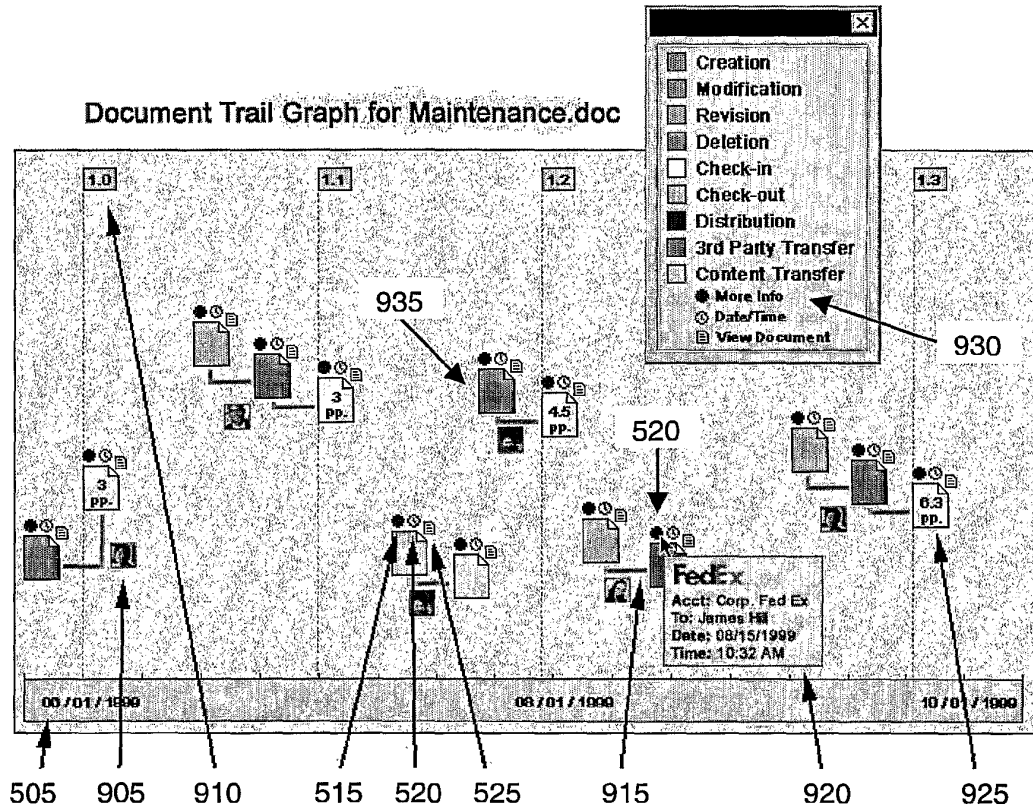
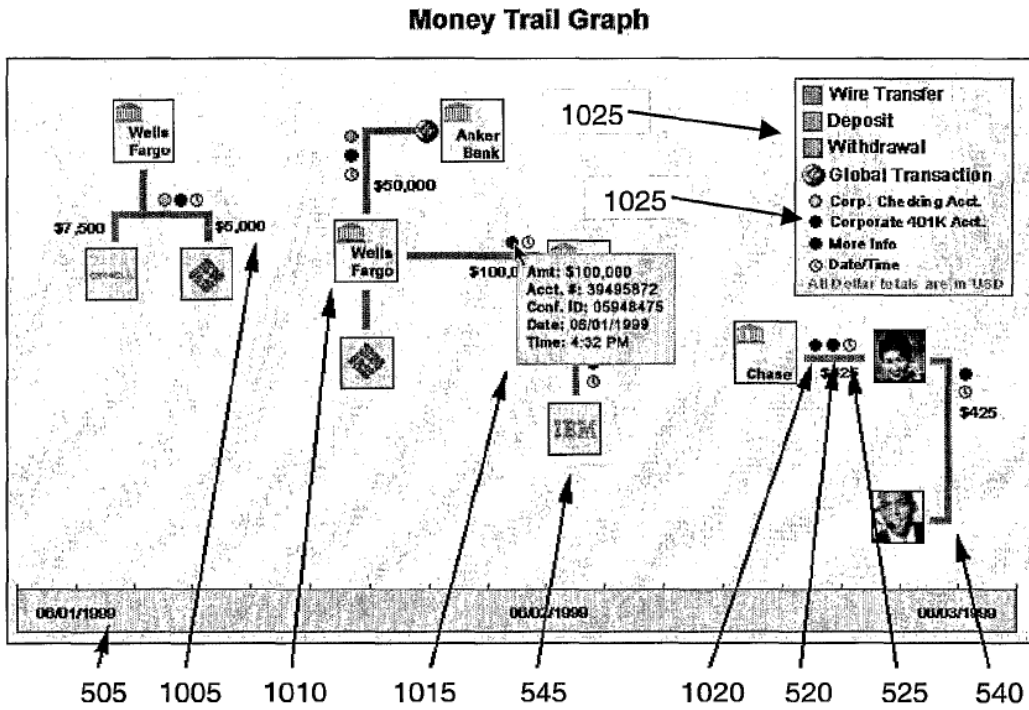


Figure 9: Document trail graph



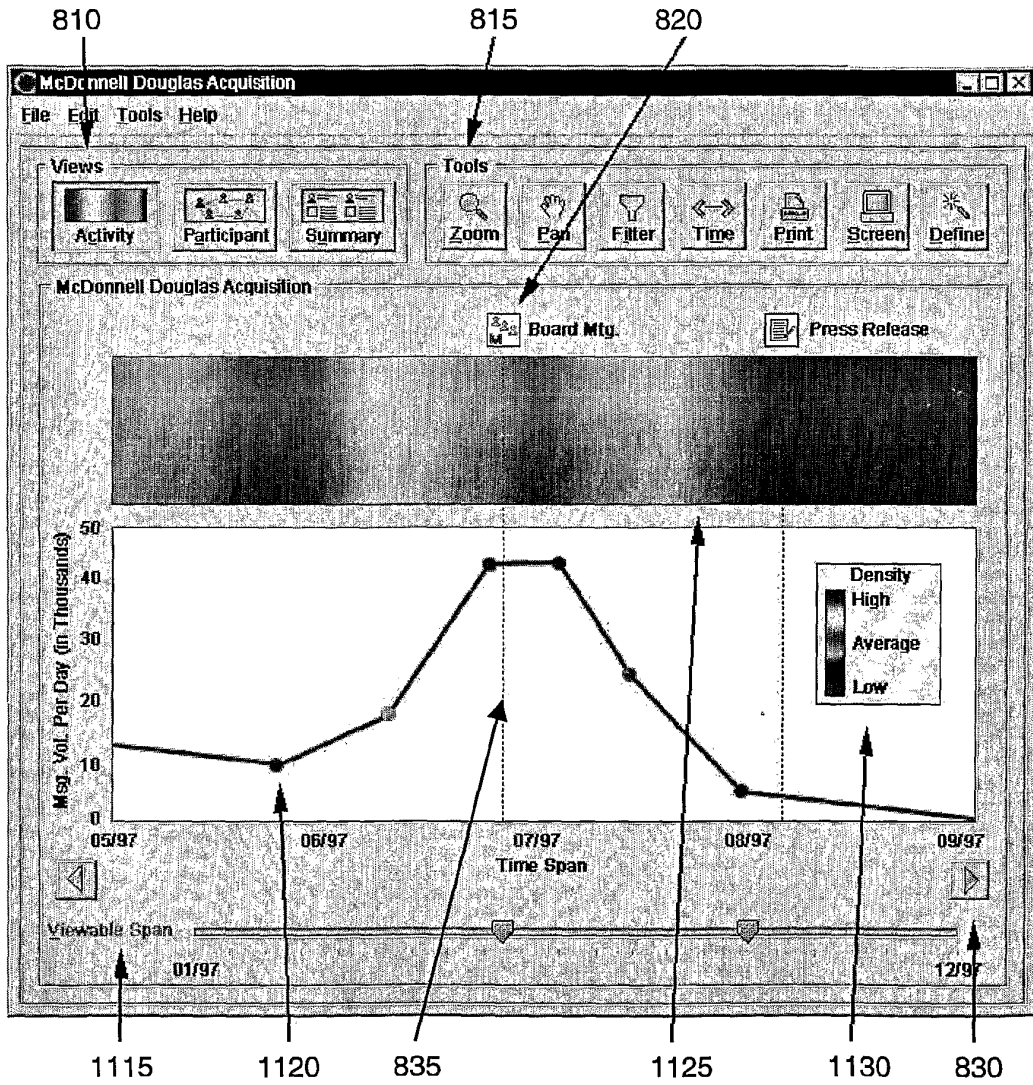
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Figure 10: Money trail graph



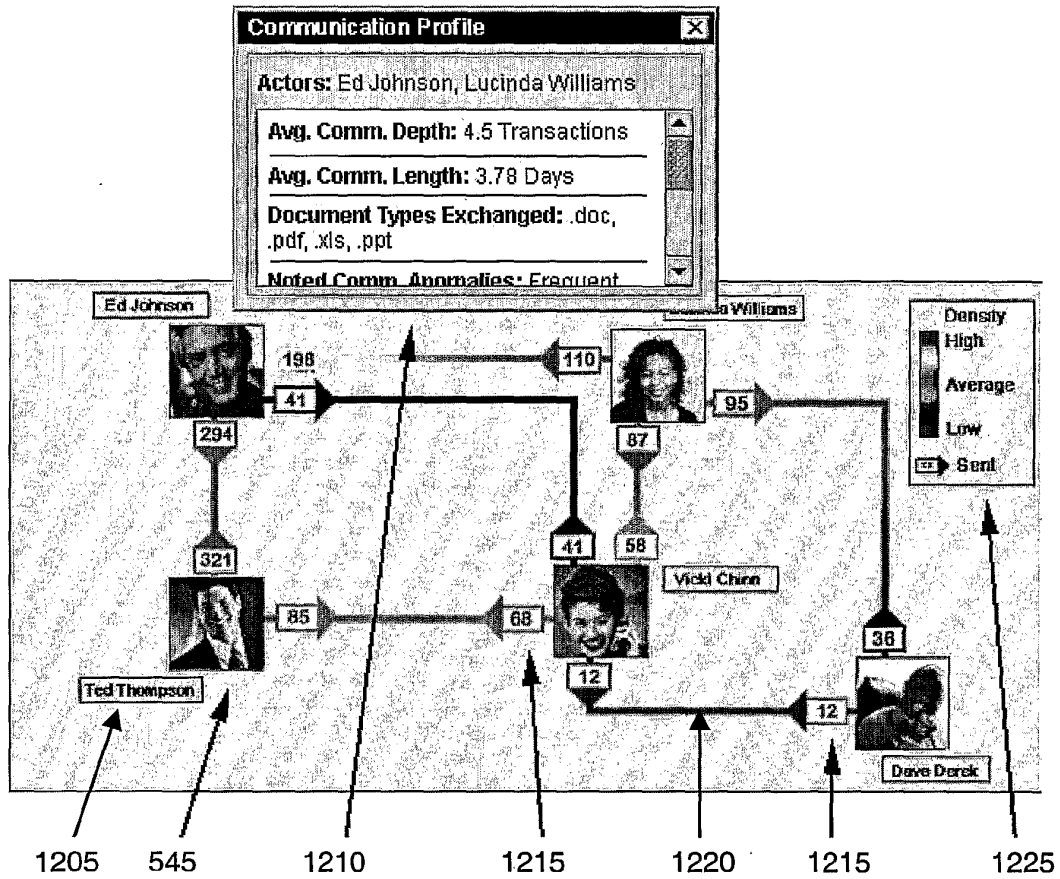
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Figure 11: Rainbow view



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Figure 12: Activity graph



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Figure 13: Discussion timeline

Discussion Timeline

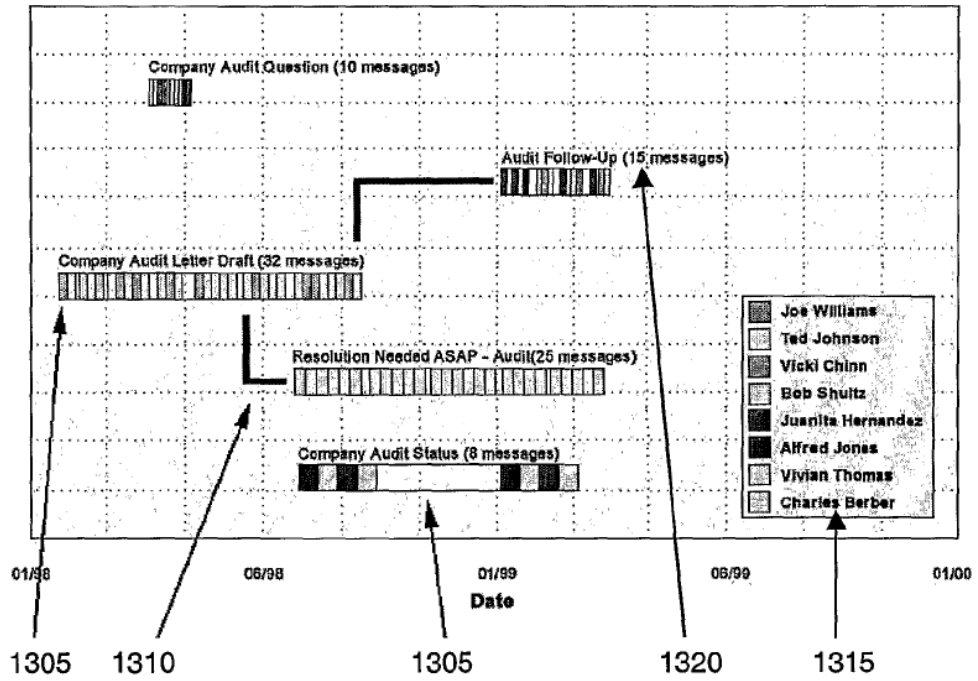


Figure 14: Discussion timeline with spider-eye panning widget

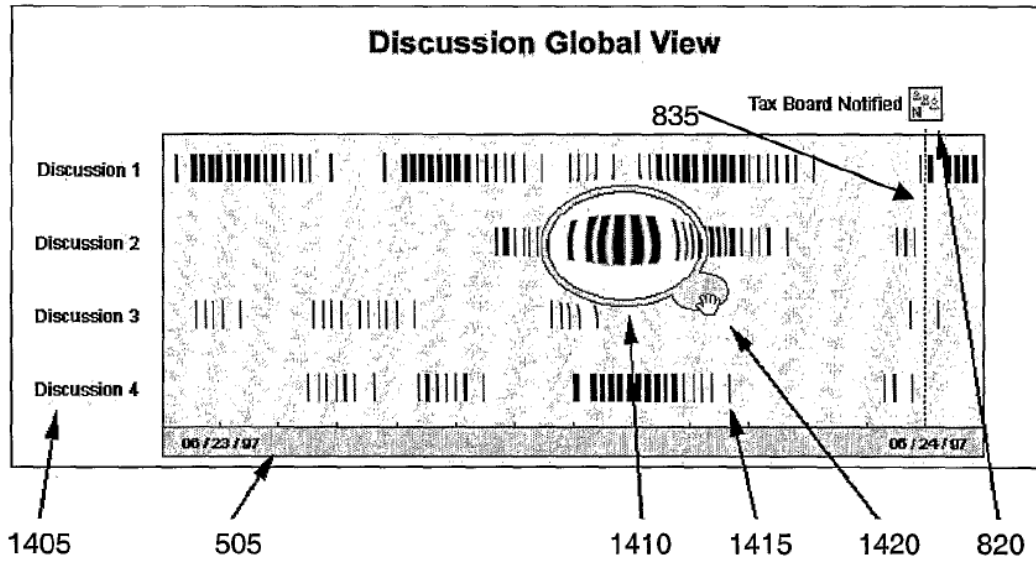


Figure 15: Discussion timeline showing individual events

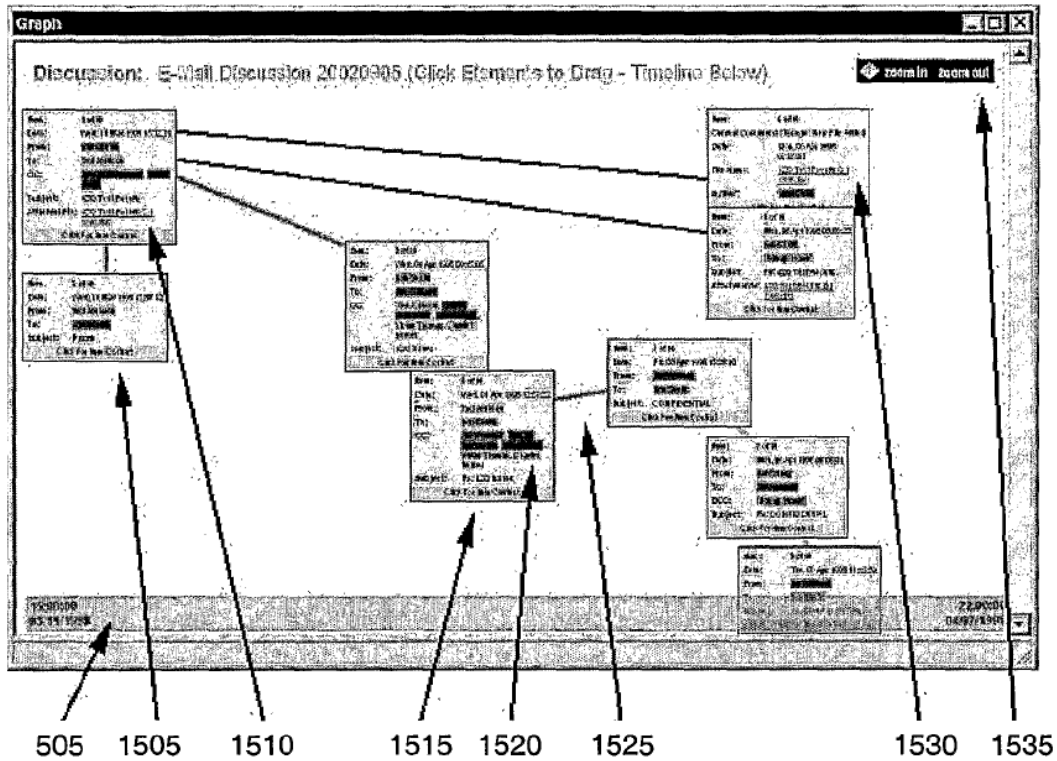
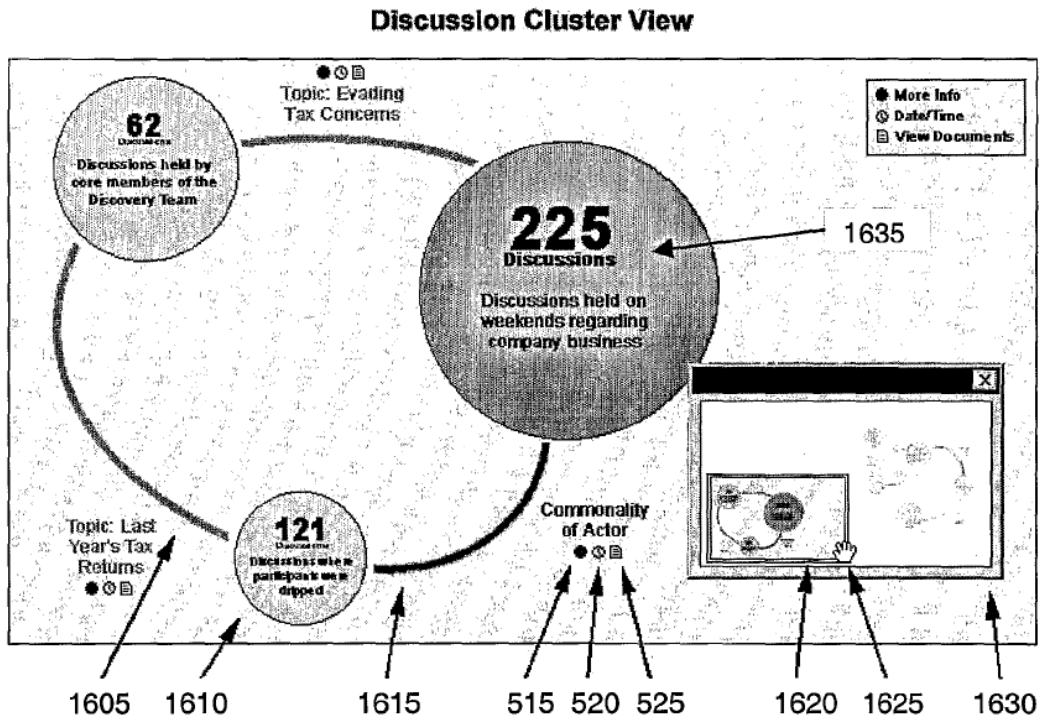


Figure 16: Cluster view



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Figure 17: Graphical Representation of Discussion Timeline

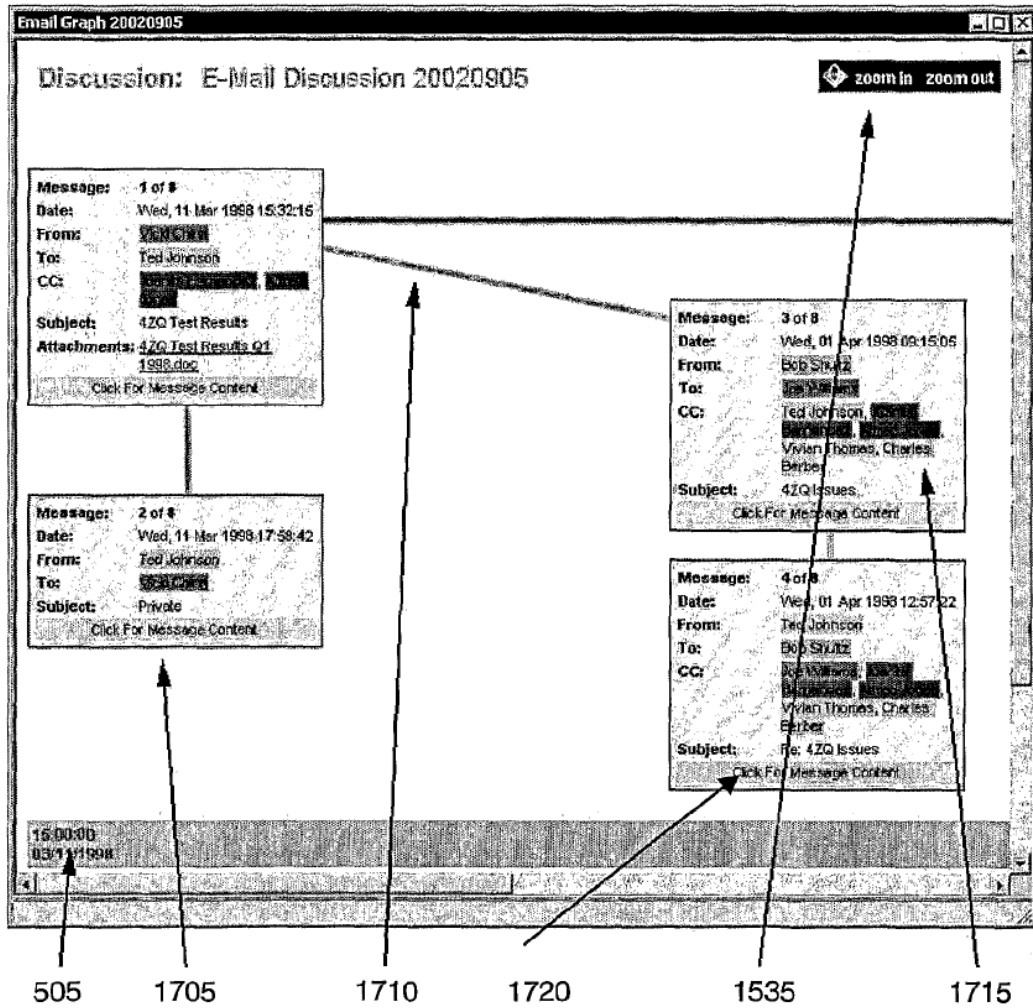


Figure 18: Transcript view, showing actor color-coding

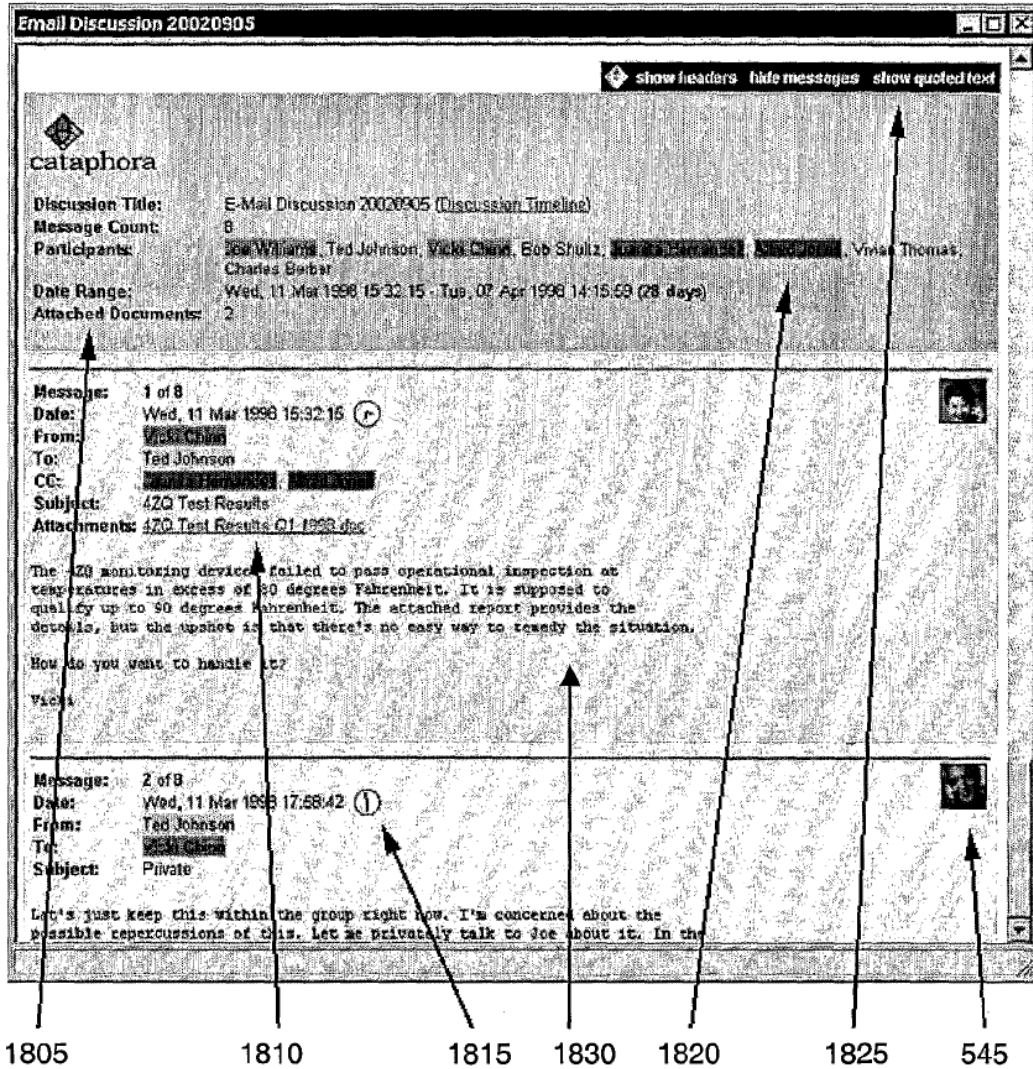


Figure 19: Transcript view, showing actor activity

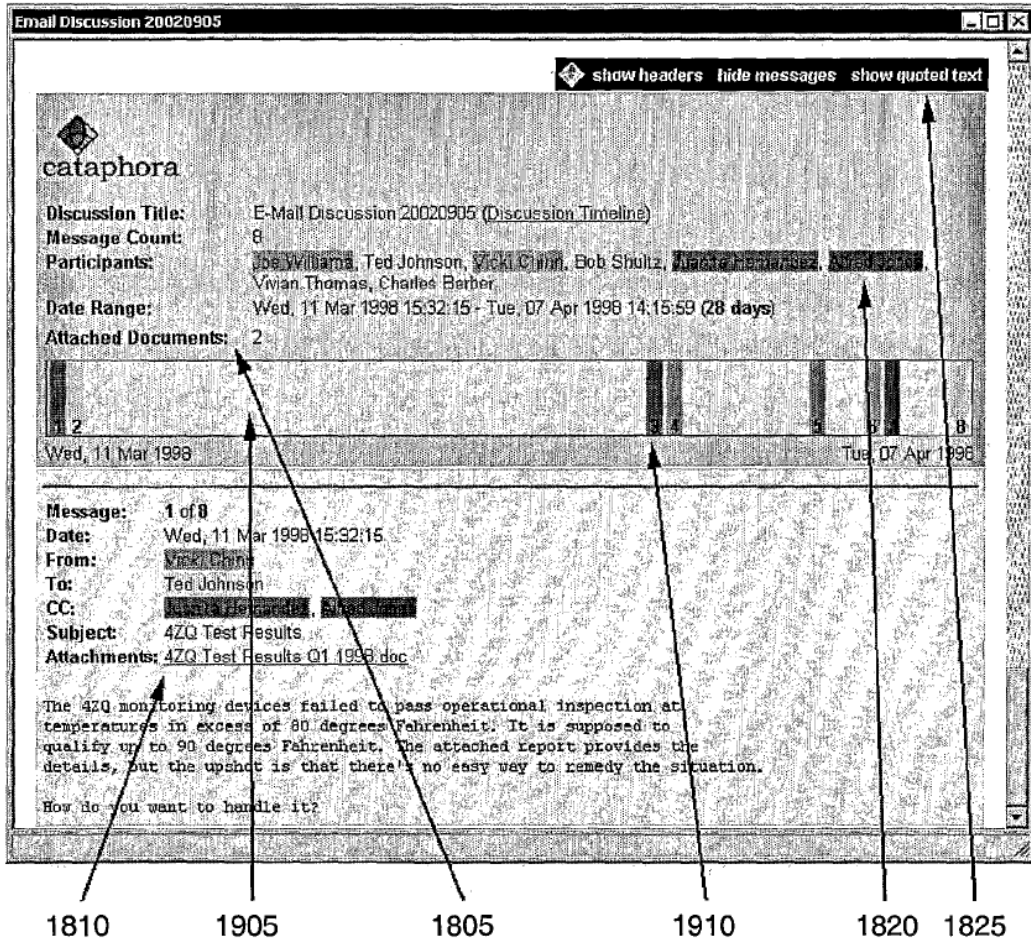


Figure 20: Transcript view, showing discussion partitions

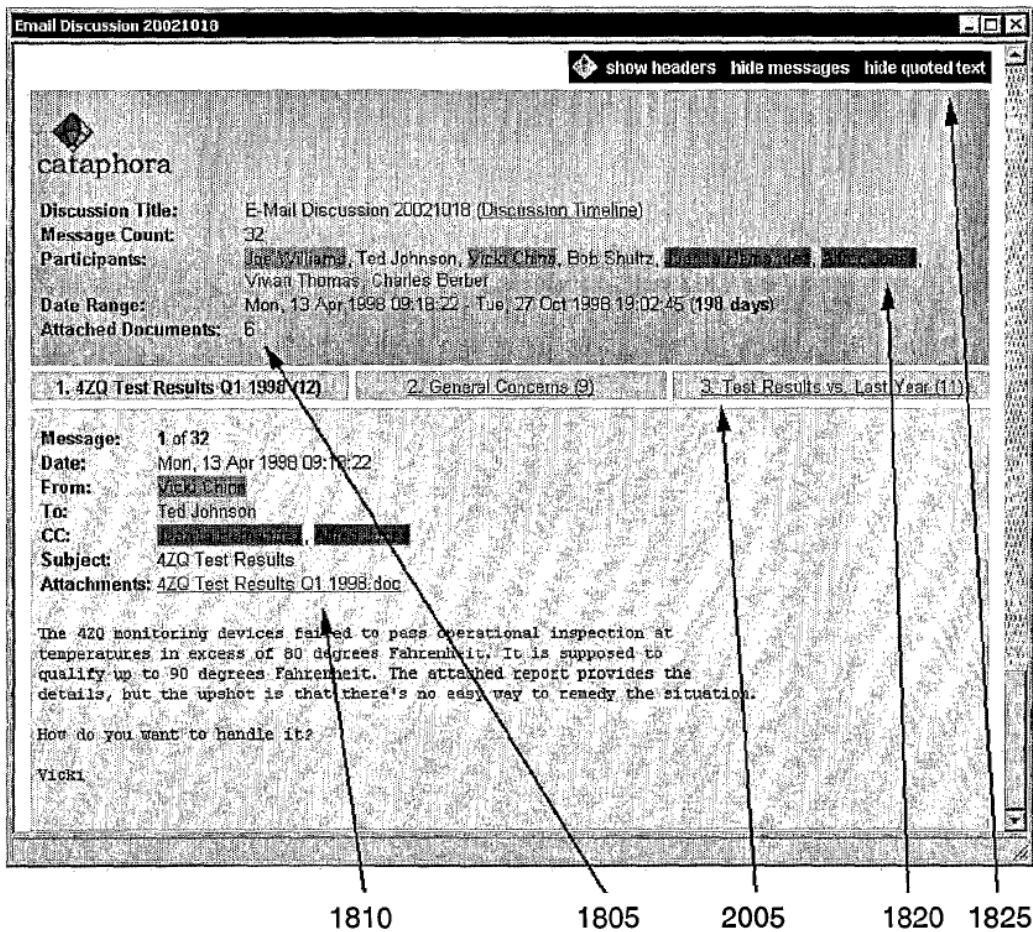


Figure 21: Transcript view, showing document type color-coding

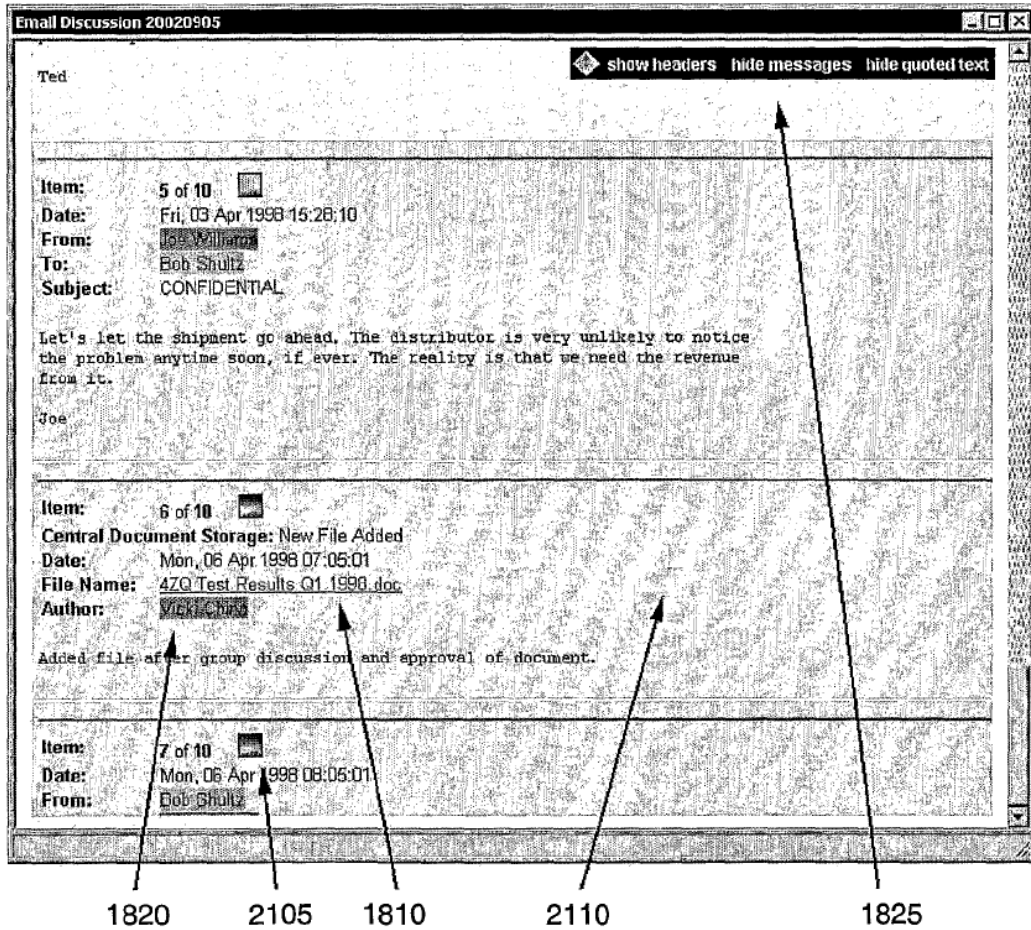


Figure 22: Transcript view, showing attachments

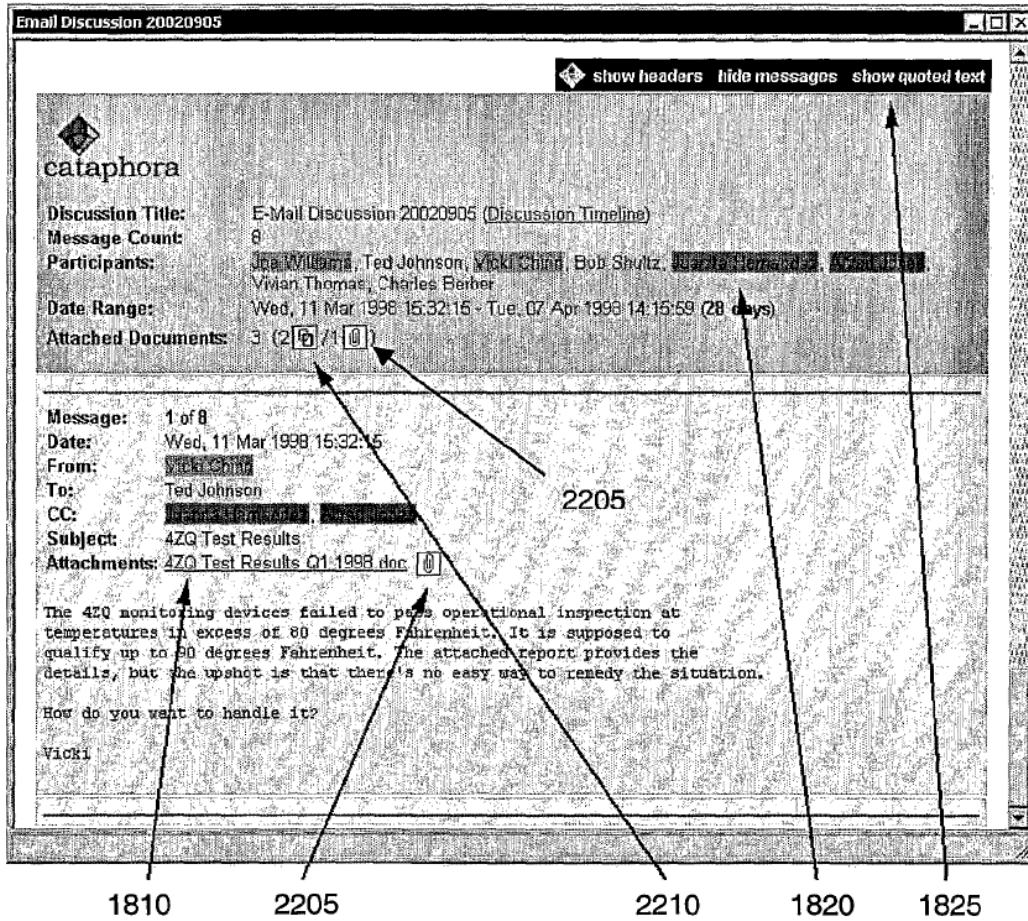
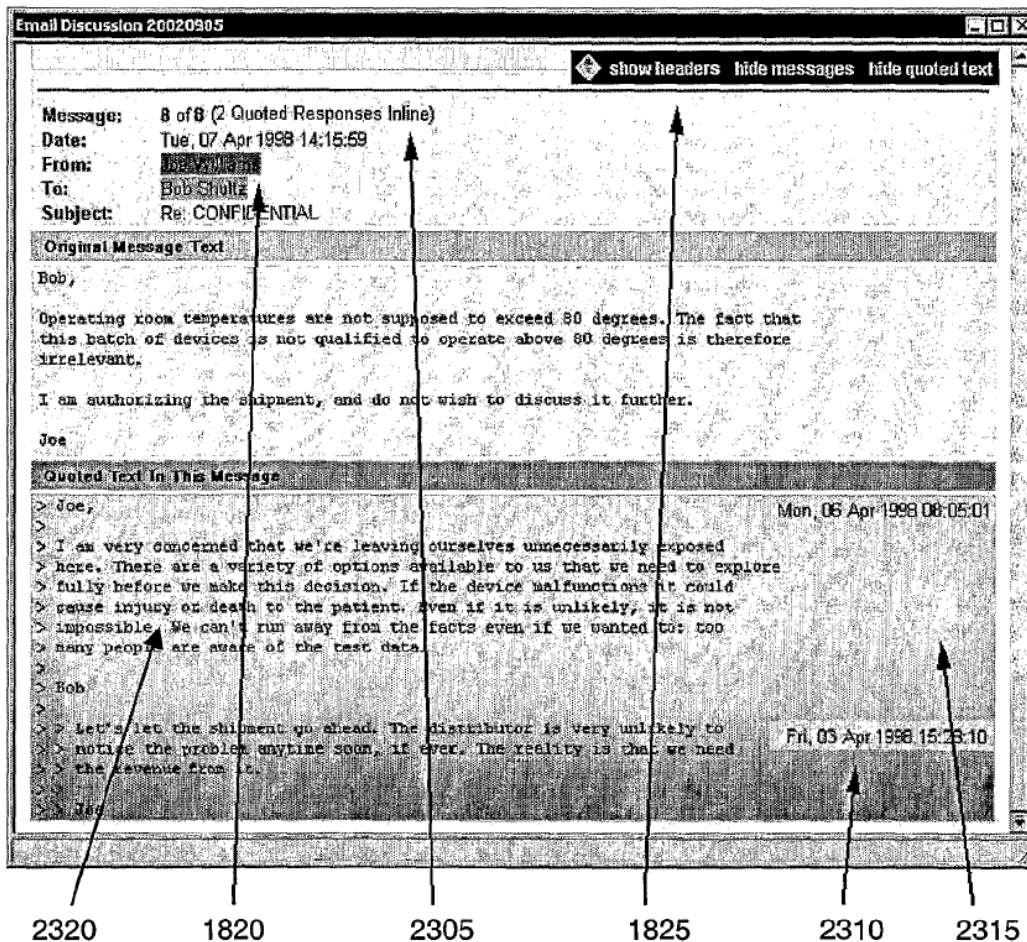


Figure 23: Transcript view, showing color-coding of quoted text



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Figure 24: Transcript view showing deletion

cataphora

Discussion Title: E-Mail Discussion 20020905 (Discussion Timeline)
Message Count: 8
Participants: Joe Williams, Ted Johnson, Vicki Chinn, Bob Shultz, [redacted], [redacted], Vivian Thomas, Charles Berber
Date Range: Wed, 11 Mar 1998 15:32:15 - Tue, 07 Apr 1998 14:15:59 (28 days)
Attached Documents: 2

Message: 1 of 8
Date: Wed, 11 Mar 1998 15:32:15
From: Vicki Chinn
To: Ted Johnson
CC: [redacted], [redacted]
Subject: 4ZQ Test Results
Attachments: 4ZQ Test Results Q1 1998.doc

The 4ZQ... operational in...

Message: 3 of 8
Date: Date Unknown
From: Bob Shultz
To: [redacted]
CC: CC Unknown
Subject: Subject Unknown

Item Deleted - No Text Available
- Deleted Item - Suspicious Deletion Factor of 66%
- Certainty of Existence Factor of 82%

Message: 4 of 8
Date: Wed, 01 Apr 1998 13:57:22
From: Ted Johnson
To: Bob Shultz
CC: Joe Williams, [redacted], [redacted], Vivian Thomas, Charles Berber
Subject: Re: 4ZQ Issues

2405 1820 1805 2410 2415 1825 2420 2425

Figure 25: Transcript view showing Instant Messages (IMs)

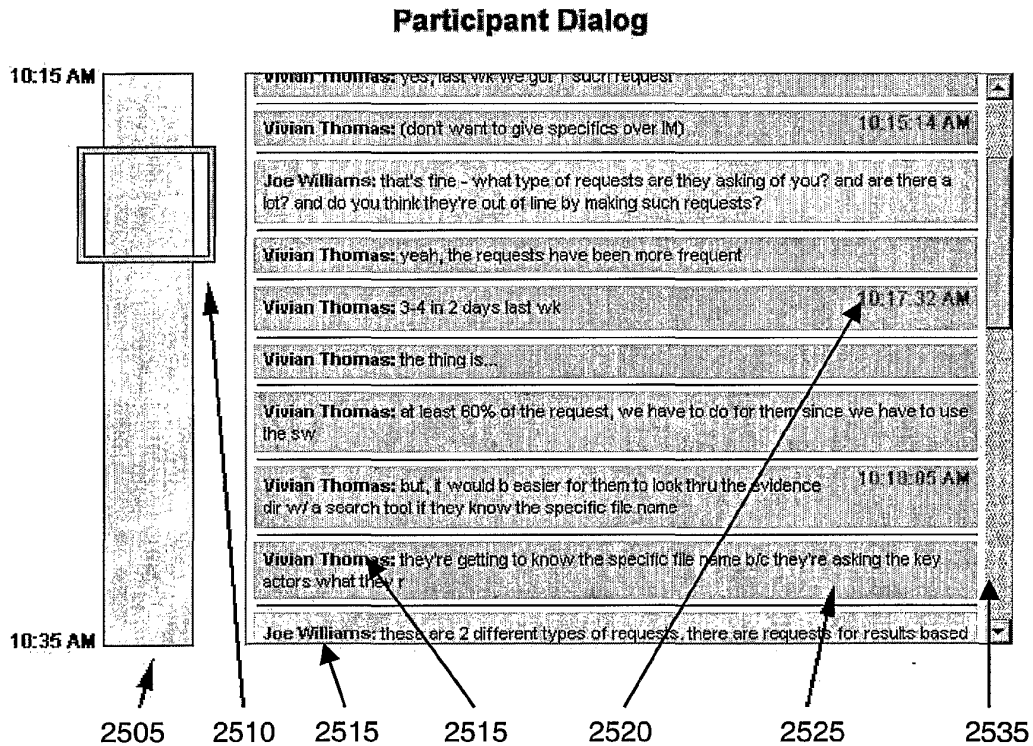











Figure 26: Query results view showing actor images

Discussion Title	Start Date	End Date	Primary Actors				
Question About Superior Audit	01/12/01	11/03/01	 Ted Johnson	 C. Berber	 Vicki Chinn		
Securitization Practices	04/23/01	09/18/01	 V. Thomas	 Vicki Chinn			
Risk Assessment Superior	03/09/01	05/05/01	 Joe Williams	 C. Berber	 V. Thomas	 Vicki Chinn	

2605 2610 2615 2620 2625

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Figure 27: Matrix Query Results View

	2705	2705	2705	2705	2705
Discussion Name	Joe Rodd	Ann Warren	Mia Keller	Sue Garson	Bo Li
Q4 Projections	2710		2715		
Setting Analyst Expectations	2710			2720	
Revenue Recognition Rules - Reminder	2710				
Major Deal Review	2710	2710			

Figure 28: Saved queries

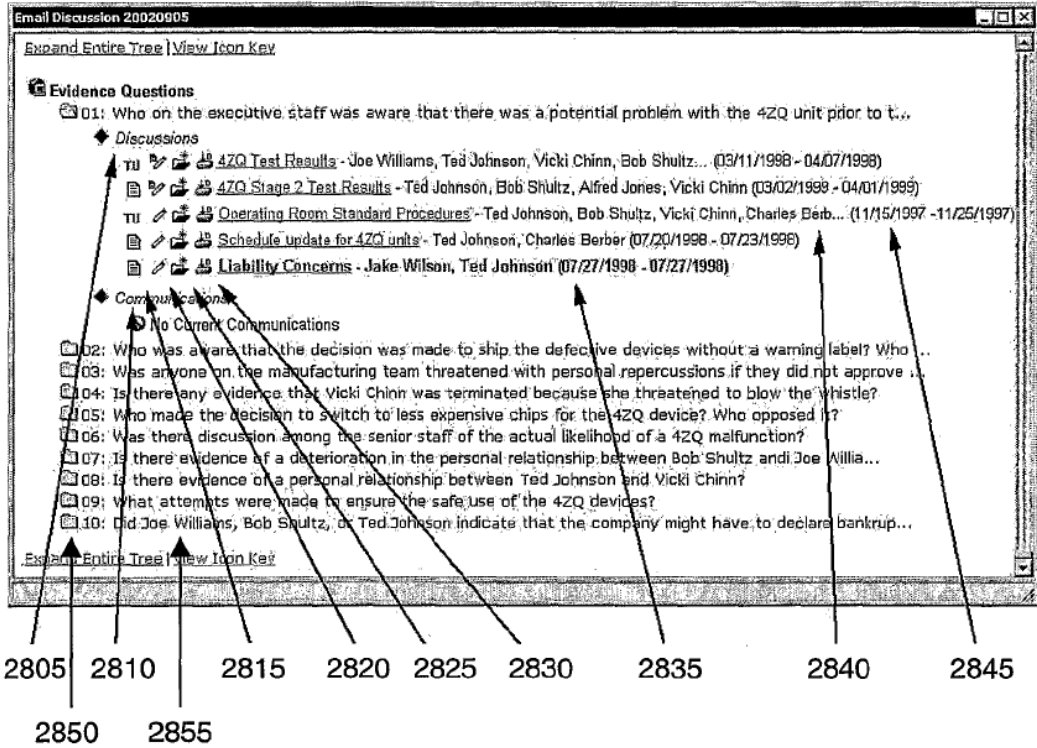





Figure 29: Querying tool


Content Terms or Phrases


People and Organizations



Ted Johnson


Joe Williams


Vivian Thomas


Charles Berber


Vicki Chinn


Acctg. Dept. 6

Events

Board Meeting (06/25/1998)
1999 Expo (03/15/1999)

Start Date **End Date**

06/24/1997 06/26/1997

Year **Month** **Year** **Month**

1996 May 1996 May
 1997 Jun 1997 Jun
 1998 Jul 1998 Jul

June 1997 June 1997

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

2905 2910 2915 2920 2925

Figure 30: Querying tool specifying actor involvement and using saved queries

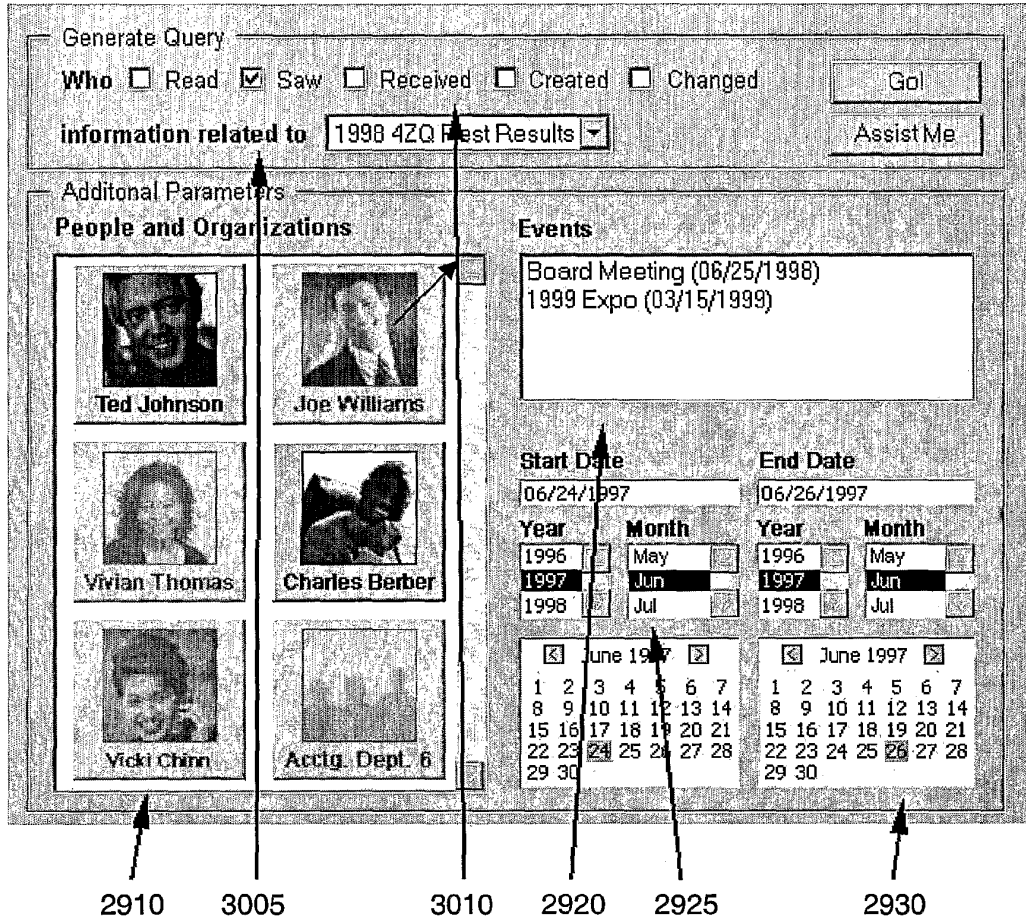
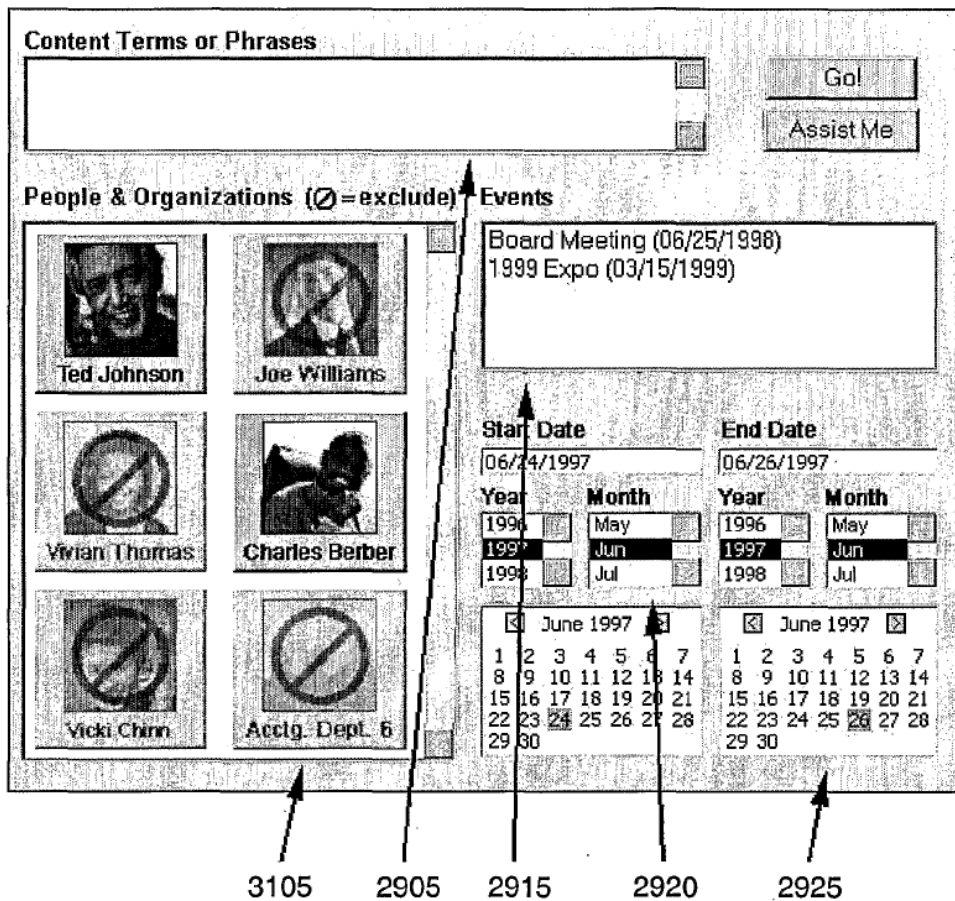
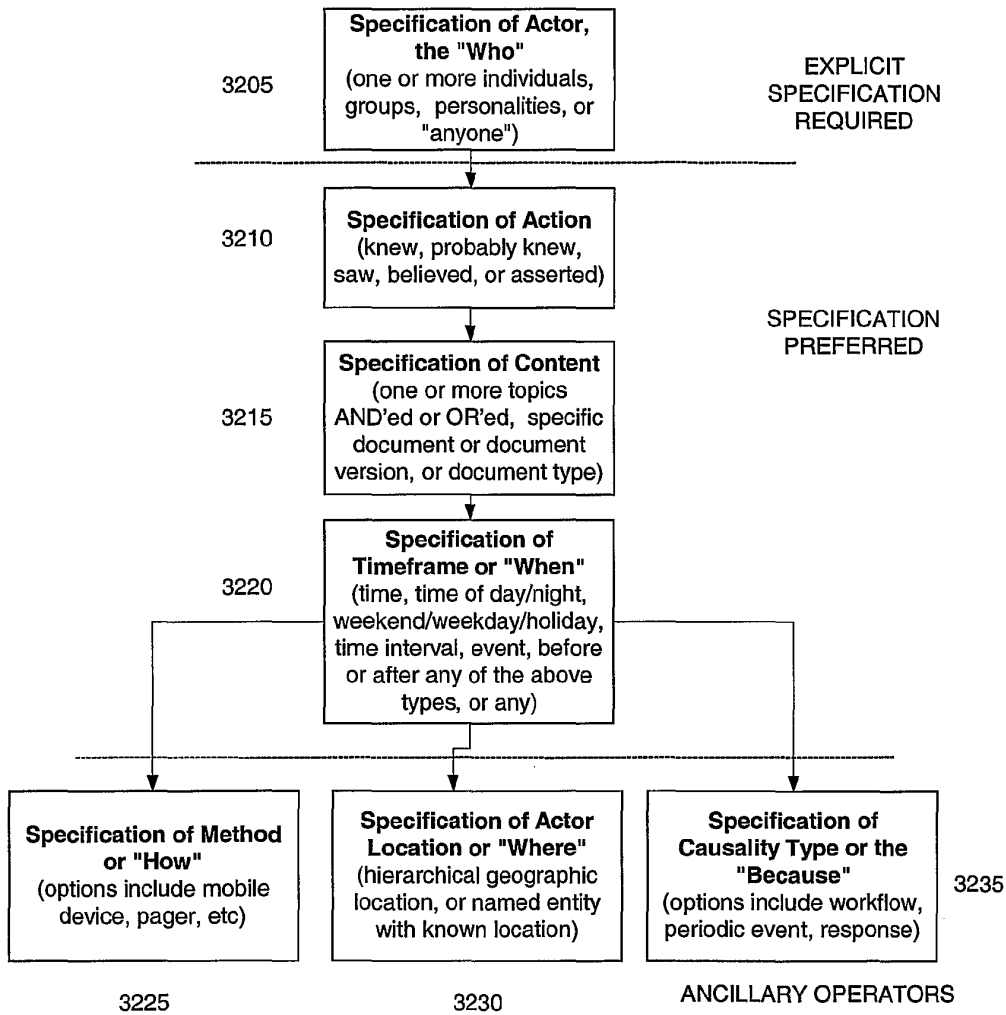


Figure 31: Querying tool specifying actors to exclude from the query



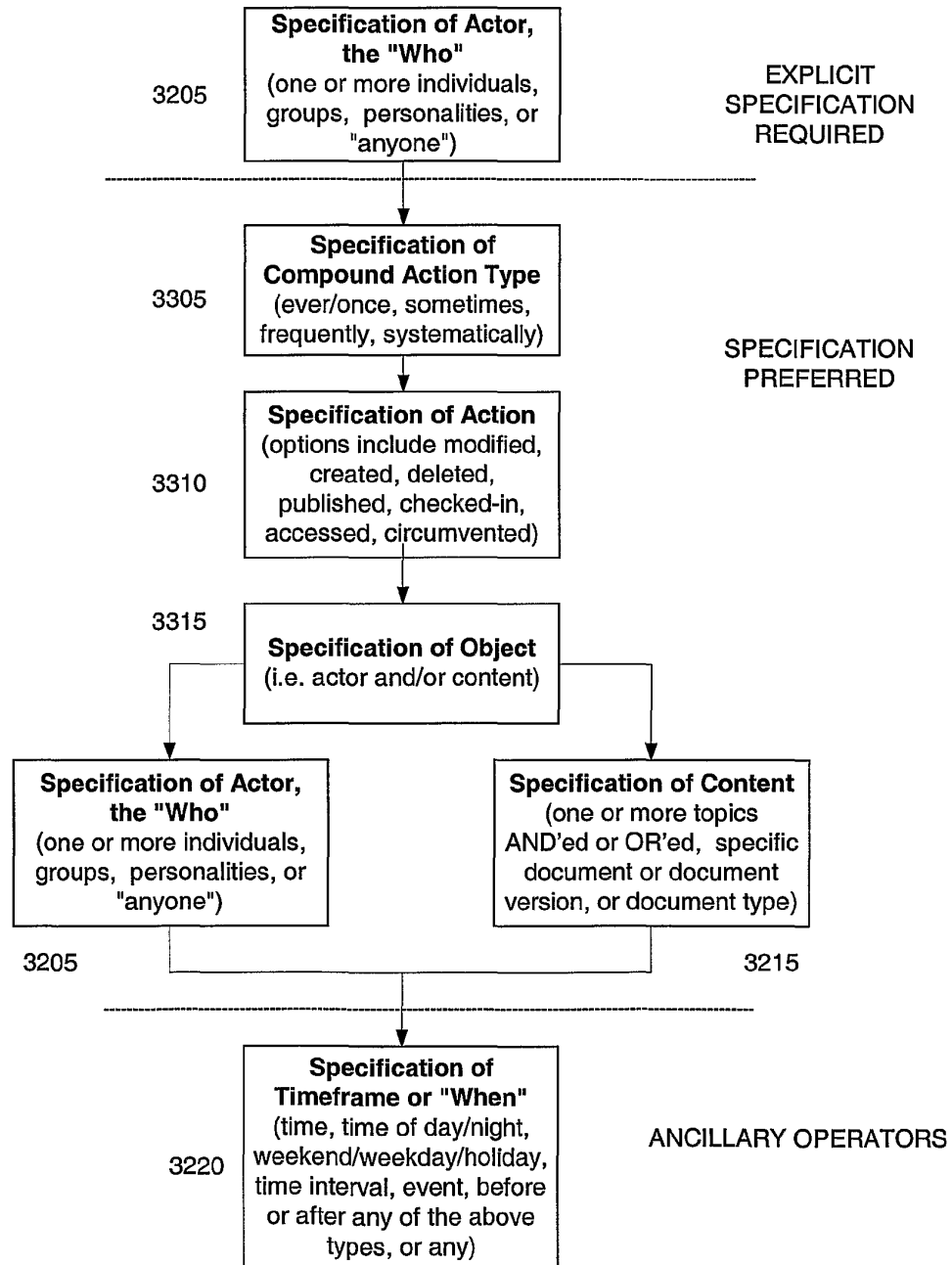
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Figure 32: Query Template 1



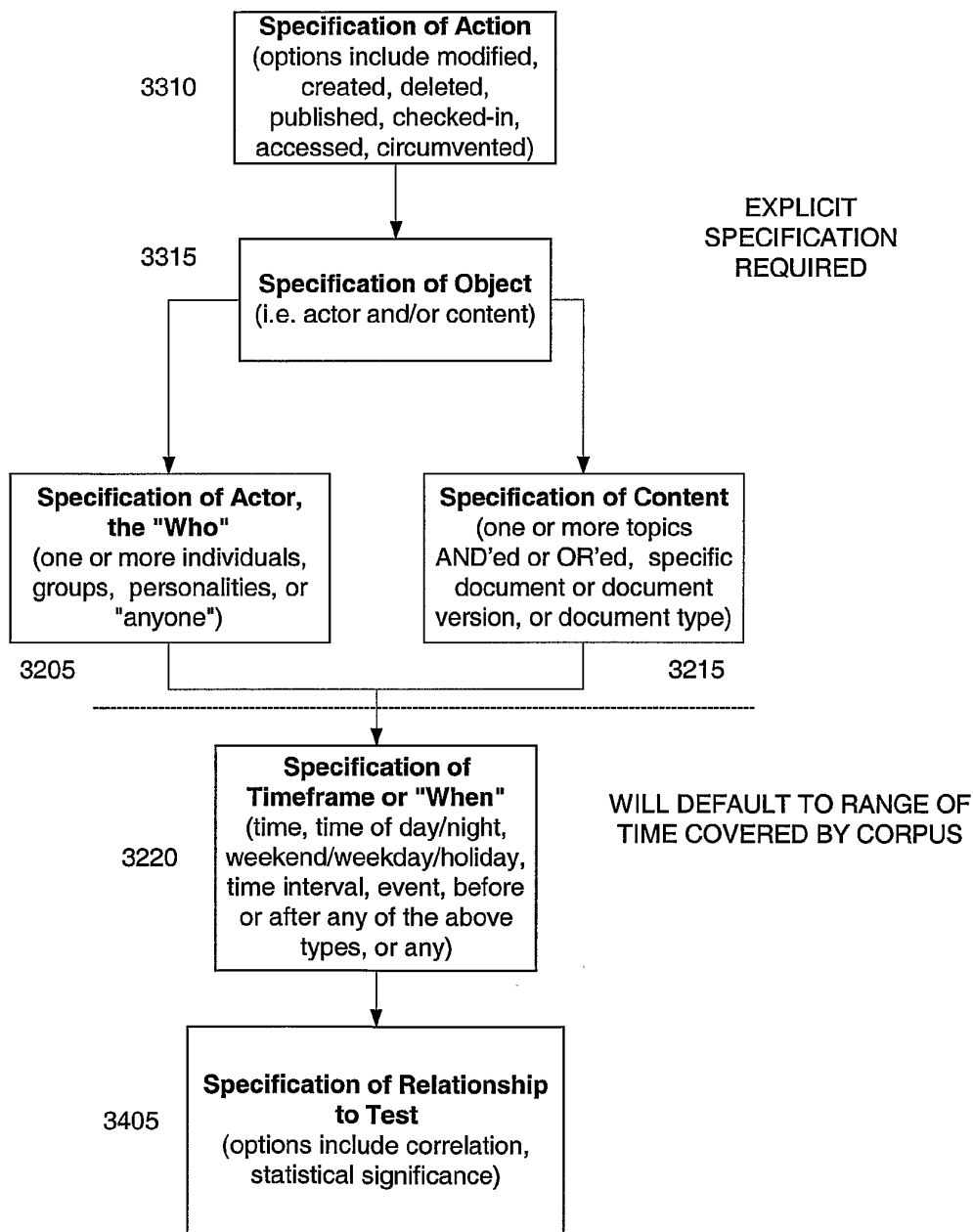
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Figure 33: Query Template 2



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Figure 34: Query Templates 3 & 4



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Figure 35: Query Components (document and operator types)

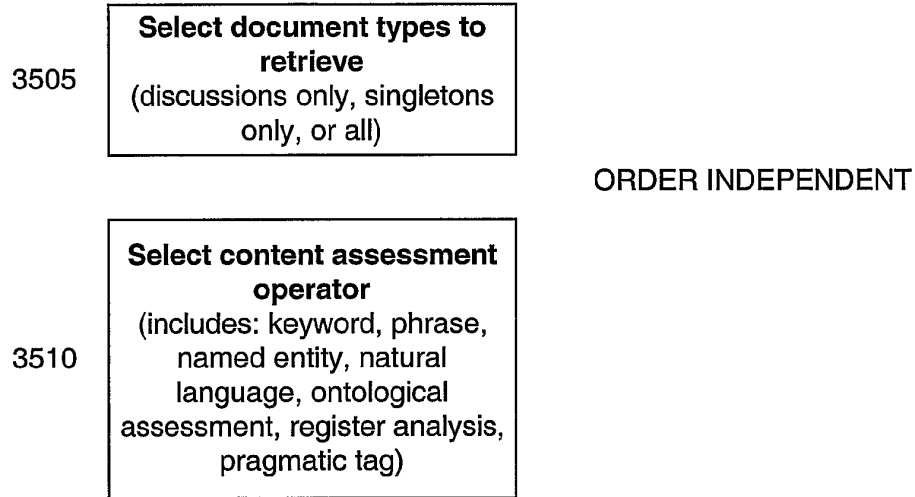
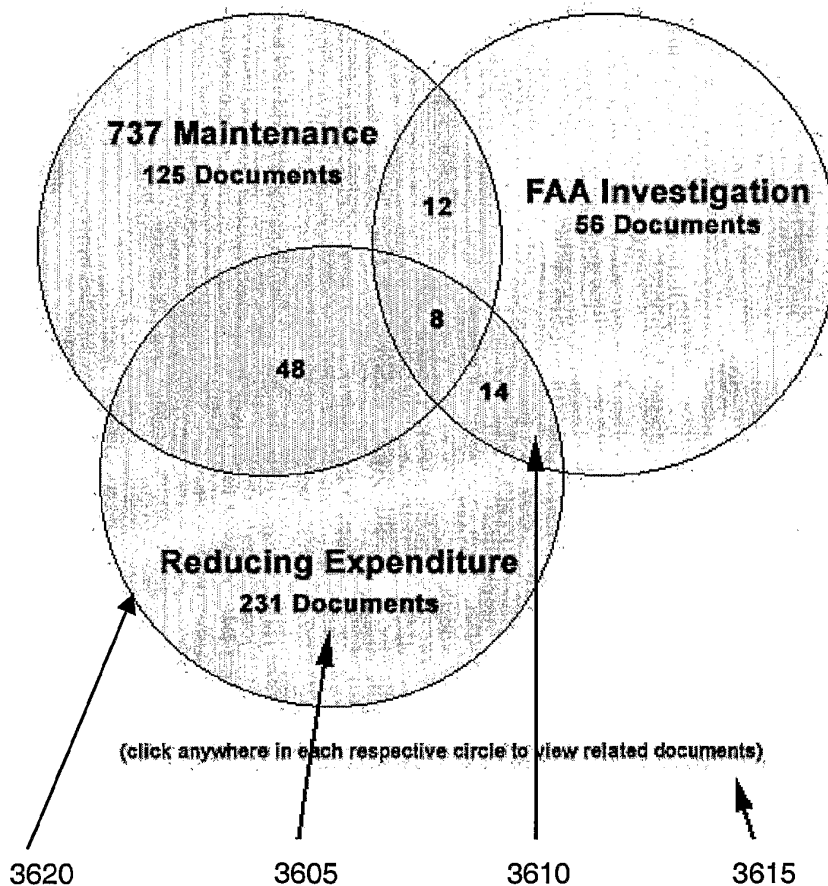


Figure 36: Venn diagram view of document categories

Data Breakdown By Document Category



37 / 42

Figure 37a: Query by Example, Step 1

Content Terms or Phrases

People and Organizations

- Ted Johnson
- Joe Williams
- Vivian Thomas
- Charles Berber
- Vicki Chinn
- Acclg. Dept. 6

Topics

- Company (General)
- Corporate
- Employees
- Fraud
- Hidden Information

Content Type

Spreadsheets

Ontology

Financial

Time Range

01/01/1999 01/01/2001

<< Back Next >>

2910 2905 3705 3710 3715 3720

Figure 37b: Query by Example, Step 2

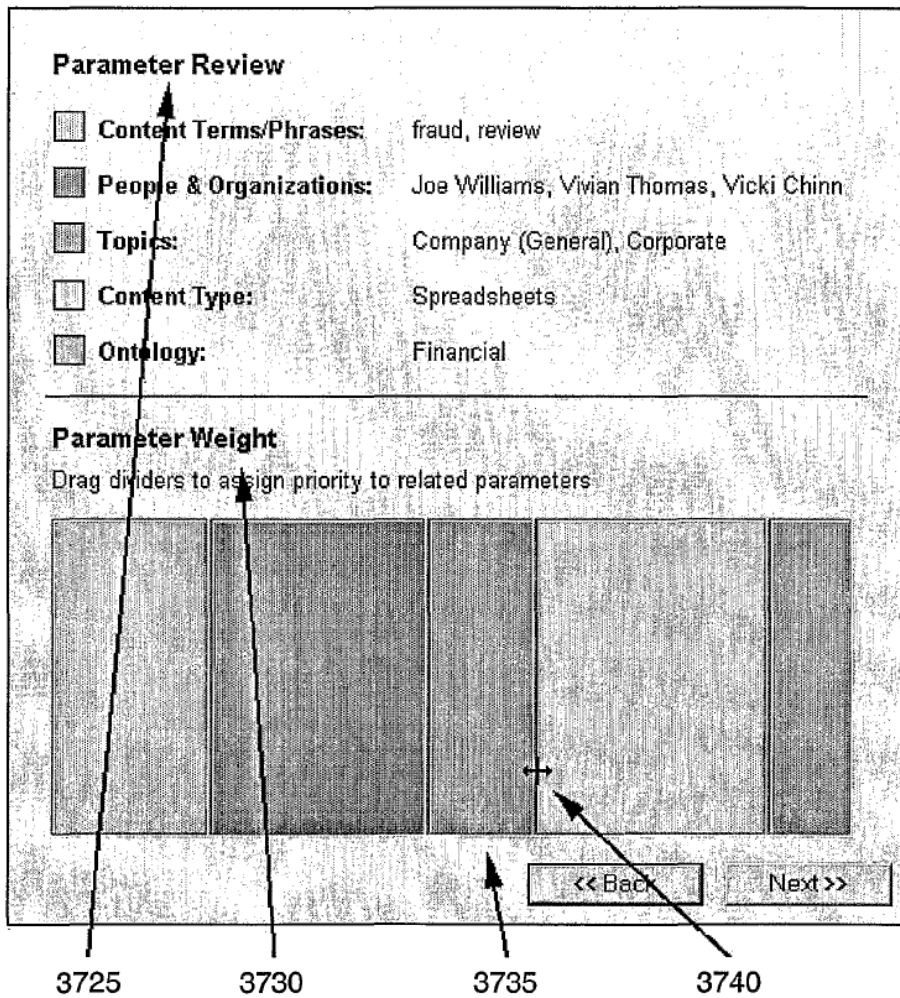


Figure 38: Document lifecycle view

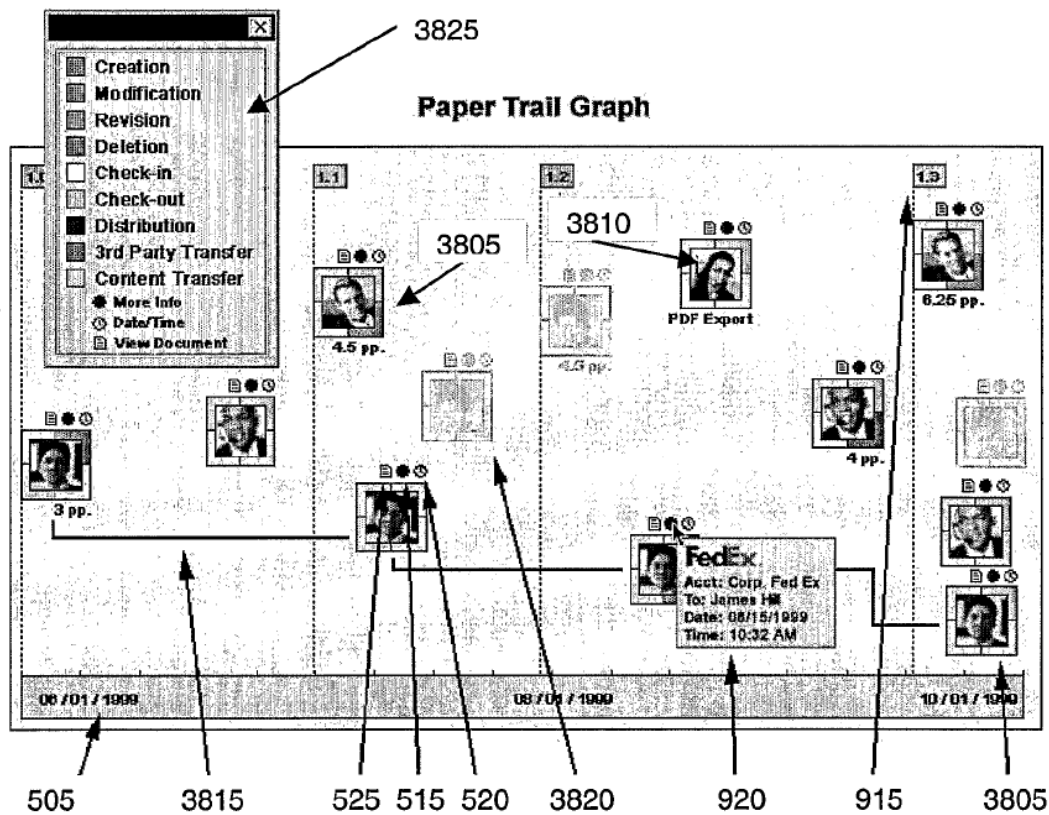


Figure 39: User interface for viewing discussions on a PalmOS-based mobile device

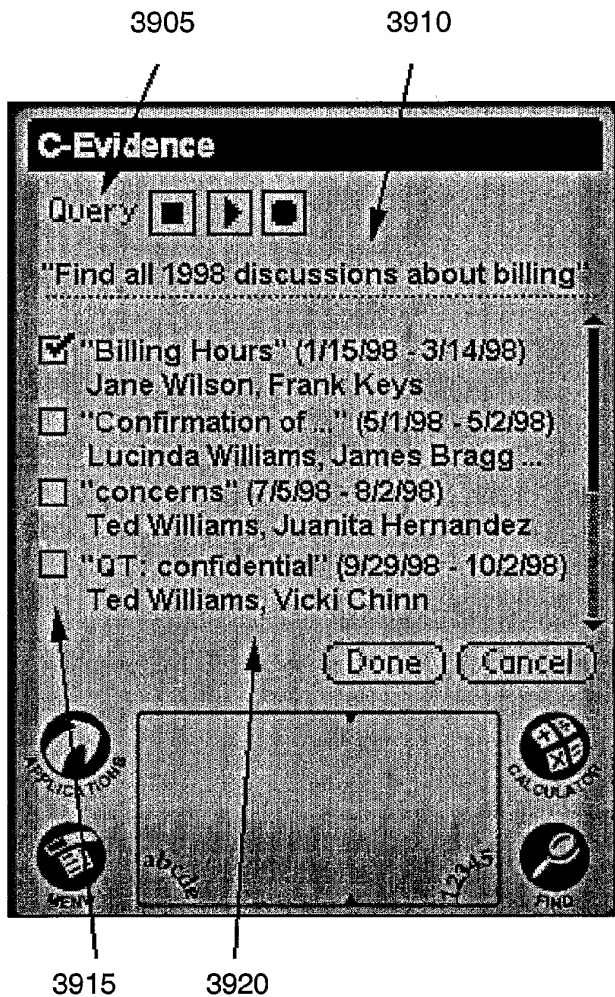
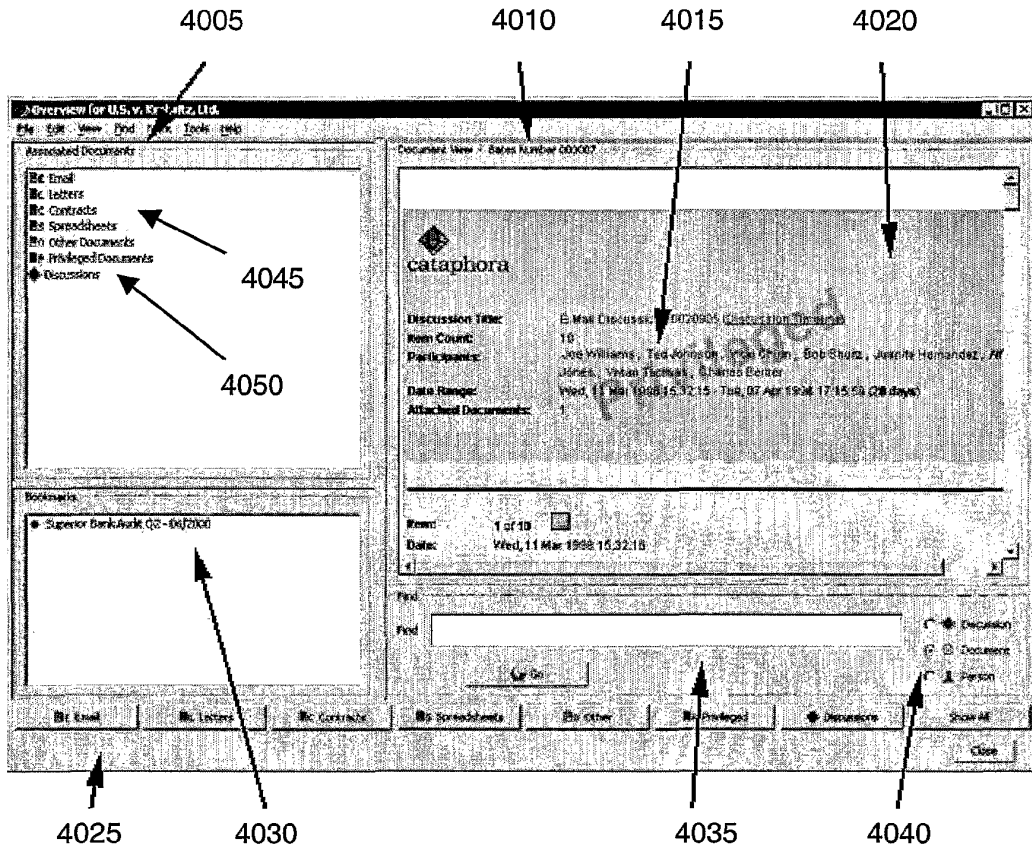
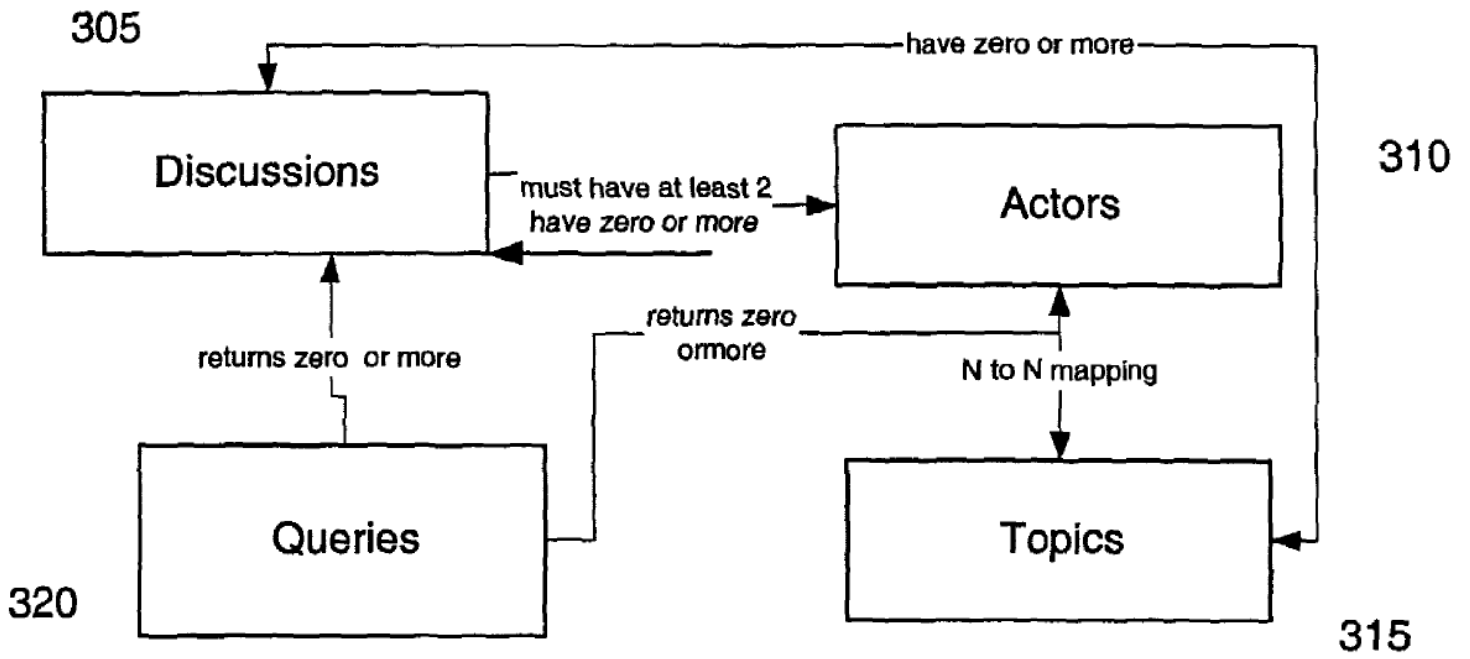


Figure 40: Case management master window view





Electronic Acknowledgement Receipt

EFS ID:	16114926
Application Number:	13111734
International Application Number:	
Confirmation Number:	6081
Title of Invention:	Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment
First Named Inventor/Applicant Name:	Gerhard D. Klassen
Customer Number:	91704
Filer:	Brett Joseph Slaney/Judith Martin
Filer Authorized By:	Brett Joseph Slaney
Attorney Docket Number:	70314/00568
Receipt Date:	21-JUN-2013
Filing Date:	19-MAY-2011
Time Stamp:	13:32:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		11144-US-CNT3_IDS.pdf	192895 1f9513e7eb8643cc3078a711dde2cbb61ef2e6b	yes	3

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Transmittal Letter			1	2	
Information Disclosure Statement (IDS) Form (SB08)			3	3	
Warnings:					
Information:					
2	Foreign Reference	11144-US-CNT3_FP1.pdf	16409558	no	104
			e34de142e1b3f49cacde5aca8ca7ca2154dce1b9		
Warnings:					
Information:					
Total Files Size (in bytes):			16602453		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Application No. 13/111,734

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Appl. No.: **13/111,734**
Applicant: **KLASSEN, Gerhard D. et al.**
Filed: **May 19, 2011**
Title: **Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment**
Art Unit: **2457**
Examiner: **LAI, Michael C.**
Docket No.: **70314/00568**

Mail Stop Amendment
U.S. Patent & Trademark Office
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

**THIRD SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT**

Pursuant to the duty to disclose under 37 CFR §1.56, Applicant submits herewith a Form PTO/SB/08 listing references of which the Applicant is aware and which are brought to the attention of the Examiner. In accordance with 37 CFR §1.98(a)(2), a copy of each foreign patent document and non-patent reference document listed in the enclosed Form PTO/SB/08 is submitted herewith.

Pursuant to 35 USC §120, this application relies on the earlier filing date(s) of the following prior application(s):

<u>Serial Number</u>	<u>Filing Date</u>
10/944,925	September 20, 2004

The filing of this IDS shall not be construed as a representation that a search has been made, an admission that the information cited is, or is considered to be, material for patentability, or that no other material information exists. This filing shall not be construed as an admission against interest in any matter.

22405422.1

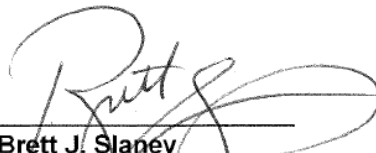
This IDS is being submitted pursuant to 37 CFR 1.97(c) prior to the issuance of a final action or a Notice of Allowance.

Applicant hereby certifies that each item of information contained in the present Information Disclosure Statement was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than 3 months prior to the filing of the present Statement. Accordingly, no fee is believed to be due for consideration of the documents submitted herewith.

Applicant respectfully requests consideration of the items listed and requests the Examiner to return a copy of the attached Form PTO/SB/08 after being marked as being considered by the Examiner.

Respectfully submitted,

Date: June 21/13



Brett J. Slaney
Registration No. 58,772
Agent for Applicant

BLAKE, CASSELS & GRAYDON LLP
199 Bay Street
Suite 2800, Commerce Court West
Toronto, Ontario, M5L 1A9
Canada

Tel 416-863-2518
Fax 416-863-2653

BSL/jm

(✓) encl.



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/111.734, 05/19/2011, Gerhard D. Klassen, 70314/00568, 6081

91704 7590 04/17/2013
Blake, Cassels & Graydon LLP
199 BAY STREET, SUITE 4000
COMMERCE COURT WEST
TORONTO, ON M5L 1A9
CANADA

Table with 1 column: EXAMINER

LAI, MICHAEL C

Table with 2 columns: ART UNIT, PAPER NUMBER

2457

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

04/17/2013

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

rimpatent@blakes.com
brett.slaney@blakes.com
portfolioprossecution@blackberry.com



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BLAKE, CASSELS & GRAYDON LLP
199 BAY STREET, SUITE 4000
COMMERCE COURT WEST
TORONTO, ON M5L 1A9

Appeal No: 2013-006230
Application: 13/111,734
Appellant: Gerhard D. Klassen et al.

Patent Trial and Appeal Board Docketing Notice

Application 13/111,734 was received from the Technology Center at the Board on April 08, 2013 and has been assigned Appeal No: 2013-006230.

In all future communications regarding this appeal, please include both the application number and the appeal number.

The mailing address for the Board is:

PATENT TRIAL and APPEAL BOARD
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

Telephone inquiries can be made by calling 571-272-9797 and referencing the appeal number listed above.

By order of the Patent Trial and Appeal Board.

PGC



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/111,734 05/19/2011 Gerhard D. Klassen 70314/00568 6081

91704 7590 01/07/2013
Blake, Cassels & Graydon LLP
199 BAY STREET, SUITE 4000
COMMERCE COURT WEST
TORONTO, ON M5L 1A9
CANADA

Table with 1 column: EXAMINER

LAI, MICHAEL C

Table with 2 columns: ART UNIT, PAPER NUMBER

2457

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

01/07/2013

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

rimpatent@blakes.com
brett.slaney@blakes.com
portfolioprossecution@rim.com

Application/Control Number: 13/111,734
Art Unit: 2457

Page 1



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 13/111,734
Filing Date: 05/19/2011
Appellant(s): Klassen, Gerhard D. et al.

Brett J. Slaney
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/09/2012.

(1) Grounds of Rejection to be Reviewed on Appeal

Every ground of rejection set forth in the Office action dated 06/22/2012 from which the appeal is taken is being maintained by the examiner.

(2) Response to Argument

A. Claims 1-5, 9-13, 17-21, and 25-27 have been rejected as being unpatentable over Appelman (U.S. Patent No. 7,181,497) in view of Maurille (U.S. Patent No. 6,484,196) and MacPhail (U.S. Patent No. 6,636,243).

a) MacPhail is silent regarding selective display of time stamps in association with messages in a messaging environment. MacPhail only teaches enabling time stamps to be displayed for status changes for an icon.

The examiner disagrees. In response to a), it is noted that the features upon which Appellant relies (i.e., selective display of time stamps in association with messages in a messaging environment) are not recited in the rejected claim(s). MacPhail teaches a timestamp indicating the most recent time of a status change could be displayed only upon request by a viewer (or "user"), as illustrated in FIG. 4(b), timestamp 94 (see also col. 10, lines 8-11). MacPhail clearly teaches "displaying a timestamp in response to an input".

b) MacPhail clearly shows more than one time stamp in FIG. 4(a) which, in a messaging environment, would cause confusion as to when the message was sent or received, for example.

This is in agreement with the instant application. As the conversation goes on, there could be multiple time stamps in response to multiple inputs in association with

the instant messages. Displaying multiple time stamps in the same screen is possible in the instant application as shown in Figs. 5-7.

c) Since the icons in MacPhail are meant to represent critical indicators and to express when the variables have reached critical thresholds, the icons may be associated with several timestamps. This is quite dissimilar to selectively displaying time information for a message. For example, if several critical thresholds have been reached at different times, for multiple variables, multiple timestamps for multiple icons (i.e. many timestamps) would be displayed by MacPhail.

The examiner disagrees. The feature of “selectively displaying time information for a message” is not in the claims. Besides, as discussed in b) above, displaying multiple time stamps in the same screen is possible in the instant application as shown in Figs. 5-7.

i) Even if combined, Appelman, Maurille, and MacPhail fail to teach: “displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages”, let alone in combination with displaying incoming and outgoing instant messages at different horizontal positions.

The examiner disagrees. Appelman teaches “displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp”. Maurille teaches “displaying incoming and outgoing instant messages at different horizontal positions”. MacPhail teaches

“displaying time stamp in response to an input”. both Appelman and Maurille are in the same electronic messaging environment. MacPhail teaches effective displays on devices having diverse sizes including those with small, monochrome displays and capabilities (see at least the abstract and col. 2, lines 53-56). There is no difficulty for one of ordinary skill in the art to combine the teachings of Appelman, Maurille, and MacPhail to achieve all the features in question as set forth in the Office action dated 06/22/2012.

ii) The Examiner has not provided some articulated reasoning with some rational underpinnings to support the legal conclusion of obviousness. Instead, the Examiner has either misunderstood the teachings of the cited references, overlooked certain aspects of these teachings, or relied on hindsight. Accordingly, the Examiner has not shown that there is any teaching, suggestion, or motivation to modify the references and combine the references in a way that arrives at what is recited in claim 1. Appellant submits that the Examiner's reasoning relies on unfounded assumptions and hindsight reconstruction based on Appellant's disclosure.

The examiner disagrees. In response to Appellant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, both Appelman and Maurille are in the same electronic messaging environment. MacPhail teaches effective displays on devices having diverse sizes including those with small, monochrome displays and capabilities (see at least the abstract and col. 2, lines 53-56). There is no difficulty for one of ordinary skill in the art to combine the teachings of Appelman, Maurille, and MacPhail to achieve the features of claim 1.

iii) Appelman teaches away from horizontally aligning incoming and outgoing messages at different horizontal positions, and from displaying time information in response to an input in association with the at least one instant message for which time information is displayed, and provides nothing that would case a person skilled in the art to go against these teachings and make the modifications suggested by the Examiner.

The examiner disagrees. “Horizontally aligning incoming and outgoing messages at different horizontal positions” and “displaying time information in response to an input in association with the at least one instant message for which time information is displayed” are enhancements to Appelman, not teaching away. A person skilled in the art would have no difficulty for the combination as discussed above.

B. Claims 6-8, 14-16, and 22-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Appelman, Maurille and MacPhail, in further view of Yamada (U.S. Patent No. 6,889,063).

Yamada fails to teach or suggest displaying incoming and outgoing textual portions aligned at first and second horizontal positions wherein the first and second

horizontal positions are different from each other. Yamada also fails to teach "displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages".

The examiner disagrees. The examiner relies on Maurille and MacPhail for the features in question, not Yamada.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

MICHAEL C LAI

Conferees:

/MICHAEL C LAI/

Examiner, Art Unit 2457

Yves Dalencourt

/YVES DALENCOURT/

Primary Examiner, Art Unit 2457

Ario Etienne

/ARIO ETIENNE/

Supervisory Patent Examiner, Art Unit 2457

Application No. 13/111,734
Reply to Final Rejection dated: June 22, 2012

IN THE UNITED STATES PATENT & TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No.: **13/111,734**
Applicant: **KLASSEN, Gerhard D. et al.**
Filed: **May 19, 2011**
Title: **Handheld Electronic Device and Associated Method Providing Time Data in a Messaging Environment**
Art Unit: **2457**
Examiner: **LAI, Michael C.**
Docket No.: **70314/00568**

Board of Patent Appeals and Interferences
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This is further to the Final Office Action dated June 22, 2012, Applicant's Response After Final Rejection dated August 9, 2012, the Notice of Appeal filed August 9, 2012, and the Advisory Action dated August 30, 2012.

Applicant advises that the requisite fees are being submitted concurrently herewith.

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REAL PARTY IN INTEREST

The real party in interest in the present application is Research in Motion Limited. The assignment from Applicant to Research in Motion Limited was registered with the office on reel/frame 026359/0901 on May 26, 2011.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to the Appellant, Appellant's representative or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

In this application, claims 1-27 are pending and claims 1-27 have been finally rejected and are part of the pending appeal. Please refer to the Claims Appendix for a complete listing of the claims involved in this appeal.

STATUS OF AMENDMENTS

No amendments have been made subsequent to filing the Notice of Appeal.

SUMMARY OF CLAIMED SUBJECT MATTER

In one aspect, as recited in independent claim 1, the claimed subject matter relates to a method of displaying an instant message conversation (see text on display 50 in FIGS. 4-10) on an electronic device (4, 104 – see FIGS. 1-3), the instant message conversation comprising a plurality of instant messages (72, 76 – see FIGS. 4-10) exchanged (FIG. 3) between the electronic device (4) and a second electronic device (104). The method comprises receiving a plurality of incoming instant messages (72 – see FIG. 4) from the second electronic device (104), each incoming instant message (72) having an incoming textual portion (70 – see also FIG. 4); transmitting a plurality of outgoing instant messages (76 – see FIG. 4) to the second electronic device (104), each outgoing instant message (76) having an outgoing textual portion (78); associating each instant message (72, 76) with a corresponding time stamp (84, 92, etc. – see FIGS. 4 and 5); displaying the incoming textual portion (70) of each displayed incoming instant message (72) horizontally aligned at a same

first horizontal position (see position of first message 72 in FIG. 4); displaying the outgoing textual portion (78) of each displayed outgoing instant message (76) horizontally aligned at a same second horizontal position (see position of second message 76 in FIG. 4), the second horizontal position being different from the first horizontal position (see differing indentation between messages 72 and messages 76 in FIG. 4); and displaying time information (84, 92) along with at least one instant message (72, 76) of the incoming and outgoing instant messages (72, 76) according to the corresponding time stamp (84, 92 – see FIGS. 4 and 5), in response to an input (see paragraphs [0050] and [0051]) in association with the at least one instant message (72, 76) of the incoming and outgoing instant messages (72, 76).

As recited in independent claim 9, the claimed subject matter also relates to an electronic device (4 – see FIGS. 1, 2) for displaying an instant message conversation (see text on display 50 in FIGS. 4-10), the instant message conversation comprising a plurality of instant messages (72, 76 – see FIGS. 4-10) exchanged (FIG. 3) between the electronic device (4) and a second electronic device (104). The electronic device (4) comprises a display (50 – see FIGS. 1, 4-10), a memory (56 – see FIG. 2), and a processor (52 – see FIG. 2) electronically coupled with the display (50) and the memory (56). The processor (52) is configured to: receive a plurality of incoming instant messages (72 – see FIG. 4) from the second electronic device (104), each incoming instant message (72) having an incoming textual portion (70 – see also FIG. 4); transmit a plurality of outgoing instant messages (76 – see FIG. 4) to the second electronic device (104), each outgoing instant message (76) having an outgoing textual portion (78); associate each instant message (72, 76) with a corresponding time stamp (84, 92, etc. – see FIGS. 4 and 5); display the incoming textual portion (70) of each displayed incoming instant message (72) horizontally aligned at a same first horizontal position (see position of first message 72 in FIG. 4); display the outgoing textual portion (78) of each displayed outgoing instant message (76) horizontally aligned at a same second horizontal position (see position of second message 76 in FIG. 4), the second horizontal position being different from the first horizontal position (see differing indentation between messages 72 and messages 76 in FIG. 4); and display time information (84, 92) along with at least one instant message (72, 76) of the incoming and outgoing instant messages (72, 76) according to the corresponding time stamp (84, 92 – see FIGS. 4 and 5), in response to an input (see paragraphs [0050] and [0051]) in association with the at least one instant message (72, 76) of the incoming and outgoing instant messages (72, 76).

The claimed subject matter, in independent claim 17, also relates to a non-transitory computer readable medium (56, 60 – see FIG. 2) comprising computer executable instructions (60) embedded thereon for execution by a processor (52 – see FIG. 2) of an electronic device (4) for displaying an instant message conversation (see text on display 50 in FIGS. 4-10), upon a display (50) of the electronic device (4), the instant message conversation comprising a plurality of instant

messages (72, 76 – see FIGS. 4-10) exchanged (FIG. 3) between the electronic device (4) and a second electronic device (104), such that when executed, the processor (52): receives a plurality of incoming instant messages (72 – see FIG. 4) from the second electronic device (104), each incoming instant message (72) having an incoming textual portion (70 – see also FIG. 4); transmits a plurality of outgoing instant messages (76 – see FIG. 4) to the second electronic device (104), each outgoing instant message (76) having an outgoing textual portion (78); associates each instant message (72, 76) with a corresponding time stamp (84, 92, etc. – see FIGS. 4 and 5); displays the incoming textual portion (70) of each displayed incoming instant message (72) horizontally aligned at a same first horizontal position (see position of first message 72 in FIG. 4); displays the outgoing textual portion (78) of each displayed outgoing instant message (76) horizontally aligned at a same second horizontal position (see position of second message 76 in FIG. 4), the second horizontal position being different from the first horizontal position (see differing indentation between messages 72 and messages 76 in FIG. 4); and displays time information (84, 92) along with at least one instant message (72, 76) of the incoming and outgoing instant messages (72, 76) according to the corresponding time stamp (84, 92 – see FIGS. 4 and 5), in response to an input (see paragraphs [0050] and [0051]) in association with the at least one instant message (72, 76) of the incoming and outgoing instant messages (72, 76).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

- A. Claims 1-5, 9-13, 17-21, and 25-27 have been rejected as being unpatentable over Appelman (U.S. Patent No. 7,181,497) in view of Maurille (U.S. Patent No. 6,484,196) and MacPhail (U.S. Patent No. 6,636,243).
- B. Claims 6-8, 14-16, and 22-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Appelman, Maurille and MacPhail, in further view of Yamada (U.S. Patent No. 6,889,063).

Applicant maintains their previous arguments regarding the cited references and therefore respectfully traverses the Examiner's rejections as follows in the next section.

ARGUMENT

- A. Claims 1-5, 9-13, 17-21, and 25-27 have been rejected as being unpatentable over Appelman (U.S. Patent No. 7,181,497) in view of Maurille (U.S. Patent No. 6,484,196) and MacPhail (U.S. Patent No. 6,636,243). Applicant respectfully traverses the rejections as follows.

Grounds for Overturning the Final Rejections

As indicated in MPEP 2142: “the examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness.” Furthermore, *In re Warner*, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967) additionally held: “The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.”

The Examiner must provide a factual basis for each of the claimed features of a rejected claim. MPEP 2143.03 entitled “All Claim Limitations Must be Considered” states: “all words in a claim must be considered in judging the patentability of that claim against the prior art.” *In Re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).”

It is submitted that by failing to address all of the recitations of a rejected claim, the Examiner has not established a prima facie case of obviousness as such a deficiency fails to satisfy the evidentiary requirements articulated by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 418-19 (2007). For example, in *KSR*, the Supreme Court has explicitly said that: “...there must be some articulated reasoning with some rational underpinnings to support the legal conclusion of obviousness...” [see also MPEP 2141 and 2142]; one of the exemplary rationales that may support a conclusion of obviousness being: “(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.”

Finally, as indicated in MPEP 2145: “It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed Cir.1983).”

Applicant respectfully submits that, in view of the above, the Examiner has failed to establish a prima facie case of obviousness.

Claimed Subject Matter

The present application describes and claims methods, computer readable media, and electronic devices, operable to balance the competing objectives of providing useful information (such as a time stamp for a particular message) and conserving space on the display (see paragraph [0050]), which is particularly important in handheld or wireless communication devices (see paragraph [0011] describing problem faced by Applicant, and paragraph [0057]). By enabling the displaying of time stamps in the way recited in claims 1, 9, and 17, these competing objectives

can be balanced.

The present application also addresses the issue that although the availability of certain timing aspects in a data communication exchange is desirable, the amount of space required to do so can be a competing objective (paragraph [0057]). Applicant has recognized that the timing of messages is particularly important when there is a non-responsive or relatively older message that has been displayed (paragraph [0043]). In a normal back-to-back exchange, the indication of the time at which it was sent may not be deemed to be significant (paragraph [0042]).

However, when there is a gap in the conversation or a user wishes to determine a time associated with a message previously displayed, a time stamp associated with a particular message or indication of a message can be desirable (see also paragraphs [0043] to [0050] for various examples).

Therefore, it has been found that “selective” display of time information, i.e. by displaying time information in response to an input in association with particular communications saves space on the display, which is particularly important in handheld or wireless communication devices.

For example, Fig. 6b illustrates that, by determining a particular amount of time has passed since a message indicating “I’ll pick you up in an hour”, and then displaying a time associated with that message (e.g. 5:04 pm as shown), meaningful information is conveyed since a reference point for “an hour” is provided.

In addition to the above considerations, the present application discloses displaying incoming and outgoing textual portions aligned at first and second horizontal positions wherein the first and second horizontal positions are different from each other (see different indentations of incoming and outgoing messages in FIGS. 4-10).

Such horizontal alignment facilitates distinguishing between incoming and outgoing messages, e.g., those messages the user sent and those they received. When considering the display of time information in response to an input in association with particular communications, the ability to differentiate between incoming and outgoing messages in this way further facilitates associating an input for causing time information to be displayed with the message for which the user actually wants such time information. In other words, not only is the time information displayed according to an input in association with a particular communication, but that association is more easily apparent by being able to clearly distinguish incoming from outgoing messages. This ability to distinguish between incoming and outgoing communications is particularly advantageous when the input is being made to discover a time associated with a message received from or sent to another correspondent. If the incoming and outgoing messages are difficult to distinguish between, the likelihood of erroneous inputs may increase. In any event, the combination of distinguishable incoming and outgoing communications and the display of time information according to an input in

association with particular communications provides an improved way of enabling time information to be displayed.

Claim 1 recites in part:

“displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages”.

Applicant respectfully submits that none of the cited references, alone or in combination, teach or suggest “displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages”, let alone as recited in claim 1, wherein the incoming and outgoing messages are displayed at different horizontal positions.

Discussion Regarding Appelman

Appelman teaches a messaging application user interface that has an input element for receiving electronic messages and an output element for displaying electronic messages (e.g., see FIGS. 12-31). The messaging application user interface is implemented to, among other things, maintain a subset of a plurality of potential message recipients, auto-complete a partially entered address based on the partial list of potential message recipients, and modify auto-completion behavior using user-selectable signals.

Appelman may show a conversation screen (see FIG. 18) that includes multiple outgoing (T) and multiple incoming (F) messages. However, in Appelman, the incoming and outgoing messages are all aligned at the same exact horizontal position. Applicant respectfully submits that this is the opposite of what is recited in claim 1. In fact, as clearly shown in FIG. 18, even the indentations used to separate the message information from the message itself are the same for both incoming and outgoing messages. Moreover, as shown in FIG. 20, even if the messages are offset due to differently sized user names (e.g., more1934 versus mjohnson1934), both the incoming and outgoing messages include the same offset and are therefore intentionally aligned at the same horizontal location. In other words, based on what is shown in Appelman, no two outgoing messages would be aligned at the same horizontal position which is different from two incoming message aligned at another horizontal position. Furthermore, each line of the conversation, shown in each and every screen illustrated by Appelman, aligns the text left-justified (i.e., the T and F which

begin each line are always justified to the left edge of the screen). There is no teaching or suggestion of aligning incoming and outgoing textual portions at different horizontal alignments.

Moreover, Appelman clearly shows displaying a timestamp with each message, and thus illustrates exactly what the method of claim 1 is trying to avoid, namely the potential cluttering of a display by providing too much time information.

Accordingly, not only does Appelman fail to teach at least two features recited in claim 1, Appelman teaches exactly the opposite of such features and thus teaches away from what is recited in claim 1.

Discussion Regarding Maurille

Maurille teaches a system and method that provides integrated combinations of threaded instant messages, open display bulletin boards, private bulletin boards, threaded e-mail, explicit acknowledgement of messages, conferencing, and whisper and talk modes. In one example, a server application formats messages sent to a user so that the contents of the messages are directly displayed on a bulletin board along with threading information. FIGS. 4B and 4C of Maurille illustrate exemplary bulletin boards showing message threading.

Applicant respectfully submits that the Examiner has read too much into Maurille. Whereas claim 1 is directed to horizontally aligning incoming and outgoing instant messages at different positions, Maurille displays messages at different indentations according to levels, not whether they are incoming or outgoing. As can be appreciated from FIGS. 4B and 4C, original messages are displayed in level one, replies to those messages are level two, replies to the replies are level three, etc. (see FIG. 4B and the last paragraph beginning in column 12). Moreover, Maurille also explicitly shows both incoming and outgoing messages at the same indentation, since they are both at the same level. For example, the message board (400) clearly shows "Mit's" messages, where messages 464 and 466 are aligned in the same position even though message 464 is from Mit and message 466 is to Mit. Also, level one messages are deemed so based on the date the message is first transmitted or received. It may be further noted that the first message from or to a particular contact, having a first subject, on a certain day, is a first level message. Any replies to that message on the same day follow the indentation method.

Although Maurille may show indenting email replies (e.g., as shown in FIG. 4B), Maurille clearly applies indentation to messages in an entirely different way than what is recited in claim 1. Moreover, Maurille has not addressed the competing objectives of conserving display space and

providing useful time information. In fact, similar to Appelman, Maurille includes time information with each message (see FIG. 4B). This provision of time information for each message and the indentations based on levels as used in Maurille would become confusing and clutter the user interface in an instant messaging environment. Maurille does not recognize the benefits of balancing the competing objectives of conserving display space and providing useful time information by enabling a display of time information according to a detected input, let alone as recited in claim 1.

Discussion Regarding MacPhail

The Examiner acknowledges that Appelman and Maurille do not teach: “displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages”. MacPhail has been cited as teaching what is missing from Appelman and Maurille.

MacPhail teaches a system in which icons representing critical indicators are displayed in superposition with a reference shape. The reference shape is divided into “higher-interest” and “lower-interest” portions such that display of an icon over the higher-interest portion of the reference shape indicates a higher-interest value of the corresponding value. MacPhail therefore addresses problems in an entirely different environment than the present application. MacPhail has nothing to do with displaying time information in a messaging environment. MacPhail has also failed to recognize, let alone address, the competing objectives of providing useful time information and conserving display space, which is important in messaging environments on electronic devices.

For example, in FIG. 4(a) of MacPhail, which is relied upon by the Examiner, MacPhail teaches a series of icons displayed with reference shapes. Timestamps (88 and 90) are displayed in the vicinity of blinking icons (82 and 86). Timestamp (88) shows the time at which the variable corresponding to icon (82) most recently changed status and timestamp (90) shows the time at which the variable corresponding to icon (86) changed status.

Accordingly, not only may there be multiple timestamps for a particular icon, the timestamps displayed by MacPhail may in fact change over time, i.e., according to a most recent change in status. In the present application, the time stamp is meant to be in association with a message such that a user can determine information about when the message was sent or received. If the timestamp was related to the status of the message as taught by MacPhail then, for example, the time at which the message was sent would not be available and thus the objective of the method of claim 1 would not be achieved. MacPhail therefore teaches displaying time stamps for a different

purpose, in a different manner, with different results. Moreover, the different results may vary over time. Therefore, time stamping of messages is clearly not contemplated by MacPhail.

Although MacPhail may suggest displaying timestamps to indicate a change in status, there is nothing in MacPhail that teaches displaying a timestamp for a message in a messaging environment. MacPhail also fails to teach or suggest that the time stamps associated with the status changes could be adapted to such a scenario. MacPhail is entirely silent in that regard. In summary:

a) MacPhail is silent regarding display of time stamps in association with messages in a messaging environment. MacPhail only teaches enabling time stamps to be displayed for status changes for an icon.

b) MacPhail clearly shows more than one time stamp in FIG. 4(a) which, in a messaging environment, would cause confusion as to when the message was sent or received, for example.

c) Since the icons in MacPhail are meant to represent critical indicators and to express when the variables have reached critical thresholds, the icons may be associated with several timestamps. This is quite dissimilar to selectively displaying time information for a message. For example, if several critical thresholds have been reached at different times, for multiple variables, multiple timestamps for multiple icons (i.e. many timestamps) would be displayed by MacPhail.

Combination of References

As discussed above, Appelman not only fails to teach or suggest displaying incoming and outgoing messages at different horizontal positions, but also fails to teach or suggest displaying time information along with at least one instant message in response to an input in association with the at least one instant message. In fact, Appelman teaches exactly the opposite of what is recited in claim 1, in at least two respects, and thus teaches away from what is recited in claim 1.

Notwithstanding that Appelman teaches away from what is recited in claim 1, even if, for the sake of argument, a person skilled in the art were to first combine Appelman and Maurille, at most, that person skilled in the art would need to be persuaded to modify Appelman contrary to the teachings therein to incorporate the threading indentations used by Maurille. Applicant respectfully submits that this combination is unlikely. Although e-mail and instant messaging are both forms of electronic communications, the problems addressed by Maurille are quite different from those faced in Appelman. In Maurille, in at least one aspect, the e-mail threads are organized and indented to allow different exchanges with particular correspondents to be separated from those with others and indented according to levels based on replies. Appelman on the other hand is directed to instant messaging solutions wherein this problem is already addressed, since instant messaging

communications are already organized into "conversations".

If, for the sake of argument, a person skilled in the art were to combine Appelman and Maurille, Applicant submits that at most a confusing arrangement would be provided. For example, such a combination would show an instant messaging conversation where every message is time stamped and the indentation method resets every day, so that incoming and outgoing messages are mixed together with both types of messages shown at similar indentations, without regard to whether the message is incoming or outgoing, only who spoke first that day. This arrangement, applied to an instant messaging conversation would be confusing to the user.

As such, Applicant respectfully submits that a person skilled in the art would be unlikely to refer to Maurille in combination with Appelman. Since Appelman and Maurille address different problems, it is unclear how a person skilled in the art would consider applying a solution from Maurille that addresses a problem not relevant to the teachings in Appelman.

The Examiner has provided the following reasoning for combining Appelman and Maurille: "It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to incorporate Maurille's teaching into Appelman's method for the purpose of visually differentiating between incoming and outgoing messages by aligning/indenting incoming and outgoing textual portions at different horizontal positions, thereby providing a more user friendly Instant Messaging system". Applicant respectfully disagrees with this reasoning. The Examiner has not clearly articulated what, in either reference, evidences the "purpose" stated above.

Instead, the Examiner appears to be reiterating substantially what is the language recited in claim 1, therefore suggesting that the benefit of hindsight is believe relied upon. Applicant submits that the person skilled in the art, even when considering both Appelman and Maurille, would fail to arrive at what is recited in claim 1 as amended without the benefit of hindsight in view of Applicant's disclosure, which is not a proper basis for establishing a *prima facie* case of obviousness. Moreover, as discussed above, Maurille does not satisfy this purpose as it doesn't teach what the Examiner says it does, namely Maurille teaches indenting to different levels based on replies, whereas claim 1 recites horizontally aligning messages based on whether the messages are incoming or outgoing messages.

Even if Appelman and Maurille were combined as suggested by the Examiner to modify Appelman to utilize an indentation of messages, Applicant respectfully submits that the Examiner has read too much into MacPhail and that a person skilled in the art would not likely consider MacPhail in combination with Appelman and Maurille. Applicant further submits that even if a person skilled in the art were to consider MacPhail in combination with Appelman and Maurille, the combination still fails to teach each and every element that is recited in claim 1, for at least the reason that MacPhail does not teach or suggest displaying a time stamp associated with an

incoming or outgoing message in a messaging environment, in response to an input in association with such a message.

As detailed above, although MacPhail may suggest displaying timestamps to indicate a change in status, there is nothing in MacPhail that teaches displaying a timestamp for a message in a messaging environment. MacPhail also fails to teach or suggest that the time stamps associated with the status changes could be adapted to such a scenario. MacPhail is entirely silent in that regard. In summary:

a) MacPhail is silent regarding selective display of time stamps in association with messages in a messaging environment. MacPhail only teaches enabling time stamps to be displayed for status changes for an icon.

b) MacPhail clearly shows more than one time stamp in FIG. 4(a) which, in a messaging environment, would cause confusion as to when the message was sent or received, for example.

c) Since the icons in MacPhail are meant to represent critical indicators and to express when the variables have reached critical thresholds, the icons may be associated with several timestamps. This is quite dissimilar to selectively displaying time information for a message. For example, if several critical thresholds have been reached at different times, for multiple variables, multiple timestamps for multiple icons (i.e. many timestamps) would be displayed by MacPhail.

For at least the above reasons, not only is MacPhail an unlikely combination with Appelman and Maurille, even if combined, MacPhail fails to teach what is missing from Appelman and Maurille.

Accordingly, Even if a person skilled in the art were to combine Appelman, Maurille, and MacPhail, such a combination still fails to teach or suggest “displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages”, let alone in combination with displaying incoming and outgoing instant messages at different horizontal positions.

The Examiner has provided the following reasoning for combining MacPhail with Appelman/Maurille: “...MacPhail teaches a timestamp indicating the most recent time of a status change could be displayed only upon request by a viewer....it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate MacPhail’s teaching into Appelman’s and Maurille’s method for the purpose of providing displays on-demand by displaying time information along with at least one instant message...in response to an input...thereby providing effective displays on devices having diverse sizes...”. Applicant respectfully submits that this reasoning overlooks at least that the icons in MacPhail are meant to represent critical indicators and to express when the variables have reached critical thresholds, the icons may be associated with several timestamps. This is quite dissimilar to displaying time information for a message in

response to an input in association with a message. For example, if several critical thresholds have been reached at different times, for multiple variables, multiple timestamps for multiple icons (i.e. many timestamps) would be displayed by MacPhail. The Examiner's reasoning does not clearly articulate what content, in any of the references, provides the motivation to make modifications to the cited references that are not supported by the teachings of the cited references and could be considered contrary to those teachings.

Accordingly, not only does the combination of references cited by the Examiner fail to teach each and every element recited in claim 1, there are clear and explicit teachings in at least Appelman to displaying both instant messages and time information in a way that is entirely contrary to what is recited in claim 1. Consequently, it is unlikely that a person skilled in the art would consider references that are unlikely to be combined with Appelman, only to modify Appelman in a way that is contrary to the teachings in Appelman.

Conclusion

In view of the above remarks, Applicant respectfully submits that a prima facie case of obviousness has not been established for at least three reasons:

- i) Even if combined, Appelman, Maurille, and MacPhail fail to teach: "displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages", let alone in combination with displaying incoming and outgoing instant messages at different horizontal positions.
- ii) The Examiner has not provided some articulated reasoning with some rational underpinnings to support the legal conclusion of obviousness. Instead, the Examiner has either misunderstood the teachings of the cited references, overlooked certain aspects of these teachings, or relied on hindsight. Accordingly, the Examiner has not shown that there is any teaching, suggestion, or motivation to modify the references and combine the references in a way that arrives at what is recited in claim 1. Applicant submits that the Examiner's reasoning relies on unfounded assumptions and hindsight reconstruction based on Applicant's disclosure.
- iii) Appelman teaches away from horizontally aligning incoming and outgoing messages at different horizontal positions, and from displaying time information in response to an input in association with the at least one instant message for which time information is displayed, and provides nothing that would case a person skilled in the art to go against these teachings

and make the modifications suggested by the Examiner.

For at least these reasons, Applicant respectfully submits that a prima facie case of obviousness has not been established. Similar arguments apply to claims 9 and 17 as well as those claims dependent on claims 1, 9, and 17.

B. Claims 6-8, 14-16, and 22-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Appelman, Maurille and MacPhail, in further view of Yamada (U.S. Patent No. 6,889,063). Applicant respectfully traverses the rejections as follows.

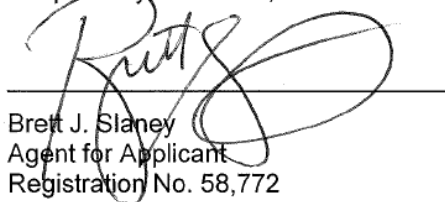
Although Yamada may teach providing an alert after a predetermined amount of time has passed since an in-absence incoming call message has been displayed, Yamada fails to teach or suggest displaying incoming and outgoing textual portions aligned at first and second horizontal positions wherein the first and second horizontal positions are different from each other.

Yamada also fails to teach "displaying time information along with at least one instant message of the incoming and outgoing instant messages according to the corresponding time stamp, in response to an input in association with the at least one instant message of the incoming and outgoing instant messages". As such, Applicant respectfully submits that Yamada fails to teach what is missing from Appelman, Maurille, and MacPhail per the above and thus claims 6-8, 14-16, and 22-24 are patentable over Appelman, Maurille, and MacPhail, in further view of Yamada.

* * *

The Applicant therefore respectfully requests that this honorable Board of Patent Appeals and Interferences reverse the Examiner's decision in this case and indicate the allowability of claims 1-27 in this application.

Respectfully submitted,



Brett J. Slaney
Agent for Applicant
Registration No. 58,772

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BLAKE, CASSELS & GRAYDON LLP
199 Bay Street
Suite 2800, Commerce Court West
Toronto ON M5L 1A9
Canada
Tel: 416-863-2425
BS